Stormwater Permit Manual

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Stormwater Permit Manual

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FOREWORD

The *Stormwater Permit Manual* is designed to address and clarify the considerable uncertainty that has surrounded stormwater regulation since Congress first tackled the problem of eliminating pollutants from stormwater with the enactment of the Federal Water Pollution Control Act of 1972—now commonly known as the Clean Water Act (CWA). Since the passage of this law, which has seen dozens of amendments, the U.S. Environmental Protection Agency (EPA) has proposed many new rules and defended them against industry objections and court challenges from environmental groups.

More recently, EPA reissued the multi-sector general permit for industrial activities in October 2000. Many states continue to use permits that resemble the former federal baseline permit, which was originally issued in 1995. In December 1999, EPA issued a final phase II rule, which regulates construction sites between one and five acres and municipal separate storm sewer systems serving fewer than 100,000 people. Facilities will need to obtain coverage by March 10, 2003. EPA is still developing the Phase II program.

Controversy still plagues EPA's National Pollutant Discharge Elimination System (NPDES) stormwater permit program. The agency has defended itself in court more than once against claims that it has not done enough to prevent, reduce or eliminate pollution in the nation's waterways. Meanwhile, concerned municipalities and unhappy industry representatives have taken their complaints to Congress, which for several years running has failed to agree on CWA reauthorization.

In one way or another, each branch of the federal government—the executive, the legislative and the judicial—has found itself involved with the national policy issue of stormwater regulation.

Our goal at Thompson Publishing Group Inc. is to provide you with the most complete and up-to-date information about stormwater regulation available anywhere. With your subscription you will receive monthly *Bulletins* containing news and features about stormwater-related issues, plus updates to your *Stormwater Permit Manual*. From Washington, D.C., to Washington state, we will provide the information that you need to obtain and comply with an NPDES stormwater permit.

The Editors

INTRODUCTION AND LEGAL HISTORY

On Nov. 16, 1990, the U.S. Environmental Protection Agency (EPA) issued a regulation requiring National Pollutant Discharge Elimination System (NPDES) permits for discharges of stormwater from certain point sources. That regulation, known as the "stormwater application rule," set the stage for a flurry of permitting activity nearly as extensive as that which followed the creation of the NPDES program under the Federal Water Pollution Control Act (FWCPA) of 1972. The *Stormwater Permit Manual* provides the information necessary to assess how stormwater regulations affect your facility and how to comply with their requirements.

Since its enactment in 1977, the Clean Water Act (which amended FWCPA) has provided EPA with the authority to control point-source stormwater discharges that convey pollutants to the waters of the United States. This authority is granted by Section 301 of the act, 33 U.S.C. §1311, and could be imposed through the NPDES permit program established by Section 402 of the act, 33 U.S.C. §1342. Historically, the agency has been reluctant to issue permits for many stormwater discharges, preferring instead to concentrate its attention on discharges of process waters from industrial facilities and discharges from publicly owned treatment works (POTWs). As process and POTW discharges have been brought increasingly under control, however, EPA has begun to focus on stormwater discharges containing pollutants.

From 1978 through 1983, EPA funded a series of studies and projects collectively known as the Nationwide Urban Runoff Program (NURP). One purpose of this program was to identify the content of stormwater discharged through municipal separate storm sewer systems. Stormwater runoff from residential, commercial and light industrial areas was surveyed. The data collected during the NURP study showed that stormwater contained many of the same conventional and toxic pollutants regulated from process outfalls and POTWs, sometimes in very high quantities. A large number of the samples showed exceedances of EPA water quality standards. Other studies during the same period showed that many storm sewer systems were plagued with illicit connections that allowed polluted wastewaters to discharge unregulated through the storm sewer system.

As a result of these studies and others like them, EPA came under pressure during the mid-1980s to use its pre-existing Clean Water Act (CWA) authority to issue NPDES permits for all stormwater discharges from point sources. EPA resisted a full permitting effort, however, because the burden of processing the full load of permit applications would have been overwhelming.

In the 1987 amendments to the CWA, Congress devised a compromise whereby EPA would issue permits for stormwater discharges, but could focus on the most contaminated stormwater discharges first. The 1987 amendments created a new section in the act devoted to stormwater permitting. Section 402(p), 33 U.S.C. §1342(p), provided that five categories of stormwater discharges, considered to represent the most significant stormwater sources of pollution, were subject to immediate permitting.

However, EPA and the states were prevented from imposing permitting requirements on other discharges until October 1994. Section 402(p) provides that, apart from the five priority categories of stormwater discharges, neither EPA nor the states could require NPDES permits for stormwater discharges prior to Oct. 1, 1994. The limitation was designed to allow EPA to focus first on those sources of stormwater that Congress believed to be most problematic. Thus, Congress' forceful move toward regulating all stormwater discharges began, somewhat ironically, with a limitation on the facilities immediately subject to permitting.

In response to the mandate of the 1987 amendments, EPA began crafting a series of rules and guidance documents to regulate those sources immediately subject to permitting. After several lengthy delays in promulgating the initial permitting regulation, the federal district court in Oregon put EPA on a schedule for issuing the rule (*Williams v. Reilly,* No. 89-6265-E). EPA thereafter promulgated the "stormwater application rule," which exhaustively describes the types of facilities subject to the NPDES stormwater permitting program and how those facilities must obtain stormwater permits. A second major stormwater rule, called the "stormwater implementation rule," was enacted in April 1992. The implementation rule discusses the minimum requirements for NPDES stormwater permit terms and conditions.

In a June 1992 ruling on a challenge to the stormwater application rule, the U.S. Court of Appeals for the Ninth Circuit issued an opinion that generally upheld the rule (*Natural Resources Defense Council v. EPA,* 966 F.2d 1292 (9th Cir. 1992)). This decision, however, invalidated and remanded for further proceedings two exemptions from the definition of stormwater discharges "associated with industrial activity": (1) the exemption of construction sites of smaller than five acres, and (2) the "light" industry exemption. In a Sept. 3, 1992, memorandum, EPA indicated that it intended to conduct further rulemaking for these dischargers. The agency also said it would not require permit applications from such dischargers until this further rulemaking was complete.

In the fall of 1992, EPA issued two baseline general permits—one for industrial dischargers and one for construction activities—which established general permit requirements for facilities in states where EPA implements the stormwater program. These general permits also have been used by states with NPDES permitting authority to establish state permit requirements, which must be at least as stringent as those established by EPA.

Meanwhile, by the fall of 1994, EPA and the states had begun to issue individual permits to large and medium municipal separate storm sewer systems that are subject to the stormwater application rule. Individual permits are intended for industrial facilities and municipalities that are unable to meet the conditions spelled out in the baseline general permit. To date, some industrial facilities that chose to apply for individual permit coverage have not yet been issued individual permits.

In August 1995, EPA issued a final rule affecting phase II dischargers—that is, those not originally required to obtain permits. This rule states that all phase II dischargers must apply for permits by Aug. 7, 2001, if the regulatory program in place at that time requires permits. EPA issued a revision of the final phase II rule in December 1999, which extended the deadline to March 10, 2003.

In September 1995, EPA issued the multi-sector model general permit for 29 industrial categories, based on applications received as part of the group application process authorized by the stormwater application rule. EPA has made coverage under the multi-sector permit available to members of EPA-approved group applications, as well as facilities covered by EPA or state baseline general permits. Some states with NPDES permitting authority now offer their own multi-sector permits, based on the EPA model. EPA expects that more states will transition to multi-sector type permits in the future.

The multi-sector permit, in addition to offering more tailored stormwater management and monitoring requirements for covered industrial sectors, also added provisions to protect endangered species and designated national historic preservation sites from industrial stormwater runoff.

In February 1998, EPA reissued the construction general permit. This permit also included provisions to protect endangered species and designated national historic preservation sites.

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In September 1998, the agency modified the multi-sector general permit, and, at the same time, announced the discontinuation of the original federal baseline industrial general permit. Former baseline industrial permittees were instructed to apply for coverage under the modified multi-sector permit. To accommodate industrial activities not specifically covered by the 29 industrial categories of the multi-sector permit, EPA added a thirtieth category for "nonclassified facilities." The multi-sector permit was reissued in October 2000; it will expire Oct. 30, 2005.

How to Use the *Stormwater Permit Manual*

The *Stormwater Permit Manual* is a comprehensive source of information for industrial facilities subject to regulation of stormwater discharges. The *Manual* offers a clear explanation of the laws and regulations that govern stormwater discharges, provides easy-to-understand guidance on how to apply for a stormwater permit, and describes technological controls and management practices that can reduce your problems with polluted stormwater. Each month we update the *Manual* and send you a *Bulletin* devoted exclusively to news of stormwater related developments. The *Manual* consists of chapters that we call "tabs," each with its own table of contents and executive summary.

Contents

Bulletins: This tab provides space for filing the *Bulletins* that accompany each update.

Introduction and Legal History: This tab introduces the subject of stormwater as an environmental concern, and outlines the legislative and rulemaking developments that address the problem of polluted stormwater runoff.

Table of Contents: This tab contains a "Current Contents" table which identifies the publication date of every page in the *Manual*.

Who Must Get a Permit: Tab 100 identifies which dischargers of stormwater are regulated by the 1990 additions to NPDES regulations.

Kinds of Permits: Tab 200 discusses two kinds of permits, three kinds of permitting authority, and three methods for applying for a permit.

Applying for a Permit: Tab 300 shows how to apply for a stormwater permit, and provides examples of filled out NPDES forms.

Municipal Separate Storm Sewer Systems: Tab 400 presents an overview of how the new rule affects municipal storm sewer systems, with emphasis on impacts to industrial dischargers.

Compliance Monitoring: Tab 500 discusses stormwater permit conditions, terms and requirements that apply to stormwater dischargers.

Stormwater Management and Control: Tab 600 is a companion to Tab 500, providing explanations of how to comply with stormwater permit requirements including developing stormwater pollution prevention plans and conducting stormwater sampling.

EPA's Regulatory Strategy: Tab 700 places stormwater regulation within the larger context of EPA's strategy for achieving environmental restoration and protection.

State Programs: Tab 800 provides a guide to stormwater contacts in state water quality programs, and information about the states' relationship to the NPDES program.

Enforcement and Penalties: Tab 900 details the civil and criminal penalties that are associated with violations of the stormwater aspects of the Clean Water Act and related regulations.

Monthly Updating

The *Stormwater Permit Manual* is updated every month. Each update contains:

(1) new or replacement pages for insertion in the looseleaf binder

(2) a monthly *Bulletin* highlighting information in the update and reporting recent or upcoming developments concerning stormwater regulation and control technology, and

(3) a page of "Discard-Add" instructions.

After circulating, the *Bulletin* should be filed in the binder for reference purposes, behind the appropriate tab.

Numbering and Cross-References

References within the *Manual* are in the form of tab numbers (e.g., Tab 100) or numbers preceded by the "¶" symbol denoting paragraphs (e.g., ¶350), or both. Similar sections of the *Manual* have similar numbers—e.g., all executive summaries appear at ¶—10 and all Insights at ¶—90. Both tab and paragraph numbers are distinct from page numbers. "Next page" notes may appear when a page number (or numbers) have been intentionally skipped in the *Manual*. Provided the next page is the one specified in the note, no pages are missing.

Current Contents and Page Dates

A publication date appears at the bottom of each page in the *Manual*. It may indicate when the page was originally issued or when it was revised. For example, this page was issued in March 1995. To ensure that you have the most recent version of a page, check its date against the date in the "Current Contents" (which is part of the Table of Contents following this section).

Abbreviations and Acronyms*

To improve readability and limit repetition, abbreviations and acronyms are used throughout the *Manual* (e.g., municipal separate storm sewer systems are "MS4s"). Also, references to regulations may be given parenthetically (e.g., 40 CFR 112 refers to section 112 of Title 40 of the *Code of Federal Regulations*).

The abbreviations and acronyms most commonly used in the *Manual* are listed below:

BAT	Best Available Technology
BCT	Best Conventional Pollutant Control Technology
BMP	Best Management Practices
BOD_5	Five-Day Biochemical Oxygen Demand
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act (also known as Superfund)
CFR	Code of Federal Regulations
COD	Chemical Oxygen Demand
CWA	Clean Water Act

* Revised, March 1995

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CZARA	Coastal Zone Amendments and Reauthorization Act of 1990
EPA	U.S. Environmental Protection Agency
FR	*Federal Register*
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
MSWLF	Municipal Solid Waste Landfill
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollution Discharge Elimination System
NPS	Nonpoint Source
NURP	Nationwide Urban Runoff Program
OMB	Office of Management and Budget
pH	Potential of Hydrogen
POTW	Publicly Owned Treatment Works
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act (SARA Title III is also known as the Emergency Planning and Community Right-to-Know Act)
SIC	Standard Industrial Classification
SMCRA	Surface Mining Control and Reclamation Act
SPCC	Spill Prevention Control and Countermeasure
SWP3	Stormwater Pollution Prevention Plan
TKN	Total Kjeldahl Nitrogen
TSS	Total Suspended Solids
U.S.C.	United States Code
USGS	United States Geological Survey
WETT	Whole Effluent Toxicity Testing
WPC	water priority chemicals
WQA	Water Quality Act (name of 1987 amendments to the Clean Water Act)

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¶110 Executive Summary*

Numerous factors determine whether any specific facility is subject to stormwater regulation under the National Pollutant Discharge Elimination System (NPDES) permitting program. This tab is designed to help you determine whether your industrial, commercial, retail, institutional, municipal or construction-related stormwater discharge needs a permit.

The U.S. Environmental Protection Agency's (EPA's) stormwater permitting program is implemented in two parts, known as phase I and phase II. Phase I dischargers include heavy industry, large and medium-sized municipalities and large construction sites (see ¶130). Phase II extends regulations for stormwater discharges to small municipalities and small construction sites (see ¶140). Although discharges from light industrial, retail, commercial and institutional facilities are not covered under either rule, these facilities eventually may be regulated at the state level either by industrial category (e.g., all service stations in a given state) or on a facility-by-facility basis.

The regulated community includes those public and private facilities that discharge stormwater:

- via one or more point sources
- into the waters of the United States, either

  directly or

  through a separate storm sewer system.

An operator is subject to phase I of the stormwater permitting program if its facility meets the above test and falls within any of the following five categories of stormwater dischargers:

- facilities already covered by an NPDES permit for stormwater;
- facilities that engage in industrial activity (including heavy manufacturing facilities, large construction sites disturbing five or more acres of land and transportation facilities, among others);
- large (>250,000 population) municipal separate storm sewer systems (MS4s);
- medium (>100,000 and <250,000 population) MS4s; and
- facilities that the EPA administrator (or an NPDES state administrator) determines to have stormwater discharges contributing to a violation of water quality, or that are "significant contributors" of pollutants to waters of the United States.

The largest of the five categories of phase I discharges consists of facilities that are engaged in industrial activity (see ¶131). These are defined primarily by Standard Industrial Classification (SIC) codes. Included are most SIC codes pertaining to manufacturing; mining, oil and gas extraction; some transportation activities; large construction sites; steam electric power generating facilities; auto wrecking and dismantling and scrap and waste material establishments; industrial waste dumpsites; hazardous waste facilities; and sewage treatment works. The category also includes many local, state and federal government facilities that engage in certain kinds of "industrial activity."

Stormwater discharged via a point source into waters of the United States that does not fall into one of the phase-I categories listed above may still be regulated by phase II of the stormwater program. A final phase II rule issued in August 1995 would have required all unregulated (non-phase I) stormwater dischargers to obtain permit coverage by Aug. 7, 2001. That rule was meant only as an

* Revised, January 2000.

interim measure until a more targeted and specific phase II rule was developed, according to EPA. The agency in December 1999 issued a final phase II rule that supersedes and replaces the August 1995 phase II rule. The December 1999 rule narrows the types of covered discharges to include only construction activities between one and five acres and small (<100,000 population) MS4s, and extends their deadline for NPDES permit coverage to March 2003.

Additional small MS4s (outside of urbanized area) and construction sites (disturbing less than one acre of land), along with other sources that are significant contributors of pollutants to waters of the United States, may be brought into the NPDES stormwater program by the permitting authority.

Phase I of the federal stormwater program excluded uncontaminated stormwater at light industrial sites from the requirement to obtain an NPDES permit, provided their industrial materials or activities were not exposed to stormwater. The phase II rule broadens the original no-exposure exemption to conditionally exclude from the NPDES program any facility that certifies a condition of no exposure, meaning that industrial materials and activities are completely protected from rain, snow, snow melt or runoff by a storm-resistant shelter. The phase II exemption applies to all categories of industrial activity, except stormwater discharges from regulated construction activities.

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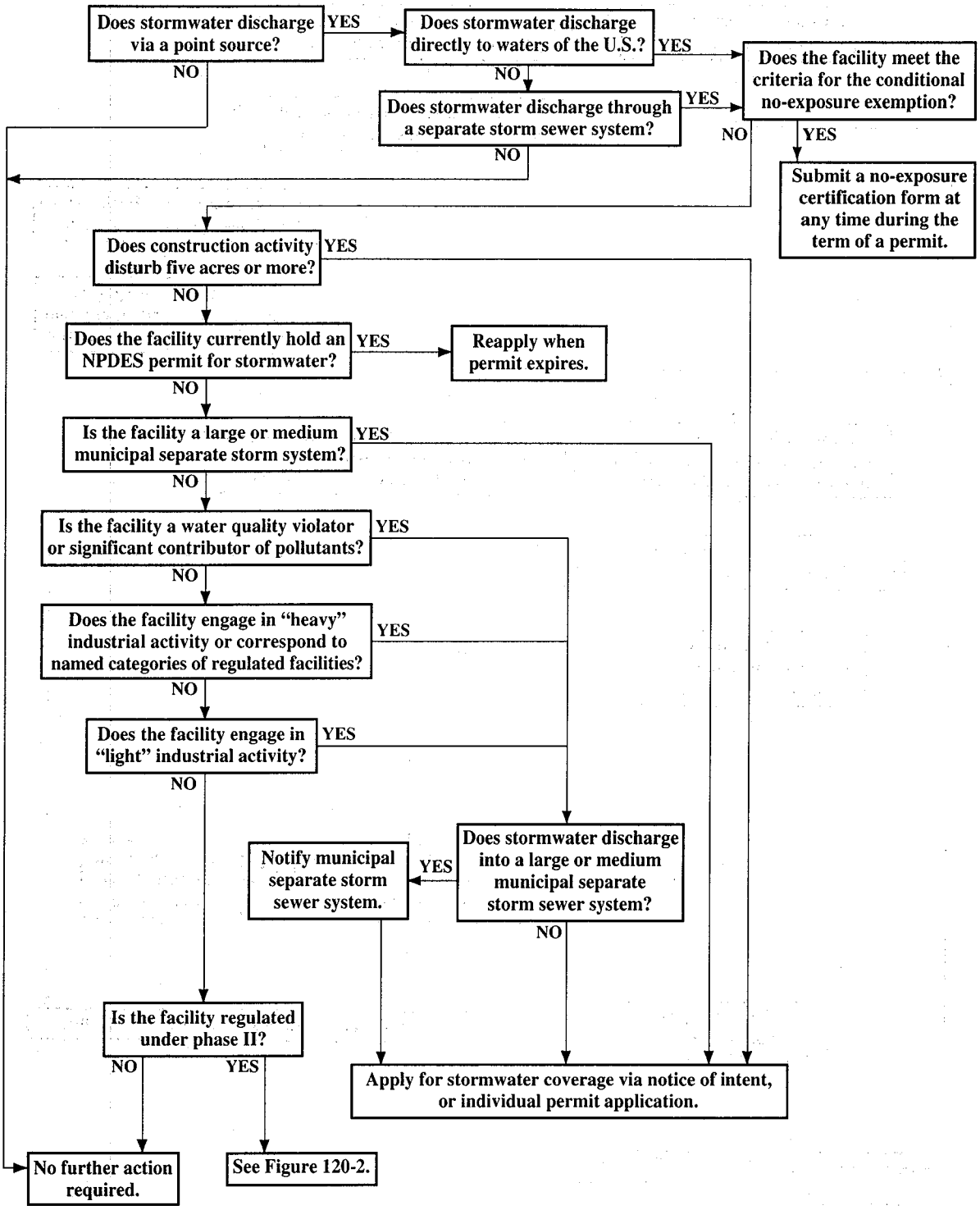
¶120 Regulated Stormwater

Numerous attempts have been made to regulate stormwater runoff under the U.S. Environmental Protection Agency's (EPA) National Pollutant Discharge Elimination System (NPDES) program since the advent of the NPDES program in the late 1970s. One major concern has been how to control stormwater associated with industrial activity that discharges via a point source either directly into the waters of the United States or through a municipal separate storm sewer system (MS4).

EPA's Nov. 16, 1990, final "application rule" established permit application regulations for stormwater discharges associated with industrial activities. The agency's April 2, 1992, final "implementation rule" set general permit requirements and reporting requirements for these discharges. The rules implement Sections 301 and 402 of the Clean Water Act (CWA), which require EPA to regulate the discharge of pollutants and mandate the use of best available technology (BAT) and best conventional pollutant control technology (BCT), and, where necessary, water quality-based controls. The phase I stormwater regulations greatly expanded the number of facilities that are required to obtain NPDES permits (see Figure 120-1).

On Aug. 7, 1995, EPA published a phase II stormwater rule that established permit application deadlines for all dischargers not previously covered under phase I of the stormwater program. The August 1995 phase II rule would have required permits by Aug. 7, 2001, for all light industrial, retail, commercial and institutional facilities, as well as small construction sites and small MS4s. However, a final phase II rule published Dec. 8, 1999, requires permit coverage only for small construction sites disturbing between one and five acres of land and for discharges from small MS4s located in urbanized areas (see Figure 120-2 and ¶140). The 1999 rule supersedes and replaces the August 1995 rule.

Figure 120-1
Stormwater Regulated Under Phase I*



* Revised, April 2000.

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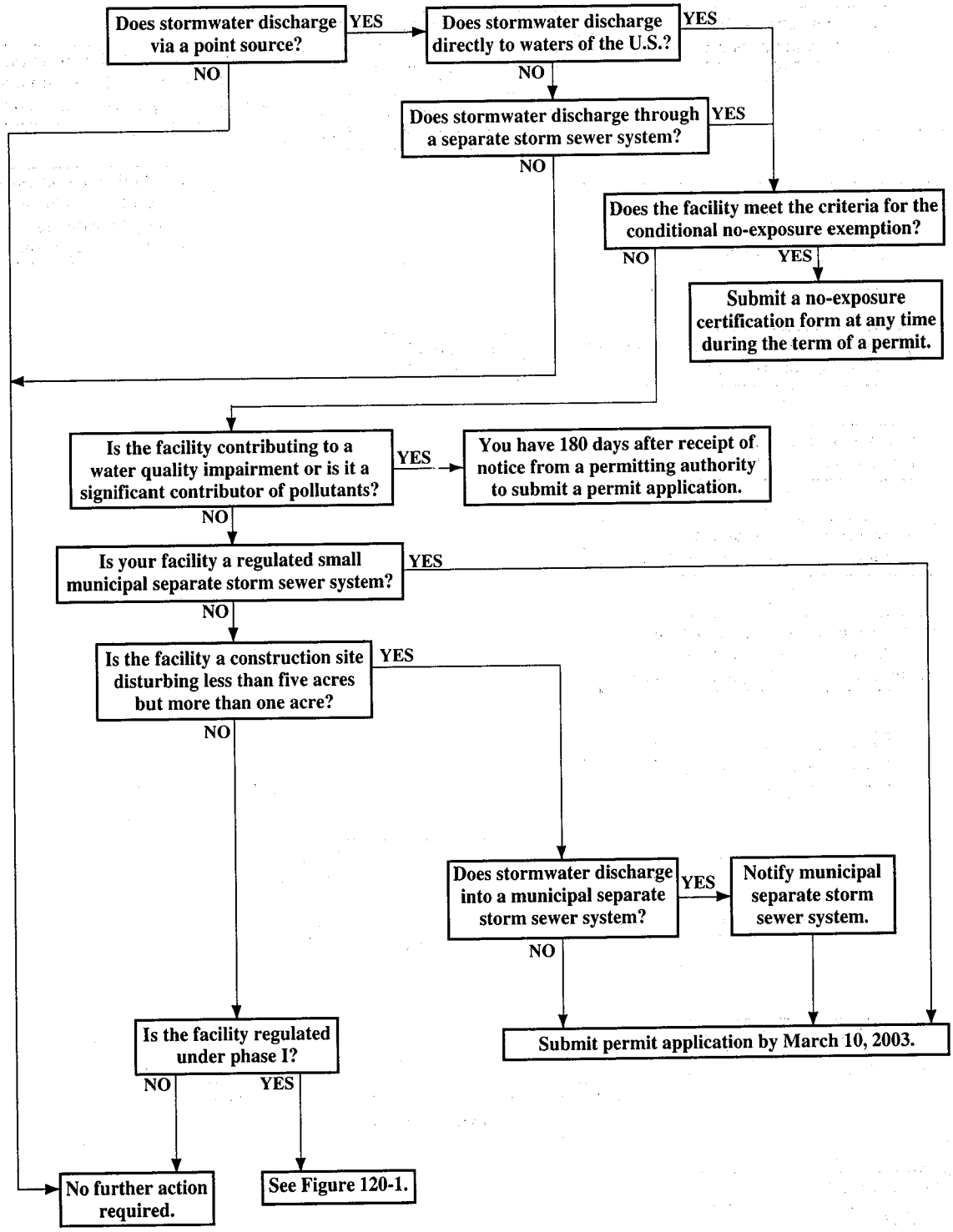
Figure 120-2
Stormwater Automatically Regulated Under Phase II*
(Small MS4s and small construction sites)



* Revised, April 2000.

¶121 Stormwater Discharges

Stormwater is defined as "storm water runoff, snow melt runoff, and surface runoff and drainage" (40 CFR 122.26(b)(13); see Appendix 1(b), p. 70 of the *Manual*). This definition is somewhat narrower than EPA originally proposed, and does not include all potential discharges into a "storm sewer" that NPDES regulations refer to elsewhere. However, EPA believes that this regulatory definition includes all major flows that result from precipitation events while excluding certain others that, while possibly polluted and troublesome, are more appropriately regulated separately.

Stormwater associated with industrial activity is one of two major concerns addressed in the original stormwater application rule. The other is stormwater discharges from MS4s. The first affects more than 100,000 industrial facilities; the second established regulations for several hundred U.S. cities and urban areas.

EPA does not regulate any specific industry sectors under its December 1999 phase II final rule. However, the rule requires construction sites between one and five acres and small (<100,000 population) MS4s to obtain NPDES permits by March 10, 2003. Under phase II, MS4s need to implement "six minimum control measures" to control stormwater discharges (see ¶140). Those control measures are: public education and outreach; public involvement; illicit discharge detection and elimination; construction site stormwater runoff control; post construction stormwater management and pollution prevention; and good housekeeping measures. Municipalities may be able to use existing programs to satisfy these control measures, thereby avoiding program duplication, according to EPA.

Although stormwater discharges from construction sites disturbing one to five acres and small MS4s are automatically covered by the December 1999 phase II final rule, the rule allows the NPDES permitting authority to exclude certain sources from the stormwater program upon a demonstration of their lack of impact on water quality. Likewise, discharges from small MS4s (outside of urbanized areas) and construction sites (disturbing less than one acre), along with other sources that are significant contributors of pollutants to water of the United States, may be brought into the NPDES stormwater program by the permitting authority.

¶122 The Point Source Criterion

To be subject to NPDES stormwater regulations, stormwater associated with industrial activity must discharge via one or more point sources. The rule defines a "point source" as

> any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff (40 CFR 122.2; see Appendix 1(b), p. 56 of the *Manual*).

In the preamble to the final application rule, EPA discussed its definition of "point source" and responded to public comments on it. EPA affirmed that detention and retention basins used to collect stormwater which do not thereafter discharge into waters of the United States are not covered by the rule (see Appendix 1(b)(1), p. 212). For example, if stormwater associated with industrial activity collects in an on-site retention basin and then evaporates or percolates into the

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ground, it is not a discharge subject to the regulation. On the other hand, if the same basin itself periodically discharges stormwater such as during heavy storm events or following a spring snowmelt, the outfall of the basin would be a point source subject to regulation.

The definition of point source, both in the application rule and in decisions handed down in federal court cases, is broad. In particular, the rule addresses sites that have been subject to human engineering: "point source discharges of storm water result from structures which increase the imperviousness of the ground which acts to collect runoff, with runoff being conveyed along the resulting drainage or grading patterns" (see Appendix 1(b)(1), p. 214).

EPA is aware that in some cases stormwater may discharge in a natural sheet flow from a property. Because sheet flow does not meet the point source criterion, it is not subject to regulation. However, any channelization of the runoff at any point creates a point source discharge subject to regulation. EPA recommends that industries that have any doubt about whether their discharges are from point sources should submit a permit application addressing the flow or seek clarification from permitting authorities (see discussions of permitting authorities in Tab 200, Kinds of Permits; in Tab 300, How to Apply for a Permit; and in Tab 800, State Programs).

¶123 Waters of the United States

The NPDES requirements apply only to discharges of stormwater via a point source either directly, or through a municipal separate storm sewer system, to waters of the United States. If a facility does not discharge into the waters of the United States, or discharges through a combined (storm and sanitary) sewer system, it is not subject to regulation. Moreover, if the discharge always evaporates onsite or percolates into groundwater, it is not subject to regulation. The definition of "waters of the United States" includes the following:

(a) all waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide;

(b) all interstate waters, including interstate "wetlands" (see definition, below);

(c) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

  (1) that are or could be used by interstate or foreign travelers for recreational or other purposes;

  (2) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

  (3) that are used or could be used for industrial purposes by industries in interstate commerce;

(d) all impoundments of waters otherwise defined as waters of the United States under this definition;

(e) tributaries of waters identified in paragraphs (a) through (d) of this definition;

(f) the territorial sea; and

(g) "wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition (40 CFR 122.2; see Appendix 1(b), p. 58 of the *Manual*).

In addition, the rule states that waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States. Also, waters of the United States do not include prior converted cropland (40 CFR 122.2; see Appendix 1(b), p. 58 of the *Manual*).

The rule also supplies the following definition of "wetlands":

> "Wetlands" means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (40 CFR 122.2; see Appendix 1(b), p. 59 of the *Manual*).

¶124 No-exposure Exemption**

The original "no exposure" provision included in phase I of the NPDES stormwater program (see 40 CFR 122.26(b)(14)) was published in its revised form in the December 1999 phase II final rule at Section 122.26(g). EPA revised the provision to be a conditional exclusion applicable to all categories of industrial activity (except construction activity) with no exposure of industrial materials and activities to stormwater.

Background. Phase I of the federal stormwater program exempted operators of "light" industrial facilities from the definition of "stormwater discharge associated with industrial activity" and the requirement to obtain an NPDES permit, provided their industrial materials or activities were not "exposed" to stormwater. Under the phase I exemption, light industrial facility operators were not required to submit any information supporting their no-exposure claim.

In 1992, the U.S. Court of Appeals for the 9th Circuit remanded to EPA for further rulemaking the no-exposure exemption for light industry after determining that it was "arbitrary and capricious." The court found that EPA had not supported its assumption that light industry not exposed to stormwater was not "associated with industrial activity." Moreover, the court concluded that the exemption impermissibly relied solely on the judgment of the light industrial facility operator to determine if the exemption was applicable, the preamble states. Phase II of the stormwater program responds to both of the 9th Circuit's concerns.

Applicability of No-exposure Provision. The phase II rule broadens the original no-exposure exemption to conditionally exclude from the NPDES program any facility that certifies a condition of "no exposure," meaning all its industrial materials and/or activities are completely protected from rain, snow, snow melt or runoff by a storm-resistant shelter. The exemption applies to every industrial category listed in the 1990 stormwater regulations, except stormwater discharges from regulated construction activities, because the main pollutants of concern (e.g., sediment) at construction sites generally cannot be sheltered from stormwater.

"Industrial materials or activities" include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, final products or waste products, according to the final rule. The term "storm-resistant shelter" includes completely roofed and walled buildings or structures, as well as structures with only a top cover but no side covering if materials under the structure are not exposed to any stormwater.

** Added, January 2000.

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Although the intent of the no-exposure provision is to promote permanent no-exposure, the rule allows certain machinery to pass between buildings and, during passage, be exposed to rain and snow. In addition, maintained mobile equipment that is not industrial machinery or material handling equipment and that is not leaking contaminants also may be exposed to precipitation or runoff. Similarly, vehicles awaiting maintenance at vehicle maintenance facilities that are not leaking contaminants are not considered exposed under the rule. A storm-resistant shelter is not required for:

- drums, barrels, tanks and other similar containers that are tightly sealed, provided the containers are not deteriorated and do not leak;
- adequately maintained vehicles used in material handling; and
- final products, other than products that would be mobilized in stormwater discharge.

For purposes of the final rule, visible deposits of residuals (e.g., particulate matter) near roof or side vents are considered exposed. Moreover, visible "track out," defined as pollutants carried on the tires of vehicles, or windblown raw materials are considered exposed, as are leaking pipes containing contaminants exposed to stormwater. General refuse and trash, not of an industrial nature, is not considered exposed industrial material; however, industrial refuse and trash that is left uncovered is deemed exposed.

Requirements Under the No-exposure Provision. To claim relief under the no-exposure provision, an industrial operator seeking the exemption must certify that a condition of no exposure exists at the facility. The certification must be submitted to the appropriate NPDES permitting authority (EPA or the state) once every five years. Facilities that discharge to a MS4 also must provide certification to the MS4 operator. In addition, the facility must allow the NPDES permitting authority, or operator of an MS4 into which the facility discharges, to inspect the facility and to make inspection reports publicly available upon request.

Inspections may be conducted at the discretion of the NPDES authority. EPA intends for the certification to be available to and enforceable by appropriate federal and state authorities under CWA. Additionally, private citizens may take action against facilities for stormwater discharges that are inconsistent with a no-exposure certification.

If circumstances change, and industrial activity or materials become exposed to stormwater, the conditions for the exemption no longer apply. In such cases, the discharge becomes subject to enforcement as an unpermitted discharge. Thus, an exempt discharger that anticipates a change in facility operations that could lead to an unpermitted discharge should obtain permit coverage prior to the change.

Where EPA is the permitting authority, dischargers may submit a no-exposure certification at any time during the term of a permit, provided a new certification is submitted every five years. The final rule includes a No Exposure Certification Form for use in areas where EPA administers the NPDES stormwater program (see Appendix 2(j), p. 115). In states where EPA is not the permitting authority, dischargers may not be able to submit the certification until the state adopts the no-exposure provision.

The no-exposure exemption is available on a facility-wide basis only, and is not available for individual outfalls. It does not apply to construction activity. In addition, the exemption is nontransferable. If the facility operator changes, the new discharger must submit a new no-exposure certification.

Concerns Related to Water Quality Standards. Actions taken to qualify for no exposure must not interfere with the attainment or maintenance of water quality standards, including designated uses. Increases in impervious surfaces, e.g., constructing a new building or cover to eliminate exposure, can result in increased runoff volumes from a site, which may increase pollutant loading.

The final rule addresses this issue by requesting information on the No Exposure Certification Form that allows the permitting authority to determine if actions taken to qualify for the exclusion have resulted in increased pollutant concentrations or loadings, toxicity of stormwater runoff, or a change that negatively impacts water quality. In these instances, the facility operator and its NPDES permitting authority should take action to ensure that attainment or maintenance of water quality standards can be achieved.

[The next page is Tab 100, Page 21.]

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¶130 Phase I Discharges*

Five Categories of Discharges. In the 1987 amendments to the Clean Water Act (CWA), Congress identified five categories of stormwater discharges that could receive the immediate regulatory attention of EPA. The five categories included:

- facilities already covered by an NPDES permit for stormwater;
- facilities that engage in industrial activity;
- large (>250,000 population) municipal separate storm sewer systems (MS4s);
- medium (>100,000 and <250,000 population) MS4s; and
- facilities that are determined to have stormwater discharges that contribute to a violation of water quality or that are significant contributors of pollutants to waters of the United States (CWA Sec. 402(p); see Appendix 1(a), p. 36).

The second and largest category, facilities engaged in industrial activity, is broken down into 11 subcategories. These are identified either by Standard Industrial Classification (SIC) code or by a description of the industrial activity covered.

The phase I stormwater rule provides a lengthy definition of "stormwater discharge associated with industrial activity," including a description of what the term does not mean. Under 40 CFR 122.26(b)(14), "stormwater discharge associated with industrial activity" means:

> the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing or raw materials storage areas at an industrial plant.

Heavy Industry. The definition includes a list of the kinds of industrial areas that are covered by the rule. It is important to note that the list is illustrative, rather than all-inclusive. In other words, if stormwater at an industrial site were exposed to an area that is like one in the following list, it would be covered by the rule. The following list applies to all but one of the 11 subcategories outlined in the rule (see ¶131.1 through ¶131.10.). It applies only to "heavy" industrial activities (40 CFR 122.26(b)(14)(i-x)); it does not apply to "light" industrial activities (40 CFR 122.26(b)(14)(xi)). The list includes:

> . . . storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters . . . ; sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water (40 CFR 122.26(b)(14); see Appendix 1(b), p. 70.)

* Revised, January 2000.

Excluded from the definition of "associated with industrial activity" are "areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with stormwater drained from the above described areas" (40 CFR 122.26(b)(14); see Appendix 1(b), p. 70).

In promulgating the rule, EPA clarified in the preamble that it intended to cover, in its reference to "immediate access roads (including haul roads)," only those roads "which are exclusively or primarily dedicated for use by the industrial facility." EPA specifically did not intend that facilities submit permit applications for discharges from county, state, or federal public access roads. Examples of such public access federal roads include highways or Bureau of Land Management (BLM) roads that happen to be used by the facility. Furthermore, EPA did not intend to cover roads that are used to transport bulk samples of raw materials or products (such as prospecting samples from potential mines) in small scale prior to industrial production. In this example, EPA concluded that permit requirements should not apply to "operations which are not yet industrial activities" (see Appendix 1(b)(1), p. 237).

The term "material handling" as it relates to industrial activities, also is defined in the rule:

> Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product, or waste product (40 CFR 122.26(b)(14); see Appendix 1(b), p. 70).

Light Industry. The original stormwater application rule, commonly referred to as phase I of the stormwater permitting program, treated "light industrial" facilities that discharge stormwater differently than heavy manufacturing facilities. Although heavy industrial stormwater dischargers were required to apply for an NPDES permit, operators of light industrial facilities were exempted from the definition of "stormwater discharge associated with industrial activity" and the requirement to obtain an NPDES permit, provided their industrial materials or activities were not exposed to stormwater. Under the phase I exemption, light industrial facility operators were not required to submit any information supporting their no-exposure claim.

In 1992, the U.S. Court of Appeals for the 9th Circuit remanded to EPA for further rulemaking the no-exposure exemption for light industry after determining that it was "arbitrary and capricious." The court found that EPA had not supported its assumption that light industry not exposed to stormwater was not "associated with industrial activity." Moreover, the court concluded that the exemption impermissibly relied solely on the judgment of the light industrial facility operator to determine if the exemption was applicable. Phase II of the stormwater program responds to both of the 9th Circuit's concerns.

The phase II rule broadens the original no-exposure exemption to conditionally exclude from the NPDES program any facility that certifies a condition of "no exposure," meaning all its industrial materials and activities are completely protected from rain, snow, snow melt or runoff by a storm-resistant shelter. The exemption applies to all categories of industrial activity, except stormwater discharges from regulated construction activities. (For more information, see ¶124.)

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¶131 Eleven Types of Industrial Activity

"Discharges associated with industrial activity" are further broken down into 11 subcategories. They are:

- discharges already subject to NPDES regulations;
- heavy manufacturing operations;
- mining, oil and gas operations;
- hazardous waste treatment, storage and disposal facilities;
- industrial waste landfills and open dumpsites;
- metal scrapyards, battery reclaimers, salvage yards and automobile junkyards;
- steam electric power generators and coal handling sties;
- transportation activity;
- sewage, sludge and wastewater treatment works;
- construction activity disturbing five or more acres of land; and
- light industrial activity (40 CFR 122.26(b)(14)(i-xi); see Appendix (1)(b), p. 71).

¶131.1 Discharges Already Subject to NPDES Regulations

Certain categories of industries are subject to stormwater permitting by virtue of existing NPDES regulation of their effluent. These industries are listed in 40 CFR subchapter N. Facilities in three subchapter N categories must seek NPDES coverage for their stormwater discharges:

- facilities subject to stormwater-specific effluent limitation guidelines;
- facilities subject to new source performance standards; and
- facilities subject to toxic pollutant effluent standards (except facilities with toxic pollutant effluent standards which qualify for exemption as "light" industries). *Note*: light industry is regulated under phase II of the stormwater permitting program. See ¶140 and Appendix 1(b)(3) for more information on requirements for phase II discharges.

Facilities Subject to Stormwater Effluent Limitations. The following categories of facilities have stormwater effluent guidelines for at least one of their subcategories:

Cement manufacturing (40 CFR 411);

Feedlots (40 CFR 412);

Fertilizer manufacturing (40 CFR 418);

Petroleum refining (40 CFR 419);

Phosphate manufacturing (40 CFR 422);

Steam electric power generating (40 CFR 423);

Coal mining (40 CFR 434);

Mineral mining and processing (40 CFR 436);

Ore mining and dressing (40 CFR 440); and

Asphalt (40 CFR 443).

A facility that falls into one of these general categories should examine the effluent guideline to determine if it is characterized in one of the subcategories that have stormwater effluent guidelines. If a facility is classified as one of these subcategories, it is subject to the standards listed in the CFR for that category, and as such, is required to submit a stormwater permit application.

Facilities Subject to Toxic Pollutant Effluent Standards. As indicated above, facilities subject to toxic pollutant effluent standards also are required to submit stormwater permit applications. "Toxic pollutant" refers to the priority pollutants listed in Tables II and III of Appendix D of 40 CFR Part 122 (not 40 CFR Part 129). If any of these toxic pollutants are limited in an effluent guideline to which the facility is subject (including pretreatment standards), the facility must apply for a stormwater permit. The following categories of facilities have toxic pollutant effluent standards for at least one subcategory:

Textile mills (40 CFR 410);
Electroplating (40 CFR 413);
Organic chemicals, plastics and synthetic fibers (40 CFR 414);
Inorganic chemicals (40 CFR 415);
Petroleum refining (40 CFR 419);
Iron and steel manufacturing (40 CFR 420);
Nonferrous metals manufacturing (40 CFR 421);
Steam electric power generating (40 CFR 423);
Ferroalloy manufacturing (40 CFR 424);
Leather tanning and finishing (40 CFR 425);
Glass manufacturing (40 CFR 426);
Rubber manufacturing (40 CFR 428);
Timber products processing (40 CFR 429);
Pulp, paper and paperboard (40 CFR 430);
Metal finishing (40 CFR 433);
Pharmaceutical manufacturing (40 CFR 439);
Ore mining and dressing (40 CFR 440);
Pesticide chemicals (40 CFR 455);
Photographic processing (40 CFR 459);
Battery manufacturing (40 CFR 461);
Metal molding and casting (40 CFR 464);
Coil coating (40 CFR 465);
Porcelain enameling (40 CFR 466);
Aluminum forming (40 CFR 467);
Copper forming (40 CFR 468);
Electrical and electronics components (40 CFR 469); and
Nonferrous metals forming and metal powders (40 CFR 471).

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Facilities Subject to New Source Performance Standards. Most effluent guidelines listed in subchapter N contain new source performance standards. A facility that is subject to a new source performance standard as defined for that particular effluent guideline is required to submit a stormwater permit application. The definition of a new source varies based on the publication date of the particular effluent guideline.

The following categories of 40 CFR subchapter N facilities do not have new source performance standards. All other categories have at least one subcategory with new source performance standards.

Oil and gas extraction (40 CFR 435);

Mineral mining and processing (40 CFR 436);

Gum and wood chemicals manufacturing (40 CFR 454);

Pesticide chemicals (40 CFR 455);

Explosives manufacturing (40 CFR 457);

Photographic (40 CFR 459); and

Hospitals (40 CFR 460).

Overlap with Other Categories of Stormwater Discharges. Many of the industrial categories under subchapter N overlap with the manufacturing categories listed in ¶131.2. Among the subchapter N facilities, only facilities with toxic pollutant effluent standards may qualify as "light" industries as defined in ¶131.11. Thus, if the facility is subject to stormwater effluent standards or new source performance standards, the facility is required to apply for a permit regardless of whether it has exposure to stormwater.

¶131.2 Heavy Manufacturing Operations

This category is defined by SIC codes. All industries that have operations covered by these codes are subject to stormwater regulation. The codes include:

24	Lumber and wood products manufacturing, other than furniture manufacturing;
	<2434> (Excluding wood kitchen cabinet manufacturing);
26	Paper and allied products manufacturing;
	<265> (Excluding paperboard containers and boxes manufacturing);
	<267> (Excluding other converted paper and paperboard products manufacturing);
28	Chemicals and allied products manufacturing;
	<283> (Excluding medical chemicals, pharmaceutical products, and botanicals);
29	Petroleum refining and related activities;
311	Leather tanning and finishing;
32	Stone, clay, glass, and concrete products manufacturing;
	<323> (Excluding manufacture of glass products made of purchased glass);
33	Primary metals operations (such as the operation of smelters, coke ovens, metals refineries, and basic metal production facilities);
3441	Structural metal fabricating; and
373	Ship and boat building and repair.

¶131.3 Mining, Oil and Gas Operations

Mining and oil and gas operations are defined by SIC codes 10-14.

Mining Operations. Facilities are subject to NPDES regulation for stormwater if the stormwater they discharge is contaminated by contact with or has come into contact with the following: any overburden, raw material, intermediate products, finished products, byproducts, or waste products located on the site of operations. Specifically included are inactive mining operations. Inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator.

Exemptions: However, two kinds of inactive mines do not require NPDES permits. They include:

- areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(1) because the performance bond issued to the facility by the appropriate Surface Mining Control and Reclamation Act (SMCRA) authority has been released; and
- areas of non-coal mining operations that have been released from applicable state or federal reclamation requirements since Dec. 17, 1990.

Note: The term "inactive" does not apply to sites where claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined materials; nor does the term apply to sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim.

Oil and Gas Operations. Oil and gas operations are not subject to stormwater regulation unless the facility meets one of the following three criteria:

- has had a discharge of stormwater resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 117.21 or 40 CFR 302.6 at any time since Nov. 16, 1987;
- has had a discharge of stormwater resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 110.6 at anytime since Nov. 16, 1987; or
- contributes to a violation of a water quality standard.

As defined in 40 CFR 110.6, a reportable quantity of oil is the amount of oil that violates applicable water quality standards or causes a film or sheen upon or a discoloration of the surface of the water or adjoining shorelines or causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines. The reportable quantities for other substances are listed in 40 CFR 117.3 and 502.4 in terms of pounds released over any 24 hour period.

Regulated operations include facilities for exploration, production, processing, treatment or transmission of oil and gas.

In the preamble to the final rule, EPA acknowledged that "oil, gas, and mining facilities are among those industrial sites that are likely to discharge storm water runoff that is contaminated by process wastes, toxic pollutants, hazardous substances, or oil and grease. Such contamination can include disturbed soils and process wastes containing heavy metals or suspended or dissolved solids, salts, surfactants, or solvents used or produced in oil and gas operations."

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In its amendments to the Clean Water Act in 1987, Congress recognized that some operators have "channeled [stormwater] around plants and operations through a series of ditches and other structural devices in order to prevent pollution of the storm water by harmful contaminants." It therefore created an exemption from permitting regulations for those operators "that use good management practices and make expenditures to prevent contamination" (Appendix 1(b)(1), p. 271).

¶131.4 Hazardous Waste Treatment, Storage and Disposal Facilities

Hazardous waste treatment, storage, or disposal facilities that are operating under interim status or a permit under subtitle C of RCRA are subject to permitting.

¶131.5 Industrial Waste Landfills and Open Dumpsites

Landfills, land application sites, and open dumps that receive or have received any industrial wastes (wastes that are or have been received from any of the facilities included in the NPDES stormwater regulation) are subject to regulation. Landfills include capped or uncapped, and active or inactive sites. Industrial waste includes construction debris.

¶131.6 Metal Scrapyards, Battery Reclaimers, Salvage Yards and Automobile Junkyards

This category is limited to SIC codes 5015 (Motor Vehicle Parts, Used) and 5093 (Scrap and Waste Materials). The rule specifically mentions metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards. However, SIC code 5093 encompasses more than automotive scrap product facilities. The SIC manual defines this subcategory as "establishments primarily engaged in assembling, breaking up, sorting, and wholesale distribution of scrap and waste materials." The complete list of businesses classified under SIC 5093 includes:

Automotive wrecking for scrap—wholesale;

Bag reclaiming—wholesale;

Bottles, waste—wholesale;

Boxes, waste—wholesale;

Fur cuttings and scraps—wholesale;

Iron and steel scrap—wholesale;

Junk and scrap, general line—wholesale;

Metal and waste scrap—wholesale;

Nonferrous metals scrap—wholesale;

Oil, waste—wholesale;

Plastics scrap—wholesale;

Rags—wholesale;

Rubber scrap—wholesale;

Scavengering—wholesale;

Scrap and waste materials—wholesale;

Textile waste—wholesale;

Wastepaper, including paper recycling—wholesale; and

Wiping rags, including washing and reconditioning—wholesale.

This category does not include gas stations or repair shops that collect tires or batteries, nor does it include municipal waste collection sites where bottles, cans and newspapers are collected for recycling purposes.

¶131.7 Steam Electric Power Generators and Coal Handling Sites

This category includes all kinds of steam electric power generating facilities. Moreover, the rule also specifically includes coal handling sites that serve steam electric generating facilities that use coal as fuel. It does not include stormwater discharges from coal piles that are located offsite from the power station, however.

EPA acknowledged in the preamble to the final rule that the discharge of certain source, special nuclear, and byproduct materials are regulated under the Atomic Energy Act and are thereby exempt from regulation by EPA. However, EPA also noted that "the facility in its entirety may not necessarily be exempt." It suggests that "a permit application will be appropriate for discharges from non-exempt categories" (Appendix 1(b)(1), p. 244).

A heat-capture co-generation facility is not included in this category. However, a dual-fuel co-generation facility is included. In addition, a university steam electric power generating plant is included in this category.

¶131.8 Transportation Activity

Transportation activities that are included in SIC codes 40, 41, 42 (except 4221-25), 43, 44, 45, and 5171, that have vehicle maintenance shops, equipment cleaning operations, or airport de-icing operations, are subject to the stormwater regulation.

However, the regulation applies only to those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport de-icing operations, or that are identified in another subcategory of the rule as meeting EPA's definition of stormwater discharges "associated with industrial activity." The SIC codes and the industrial activities they represent include:

40	Railroad transportation;
41	Local and suburban transit and interurban highway passenger transportation;
42	Motor freight transportation and warehousing;
	<4221-25> (Except farm product warehousing and storage, refrigerated warehousing and storage, and general warehousing and storage.)
43	United States Postal Service;
44	Water transportation;
45	Transportation by air;
5171	Petroleum bulk stations and terminals.

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¶131.9 Sewage, Sludge and Wastewater Treatment Works

Also subject to regulation are treatment works for domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of sewage (including land dedicated to the disposal of sewage sludge located within the confines of the facility), with a design flow of 1.0 million gallons per day (mgd) or more, or required to have an approved pretreatment program under 40 CFR part 403. The regulation does not encompass farm lands, domestic gardens or lands used for the beneficial reuse of sludge which are not physically located within the confines of the facility, treatment works for municipalities with a population of less than 100,000, or areas that are in compliance with section 405 of CWA.

¶131.10 Construction Activity*

Construction operations that result in the disturbance of five acres or more of total land area are subject to regulation under phase I. Unlike some other agencies, EPA has not defined this category by SIC codes. Instead, the agency focuses on the nature of the activity itself. In the preamble to the 1990 NPDES permit application rule (Appendix 1(b)(1) of the *Manual*), EPA noted that construction

> that disturbs large tracts of land will involve the use of heavy equipment such as bulldozers, cranes, and dump trucks. Construction activity frequently employs dynamite and/or other equipment to eliminate trees, bedrock, rockwork, and to fill or level land. Such activities also engage in the installation of haul roads, drainage systems, and holding ponds that are typical of the industrial activity identified in 40 CFR 122.26(b)(14)(i-x) [i.e., all categories of affected facilities except for "light" manufacturing]. EPA cannot reasonably place such activity in the same category as light commercial or retail business (Appendix 1(b)(1), p. 279).

In addition, EPA noted that runoff associated with construction activities "has the potential for serious water quality impacts," particularly with regard to sediments and other pollutants.

The regulations specifically apply to clearing, grading, and excavation activities. Previously unregulated owners or operators of small construction site activities that result in a land disturbance of between one and five acres in size are automatically subject to the phase II requirements. Site activities disturbing less than one acre may be covered under the NPDES program if they are part of a larger common plan of development or sale with a planned disturbance of one to five acres or if a project is deemed to have the potential for adverse impacts on water quality. EPA anticipates that NPDES permitting authorities will use existing phase I general permits for construction activity as a guide for their phase II permits.

The permitting authority may waive the permit requirement for construction site operators in two situations. A waiver is applicable for sites where little or no rainfall is expected during the construction period. A second waiver may be granted when a total maximum daily load or equivalent analysis indicates that controls on construction site discharges are not needed to protect water quality.

The operator of the construction site is responsible for applying for the permit. In the case of construction, the owner may submit an application for a construction activity if the operators have not yet been identified. However, once the operators have been identified, they must become either sole permittees or co-permittees with the owner. The operator is determined by who has day-to-day supervision and control of activities occurring at a site. In some cases, the operator may be the owner or developer, at other sites the operator may be the general contractor.

* Revised, January 2000.

¶131.11 Light Industrial Activity*

Under phase I of the stormwater permitting program, light industrial facility operators were not required to apply for an NPDES stormwater permit unless stormwater actually contacted their industrial materials, products, material handling equipment or activities, or other industrial equipment. Facility operators were not required to submit information supporting their claim that all industrial materials and/or activities were not exposed to stormwater. This exemption was held invalid by the Ninth Circuit, but EPA continued to recognize the exemption under phase I of the permitting program.

Phase II of the stormwater program responds to the 9th Circuit's concern. The phase II rule broadens the original no-exposure exemption to conditionally exclude from the NPDES program any facility that certifies a condition of "no exposure," meaning all its industrial materials and/or activities are completely protected from rain, snow, snow melt or runoff by a storm-resistant shelter. The exemption applies to every industrial category listed in the 1990 stormwater regulations, except stormwater discharges from regulated construction activities. For additional information on the phase II no-exposure provision, see ¶124.

The SIC codes for light industry include:

20	Manufacturing and processing of foods and beverages for human consumption, certain related products, and prepared animal feeds;
21	Tobacco products manufacturing;
22	Textile mill product manufacturing;
23	Manufacture of apparel and other finished products made from fabric and similar materials;
2434	Wood kitchen cabinet manufacturing;
25	Furniture and fixtures manufacturing;
265	Paperboard containers, boxes, other paperboard products;
267	Converted paper products manufacturing, except containers and boxes;
27	Printing, publishing, and allied industrial activity;
283	Manufacture, processing, fabricating of medical chemicals and pharmaceutical products, and the grading, grinding, and milling of botanicals;
285	Paint, varnish, lacquer, enamel and allied product manufacturing;
30	Rubber and miscellaneous plastics products manufacturing;
31	Tanning, currying, and finished leather hides, skins and converters, and manufacturing finished leather and artificial leather products;
	<311> (Excluding leather tanning and finishing (see ¶131.1 and ¶131.2));
323	Manufacture of glass products made of purchased glass;
34	Fabricating metal products (other than machinery and transportation equipment);
	<3441> (Excluding fabricating structural metal (see ¶131.2));
35	Industrial and commercial machinery and computer equipment manufacturing;
36	Electronic and other electrical equipment and components manufacturing;

* Revised, January 2000.

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37 Transportation equipment manufacturing;

<373> (Excluding ship and boat building and repair (see ¶131.2));

38 Manufacture of measuring, analyzing, and controlling instruments, photographic, medical, and optical goods, and watches and clocks;

39 "Miscellaneous" manufacturing (including jewelry, silverware, plated ware, musical instruments, dolls, toys, games, sporting and athletic goods, pens, pencils, artists' materials, novelties, buttons, notions, brooms, brushes, signs, burial caskets, and hard surface (floor coverings); and

4221-25 Farm product warehousing and storage, refrigerated warehouse and storage, and "general" warehousing and storage.

[The next page is Tab 100, Page 41.]

¶140 Phase II Discharges*

The U.S. Environmental Protection Agency's (EPA) phase II stormwater program expands the phase I program by requiring additional operators of municipal separate storm sewer systems (MS4s) in urbanized areas and operators of small construction sites to apply for National Pollutant Discharge Elimination System (NPDES) permit coverage (64 FR 68722, Dec. 8, 1999). The new phase II regulations supersede the interim phase II direct final rule published on Aug. 7, 1995, which required all nonregulated (non-phase I) stormwater dischargers to apply for permit coverage by Aug. 7, 2001.

Automatic Designation. The phase II final rule "automatically" covers two classes of stormwater dischargers on a nationwide basis:

- operators of small (those serving a population of less than 100,000) MS4s located in "urbanized areas" as defined by the Bureau of the Census (see ¶143); and
- operators of small construction activities that disturb between one and five acres of land (see ¶145).

Potential Designation by NPDES Permitting Authority. The phase II permitting regulations are structured for "maximum flexibility," according to EPA. Accordingly, the rule allows permitting authorities to make independent decisions about who is regulated under the program, outside of the automatically covered classes of stormwater dischargers, through case-by-case determinations and the granting of waivers.

Small MS4s located outside of urbanized areas, construction activity disturbing less than one acre and any other stormwater discharges can be designated for coverage if the NPDES permitting authority or EPA determines that stormwater controls are necessary. In addition, permitting authorities may waive the permit requirement for "automatically designated" phase II dischargers if the dischargers meet the necessary criteria. (See ¶143 and ¶145 for information on the designation criteria and waiver options that apply to small MS4s and small construction activities.)

The NPDES permitting authority must issue general permits for regulated small MS4s and small construction sites by Dec. 9, 2002, according to EPA. Operators of regulated small MS4s and small construction sites that are automatically designated must obtain permit coverage within 90 days of permit issuance (see Figure 310-1, Application Deadlines). The phase II final rule notes that the NPDES permitting authority may phase in coverage for small MS4s serving jurisdictions with populations under 10,000 on a schedule consistent with a state watershed permitting approach.

Under phase II, operators of regulated small MS4s and small construction sites are required to implement stormwater discharge management controls, known as "best management practices," to reduce or prevent the discharge of pollutants into receiving waters. (See ¶450, ¶570 and ¶677 for more information on phase II program requirements and implementation options.)

No-exposure Provision

The phase II final rule revises the "no-exposure" provision originally included in the 1990 regulations for phase I of the NPDES stormwater program. The provision was remanded to EPA for further rulemaking and, subsequently, was included in its revised form in the phase II rule.

* Revised, March 2000.

Under phase II, a conditional no-exposure exemption is available to operators of all categories of phase I and phase II regulated industrial activity (except construction activity) who can certify that all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt and/or runoff. To obtain the no-exposure exemption, written certification must be submitted to the NPDES permitting authority. The final rule includes a No-Exposure Certification form for use only by operators of industrial activity in areas where EPA is the NPDES permitting authority. (See ¶124 for more information.)

[The next page is Tab 100, Page 47.]

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¶143 Small Municipal Separate Storm Sewer Systems**

The phase II final rule covers only a select subset of small MS4s called "regulated small MS4s." Under phase II, "regulated small MS4s" are all small MS4s located in urbanized areas, as well as those small MS4s located outside of an urbanized area that are brought into the program on a case-by-case basis by the NPDES permitting authority.

A "small MS4" is any MS4 not already covered by the phase I program as a medium or large MS4, including urban stormwater sewer systems. "Urbanized area" means a city or town and the adjacent densely populated surrounding territory that together have a minimum population of 50,000.

Program Coverage

A small MS4 is designated as a regulated small MS4, and therefore covered by the phase II program, in the following instances:

- Automatic Nationwide Designation—The phase II rule requires automatic nationwide coverage of all operators of small MS4s that are located within the boundaries of an urbanized area as determined by the Bureau of Census based on data from the latest decennial census.
- Potential Designation by the NPDES Permitting Authority—Operators of small MS4s located outside of an urbanized area may be designated as regulated small MS4s if the NPDES permitting authority determines that stormwater discharges from the small MS4 cause, or have the potential to cause, water quality problems. In addition, the NPDES permitting authority is required to regulate any small MS4 located outside of an urbanized area that contributes a large amount of pollutants to a "physically interconnected" MS4 that is already permitted by the NPDES stormwater program. To be "physically interconnected," the MS4 of one entity, including roads with drainage systems and municipal streets, must be physically connected directly to the MS4 of another entity.

Required Evaluation. The phase II rule requires the NPDES permitting authority to develop a set of designation criteria and apply it to any small MS4 located outside of an urbanized area. This will most likely affect municipalities with a population of 10,000 or more and a population density of at least 1,000 per square mile. If the NPDES permitting authority determines that an MS4 meets the criteria, the permitting authority must designate it as a regulated small MS4 and require it to obtain a permit.

Designation Criteria. EPA recommends that the NPDES permitting authority use a balanced consideration of the following designation criteria: discharge to sensitive waters; high population density; high growth or growth potential; contiguity to an urbanized area; significant contribution of pollutants to waters of the United States; and ineffective control of water quality concerns by other programs.

NPDES permitting authorities must issue general permits for small MS4s by Dec. 9, 2002, the phase II final rule states. Operators of regulated small MS4s that are automatically designated must obtain permit coverage within 90 days of permit issuance (see Figure 310-1, Application Deadlines), according to the rule. The NPDES permitting authority may phase in coverage for small MS4s serving jurisdictions with populations under 10,000 on a schedule consistent with a state watershed permitting approach.

** Added, March 2000.

Waivers for Phase II Small MS4s

The phase II rule provides two opportunities for the NPDES permitting authority to exempt certain regulated small MS4s from the need for a permit based on water quality considerations. Waivers are available only to automatically designated small MS4s located in urbanized areas (see above).

The two waiver opportunities have different size thresholds and take different approaches to considering the water quality impacts of discharges from the MS4. In the first instance, the NPDES permitting authority may waive permit coverage of a small MS4 that serves a population of less than 1,000 within an urbanized area if the system is not contributing substantially to the stormwater pollutant loadings of a physically interconnected regulated MS4, unless the small MS4 discharges pollutants into an impaired waterbody.

If the small MS4 does contribute to a water quality impairment, the NPDES permitting authority may grant a waiver only if the operator can certify that stormwater controls are not needed based on a total maximum daily load (TMDL) assessment that addresses the pollutants of concern.

Under the second waiver option, the NPDES permitting authority may waive permit coverage of a small MS4 that serves a population between 1,000 and 10,000 within an urbanized area only if all waters that receive a discharge from the MS4 have been evaluated and discharges from the MS4 will not cause or contribute to water quality impairment. The permitting authority's evaluation must be based on wasteload allocations that are part of an EPA approved or established TMDL or an equivalent analysis.

To obtain a waiver, the MS4 operator must provide written certification to the NPDES permitting authority that the waiver criteria have been met and implementation of stormwater controls is not necessary. Because the waiver is indefinite, the operator would not need to recertify every five years. However, the NPDES permitting authority, at any time, can mandate compliance with the program requirements from a previously waived small MS4 if circumstances change.

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¶145 Small Construction Activity**

Under the stormwater phase II final rule, construction activity disturbing between one and five acres of land is subject to NPDES permitting requirements. Construction activity disturbing less than one acre also requires a permit if it is part of a larger common plan of development or sale disturbing a total of one acre or greater, or is individually designated for permit coverage by the NPDES permitting authority. Thus, the one-acre threshold under the phase II rule is not an absolute threshold like the five-acre threshold that applies under the phase I rule, EPA notes.

"Small construction activity" includes clearing, grading and excavating, according to EPA. The term does not include, however, routine maintenance that is performed to maintain the original line and grade, hydraulic capacity or original purpose of the facility.

"Operators" of phase II regulated small construction activity are required to apply for NPDES permit coverage. An "operator" of a construction site is defined as "the party or parties that has operational control of construction project plans and day-to-day operational control of those activities that are necessary to ensure compliance with a stormwater pollution prevention plan for the site or other permit conditions." Depending on the site and the relationship between the parties, there may be more than one operator, all obligated to seek permit coverage.

Program Coverage

Stormwater discharges associated with small construction activity are covered by phase II of the NPDES stormwater program in the following instances:

- Automatic Nationwide Designation—Construction activities that result in a land disturbance between one and five acres are automatically subject to the phase II requirements. In addition, construction activities disturbing less than one acre are covered under the NPDES program if they are part of a larger common plan of development or sale with a planed disturbance of one to five acres.
- Potential Designation by the NPDES Permitting Authority—Construction activities that result in a land disturbance of less than one acre may be designated for permit coverage by the permitting authority based on the potential for contribution to a violation of water quality standards or adverse impacts on water quality.

NPDES permitting authorities must issue general permits for small construction activity by Dec. 9, 2002, the phase II final rule states. Operators of regulated small construction activity that is automatically designated must obtain permit coverage within 90 days of permit issuance (see Figure 310-1, Application Deadlines), according to the rule.

Waivers for Phase II Construction Activity

Under phase II, NPDES permitting authorities may exempt certain operators of small construction activity from the need for a permit based on water quality considerations. Waivers are available only to automatically designated small construction activity. Accordingly, waivers are not available for any construction activity disturbing five acres or greater, or less than five acres if part of a common plan of development or sale. In addition, waivers are not available for construction activity designated for permit coverage by the NPDES permitting authority.

** Added, March 2000.

The permitting authority may waive the permit requirement for construction site operators who certify to one of two conditions:

- The value of the rainfall erosivity factor ("R" in the Revised Universal Soil Loss Equation) is less than five during the period of construction activity. The rainfall erosivity factor is determined in accordance with Chapter 2 of *Agricultural Handbook Number 703, Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Soil Loss Equation (RUSLE)*. Copies may be obtained from EPA's Water Resources Center, Mail Code RC4100, 401 M St. S.W., Washington, DC 20460.
- Stormwater controls are not needed based on a TMDL approved or established by EPA that addresses the pollutants of concern or and equivalent analysis.

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¶150 Government Facilities Subject to NPDES Requirements

Most federal, state and municipal facilities that engage in industrial activity are subject to the same National Pollutant Discharge Elimination System (NPDES) program requirements as industrial facilities that are not government owned or operated. Government owned or operated facilities that are determined to violate water quality standards or to be significant contributors of pollutants to waters of the United States are also required to obtain NPDES stormwater permits (see ¶170).

The U.S. Environmental Protection Agency's (EPA) April 2, 1992, final stormwater permitting rule incorporated into the *Code of Federal Regulations* the stormwater-related provisions of the Transportation Act of 1991 concerning permit application deadlines for stormwater discharges associated with industrial activity that are owned or operated by municipalities. The rule codified three changes to existing regulatory deadlines.

The deadlines for submitting individual permit applications for stormwater discharges associated with industrial activity that are owned or operated by municipalities are consistent with the Oct. 1, 1992, regulatory deadline that EPA established on Nov. 5, 1991, with two exceptions:

- municipal facilities that have been identified in a part 1 group application that was submitted in a timely manner, where either the group application was denied or the particular facility was rejected from the group, were not required to submit an application until the 180th day following the date on which the denial or rejection was made; and
- facilities owned or operated by a municipality with a population of less than 100,000 other than an airport, powerplant or uncontrolled sanitary landfill were not required to submit permit applications under phase I of the permitting program unless a permit was required under section 402(p)(2)(A) or (E) of the Clean Water Act (CWA) (which address stormwater discharges that had an NPDES permit prior to Feb. 4, 1987, and discharges that EPA or the state determine contribute to a violation of a water quality standard or are significant contributors of pollutants to the waters of the United States; see Appendix 1(a), p. 36).

Provisions within the Intermodal Surface Transportation Efficiency Act (ISTEA) temporarily delayed the deadline for phase I industrial activities (with the exception of power plants, airports and uncontrolled sanitary landfills) operated by municipalities with populations of less than 100,000 people to obtain an NPDES stormwater discharge permit. Congress delayed the permitting deadline for these facilities to allow small municipalities additional time to comply with NPDES requirements. The phase II final rule ended this temporary exemption from permitting and set a deadline of no later than March 10, 2003, for all ISTEA-exempted municipally operated industrial activities to obtain permit coverage.

Government entities also may own and operate a municipal separate storm sewer system (MS4). For a detailed discussion of EPA's stormwater permit application requirements for MS4s, see Tab 400. The stormwater regulations distinguish between large, medium and small MS4s. Medium and large MS4s are covered under phase I of the stormwater permitting program (see ¶160). EPA's December 1999 phase II final rule extends regulations for stormwater discharges to small MS4s (see ¶143).

Federal and State-operated Small MS4s**

The program for small MS4s under the stormwater phase II final rule covers certain federal and state-operated small MS4s. Federal facilities were not designated for regulation by the NPDES phase I stormwater program for MS4s. The phase II rule, however, includes "United States" in the definition of small MS4, thereby including federal MS4 operators in the NPDES phase II stormwater program. Federal and state-operated MS4s can include those at universities, prisons, hospitals and military bases.

The small MS4 program creates a number of implementation issues for federal and state operators of regulated small MS4s, who must obtain NPDES permits and develop and implement stormwater management programs. According to EPA, the following are the three most common implementation issues raised in public comments submitted on the federal/state implementation of the small MS4 program:

- Some federal and state MS4s, such as military bases, prisons and state universities serve populations that are different from a typical municipal population. This may lead federal and state MS4 operators to question either the need to implement the entire set of minimum control measures or their ability to comply fully with their phase II stormwater permit.
- Three of the minimum control measures (illicit discharge detection and elimination, and two construction-related measures) require the MS4 operator to have some enforcement authority over third-party activities to ensure successful implementation of the control measure. Some federal and state operators, however, may not have the necessary legal authority to adopt these enforceable controls.
- Because the final rule provides automatic coverage of all small MS4s within an urbanized area, regardless of political boundaries, coverage of multiple governments and agencies in a single area is likely.

EPA developed a fact sheet that highlights these potential implementation problems and discusses the options included in the rule to address these issues. EPA's fact sheet number 2.10—*Federal and State-operated MS4s: Program Implementation* may be downloaded from the Internet at www.epa.gov/own/sw/phase2.

[The next page is Tab 100, Page 61.]

** Added, May 2000.

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¶160 Municipal Separate Storm Sewer Systems*

The Nov. 16, 1990, stormwater permitting rule defines a "large" municipal separate storm sewer system (MS4) as one that serves a population of 250,000 or more. A "medium" MS4 is defined as one serving a population of between 100,000 and 250,000. MS4s serving fewer than 100,000 are "small" MS4s (CWA Section 402(p)(2)(C-D); see Appendix 1(a), p. 36).

The Nov. 16, 1990, rule identified approximately 220 large and medium MS4s that were subject to regulation under phase I of the permitting program. The U.S. Census results for 1990 showed that populations at an additional 33 MS4s had grown to at least 100,000, making them eligible for coverage under phase I as medium MS4s. A final phase II stormwater rule published Dec. 8, 1999, requires permit coverage for small MS4s located in urbanized areas (see ¶143). The December 1999 rule supersedes and replaces the August 1995 interim phase II rule. See Appendix 1(b)(3) for the full text of EPA's phase II stormwater final rule.

An additional set of MS4s have been designated by state or federal regulatory authorities as needing regulation, regardless of size. This set of designated MS4s generally consists of separate storm sewer systems that are connected in some way to large or medium MS4s already regulated under the stormwater program. Some MS4s so designated are operated by state highway departments or universities; others may be operated by small cities, towns or even villages whose storm sewers are linked to large and medium MS4s. According to the U.S. Environmental Protection Agency (EPA), states and EPA regions vary widely in how they regulate the designated MS4s. In some states, such as California, the smaller designated MS4s are permitted as "co-permittees" along with large and medium MS4s.

EPA's December 1999 phase II rule regulates small MS4s (see ¶143). The final rule specifies that owners or operators of small MS4s within urbanized areas are required to apply for National Pollutant Discharge Elimination System (NPDES) permit coverage. The NPDES permitting authority may require additional small MS4s to comply with the phase II regulations after developing criteria for identifying these otherwise unregulated MS4s. This will most likely affect municipalities with populations of 10,000 or more and population densities of at least 1,000 per square mile, the preamble to the phase II rule states. In addition, the permitting authority may waive the permit requirement for any small MS4 serving a jurisdiction with a population of less than 1,000 that does not contribute to pollutant loading of a physically interconnected MS4, unless the MS4 is contributing to a water quality impairment. Similarly, the permitting authority also may waive permit coverage of a small MS4 serving a population between 1,000 and 10,000 if all waters that receive a discharge from the MS4 have been evaluated and discharges from the MS4 do not significantly contribute to water quality impairment or have the potential to cause an impairment.

For more information on MS4s, see Tab 400. For information on state requirements, see Tab 800.

[The next page is Tab 100, Page 71.]

* Revised, March 2000.

¶170 Water Quality Violators and Significant Polluters*

Any discharge that is determined by EPA, or a state or tribal permitting authority, to be contributing to a violation of a water quality standard, or which is a significant contributor of pollutants to waters of the United States, requires an NPDES permit. The permitting authority makes these determinations on a case-by-case basis. The designation may include:

> ... a discharge from any conveyance or system of conveyances used for collecting and conveying stormwater runoff or a system of discharges from municipal separate storm sewers, except for those discharges from conveyances which do not require a permit under paragraph (a)(2) [mining operations or oil and gas exploration] ... or agricultural stormwater runoff which is exempted from the definition of point source ... (40 CFR 122.26(a)(1)(v); see Appendix 1(b), p. 66)

The term "significant contributor of pollutants" was used by EPA for the first time in the 1990 stormwater regulations. The agency can use this criterion to regulate any significant discharges that are not specifically covered by the rule. To make use of this provision, an NPDES official must make a specific determination under the administrative procedures of the Clean Water Act and applicable regulations. In determining that a stormwater discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants, EPA will consider a number of factors, including: the location of the discharge with respect to waters of the United States; the size of the discharge; the quantity and nature of the pollutants reaching waters of the United States; and any other relevant factors (55 FR 47990, Nov. 16, 1990; see Appendix 1(b)(1), p. 208).

Both phase I and phase II of the stormwater permitting program include provisions for significant polluters and water quality violators (see ¶130 and ¶140).

"Pollutant" is defined in the regulations as meaning:

> ... dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et. seq.)) heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water (40 CFR 122.2; see Appendix 1(b), p. 56).

However, pollutant does not mean:

> ... sewage from vessels; or
>
> water, gas or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the State in which the well is located, and if the State determines that the injection or disposal will not result in the degradation of ground or surface water resources. (40 CFR 122.2; see Appendix 1(b), p. 56).

[The next page is Tab 100, Page 81.]

* Added, October 1995.

¶180 Exemptions

There are some industrial categories that are exempt from regulation under the Clean Water Act. Generally speaking, if an activity is exempt from NPDES either by definition or by other exclusion, it remains exempt from stormwater regulation (see 40 CFR 122.26(b)(14), 40 CFR 122.2 (NPDES definitions) and 40 CFR 122.3 (NPDES exclusions)). Following are examples of excluded activities or categories.

¶181 Otherwise Regulated Radioactive Wastes

High level radioactive wastes are regulated under the Atomic Energy Act of 1954 and are exempt from NPDES requirements (40 CFR 122.2; see Appendix 1(b), page 56; 40 CFR 122.4(f); 42 U.S.C. 2011 et seq.).

¶182 Exemptions for Vessels and Oil and Gas Operators

By definition, "pollutant" does not mean (1) sewage from vessels, or (2) permitted water, gas or other material injected into wells to facilitate the production of oil or gas, as long as such injections do not degrade ground or surface water (40 CFR 122.2, see Appendix 1(b), page 56; 40 CFR 122.3(a)). For a discussion of oil and gas operations that are specifically subject to this regulation, see ¶131.3.

¶183 Exemption for Some Agricultural Discharges

The definition of "point source" does not include return flows from irrigated agriculture or agricultural stormwater runoff (40 CFR 122.2, see Appendix 1(b), page 56; 40 CFR 122.3(e) and (f)).

¶184 Exemption for Nonpoint Source Silviculture (Forestry) Activities

Discharges from nonpoint-source silviculture (forestry) activities, such as nursery operations, site preparations, restoration and subsequent cultural treatment, thinning, prescribed burning, pest and fire control, harvesting operations, surface drainage, or road construction or maintenance from which there is natural runoff, do not require NPDES permits (40 CFR 122.3(e)).

[The next page is Tab 100, Page 91.]

¶190 Insights

"Insights" are articles containing specific guidance for members of the regulated community written by experts in the stormwater field. Insights are found at the conclusion of most tabs of the *Stormwater Permit Manual*. Additional Insights will be added to the *Manual* as part of the monthly update service. Subscribers are encouraged to contact the editors with suggestions for future Insights.

[The next page is Tab 100, Page 93.]

¶191 What Can I Do to Avoid Needing a Permit?

by Richard S. Davis

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Having examined in some detail the rules which establish the class of stormwater sources required to obtain permits, one is tempted to assume that virtually all facilities are required to obtain permits under EPA's stormwater permitting program. While that impression is understandable, it is not correct. More important, it is dangerous. Assuming that one's facility must obtain a permit leaves little room for a careful threshold analysis of the jurisdictional reach of the rule. Contrary to first impressions, such an evaluation frequently results in a determination that permitting is not required.

Evaluating the need for a stormwater permit may be easier to describe than to perform. Fundamentally, it requires no more than a review of the jurisdictional limitations of the NPDES program. Stated simply, these provide that an NPDES permit may only be issued for a *discharge* of pollutants from a *point source* to the *waters of the United States*. If any one of these jurisdictional facts is not present, the source need not obtain an NPDES permit.

In practice, this eliminates a number of facilities from the stormwater program. For example, facilities which use stormwater on-site for process water, and then discharge that process water through a permitted outfall, do not need to apply separately for a stormwater discharge permit. Similarly, facilities that do not discharge stormwater through a point source cannot be covered by an NPDES stormwater permit. While the notion of a point source is broadly defined to include pipes, ditches and other man-made features of the landscape, natural sheet flow runoff of stormwater is by no means impossible to demonstrate. Perhaps most common are facilities that need not obtain a permit because their stormwater is not discharged to waters of the United States. As described above, the term "waters of the United States" includes traditionally understood surface waters, wetlands, and municipal separate storm sewer systems. What it does not include is discharges to combined sewers which carry both stormwater and domestic/industrial wastes to a permitted treatment works. Many facilities are exempt from the requirement to obtain a separate stormwater permit simply because their storm flows are (or can be) lawfully directed to a municipal combined sewer.

In each of these circumstances, facilities that collect stormwater may be exempt from permitting because they are beyond the jurisdictional reach of the Clean Water Act's NPDES program. Given the costs of applying for an NPDES permit, all facilities should conduct this analysis before forging ahead with a potentially unnecessary permit application.

The burdens of permitting may also be avoided in some cases by a careful reading of the rules. For example, stormwater from an industrial facility that is otherwise covered by the rule must be "associated with industrial activity" in order to merit a permit. Thus, separate stormwater lines from administrative buildings and employee parking lots that happen to be at the industrial site may be exempt. Similarly, so-called "light" industrial facilities must obtain stormwater permits only for stormwater which contacts materials or products, materials handling equipment or activities, or other industrial equipment. If a facility is, or can be, configured to eliminate this contact, permitting can be avoided.*

** Editor's note: Light industrial facilities also are covered under EPA's Aug. 7, 1995, phase II permitting rule (see ¶140).*

If management recognizes these legitimate limitations on the reach of the stormwater program, unnecessary permitting can be avoided. Given the costs of application, as well as what are potentially much higher monitoring and compliance costs in the future, time spent at the outset scrutinizing the applicability of the rule to a facility can be extremely cost-effective.

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¶192 Insight: EPA's Answers to Commonly Asked Questions on Who Is Subject to Permitting

To help clear up confusion within the regulated community, the U.S. Environmental Protection Agency (EPA) prepared a "Q&A" to answer commonly asked questions about the stormwater program. The following 39 questions and answers concern the applicability of the stormwater program to different categories of industrial and construction sites.

The EPA document from which the material is taken, "NPDES Storm Water Program: Question and Answer Document, Volume 2," is dated July 1993. However, the information contained here is still valid.

Part I of the document addresses general questions about permitting at industrial and construction sites. Part II addresses questions about the applicability of the program to particular industrial sectors.

I. Questions Regarding the General Applicability of the Program to Industrial and Construction Sites.

Q: What kinds of stormwater discharges are required to obtain an NPDES permit under phase I of the stormwater program?

A: The National Pollutant Discharge Elimination System (NPDES) stormwater permit application regulations, promulgated by the U.S. Environmental Protection Agency (EPA), require that the following stormwater discharges apply for an NPDES permit: (1) a discharge associated with industrial activity; (2) a discharge from a large or medium municipal separate storm sewer system; or (3) a discharge which EPA or the State determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. The permit application deadlines are specified in EPA's regulations.

Q: What is a "stormwater discharge associated with industrial activity?"

A: The term "stormwater discharge associated with industrial activity" means a stormwater discharge from one of the 11 categories of industrial activity defined at 40 Code of Federal Regulations (CFR) 122.26(b)(14)(i) through (xi). Six of these categories are identified by Standard Industrial Classification (SIC) code and the other five categories provide narrative descriptions of the industrial activity. (The complete definition is included in Appendix 1(b) of the *Manual.*)

If any activity at a facility is covered by one of the five categories which provide narrative descriptions, stormwater discharges from that area are subject to stormwater permit application requirements. If the primary SIC code of the facility is identified in one of the remaining six categories, the facility is subject to the stormwater permit application requirements. Note that only those facilities/activities described above having *point source* discharges of stormwater to waters of the United States or through a municipal separate storm sewer system or other conveyance are required to submit a stormwater permit application. The definition of "point source" is provided at 40 CFR 122.2. (The definition is included in Appendix 1(b) of the *Manual.*)

Q: What are SIC codes and how can a facility find out its proper SIC code?

A: SIC codes are four-digit industry codes that were originally created by the Office of Management and Budget (OMB) for statistical purposes. Other organizations sometimes use these codes when

classifying business establishments. To find the correct SIC code, an operator might check his or her unemployment insurance forms or contact the appropriate State unemployment services department. In addition, applicants may consult the *Standard Industrial Classification Manual (SIC Manual)*, published by OMB in 1987.This manual is available in the resource section of most public libraries. Questions regarding assignment of particular codes can be addressed to your state permitting authority. A list of telephone numbers and addresses for State stormwater contacts is provided as an attachment to this document.

Q: What SIC code should a facility use when there are multiple activities occurring at the site?

A: For the purposes of the stormwater program, a facility must determine its *primary* SIC code based on the primary activity occurring at the site. To determine the primary industrial activity, the SIC Manual recommends using the value of receipts or revenues. If such information is not available for a particular facility, the number of employees or production rate for each process may be compared. The operation that generates the most revenue or employs the most personnel is the operation in which the facility is primarily engaged. For case-specific determinations, contact the permitting authority for your state.

Q: How is a facility regulated when multiple activities conducted by different operators are occurring on the same site (airports, for example)?

A: When multiple activities are conducted by *different operators* at a single location, each industrial activity is assigned its own SIC code. At an airport, for example, a passenger airline carrier will receive one SIC code, but an overnight courier located in the same hanger may receive another SIC code. Whereas the SIC codes may differ, if both are regulated industrial activities, EPA generally encourages these operators to become co-applicants (submit stormwater permit application forms together) when they are located at the same site and when industrial areas/drainage basins are shared. When a permit is issued to this site (or if the operators are filing for a general permit) the co-applicants will become co-permittees and share responsibility of permit compliance.

Q: If a facility's primary SIC code is not listed in the regulations, but an activity that occurs on site is described in one of the narrative categories of industrial activity, does that facility have to apply for a permit?

A: If a facility conducts an activity on the site identified in the *narrative* descriptions of categories (i), (iv), (v), (vii), (ix) or (x), then the facility would be required to submit a stormwater permit application for discharges from those portions of the facility where the activity occurs. Such narrative activities/facilities include: (i) activities subject to stormwater effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards; (iv) hazardous waste treatment storage, or disposal facilities including those that are operating under interim status or a permit under subtitle C of the Resource Conservation and Recovery Act (RCRA); (v) landfills, land application sites and open dumps that receive or have received industrial wastes; (vii) steam electric power generating facilities; (ix) sewage treatment works with a design flow of 1.0 mgd or more; and (x) construction activity disturbing five or more acres of land.

Q: Do stormwater discharges from non-industrial areas at an industrial facility (employee parking lots, rental car operations at an airport) have to be addressed in an NPDES permit?

A: No. Only stormwater discharges from those areas that are associated with industrial activity, as defined at 40 CFR 122.26(b)(14) must be addressed in the permit. However, if stormwater runoff from a nonindustrial area commingles with runoff from a regulated industrial area, the combined discharge would require permit coverage.

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Q: How are off-site facilities (such as distribution centers, storage facilities, vehicle maintenance shops) regulated under the stormwater program?

A: To determine the regulatory status of off-site facilities, first the operator of a facility must determine if that off-site operation can be classified according to its own SIC code. If there is no SIC code that describes the off-site facility independently, then it would assume the SIC code of the parent facility it supports. However, please note that certain off-site facilities that fall within the categories of auxiliary facilities specifically described in the SIC code description would, in most cases, be classified according to the parent facility they support. Such supporting establishments include central administrative offices, research and development laboratories, maintenance garages, and local trucking terminals .

EPA has determined that off-site vehicle maintenance facilities that service trucks used for *local* transportation of goods or for local services are generally considered supporting establishments which would not be assigned a transportation SIC code; rather, such facilities are classified according to the SIC code of the facility they support.

Q: Can authorized NPDES States be more expansive in their use of the assignment of SIC codes? For example, can they make the rule applicable to secondary activities?

A: Yes, state stormwater regulations can be more expansive and cover more activities than the Federal regulations.

Q: Are all stormwater discharges to sanitary sewers exempt from stormwater permitting requirements? What about discharges to combined sewer systems?

A: Any stormwater discharge to a Publicly Owned Treatment Works (POTW) or to a sanitary sewer is exempt from stormwater permit application requirements but is instead subject to EPA's pretreatment program under Section 307(b) of the CWA. Discharge to combined sewer systems are also exempt from NPDES permitting but are subject to pretreatment requirements.

Q: Is a stormwater permit application required for an industrial facility that has constructed a holding pond that usually does not discharge stormwater, but could in the event of a large enough storm?

A: All point source discharges of stormwater associated with industrial activity that discharge to waters of the U.S. or through a municipal separate storm sewer system must be permitted. Therefore, if an industrial facility does not have a stormwater discharge from its holding pond during typical storm events but has a stormwater discharge in the event of a large storm, that discharge should be covered under an NPDES permit. In NPDES authorized states, facilities should consult their permitting authority for state-specific determinations on such "potential discharges."

Q: If a facility is *not* engaged in industrial activity as defined under 40 CFR 122.26(b)(14)(i)-(xi), but discharges contaminated flows comprised entirely of stormwater into a nearby municipal separate storm sewer system, is the facility required to obtain a stormwater permit?

A: No, unless EPA or the state designates the discharge as contributing to a violation of a water quality standard or as significantly contributing pollutants to waters of the United States. However, industrial dischargers should note that large and medium municipalities (population 100,000 or more) are currently designing stormwater management programs that will control contaminated stormwater discharges from entering their separate storm sewer systems. Additional stormwater discharges are regulated under Phase II of the stormwater program.

Q: Are activities associated with industrial activity that occur on agricultural lands exempt from stormwater permitting requirements?

A: No. If a stormwater discharge is associated with industrial activity as defined at 40 CFR 122.26(b)(14), it is subject to permit application requirements regardless of the location of the activity.

Q: Are NPDES permits transferable from one facility owner to the next?

A: Individual NPDES permits may be transferred to a new owner or operator if the permit is modified. These procedures are described at 40 CFR 122.61. Under the general permits for stormwater discharges, issued by EPA in the Sept. 9, 1992, and Sept. 25, 1992, *Federal Register* notices (57 FR 41176 and 57 FR 44412), the new operator can submit an NOI two days prior to the change but must include the facility's existing general permit number on the NOI form. Many NPDES authorized states have similar provisions in their general permits.

Q: How does stormwater permitting differ in states *with* approved state NPDES programs compared to states *without* NPDES state permit programs?

A: While federal stormwater regulations (i.e., the Nov. 16, 1990, stormwater permit application regulations) establish minimum requirements nationwide, state permitting authorities may impose more stringent requirements or decide to expand the scope of its program to meet state priorities. EPA regional offices are the permitting authorities for 11 states and most territories; the remaining 39 states administer their own stormwater programs and issue permits to regulate municipalities and industries in their states. Regulated facilities in these states should contact the appropriate state permitting authority for guidance, application forms, general permits and other materials. Please note that some of the NPDES states do not issue permits for federal facilities located in their states.

For regulated facilities in the non-delegated states (MA, NH, ME, TX, OK, LA, NM, AZ, AK, ID), the territories, the District of Columbia, and for facilities located on Indian lands (in most, if not all, delegated states and in all non-delegated states) and federal facilities in the states of DE, CO, IA, KS, NH, NY, OH, SC, VT and WA, the stormwater program is administered through EPA regional offices. (Florida and the Virgin Islands are NPDES delegated states but lack authority to issue general permits.)* Such facilities may be eligible for coverage under the general permits issued by EPA in the Sept. 9, 1992, and Sept. 25, 1992, *Federal Register* notices (57 FR 41176 and 57 FR 44412).

II. Questions Regarding the Applicability of the Program to Particular Categories of Dischargers

A. Category (i): Facilities subject to stormwater effluent limitations guidelines, new source performance standards or toxic pollutant effluent standards under 40 CFR subchapter N.

Q: What are toxic pollutant effluent standards?

A: 40 CFR 122.26(b)(14)(i) includes facilities that are subject to stormwater effluent limitations guidelines, new source performance standards, or *toxic pollutant effluent standards*. The phrase "toxic pollutant effluent standards" refers to the standards established pursuant to CWA section 307(a)(2) and codified at 40 CFR Part 129. Part 129 applies only to manufacturers of six specific pesticide products which are defined as toxic pollutants. Please note that the phrase "facilities subject to toxic pollutant effluent standards" does not refer to those industries subject to effluent limitation guidelines for toxics under 40 CFR subchapter N.

* Revised, October 1995.

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B. Category (iii): Mining and oil and gas operations classified as SIC codes 10-14.

Q: What constitutes "contamination" at an oil and gas facility?

A: Oil and gas facilities classified as SIC code 13 are required to apply for a stormwater permit if the facility has had a release of a Reportable Quantity (RQ) in stormwater for which notification has been required any time since Nov. 16, 1987, or if the discharge contributes to a violation of a water quality standard. RQs for which notification is required are defined at 40 CFR Parts 110, 117, and 302. An RQ for oil is defined at 40 CFR 110 as the amount of oil that violates applicable water quality standards or causes a film or sheen upon or a discoloration of the water surface or adjoining shorelines, or causes a sludge or emulsion to be deposited beneath the water surface or upon adjoining shorelines. For other substances, RQ levels are expressed in terms of pounds released over any 24 hour period and are listed at 40 CFR 117.3 and 40 CFR 302.4.

Q: Do EPA's industrial stormwater general permits apply to discharges from mine sites that are subject to stormwater effluent limitations guidelines, but which are not covered by an existing NPDES permit?

A: No, stormwater discharges from mine sites that are subject to stormwater effluent limitation guidelines are not authorized by industrial stormwater general permits issued by EPA in the Sept. 9, 1992, and Sept. 25, 1992, *Federal Register* notices (57 FR 41176 and 57 FR 44412). In states without NPDES permitting authority, the mine operators submit an individual application to address those stormwater discharges, or could have participated in a group application prior to Oct. 1, 1992, (note: any facility which did not submit an individual application prior to Oct. 1, 1992, or participate in a timely group application missed EPA's regulatory deadline and may be subject to enforcement). However, certain authorized states may issue general permits authorizing such stormwater discharges from mine sites provided that those permits contain the applicable guideline requirements.

Q: Can point source discharges of contaminated ground water from mine adits and seeps at active or inactive mine sites be permitted under the stormwater program?

A: Point source discharges of non-stormwater to waters of the United States must be authorized by an NPDES permit. Point source discharges of either contaminated ground water from a mine adit or seep that are not related to specific storm events would not be considered to be stormwater. Discharges that are composed in whole or in part of non-stormwater cannot be addressed solely by the permit applications for stormwater (Forms 1 and 2F), and cannot be authorized by NPDES permits that only authorize discharges composed entirely of stormwater. Rather, Forms 1 and 2C or 2D (and Form 2F if the discharge is mixed with stormwater) must be used when applying for an NPDES permit for non-stormwater.

C. Category (iv) Hazardous waste treatment storage or disposal facilities.

Q: If the primary SIC code of a facility is not covered under the regulations, but there is a hazardous waste treatment, storage or disposal facility (TSDF) on site, is the TSDF subject to stormwater permitting requirements?

A: Yes. If the hazardous waste TSDF is or should be operating under interim status or a permit under Subtitle C of RCRA, regardless of the facility's primary activity, the stormwater discharges from that portion of the site are subject to the narrative definition of stormwater discharges associated with industrial activity under category (iv). Even if a facility's SIC code is not included in the regulations, any activity described by one of the narrative categories of "industrial activity" that is occurring on the site would be regulated under the stormwater program.

D. Category (v): Landfills, land application sites and open dumps that receive industrial waste.

Q: At what point does an inactive, closed, or capped landfill cease being an industrial activity?

A: An inactive, closed or capped landfill is no longer subject to stormwater permit application requirements when the permitting authority determines the land use has been altered such that there is no exposure of significant materials to stormwater at the site. For example, if an impervious surface (such as a parking lot or shopping center) now covers the closed landfill, the permitting authority could determine that stormwater discharges from the area are no longer associated with the previous landfill activity. These determinations must be made by the permitting authority on a case-by-case basis.

Q: If construction of cells at a landfill disturbs greater than five acres of land, is coverage under EPA's construction general permits required?

A: No. EPA considers construction of new cells to be routine landfill operations that are covered by the landfill's industrial stormwater general permit. However, the stormwater pollution prevention plan for the landfill must incorporate best management practices (BMPs) that address sediment and erosion control. Where a new landfill is being constructed and five or more acres of land is being disturbed, such activity would need to be covered under EPA's construction general permit until the time that initial construction is completed and industrial waste is received. Please note that NPDES authorized states may address this situation differently.

E. Category (viii): Transportation facilities

Q: If all vehicle maintenance and equipment cleaning operations occur indoors at a transportation facility, as defined at 40 CFR 122.26(b)(14)(viii), is a permit application required for discharges from the roofs of these buildings?

A: Yes. Stormwater discharges from all areas that are "associated with industrial activity," described at 40 CFR 122.26(b)(14), are subject to the stormwater permit application requirements. This would include discharges from roofs of buildings that are within areas associated with industrial activity. In addition, storage areas of materials used in vehicle maintenance or equipment cleaning operations and holding yards or parking lots used to store vehicles awaiting maintenance are also considered areas associated with industrial activity.

Q: For a facility classified as SIC code 5171 (bulk petroleum storage), is the transfer of petroleum product from the storage tanks to the distribution truck considered "fueling," and therefore an industrial activity as defined by the regulations?

A: No. The transfer of petroleum product from the storage tanks to the tanker truck is not considered fueling and would not require a stormwater permit. However, fueling of the tanker truck itself at the 5171 facility is considered to be part of routine vehicle maintenance, and stormwater discharges from these areas must be covered under a stormwater permit application.

Q: Is a retail fueling operation that occurs at an SIC code 5171 petroleum bulk storage facility regulated?

A: No. The provisions of 40 CFR 122.26(b)(14)(viii) apply to fueling operations conducted at petroleum bulk storage facilities where the vehicles being fueled are involved with the *petroleum bulk storage* operation. Retail fueling of vehicles at such sites does not constitute "vehicle maintenance" (as defined in the Nov. 16, 1990, *Federal Register* at page 48066), and a stormwater permit is

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not required for the discharges from that area. Only those portions of the SIC code 5171 facility where vehicle maintenance operations (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication) and equipment cleaning take place are required to be covered under a stormwater permit application.

Q: Are off-site vehicle maintenance areas required to submit permit applications for their stormwater discharges?

A: As discussed in Section I of this document, to determine the regulatory status of off-site vehicle maintenance operations, the operator of a facility must first determine if that off-site operation can be classified according to its own SIC code. If there is no SIC code which describes the off-site facility independently, then it would assume the SIC code of the parent facility it supports. However, please note that off-site facilities that fall within the nine categories listed on page 17 of the SIC Manual (or which are specifically described in the SIC code description) would, in most cases, be classified according to the parent facility they support. Such supporting establishments include central administrative offices, research and development laboratories, maintenance garages, and local trucking terminals. EPA has determined that off-site vehicle maintenance facilities that primarily service trucks used for *local* transportation of goods or for local services are generally considered supporting establishments which do not assume a transportation SIC code; rather, such facilities are classified according to the SIC code of the facility they support. Long-distance trucking centers, on the other hand, are generally classified as SIC code 4213, and are subject to regulation under 40 CFR 122.26(b)(14)(viii).

F. Category (x): Construction activity

Q: Who must apply for permit coverage for construction activities?

A: Under the NPDES stormwater program, the operator of a regulated activity or discharge must apply for a stormwater permit. EPA clarified that the operator of a construction activity is the party or parties that either individually or taken together meet the following two criteria: (1) they have operational control over the site specifications (including the ability to make modifications in specifications); and (2) they have the day-to-day operational control of those activities at the site necessary to ensure compliance with plan requirements and permit conditions (Sept 9, 1992, *Federal Register* at page 41190). If more than one party meets the above criteria, then each party involved must become a co-permittee with any other operator(s). For example, if the site owner has operational control over site specifications and a general contractor has day-to-day operational control of site activities, then both parties will be co-permittees.

When two or more parties meet EPA's definition of operator, each operator must submit an NOI, and either include a photocopy of the other operators' NOI(s) or the general permit number that was assigned for that project. Under EPA's stormwater construction general permits, the co-permittees are expected to join in implementing a *common* pollution prevention plan prior to submittal of the NOI, and in the retention of all plans and reports required by the permit for a period of at least three years from the date that the site is finally stabilized.

For individual stormwater discharge permits, applications must be filed 90 days prior to the commencement of construction. If a contractor has not been selected at the time of application, the owner of the project site would initially file the application and the contractor would sign on when selected. Under an individual stormwater permit for construction, multiple operators would have to sign on to the permit, instead of submitting a new application. Please note that authorized NPDES states may have varying NOI and/or permit requirements and should be contacted on this issue.

Q: What are the responsibilities of subcontractors at the construction site under EPA's stormwater construction general permits?

A: EPA stormwater construction general permits require subcontractors to implement the measures stated in the pollution prevention plan and to certify that he/she understands the terms and conditions of the permit requirements. Under EPA's general permits, subcontractors are not required to submit NOIs.

Q: What is meant by a "larger common plan of development or sale?"

A: A "larger common plan of development or sale" is a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one plan. For example, if a developer buys a 20-acre lot and builds roads, installs pipes, and runs electricity with the intention of constructing homes or other structures sometime in the near future, this would be considered a common plan of development or sale. If the land is parceled off or sold, and construction occurs on plots that are *less* than five acres by separate, independent builders, this activity still would be subject to stormwater permitting requirements if the smaller plots were included on the original site plan.

Q: Does construction activity encompass repaving of roads?

A: Repaving is not regulated under the stormwater program unless five or more acres of underlying and/or surrounding soil is cleared, graded or excavated as part of the repaving operation.

Q: Is clearing of lands for agricultural purposes regulated as construction activity under the stormwater program?

A: No. Section 402(l)(1) of CWA exempts agricultural stormwater discharges from NPDES permitting requirements. The clearing of land for agricultural purposes is specifically associated with agricultural activity. However, activities occurring on agriculture lands that meet the description of any of the 11 categories of industrial activity at 40 CFR 122.26(b)(14)(i)-(xi) are subject to permit application requirements.

Q: If a construction activity that disturbs five or more acres commences on a site covered by an existing industrial stormwater permit, are the stormwater discharges from the construction area covered by the existing permit or is a separate permit required?

A: If the existing permit is an individual permit, then the operator must either request a modification of the existing permit to include the construction stormwater discharges or apply for coverage under a separate permit that specifically addresses that construction activity. If the permittee decides to modify the existing individual permit, permit modifications must be approved prior to initiating any construction activity. If the existing permit is an EPA stormwater industrial general permit, the operator should submit an NOI for coverage under EPA's stormwater general permit for construction activities. States with NPDES permitting authority may have different requirements.

Q: What requirements are triggered if a construction activity that disturbs less than five acres commences on a site covered by EPA's industrial stormwater general permit?

A: Sites covered by EPA's stormwater industrial general permit must revise their pollution prevention plans to address all new sources of pollution and runoff from construction activities disturbing less than five acres.*

** Editor's note: Construction sites of less than five acres also are covered under EPA's Aug. 7, 1995, phase II stormwater permitting rules. See ¶140.*

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Q: For projects such as a 100-mile highway construction project, what location should be provided on the NOI?

A: The midpoint of a linear construction project should be used as the site location on EPA's NOI form. For construction projects that span more than one state, the project must meet the application requirements of each state.

Q: Are long-term maintenance programs for flood control channels (such as vegetation removal) or similar roadside maintenance programs subject to permitting if five or more acres are disturbed?

A: If grading, clearing or excavation activities disturb five or more acres of land either for an individual project or as part of a long-term maintenance plan, then the activity is subject to stormwater permit application requirements.*

Q: For a construction activity that uses off-site "borrow pits" for excavation of fill material or sand and gravel, should the number of disturbed acres at the borrow pit be added to the number of acres at the construction site to determine the total number of disturbed acres?

A: No, off-site borrow pits are not considered part of the on-site construction activity. If a borrow pit is specifically used for the removal of materials such as sand, gravel, and clay, the pit is considered a mine and is classified under SIC code 14. Such sites would be regulated as industrial activity as defined at 40 CFR 122.26(b)(14)(iii). However, if the borrow pit is utilized for the removal of general fill material (e.g. dirt) and disturbs five or more acres of land, the pit would be considered a construction activity as defined at 40 CFR 122.26(b)(14)(x).*

Q: Would building demolition constitute a land disturbing activity and require a stormwater construction permit application?

A: The definition of land disturbing activity includes but is not limited to clearing, grading and excavation. At a demolition site, disturbed areas might include where building materials, demolition equipment, or disturbed soil are situated, which may alter the surface of the land. Therefore, demolition activities that disturb five or more acres of land would be subject to stormwater construction permit application requirements.*

Q: What are the legal responsibilities and liabilities for construction activities disturbing less than five acres, pursuant to the Ninth Circuit U.S. Court of Appeals decision on June 4, 1992?

A: In *NRDC v. EPA*, 966 F.2d 1292, the Ninth Circuit U.S. Court of Appeals remanded for further rulemaking, EPA's exemption of construction sites less than five acres which are not part of a larger common plan of development or sale. (Note: The court instructed EPA to take steps to regulate small construction sites, but the agency continues to recognize the exemption under its phase I rules. However, small construction sites are covered under EPA's Aug. 7, 1995, phase II rules. See ¶140.) However, states with NPDES permitting authority may have more stringent requirements.*

Q: Do stormwater construction general permits authorize non-stormwater discharges?

A: Under EPA's stormwater construction general permits, issued on Sept. 9, 1992, and Sept. 25, 1992, the following non-stormwater discharges are conditionally authorized (57 FR 41219) and (57 FR 44419): discharges from fire fighting activities; fire hydrant flushings; waters used to wash vehicles

** Editor's note: Construction sites of less than five acres also are covered under EPA's Aug. 7, 1995, phase II stormwater permitting rules. See ¶140.*

or control dust; potable water sources including waterline flushings; irrigation drainage; routine external building washdown which does not use detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; springs; uncontaminated ground water; and foundation or footing drains where flows are not contaminated with process materials such as solvents. These discharges, except for flows from fire fighting activities, must be identified in the pollution prevention plan and the plan must address the appropriate measures for controlling the identified non-stormwater discharges. Other non-stormwater discharges not listed above or not identified in the stormwater pollution prevention plan, must be covered by a different NPDES permit.

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Tab 200

Kinds of Permits

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- Group Applications and the Multi-sector General Permit ..... ¶242
- Industrial Sectors Covered by the Multi-sector General Permit ..... Figure 242-1
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¶210 Executive Summary

This tab discusses the two types of stormwater permits that permit writers may issue, the three kinds of permitting authorities and the two methods of applying for a permit.

The two types of National Pollutant Discharge Elimination System (NPDES) permits that federal or state authorities will issue are general permits, providing umbrella-like coverage to many facilities in a given state or industrial category, and individual permits, covering individual facilities. The U.S. Environmental Protection Agency (EPA) offers two general permits: one for construction activities and one for specific industrial sectors. Many states offer permits similar to EPA's general permits.

There are two permit application methods:

- notice of intent to be covered by a general permit; or
- individual application (resulting in the issuance of an individual permit).

Submitting a notice of intent to be covered by one of EPA's general permits is the simplest and usually the least expensive method of obtaining NPDES coverage. Applying for an individual permit is the more complex method of obtaining NPDES coverage, but may be required in some instances.

Each application method has both advantages and disadvantages; these are discussed in ¶¶240-243.

Facilities subject to NPDES regulation for stormwater should select a permit application process based in part upon a larger strategy for compliance with local, state and federal environmental laws. This tab, along with Tab 700, EPA's Long-Term Regulatory Strategy, should help you weigh the short-term advantages of one permit application strategy against the long-term benefits that may result from the use of a different strategy.

Detailed information about how to apply for an NPDES stormwater permit under either application method is found in Tab 300.

EPA's baseline general permit for industrial activities is no longer in use. The baseline general permit was issued as part of the first generation of stormwater permits. Unlike the multi-sector general permit, the baseline permit required the same monitoring and control measures for most industries. Still, it was an important first step in regulating stormwater pollution. Many states still use the baseline general permit as a model for their permits. The cost of switching permits and of running a program based on the multi-sector permit is too expensive for some states. For this reason, information on the baseline general permit will be left in the *Stormwater Permit Manual*, even though EPA no longer uses the baseline approach.

[The next page is Tab 200, Page 5.]

¶220 Two Permit Types

Two kinds of permits are issued under the NPDES program. One is a general permit, which provides umbrella-like coverage to a large number of facilities. The second kind, the individual permit, is designed to fit the specific requirements of a particular facility.

¶221 General Permits†

EPA offers two different general permits:

- the baseline general permit for construction activities (see Appendix 1(d)); and
- the multi-sector general permit for industrial activities (see Appendix 1(e)).

EPA previously offered a third general permit: the baseline general permit for industrial activities (see Appendix 1 (c)). This permit, which is no longer available to dischargers in states in which EPA is the permitting authority, offered generic monitoring and pollution prevention requirements for most industrial dischargers. Although EPA has officially withdrawn this permit (see 63 FR 52429, Sept. 30, 1998), many state permitting authorities continue to use permits that are similar to the baseline industrial general permit, as well as the still-current EPA baseline construction general permit. States typically add their own requirements to the model baseline permits developed by EPA. A number of states also offer permits for specific industrial activities or sectors. In addition, states have the opportunity to adopt EPA's multi-sector general permit for industrial activities.

A baseline permit is intended to cover most dischargers throughout a given state or region. With a baseline general permit, all covered stormwater dischargers are subject to the same basic permit conditions.

The multi-sector general permit covers 30 industrial sectors and numerous subsectors. The permit includes a number of general provisions that apply to all sectors, including monitoring and pollution prevention requirements, as well as provisions that apply to sector-specific industrial activities. The industries covered by the multi-sector permit vary widely in terms of the types of pollutants present in their stormwater discharges. The sector-specific permit conditions are based on the nature of the industrial activity, type of materials handled and material management practices.

Certain similarities exist between the two general permits but with some exceptions:

- First, only stormwater may be discharged. Any discharges of materials other than stormwater, such as process waste water, must be covered by a separate NPDES permit. The multi-sector permit allows some nonstormwater discharges.
- Second, discharges of stormwater containing hazardous substances must be minimized, and the facility covered by the permit is not relieved of its responsibility to notify the National Response Center of the release of any such substance in a reportable quantity. Moreover, during any 24-hour period, no discharge of stormwater shall contain a hazardous substance equal to or exceeding reportable quantities. (For a list of hazardous chemicals and amounts that constitute "reportable quantities," see 40 CFR 117.3.)

† Revised, January 2001.

- Third, each facility must develop a stormwater pollution prevention plan. The plan must identify potential sources of pollution that may affect stormwater discharges. It must describe engineering and management practices that are to be implemented to reduce pollutants discharged in stormwater. Under EPA's 2000 multi-sector general permit, facilities must submit their plan before their notice of intent, which is due for new discharges two days prior to commencing operation of the facility and for a new owner or operator of existing discharges, two days prior to taking operational control of the facility. EPA or a state authority may review the plan. If the permitting authority at any time determines that the plan does not meet the requirements of the permit, it may grant the facility 30 days to change those parts of the plan that it finds deficient.

Requirements for the stormwater pollution prevention plan are lengthy and detailed. Further information about these is found in Tab 500, Compliance Monitoring, and Tab 600, Stormwater Management and Control.

¶222 Individual Permits

Individual permits are issued to a specific facility for stormwater discharges related to industrial activity at specified locations. In most instances the permit is tailored to meet the discharge characteristics of the permittee and/or the special requirements of the receiving waters. Some categories of stormwater dischargers have no choice under NPDES regulations but to obtain individual permits (see ¶223 below). Moreover, some NPDES states (those without EPA-delegated authority to issue general permits) issue only individual permits to facilities within their states.

¶223 Industrial Categories Required to Obtain Individual Permits

Some industrial facilities are required to apply for individual permits for their stormwater discharges. This requirement affects two categories of discharges:

- discharges for which an individual NPDES permit for stormwater has already been issued; and
- discharges of stormwater which EPA or the approved state authority has determined is contributing to the violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

It should be noted that the term "significant contributor of pollutants" appeared for the first time in the stormwater application rule (see ¶170 in Tab 100 and Appendix 1(b)(1), p. 208).

Individual applications for NPDES stormwater permits have requirements similar to those for NPDES process wastewater permits. A detailed description of permit application requirements is provided in Tab 300.

[The next page is Tab 200, Page 21.]

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¶230 Three Kinds of Permitting Authority

The NPDES program is administered in the states and territories of the United States either by an EPA-approved state office or by the appropriate regional office of EPA. States that have NPDES program authority may be divided further into two categories: those with EPA delegated authority to issue general permits, and those without such authority. States without authority to issue general permits may issue only individual permits. Tab 800, State Programs, provides further details about state permitting agencies and their authority to administer the NPDES program. Regional offices of EPA and a map of the states they serve is included in Appendix 3(a), Resources. Figure 230-1 below provides an overview of the status of EPA delegated authority in the states and territories of the United States.

Figure 230-1

NPDES Programs in the States†

45 States & Territories		11 Non-NPDES States & Territories
44 with General Permitting Authority	1 without General Permitting Authority	
Permits issued by States: • General • Individual	Permits issued by States: • Individual Only	Permits issued by EPA Regional Offices: • General • Individual
Alabama, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming	Virgin Islands	Alaska, Arizona, District of Columbia, Idaho, Massachusetts, New Hampshire, New Mexico, American Samoa, Guam, Commonwealth of the Northern Mariana Islands, Puerto Rico

† Revised, October 2001.

¶231 NPDES States with General Permitting Authority

NPDES states with general permitting authority may administer the NPDES stormwater program in their states in the same way that EPA regional offices administer the program in non-NPDES states. That is, authorized NPDES states with general permitting authority may issue general permits to all eligible dischargers. Many states have adopted permits based on EPA's original baseline general permit for industrial discharges, as well as the baseline construction general permit. They may also issue general permits for categories of industrial dischargers, by adopting or adapting EPA's multi-sector general permit. Having general permitting authority does not, however, oblige a state to issue general permits. States with general permitting authority may elect to issue only individual permits, although few states exercise this option.

¶232 NPDES States without General Permitting Authority†

These NPDES states are like others with approved state programs, except that they have not received authority to issue general permits for stormwater. Currently, only one state or territory, the Virgin Islands, has NPDES approval without general permitting authority. The Virgin Islands does not have plans to change its status as an NPDES state without general permitting authority. It is particularly important that facilities located in such states ascertain which permit application methods their state program office will accept.

¶233 States without NPDES Delegated Authority

In these states, the NPDES program is administered by the regional office of EPA. Because of this, facilities located in these states may use any application method approved by EPA. Such facilities may expect to be covered either by a general permit (construction or multi-sector) or by an individual permit, as appropriate to the specific facility. For a map of EPA regions and list of stormwater program managers and phone numbers, see Appendix 3(a), Resources.

[The next page is Tab 200, Page 31.]

† Revised, October 2001.

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¶240 Two Permit Application Methods

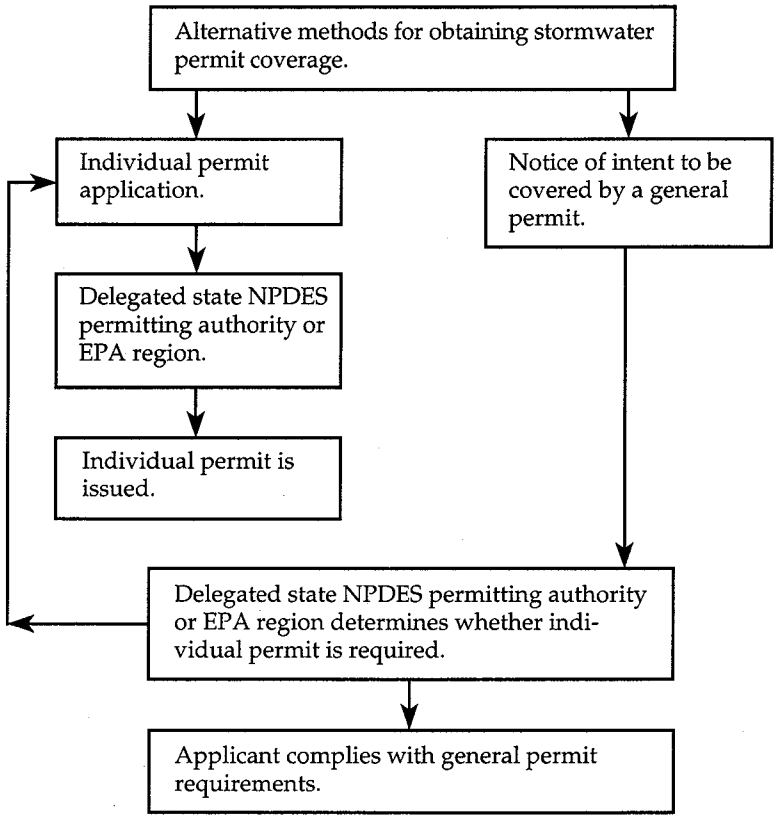
There are two application methods for obtaining an NPDES permit for stormwater discharges:

- filing a notice of intent (NOI) to be covered under an EPA or state general permit; and
- filing an individual permit application with EPA or a state permitting authority.

Most dischargers choose to file a notice of intent to be covered by a general permit. However, some dischargers may be required to file individual applications. For a flowchart description of the available application methods, see Figure 240-1.

Figure 240-1

Two Application Methods



¶241 Notices of Intent

The notice of intent to be covered by a general permit represents the most straightforward manner in which a facility can approach compliance with NPDES stormwater regulations. The notice itself informs the permit authorities that the facility falls within the scope of the regulations, but, unlike an individual permit application, it does not convey detailed information about the facility's

stormwater discharges. In most cases, a company that files a notice of intent with an EPA regional office or authorized NPDES state with general permitting authority will receive coverage for its stormwater discharges as long as a general permit has been issued for the state in which the facility is located. Currently, only the Virgin Islands has an approved NPDES program without general permitting authority.†

EPA discussed its permitting strategy in the preamble to the Nov. 16, 1990, rule. It announced its intention to make "aggressive use of general permits to cover the vast majority of industrial sources." Through general permits, EPA intended that industrial facilities would develop stormwater control plans and practices sufficient to comply with the Clean Water Act (CWA). This approach to permitting "will eliminate the need for thousands of individual ... permit applications, greatly reducing the burden on both industry [and] EPA/States" (see Appendix 1(b)(1), p. 218).

The coverage of most industrial dischargers through general permits is part of EPA's four-tiered approach to implementing the NPDES stormwater program. (For more information on EPA's long-term strategy, see Tab 700.) The general permit corresponds to EPA's "tier I–baseline permitting" phase. According to EPA, "the consolidation of many sources under one permit will greatly reduce the otherwise overwhelming administrative burden associated with permitting stormwater discharges associated with industrial activity. This approach has a number of additional advantages, including:

- "Requirements will be established for discharges covered by the permit;
- "Facilities whose discharges are covered by the permit will have an opportunity for substantial compliance with the CWA;
- "The public, including municipal operators of municipal separate storm sewers which may receive stormwater discharges associated with industrial activity, will have access under Section 308(b) of the CWA to monitoring data and certain other information developed by the permittee;
- "EPA will have the opportunity to begin to collect and review data on stormwater discharges from priority industries, thereby supporting the development of subsequent permitting activities;
- "Applicable requirements of municipal stormwater management programs established in permits for discharges from municipal separate storm sewer systems will be enforceable directly against non-complying industrial facilities that generate the discharges;
- "The public will be given an opportunity to comment on permitting activities;
- "Finally, the baseline permits provided a focus for public comment on the development of subsequent phases of the permitting strategy for stormwater discharges, including the development of priorities for State stormwater management programs developed under Section 402(p)(6) of the CWA" (see Appendix 1(b)(1), p. 224).

With its tiered approach, EPA planned to progress from baseline general permitting (tier I) to watershed permitting (tier II), to industry-specific permitting (tier III), and finally, to facility-specific permitting (tier IV). "Initially, the coverage of the baseline permits will be broad, but the coverage is intended to shrink as other permits are issued for stormwater discharges associated with industrial activities pursuant to tier II through tier IV activities" (see Appendix 1(b)(1), pp. 224-25).

† Revised, October 2001.

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For EPA, general permitting presents the clear advantage of reducing the administrative burden of issuing tens or even hundreds of thousands of new NPDES permits. However, some advisors note that the general permitting route may be disadvantageous for certain dischargers, particularly smaller ones. They note that general permits may be written to regulate the "worst-case" facilities in a group, and thus impose unnecessary controls upon a facility that has little or no polluted stormwater. Furthermore, unlike individual applicants, facilities seeking general permit coverage are not able to negotiate site-specific permit conditions directly with permit writers.

In the past, environmental groups challenged EPA's plans to cover industrial facilities with general permits. EPA maintains that previous court decisions give the agency "discretion to use certain administrative devices, such as area permits or general permits to help manage its workload" (Appendix 1(b)(1), p. 224, n. 4). Nonetheless, the Natural Resources Defense Council (NRDC) on Dec. 10, 1990, sued the agency in the U.S. Court of Appeals for the Ninth Circuit. NRDC's complaint asserted that the Nov. 16, 1990, rule did not cover sufficient numbers of dischargers and that it lacks strict control requirements. On June 4, 1992, the Ninth Circuit issued an opinion that generally affirmed EPA's Nov. 16, 1990, stormwater application regulations, although it did invalidate certain exemptions (*Natural Resources Defense Council v. EPA*, 966 F. 2d 1292 (9th Cir. 1992) (see ¶130, p. 22)).

EPA initially encountered difficulty in obtaining approval from the Office of Management and Budget for its draft baseline general permit. This document, along with the entire "implementation rule," was to have been proposed in early 1991. EPA had hoped to have it published in final form by late spring 1991. Two final general permits—one for industrial dischargers and one for construction activities—were published in September 1992 (see Appendix 1(c) and Appendix 1(d) for copies of the general permits.) However the industrial general permit was withdrawn on Dec. 31, 1998 (see 63 FR 32429, Sept. 30, 1998).*

Although EPA clearly intended the majority of discharges of stormwater associated with industrial activity to be covered by general permits, it experienced difficulty and delay in implementing this permit application option. This application method is only available in states where EPA regional offices administer the NPDES program, or in those NPDES authorized states that have general permitting authority and have issued general permits. As of late 1995, however, general permits were available from either EPA or the state permitting authority in all states.

¶242 Group Applications and the Multi-sector General Permit

The multi-sector general permit for industrial activities is the result of the group permitting process initiated by EPA in the late 1980s. The group application was originally one of three methods industries could use to obtain permit coverage—the others being individual permit application and submission of an NOI for general permit coverage. The group application option was designed to allow industrial facilities with similar activities to jointly submit a single application for permit coverage. At the end of 1992, EPA had received over 1,200 group applications representing over 60,000 facilities. The agency approved 700 groups representing 40,000 facilities. However, because of the surprisingly high number of applications received by the agency and the immense amount of data that accompanied the applications, the agency in 1993 opted to issue a single permit covering multiple industries, rather than continue to approve hundreds more group applications.

* Revised, December 1998.

Using information gleaned from the group applications, which included data on industrial activities, best management practices, materials stored exposed to stormwater and end-of-pipe stormwater sampling data, EPA developed the industry-specific multi-sector general permit to provide NPDES permit coverage to group applicants. Coverage under the permit is also available to facilities that did not participate in group applications. The permit was proposed on Nov. 19, 1993, and a final permit was issued Oct. 1, 1995, in states where EPA is the NPDES permitting authority. In addition, the permit was provided to authorized NPDES states for use as a model in their stormwater permitting programs. This permit was modified to include additional categories of dischargers on Sept. 30, 1998. Where EPA is the permitting authority facilities previously covered by EPA's baseline general permit for industrial discharges are now subject to this permit. The EPA baseline permit expired on Dec. 31, 1998.*

In developing the multi-sector permit, EPA divided the industrial activities represented by the group applicants into 29 different industry sectors. When EPA modified the permit it added several new subsectors and a thirtieth "catch all" sector covering all facilities that do not fit neatly into one of the original 29 sectors. (See Figure 242-1 for a list of covered industry sectors. For information on sector-specific requirements, see Tab 500.) The agency reviewed the descriptions of industrial activities, materials exposed to stormwater and best management practices on a sector-by-sector basis. Based upon this review, EPA identified pollutants of concern in each industry sector, sources of these pollutants and best management practices used by industry to control the pollutants of concern. The final permit requires the implementation of a pollution prevention plan as the basic stormwater control strategy for each industry sector.

**Deadlines.* Facilities previously covered by the baseline general permit must submit an NOI to be covered by the multi-sector general permit by Dec. 30, 1998. New facilities must submit NOIs two days before operations begin. Oil and gas operations must submit NOIs within the first 14 days after a reportable quantity discharge. A new operator must submit two days before the scheduled change in facility operators. Permit coverage begins 48 hours after the NOI is submitted.

For further information about EPA's long-range plans for the multi-sector approach to permitting, see Tab 700. For information on monitoring requirements under the multi-sector permit, see Tab 500.

* Revised, December 1998.

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Figure 242-1

Industrial Sectors Covered by the Multi-sector General Permit

- Timber products facilities
- Paper and allied products manufacturing facilities
- Chemical and allied products manufacturing facilities
- Asphalt paving and roofing materials
- Glass, clay, cement, concrete and gypsum product manufacturing facilities
- Primary metals facilities
- Metal mining (ore mining and dressing) facilities
- Coal mines and coal mining-related facilities
- Oil and gas extraction facilities
- Mineral mining and processing facilities
- Hazardous waste treatment, storage or disposal facilities
- Landfills and land application sites
- Automobile salvage yards
- Scrap and waste recycling facilities
- Steam electric power generating facilities, including coal handling areas
- Vehicle maintenance or equipment cleaning areas at motor freight transportation facilities, passenger transportation facilities, petroleum bulk oil stations and terminals, rail transportation facilities and the United States Postal Service
- Vehicle maintenance areas and/or equipment cleaning operations at water transportation facilities
- Ship and boat building or repairing yards
- Vehicle maintenance areas, equipment cleaning areas or deicing areas located at air transportation facilities
- Treatment works
- Food and kindred products facilities
- Textile mills, apparel and other fabric product manufacturing facilities
- Wood and metal furniture and fixture manufacturing facilities
- Printing and publishing facilities
- Rubber, miscellaneous plastic products and miscellaneous manufacturing industries
- Leather tanning and finishing facilities
- Fabricated metal products industry
- Facilities that manufacture transportation equipment, or industrial or commercial machinery
- Facilities that manufacture electronic and electrical equipment and components, photographic and optical goods
- All other types of industrial facilities*

* Added, December 1998.

¶243 Industrial Permit Applications

An individual permit application represents the most "pro-active" response that a facility can make to NPDES permitting requirements for stormwater discharges. This application method will result in the writing of an individual permit for a specific facility, and represents the culminating phase in EPA's four-tier regulatory strategy. This method is optional for most dischargers of stormwater.

Because EPA believes that the number of facilities subject to stormwater regulations exceeds 100,000, it hopes that most dischargers will submit NOIs to be covered by a general permit. This will ease the administrative burden of the program for both EPA regional offices and the NPDES authorized state programs.

It should be stressed that NPDES authorized states are free to set more stringent rules for permitting stormwater discharges if they choose to do so. This may include requiring greater use of individual permit applications. In addition, some states may prefer that applicants use a general permit rather than submit an individual application, although some types of facilities are required to submit individual applications (see ¶223).

Deadlines. EPA extended the deadline for submitting individual permit applications for existing facilities from Nov. 18, 1991, to Oct. 1, 1992. Oct. 1, 1992 also was the deadline for facilities that were rejected as members of the group application process to file individual applications.

[The next page is, Tab 200, Page 101.]

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¶290 Insights

"Insights" are articles containing specific guidance for members of the regulated community written by experts in the stormwater field. Insights are found at the conclusion of most tabs of the *Stormwater Permit Manual*. Additional Insights will be added to the *Manual* as part of the monthly update service. Subscribers are encouraged to contact the editors with suggestions for future Insights.

¶291 Insight: EPA Answers Commonly Asked Questions About the Multi-sector General Permit

Q: Are only facilities that participated in the group application process eligible for coverage under the multi-sector general permit?

A: No. Any facility that meets the eligibility requirements of the permit is eligible for coverage. This includes facilities that are presently covered under the baseline general permit (provided that the switch is made within 90 days of issuance of the multi-sector permit) as well as those that submitted group applications. *[Editor's Note: EPA in November 1995 extended the notification deadline for an additional 90 days to March 29, 1996.]*

Q: Can a facility located in an NPDES-delegated state submit a Notice of Intent (NOI) under the multi-sector general permit?

A: No. A facility located in an NPDES-delegated state is only eligible for coverage under a permit issued by that state. A number of states plan to use the multi-sector general permit as a model for similar permits in their states.

Q: How does a facility switch from the baseline general permit to the multi-sector general permit?

A: A facility need only submit a Notice of Termination (NOT) to terminate coverage under the baseline and submit an NOI to be covered under the multi-sector general permit.

Q: How does a facility determine which sectors apply to it?

A: Operators of facilities with multiple industrial activities must carefully and completely review the permit and fact sheet to determine all necessary applicable terms and conditions. EPA believes the sector descriptions are clear.

Q: What is the basic difference between the multi-sector general permit and the baseline general permit?

A: The basic difference is that the multi-sector general permit includes both general requirements that apply to all facilities and industry-specific requirements, whereas the baseline general permit includes broad-based requirements for all facilities and only industry-specific monitoring requirements.

Q: Does the multi-sector general permit cover any non-stormwater discharges?

A: The multi-sector permit authorizes some non-stormwater discharges. These discharges include those from firefighting activities; fire hydrant flushings; irrigation drainage; lawn watering; routine external building washdown without detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; drinking fountain waters; springs; uncontaminated ground water; and foundation or footing drains where flows are not contaminated with process materials such as solvents that are combined with stormwater discharges associated with industrial activity.

The non-storm water discharges must be identified within the stormwater pollution prevention plan (SWP3) to be authorized under this permit. All other non-stormwater discharges including vehicle and equipment wash water, boiler blow down, and steam condensate are excluded from coverage under the permit and must be covered under a separate NPDES permit.

The multi-sector general permit retains the baseline general permit requirement that a facility certify that the presence of non-stormwater discharges has been tested for at its outfalls and that an inventory of the locations of the outfalls with non-storm water discharges has been conducted.

Q: Does the multi-sector general permit allow the permittee to exercise any waivers in lieu of performing monitoring?

A: The multi-sector general permit allows a facility to exercise five different waivers in lieu of performing analytical monitoring. First, if a discharger is unable to collect samples within a specified sampling period due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next period.

Second, a facility may qualify for the low concentration waiver. In this case, the permittee would conduct stormwater sampling as required under the permit in the second year of coverage. From this data, the permittee would average the pollutant concentrations for each monitored pollutant and would then compare these averages against the monitoring cut-off values. If the average concentrations were below the cut-off values then the permittee would be relieved from monitoring in the fourth year of the permit.

Third, when a facility has two or more outfalls that the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applied to the substantially identical outfall(s).

Fourth, a facility is only required to perform monitoring when and where there is a real certification that for a given outfall or on a pollutant-by-pollutant basis material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, or significant materials from past industrial activity are not presently exposed to stormwater and are not expected to be exposed to stormwater for the certification period within the drainage area of the outfall in question. In addition, inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly chemical sampling.

Finally, if an active facility cannot collect a sample within a given quarter due to weather problems, inaccessibility, etc., then the permit allows the facility operator to take a replacement sample in the next quarter. With regard to the requirement to conduct monthly visual examinations, EPA has reduced the visual examination schedule for active sites to only quarterly and has allowed a waiver of this requirement for inactive, unstaffed facilities.

Q: Is a permittee required to have the stormwater pollution prevention plan (SWP3) certified?

A: The multi-sector general permit does not require facilities to provide a certification upon implementation of their SWP3s, unlike the baseline permit that requires facilities subject to EPCRA 313 (also known as SARA Title III) requirements to have their SWP3s reviewed and certified by a registered professional engineer. By signing the NOI form, however, permittees are agreeing to

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comply with all permit conditions within the specified deadlines of the permit. This includes developing and implementing an SWP3 within 270 days after permit finalization for existing facilities. This 270-day period may be used at the discretion of the permittee. An SWP3 is required to be developed and implemented prior to operation for new facilities. *[Editor's Note: EPA in November 1995 extended the deadline for SWP3 development and implementation for an addiitonal 90 days to Sept. 25, 1996.]*

Q: Are facilities required to submit their SWP3s?

A: Facilities are not required to submit their SWP3s to the permitting authority. However, EPA reserves the right to request a copy of the complete SWP3 at any time and failure to comply would be a permit violation. EPA also notes that under CWA Section 402(j), permit applications and permits must be available to the public. Because the SWP3 constitutes a portion of the permit, such plans must be publicly available. Accordingly, EPA will contact permittees as necessary to make such plans available.

Q: Are the monitoring requirements cumulative for facilities with co-located activities?

A: Monitoring requirements for each outfall will not be duplicative but will be complementary. If the same pollutant is required to be monitored in two different sectors for industrial activities found on the site and if the industrial activities drain to the same stormwater outfall, only one sample and analytical measurement for that pollutant is necessary.

Q: Are permittees required to collect composite samples for monitoring purposes?

A: No, unlike the baseline general permit which required both grab and composite samples, the multi-sector general permit only requires that grab samples be collected.

Q: Are the benchmark levels considered to be limits? How are they used?

A: EPA would like to emphasize that the pollutant benchmark concentrations are not stormwater effluent limitations, they are simply levels of comparison or targets by which EPA determined if discharges from an industry sector or facility merit monitoring under the terms of the permit. Facilities are not required to meet these concentrations as effluent limitations in their discharges. The benchmarks are designed to assist facility operators in determining if their SWP3s are reducing pollutant concentrations to below levels of concern.

The benchmark values are used in two ways in the permit. First, they were used as a level of comparison against the median industry concentration for each pollutant that was sampled during the application process. If a median pollutant concentration in the sampling data for an industry sector or subsector was above the benchmark values it was considered a pollutant of concern for the industry sector or subsector.

Second, the benchmark values are used as the level of comparison for an individual permitted facility that wishes to qualify for the low concentration waiver to be relieved from monitoring in the fourth year of the permit (monitoring cut-off values). The permittee would conduct stormwater sampling as required under the permit in the second year of coverage. From this data, the permittee would average the pollutant concentrations for each monitored pollutant and would then compare these averages against the monitoring cut-off values. If the average concentrations are below the cut-off values then the permittee would be relieved from monitoring in the fourth year of the permit on the conclusion that the SWP3 is effective in controlling the discharge of the stormwater pollutants of concern.

Q: How did EPA determine which subsectors are required to conduct analytical monitoring?

A: When determining industry-specific monitoring requirements for facilities under the multi-sector permit, EPA performed statistical analyses on pollutant data submitted in the group applications. For pollutants of potential concern with at least three observations from different facilities, EPA compared the median values to the benchmark values to determine a potential pollutant for monitoring. EPA further examined the potential pollutants of concern to determine if such pollutants are associated with the industrial activity that commonly takes place at such facilities. Two sectors were selected for analytical monitoring based on further information available that indicated that the group application sampling data do not adequately characterize the potential contamination of stormwater discharges at these types of facilities.

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Tab 300

Applying for a Permit

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¶310 Executive Summary

This tab discusses the two ways that facilities can obtain National Pollutant Discharge Elimination System (NPDES) program coverage for stormwater discharges associated with industrial activity. The two methods are:

- submitting a notice of intent to be covered by a general permit; and
- applying for an individual permit.

For analysis of these two methods, see Tab 200, Kinds of Permits. Deadlines associated with the two application methods are shown in Figure 310-1.

Facilities that choose to seek coverage under a general permit will find this method described in ¶320, ¶330, and ¶350. Facilities making an individual application will find guidance in ¶340, ¶360 and ¶370.

Special rules apply to stormwater permits issued for construction activity. Construction activity may be covered under either a general permit or an individual permit. For further information, see ¶350. (Information regarding the U.S. Environmental Protection Agency's (EPA) construction general permit issued on Feb. 17, 1998, is included in this section.)

A substantial portion of this tab is devoted to methods for sampling "representative storm events" and reporting the data obtained from these samples. Each facility that submits an individual permit application must collect stormwater pollution data *as part of the application process*. This sampling must be completed by the time the individual application is submitted, and is *separate from any ongoing monitoring* that is expected to be required in the actual NPDES stormwater permit. Facilities making individual permit applications will find detailed information about how to collect data and report it on EPA's Form 2F in ¶360.

The final section (¶370) of this tab presents examples of completed forms 1 and 2F with sampling and data reporting from an imaginary facility. (Copies of blank forms 1, 2C, 2D, 2E and 2F, with their instructions, are reproduced in Appendix 2.)

Figure 310-1

Application Deadlines*

All Industrial Dischargers	Notification to Large or Medium MS4
If discharging through an MS4	May 15, 1991

Individual Applications (Phase I)	All Forms and Data
Individual facilities	Oct. 1, 1992

Baseline General Permit (Phase I)	Notice of Intent
Facilities in jurisdictions that have issued general permits and that are not required to apply for individual permits	Oct. 1, 1992 (New NOI may be required when existing permit is replaced this year)

Multi-sector General Permit (Phase I)	Notice of Intent
Facilities in states where EPA is the permitting authority	Originally Dec. 30, 1995; extended to March 29, 1996

Municipal Systems (Phase I)	Part I	Part II
Large MS4	Nov. 18, 1991	Nov. 16, 1992
Medium MS4	May 18, 1992	May 17, 1993

Phase II Dischargers	Application or Notice of Intent
Applying for an individual permit or seeking coverage under a general permit	The NPDES permitting authority will issue general permits for phase II dischargers by Dec. 9, 2002. Operators must obtain permit coverage within 90 days of permit issuance.

* Revised, April 2000.

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¶320 General Permits†

The simplest method for obtaining NPDES coverage for stormwater discharges is to file a notice of intent to be covered under one of EPA's general permits—either the industrial multi-sector general permit or the construction general permit—or similar state-issued permits. EPA expects that a majority of dischargers will use this application method.

Of the 45 states and territories that are authorized to administer the NPDES program, only the Virgin Islands lacks general permitting authority at this time (see ¶230). The federal baseline industrial general permit was discontinued in December 1998, but some NPDES states still have permits that closely resemble the baseline industrial permit. Others require all applicants to file individual applications. Varieties of state NPDES approaches to notices of intent are discussed in greater detail in Tab 800, State Programs.

¶321 Notice of Intent†

To obtain coverage under a general permit, facilities discharging stormwater associated with industrial activity must file a notice of intent (NOI) with the appropriate permitting authority. The information required in a notice of intent may vary from one permitting authority to another. The exact requirements for an NOI are described in the text of the general permits. Copies of permits are available from EPA regional offices and NPDES authorized state programs. The text of the construction general permit is reprinted at Appendix 1(d) of the *Manual;* the text of the modified multi-sector permit is reprinted in part at Appendix 1(e). See Appendix 2(f) for a copy of the federal industrial NOI and Appendix 2(h) for a copy of the federal construction NOI. An electronic version of the NOI form is available at EPA's Office of Wastewater Management Web site www.epa.gov/npdes, and at various EPA regional Web sites.

¶322 Forms and Data

Often, the general permit itself contains the conditions and terms for submitting the NOI. These are established by individual permitting authorities, and may range from submission of full individual applications (Form 1 and Form 2F for discharges composed entirely of stormwater associated with industrial activity), to no notice at all. The needs of the permit writer and the scope of the permit program will determine both the NOI requirements and the reporting requirements under the general permit.

Generally speaking, NOIs require the submission of information necessary for adequate program implementation, including at a minimum, the legal name and address of the owner or operator, the facility name and address, type of facility or discharges, and the receiving stream(s). General permits for stormwater associated with industrial activity from inactive mining, inactive oil and gas operations, or inactive landfills occurring on federal lands where an operator cannot be identified may contain alternative NOI requirements. See ¶332 and ¶352 for information on submitting NOIs for the multi-sector and construction permits, respectively.

† Revised, November 2001.

¶323 Deadlines†

Under EPA's modified multi-sector general permit, the deadline for filing notices of intent for existing discharges was Dec. 31, 1998. Under the Nov. 16, 1990, application rule, facilities must apply for permit coverage for new discharges under an individual permit 180 days before the facility commences manufacturing, processing or raw material storage operations which may result in the discharge of pollutants from stormwater runoff. A 90-day deadline applies only to new construction activities that require a stormwater permit (see Appendix 1(b)(1), p. 325).

New industrial dischargers must submit NOIs at least two days prior to the commencement of industrial activity (see Appendix 1(e), p. 815). Under EPA's construction general permit (Feb. 17, 1998, see Appendix 1(d)), NOIs must be postmarked at least two days prior to beginning any work on site. Permittees authorized to discharge under the 1992 baseline general permit for construction activity who wanted to extend their coverage had to submit a new NOI to continue discharging from a permitted site by May 18, 1998 (see Appendix 1(d), p. 706).

EPA's final phase II rule issued Dec. 8, 1999, requires permitting authorities to issue phase II general permits by Dec. 2, 2002, for all other unregulated stormwater dischargers (see Appendix 1(b)(3)). These dischargers, specifically owners or operators of small MS4s and construction sites disturbing between one and five acres of land, must apply for NPDES permits within 90 days of the authority issuing the permit, or by March 10, 2003, whichever is earliest.

¶324 Notification Deadline for Dischargers Through Large or Medium Municipal Separate Storm Sewers

A notification requirement applies to facilities that discharge stormwater through a large or medium MS4. These facilities must submit information to the operators of such storm sewer systems by May 15, 1991, or 180 days prior to commencing operations that would result in a stormwater discharge. The notice must include:

- the name of the facility;
- a contact person and phone number;
- the location of the discharge;
- a description, including SIC code, which best reflects the principal products or services provided by the facility; and
- any existing NPDES permit number.

Large MS4s are those that serve populations of more than 250,000. Medium MS4s are those that serve populations of more than 100,000 and less than 250,000. For names of the cities and urbanized areas, and their classification as either "large" (more than 250,000 population) or "medium" (100,000 to 250,000), contact EPA (see Appendix 3(a) for EPA contact information).

† Revised, November 2001.

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¶325 State Requirements†

Information about special state requirements for general permits may be found in the general permits themselves (see Appendix 1). If your facility is located in a state with NPDES general permitting authority, you should request a copy of the stormwater general permit from your state program office.

If your facility is located in a non-NPDES state, you should be able to obtain coverage under one of EPA's general permits by submitting the appropriate NOI to your EPA regional office.

Only one NPDES delegated territory, the Virgin Islands, does not have authority to issue general permits. The Virgin Islands currently does not intend to start issuing general permits. For more detailed information about permitting authorities, see Tab 200, especially Figure 230-1. For detailed information about state NPDES programs, see Tab 800.

[The next page is Tab 300, Page 21.]

† Revised, November 2001.

¶330 Multi-sector General Permit Application Requirements†

The multi-sector general permit for industrial activities was originally issued by EPA in September 1995 (60 FR 50804, Sept. 29, 1995) and was modified several times. The permit was reissued Oct. 30, 2000 (65 FR 64745). (See Appendix 1(e) for the full text of the modified permit.) The multi-sector permit is the final outcome of the group permitting process that took place in the early 1990s. The multi-sector permit is a "general" permit, meaning that all applicants are covered by the same provisions.

Unlike the federal baseline industrial general permit, which was terminated Dec. 31, 1998, the multi-sector permit includes separate provisions for 30 different industrial sectors. As such, it offers a more tailored approach to permitting than the other general permits. For more information on the multi-sector permit, see ¶242, ¶560 and Appendix 1(e).

Although the multi-sector permit is an outgrowth of the group permitting process, it is not limited to facilities that filed group permit applications. The multi-sector permit is available to all facilities meeting the descriptions of the 30 industrial sectors covered by the permit (see ¶566 for a description of each sector).

¶331 Notice of Intent†

To obtain coverage under the multi-sector permit, facilities discharging stormwater associated with industrial activity must file with EPA an NOI to be covered. Facilities that submitted group applications *will not* automatically receive coverage under the general permit. Facilities formerly covered under a federal baseline general permit that wish to switch to coverage under the multi-sector permit had to first file an NOI with EPA by Jan. 29, 2001. New industrial dischargers must submit NOIs two days prior to beginning operations. Alternatively, permittees under the 1995 permit were allowed to file a notice of termination (NOT) with EPA. For a copy of the NOI and NOT forms, see Appendix 2(f) and 2(g).

Submit NOIs and NOTs to the following address:

U.S. EPA—Ariel Rios Building
Storm Water Notice of Intent (4203)
(or Storm Water Notice of Termination (4203))
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

The EPA Notice of Intent Processing Center can be reached at (301) 495-4145.

¶332 Forms and Data†

NOIs for EPA's multi-sector general permit must contain the following information:

- the operator's name, address, telephone number, ownership status, and status as federal, state, private, public or other entity;

† Revised, November 2001.

- name, mailing address, location, longitude and latitude of the facility for which the notice is submitted;
- a certification that a stormwater pollution prevention plan has been prepared (see Appendix 1(e), p. 818);
- the name of the receiving water(s), or if the discharge is to a municipal separate storm sewer (MS4), the name of the municipal operator of the storm sewer and the ultimate receiving water(s);
- identification of applicable sector(s) that cover discharges associated with the facility's industrial activities, see Appendix 1(e), p. 807.
- up to four, 4-digit SIC codes that best represent the principal products or activities provided by the facility; and
- signed and dated certification of compliance with the National Historic Preservation Act and the Endangered Species Act.

Each state with general permitting authority may require additional or different information than EPA regional offices. Your state permitting agency should provide additional guidance on what information to provide in your NOI.

¶333 Deadlines†

Facilities in existence prior to Oct. 1, 1995, that wish to obtain coverage under the multi-sector permit—including facilities previously covered by the baseline general permit—were required to submit an NOI by March 29, 1996. (The original NOI filing deadline was Dec. 30, 1995, which EPA extended by 90 days.) New facilities must submit NOIs two days before operations begin. Oil and gas operations must submit NOIs within the first 14 days after a reportable quantity discharge. A new operator must submit two days before the scheduled change in facility operators. Permit coverage begins 48 hours after the NOI is submitted (see Appendix 1(e), p. 815).

Facilities continuing coverage under the multi-sector general permit after the baseline industrial general permit expired were required to submit an NOI by Jan. 29, 2001.

Late Notification. Dischargers are "not precluded" from submitting NOIs after the dates given above, according to the permit (see Appendix 1(e), p. 815). However, permits issued for late NOIs only cover discharges that occur after permit coverage is granted.

¶334 Notification Deadline for Dischargers Through Large or Medium Municipal Separate Storm Sewers†

Facilities that discharge stormwater associated with industrial activity through large or medium MS4s or into an MS4 that has been designated by the permitting authority, must submit signed copies of the NOI to the operator of the MS4 through which they discharge.

† Revised, November 2001.

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For facilities in existence prior to Oct. 1, 1995, the deadline was March 29, 1996. (The original NOI filing deadline was Dec. 30, 1995, which EPA extended by 90 days.) New facilities must submit forms at least two days prior to the commencement of the industrial activity at the facility. New operators must submit forms at least two days prior to the transfer of ownership (see Appendix 1(e), p. 815).

¶335 State Requirements†

Some states in which EPA is the permitting authority have attached special conditions to the multi-sector permit (see Appendix 1(e), p. 878). Only facilities in states where EPA is the permitting authority are eligible to seek coverage under the multi-sector permit. States with NPDES authority may choose to alter their industrial permits to follow EPA's, but they are not required to do so. Information on state-specific conditions is included in Tab 800.

[The next page is Tab 300, Page 31.]

† Revised, November 2001.

¶340 Individual Permit Applications (Except Construction Activity)

Applications for an individual permit may be made to any permitting authority. For individual permit applications for construction activity, see ¶360.

¶341 Forms and Data

Applicants for NPDES permits for discharges composed entirely of stormwater are required to file EPA forms 1 and 2F. New source stormwater applicants file Form 2D. Dischargers of stormwater that is mixed with process wastewater must also file Form 2C for the process wastewater portion of the discharge. Existing facilities that discharge combined stormwater and wastewater discharges should already have filed Form 2C for the wastewater portion; in that event, they may rely upon existing Form 2C data to complete a new Form 2C, if they are certain that it reflects current circumstances. Sample copies of these forms, with their instructions, are included in Appendix 2.

¶342 Deadlines

In the Nov. 16, 1990, final rule, EPA set Nov. 18, 1991, as the deadline for existing facilities to apply for an individual permit. On March 21, 1991, EPA proposed extending that application deadline to May 18, 1992. In October 1991, EPA extended the application deadline until Oct. 1, 1992. Facilities that propose new industrial discharges of stormwater must file permit applications at least 180 days before the date on which the discharge is to commence.

¶343 Notification Deadline for Dischargers through Large or Medium Municipal Separate Storm Sewers

A notification requirement applies to facilities that discharge stormwater through a large or medium municipal separate storm sewer. These facilities must submit information to the operators of such storm sewer systems by May 15, 1991, or 180 days prior to commencing operations that would result in a stormwater discharge. The notice shall include:

- the name of the facility;
- a contact person and phone number;
- the location of the discharge;
- a description, including SIC code, which best reflects the principal products or services provided by the facility; and
- any existing NPDES permit number.

Large municipal separate storm sewer systems are those that serve populations of more than 250,000. Medium municipal separate storm sewer systems are those that serve populations of more than 100,000 and less than 250,000. For a list of large and medium municipal systems, contact EPA (see Appendix 3(a)).*

* Revised, January 1996.

¶344 State Requirements

Applicants for permits to be issued by NPDES authorized states should obtain forms from their state office. States may not accept applications if submitted on improper sets of forms. See Tab 800 for the name and phone number of the water quality office serving your state. Applicants should be aware that state programs are required to be at least as stringent as EPA's national standard, but they may also be more stringent. For this reason, it is advisable to familiarize yourself thoroughly with the information about your state in Tab 800, and to check with your state water quality program office at an early stage of the permit application process.

[The next page is Tab 300, Page 41.]

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¶350 Permit Application Requirements for Construction Activity†

Persons responsible for stormwater discharges from construction activity disturbing five or more acres of land may apply for coverage under a general permit, or under an individual permit. Special application requirements pertain to permits for construction activity. The major differences from the requirements for industrial permits concern deadlines and data requirements. On Feb. 17, 1998, EPA issued a revised construction general permit that replaced the "baseline" permit in effect since 1992. The following section discusses the 1998 permit. EPA has issued a final Phase II rule that would require persons responsible for stormwater discharges from construction sites disturbing between one and five acres of land (64 FR 68721, Dec. 8, 1999) to apply for permit coverage. Operators of small construction sites will be required to obtain permits by March 10, 2003.

¶351 Who Should Obtain the Permit?

EPA requires a permit for construction site operators that:

- have operational control of construction project plans and specifications, including the ability to make modifications to those plans and specifications; or
- have day-to-day operational control of those activities at a project that are necessary to ensure compliance with a stormwater pollution prevention plan (SWP3) for the site or other permit conditions (*e.g.*, the operator is authorized to direct workers at a site to carry out activities required by the SWP3 or comply with other permit conditions).

In some construction operations, circumstances may warrant issuing a permit to several co-permittees. This question can generally be resolved by consulting with the permit writing authority for your state (see Tab 800).†

¶352 Forms and Data†

Where general permit coverage is available, applicants must provide in their notice of intent (NOI) the following information (see Appendix 1(d), p. 707):

- a brief description of the project;
- an estimated timetable for major activities;
- estimates of the number of acres of the site on which soil will be disturbed;
- an indication of whether the operator is a federal, state, tribal, private or other public entity;
- an indication of whether the project or site is located on Indian Country lands;
- a certification that a stormwater pollution prevention plan (SWP3) has been prepared for the facility, and it provides compliance with approved state or local sediment and erosion site plans or stormwater management plans. Also, it is optional to include the location of the SWP3; and
- an analysis of whether any listed or proposed threatened or endangered species, or designated critical habitats, are in proximity to the stormwater discharges or stormwater discharge-related activities to be covered by the permit (see ¶671).

† Revised, January 2002.

If general permit coverage is not available, or the permitting authority requires you to apply for an individual permit, some special provisions apply. Permit applicants for construction activities must complete Form 1, but are not required to complete Form 2F. In lieu of Form 2F, individual permit applicants should provide the following narrative information (see Appendix 1(b), p. 80):

- the location (including a map) and the nature of the construction activity;
- the total area of the site, and the area that is expected to undergo excavation during the life of the permit;
- proposed measures, including BMPs, to control pollutants in stormwater discharges during construction, including a brief description of applicable state and local erosion and sediment control requirements;
- proposed measures to control pollutants in stormwater discharges that will occur after construction operations have been completed, including a brief description of applicable state or local erosion and sediment control requirements;
- an estimate of the runoff coefficient of the site and the increase in impervious area after construction is completed, the nature of the fill material and existing data describing the soil or the quality of the discharge ["runoff co-efficient" refers to the fraction of total rainfall that will appear at a conveyance as runoff]; and
- the name of the receiving water.

¶353 Deadlines†

Under the February 1998 revised construction general permit, NOIs must be postmarked at least two days prior to beginning any work on site. An operator of an ongoing construction project that was covered under the 1992 baseline construction permit had to submit an NOI for coverage under the revised permit by May 18, 1998. Prior to submitting the NOI, the operator had to prepare and comply with an interim SWP3 in accordance with the 1992 permit. Once the NOI was submitted, the operator had to update the SWP3 to comply with the revised permit. (See Appendix 1(d), p. 706.)

¶354 Additional Notification

The following provision appears in EPA's general permit. States are free to adapt EPA's general permit language to suit local conditions.

"Facilities which are operating under approved state or local sediment and erosion plans, grading plans, or storm water management plans shall submit signed copies of the notice of intent to the state or local agency approving such plans."

¶355 State Requirements

In general, states require that construction activity comply with all state and local sediment and erosion prevention plans. For specific requirements that apply in your state, consult Tab 800, or your state permitting authority.

[The next page is Tab 300, Page 51.]

† Revised, January 2002.

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¶360 How to Collect Data for Form 2F

Form 2F provides the permitting authority with detailed information about a facility's site, its operations, and its potential for pollution from discharges composed entirely of stormwater. The information submitted on Form 2F will be used by the permit writer to develop permit conditions that will help achieve pollution elimination goals while allowing industry to discharge legally within the constraints of approved control technology.

The Scope of Form 2F. Form 2F is the primary form by which stormwater information is to be reported. (EPA's Form 2F is reprinted at Appendix 2(e).) It is a fairly comprehensive form and requires information regarding:

- outfall locations;
- improvements;
- site drainage map;
- narrative description of pollutant sources;
- non-stormwater discharge certification;
- significant leaks or spills;
- discharge information;
- biological toxicity testing data;
- contract analysis information; and
- certification.

Information regarding discharges is reported on two pages of Form 2F. These pages tabulate the results of measuring, sampling and analysis of a stormwater discharge.

In preparing the form, EPA was aware that stormwater discharges are highly intermittent. They vary significantly in flow rates and pollutant concentration from event to event and from season to season. EPA took care in designing this form to allow for adequate characterization of this variability.

There were two primary concerns in setting sampling requirements. The first was the effect of the "first flush" of pollutants from the system. This term refers to pollutants that lie on the surface of the drainage area or within the conveyances (e.g., sewers, etc., in which there may be illicit connections). During the first flush of the storm event this primary load of pollutants would be immediately discharged. EPA decided that the best way to characterize this first flush was to require a grab sample of the discharge within the first 30 minutes of the stormwater discharge. However, the agency recognized that it may be logistically impossible to take such a sample and, therefore, allowed for a grab sample to be taken as near as possible to within the first 30 minutes.

The second area of concern is the overall amount of pollutants discharged during the course of the storm event. To determine this EPA requires a flow-weighted composite sample of the stormwater discharge over the entire discharge. (There are some exceptions to this general rule.) With this information and with the data on the total volume discharge, the mass loadings of the pollutants can be determined and their impact upon the receiving waters evaluated.

Additionally, EPA took into consideration labor costs and safety impacts of these requirements in the development of Form 2F.

Requirements for Group and Individual Applicants. Facilities submitting individual applications must complete the entire Form 2F including all the information listed earlier in this section. Facilities that participated in group applications were required to complete only items VII through X. This is known as the "quantitative data" section of Form 2F. The other items, including site-specific information, were not required to be completed. In any event, group applications have been superseded by the multi-sector general permit for industrial activities (see ¶330).*

¶361 Representative Storm Events

EPA gave careful consideration to suggestions received during the comment period regarding the selection and definition of representative storm events. Clearly, EPA wishes to receive data which is "representative" of what a typical discharge might be. However, given the vagaries of the weather and of industrial activities, EPA recognizes that this is extremely difficult in a one-time sampling program. Additional information may be expected to come from annual or more frequent monitoring of discharges, which regulators may impose as a permit condition. Such monitoring may yield data that would support modifications to permit requirements by regulatory authorities.

EPA requires that data regarding the storm event be collected simultaneously with the sampling data of the stormwater discharge. For a sampled storm event to be considered representative, it should meet the following three standard criteria.

Rainfall must total more than 0.1 inches. EPA wants a significant amount of stormwater discharge to be present. Therefore, by definition, less than 0.1 inches of rain is not a significant storm event. This should pose no problem in most parts of the country.

At least 72 hours must have elapsed from the previous storm event. The purpose here is to allow pollutants to collect on the drainage surfaces and potentially within the conveyances prior to the storm event. A shorter time period would result in sampling of a storm event immediately subsequent to a previous storm event which may have "cleaned out the system." Thus, there is an attempt here to obtain fairly representative data. This requirement may be difficult to meet in some parts of the country, depending upon the season.

Stormfall event is within plus or minus 50 percent of the local average duration and total rainfall. This is an attempt to set bounds upon what the definition of representative is. The plus or minus 50 percent variation in duration and total rainfall grants relatively wide latitude. Nonetheless, a storm that appears to be "representative" at its outset may, in fact, turn out to be "non-representative" based upon the above definitions. This unfortunate circumstance simply cannot be avoided.

* Revised, August 1996.

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Other Considerations. In some parts of the country either excessive rainfall or lack of rainfall may be a problem in collecting data prior to the deadlines for application submittal. However, facilities are expected to "do the best they can." The agency may allow the submission of "non-representative" data as long as it is identified as such. It is likely that representative data would still be required at a future time.

Snow melt is considered acceptable for sampling purposes. But clearly it is difficult to identify snow melt with a representative storm event. Also, it is likely that snow melt will be significantly more contaminated than "representative" data from a rainfall storm event. Thus, it may be disadvantageous to utilize snow melt for the sampling and analysis data. It is not anticipated that many facilities will have to utilize snow melt data.

Questions have been raised regarding the determination of a local average duration and total rainfall. It is acceptable to use any public or commercially available information that a facility feels is representative for its site, such as weather station or airport data. Additionally, a facility may collect its own rainfall data. It is unlikely that many facilities will have collected a sufficient history of rainfall data to determine its site's specific local average duration and rainfall amount. If this information is available, it can be utilized to determine a site's representative storm event.

¶362 Measurement of Stormwater Flows

The regulation requires that all outfalls at which "stormwater associated with industrial activity" is discharged must be measured, sampled, and analyzed. However, the facility does not need to measure, sample or analyze outfalls that discharge stormwater that is not "associated with industrial activity" as defined in the rule.

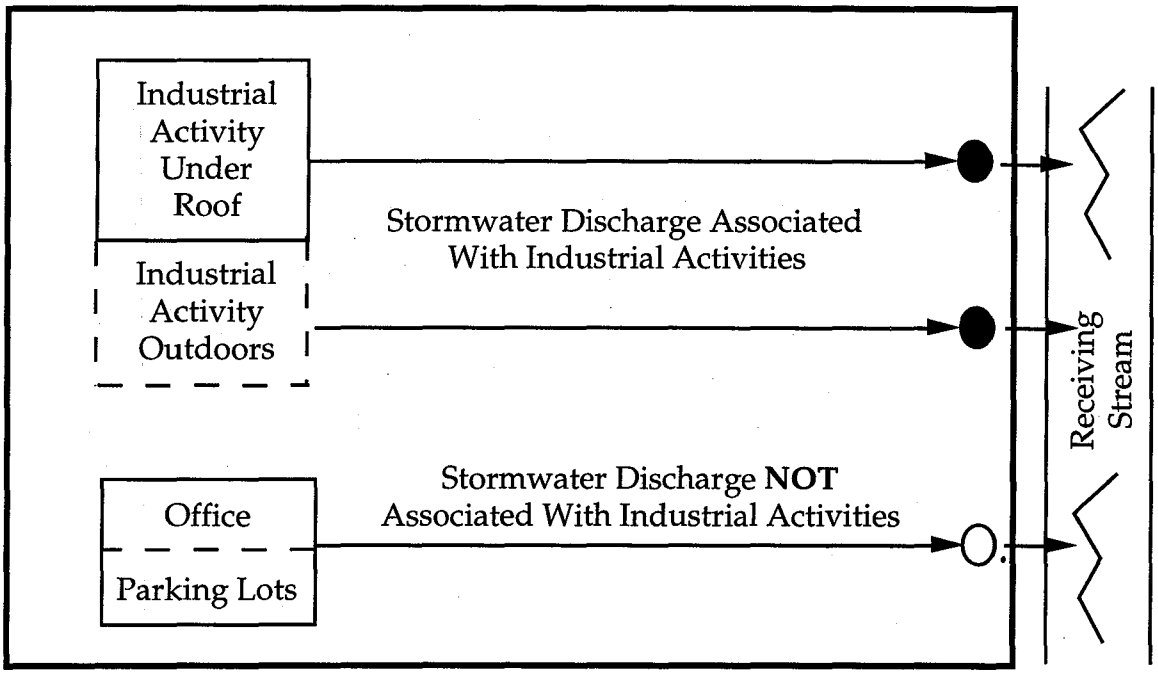
This provision of the rule presents an opportunity for a facility to segregate its drainage where possible. This could minimize the amount of stormwater that is associated with industrial activity and reduce the number of outfalls that have to be sampled. These measures should be undertaken prior to a sampling program. In some cases this will result in significant cost savings to a facility. Figure 362-1 indicates what kinds of outfalls must be sampled at an industrial site.

Representative Outfalls. The regulations provide an exemption from the requirement to sample all outfalls of stormwater associated with industrial activity where it is possible to identify one outfall as representative of many. In other words, if several outfalls have identical discharges, then one may stand as representative for them all. The key is the identification and explanation of why these outfalls are identical. This is not clearly spelled out in the regulations and requires the applicant to determine and define identicality. It may be presumed that this is based upon the industrial activity to which the stormwater is associated. It may be further assumed that the stormwater discharges are not substantially mixed with other stormwaters that are not associated with industrial activity and, therefore, dilute the outfalls. The procedure for taking advantage of this exemption is to identify the outfalls that are identical and then petition the regulatory authority for permission to sample only one. Assuming that the permission is granted, the sampling program can proceed. If permission is not granted, then all outfalls must be sampled.

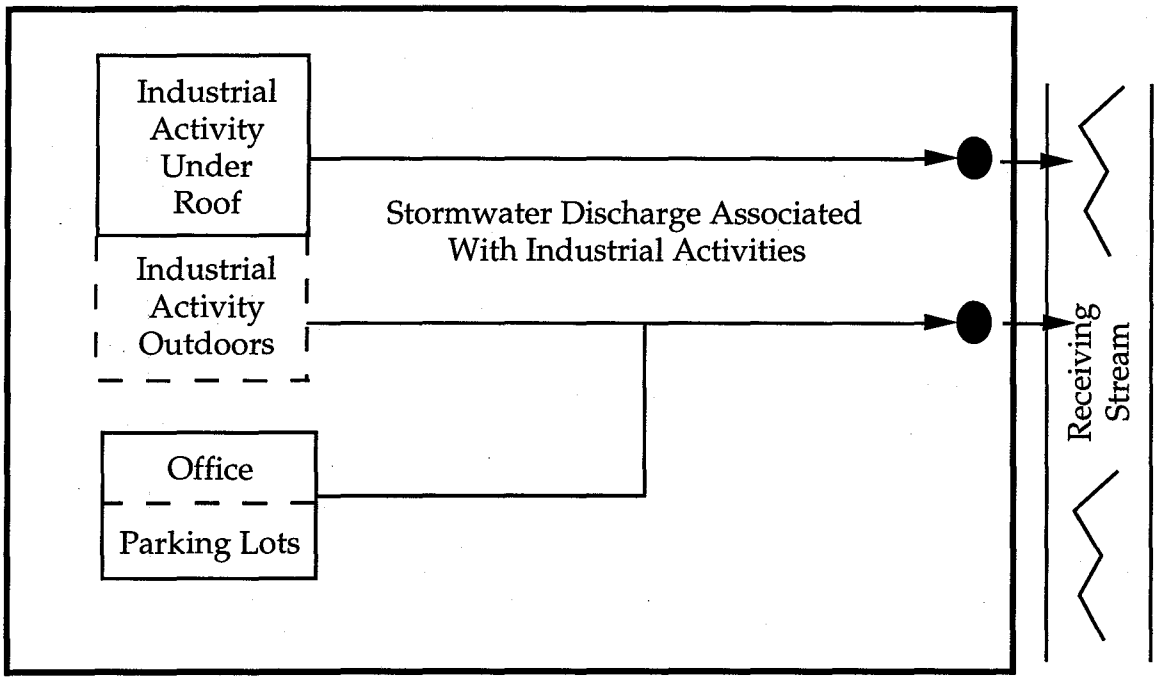
Figure 362-1

Outfalls Subject to Stormwater Regulation

Example 1:



Example 2:



Facility Boundary ● Sampling Required ○ Sampling Not Required

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Depending upon the workload burden of the regulatory authorities as a result of these stormwater regulations, it may be difficult to get regulatory approval for such exemptions at a given facility. While it may be appropriate to submit such a petition, it may be prudent to make contingency plans to collect appropriate "representative" data during the rainfall season. Additionally, it can be questioned as to whether this exemption will be permitted in the long run, i.e., as part of the permit compliance. It is probable that at some point samples will be required at all outfalls to prove that they are identical with the one(s) reported as "representative."

Required Data. At each outfall, the following data must be collected:

- date of storm event;
- duration of storm;
- number of hours since previous storm event;
- maximum flow rate of discharge; and
- total discharge.

Methods for Measurement of Stormwater Flows. It is evident in reviewing the measuring and sampling requirements that EPA envisioned the use of automatic flow measurement and sampling devices. However, manual sampling is allowed.

Because flow-weighted composite samples are required, some means of measuring instantaneous stormwater flow at a given discharge is needed. Additionally, because the total discharge is to be reported, a means of integrating these flow measurement readings must also be provided. The following types of flow estimates can be utilized:

- velocity and area calculated estimates;
- in-stream equipment;
- weirs; and
- flumes.

Velocity and area calculated estimates. Flows may be roughly estimated with knowledge of the flow channel cross section, the height of the flow, and the average velocity. The resulting estimate is crude but relatively inexpensive. It requires only a velocity measurement and a rudimentary height of the flow. It typically is a manually derived estimate. It suffers from the disadvantages of lack of precision and accuracy. It is also cumbersome to calculate the total volume discharge based on these flow rate estimates.

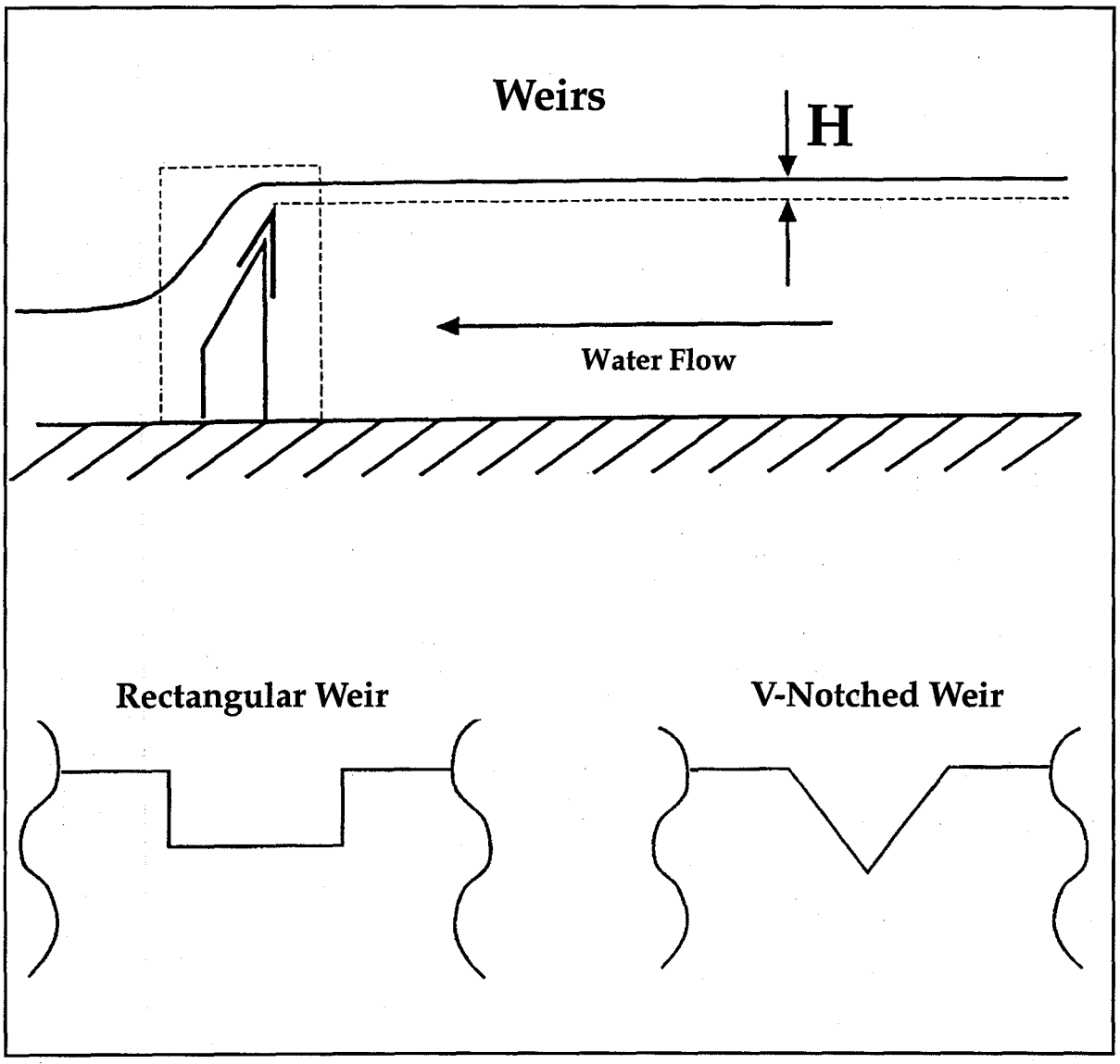
EPA has indicated that this may be a preferred means of estimating flows.

In-stream equipment. When stormwater is conveyed in a pipeline of known cross section, and assuming that the flow is full in the pipeline, conventional process flow equipment can be utilized to generate highly accurate measurements. However, it is rare that the above conditions are met for stormwater flows since these are primarily drainage flows and most often conveyances range from empty to partially full and rarely run full. Suitable flow process equipment is available from a wide variety of vendors. This equipment, which is based upon many principles of flow measurement, can range from inexpensive to fairly expensive. It offers the advantages of readily recording and integrating flow measurements. Various output devices can be utilized for data display and collection.

Weirs. A weir is essentially an engineered dam with a specifically designed overflow section. This overflow section is constructed so that the flow rate can be directly calculated from a measurement of the height of water above the overflow. The specially designed overflow section is typically rectangular or V-shaped. It specifically must be "sharp-edged" in order to provide clear flow separation at the overflow point. Weirs offer fairly precise and accurate flow measurements. For accuracy a level instrument must be placed appropriately in order to measure the height of the liquid. Instrumentation can be provided to convert this level measurement into a direct flow readout, based upon the geometry of the overflow section. Clearly, this information can be displayed and recorded simply. Some disadvantages with weirs include the damming effect in the flow conveyance which may have negative impacts, and the difficulty of measuring flows over a wide range of flow conditions. These can be minimized through careful selection and design of the weir. Weirs can be installed on either a temporary or a permanent basis.

Figure 362-2

Types of Flow Measurement



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Flumes. These are engineered obstructions placed into a flow channel such that the height at a given section in the flume is proportional to the flow through the flume. Two common types are the Palmer-Bowlus and Parshall. The former involve specially constructed sides and bottoms to an open channel. The channels can be either circular or rectangular in cross section, in order to condition the flow appropriately. The Parshall flume involves a flow channel geometry which has specific sides, bottom and slope associated with it. Both types of flumes can be purchased pre-engineered to be dropped into existing flow channels. Flumes offer the advantage of being relatively accurate at measuring flow (properly installed) and they do not obstruct the flow as a weir does. However, they tend to be expensive and must be precisely installed in order to be accurate.

[The next page is Tab 300, Page 61.]

Stormwater Flow Measurement Options

The above flow measurement techniques clearly vary widely in cost, convenience and accuracy. Determinations on a site-by-site basis are needed to develop the most appropriate measuring approach for each outfall at each facility. Some consideration must be given to the long-term need for flow measurement at these outfalls. Based upon EPA's general permit, one may infer that monitoring requirements will be part of most individual facility permits. This monitoring may require measurement, sampling and analysis of stormwater flows once or twice annually or even more frequently. Therefore, a need may arise for a permanent monitoring station. In this event, consideration should be given to providing a permanent station now rather than later. However, this judgment depends upon cost, the type of station selected and anticipated long-term needs at a given facility.

The flow measurement approaches as described above clearly vary in accuracy and precision. EPA has indicated that the flow estimates are expected to be "rough" and precise measurements are not required. However, they have also indicated that the accuracy of measurement required is partly a function of what is being measured. It is acceptable to be less accurate in measurement if the pollutants are in low concentrations or if their total mass will have minimal impact on the receiving streams. Conversely, it would be appropriate to be more accurate where there are higher concentrations of pollutants, if the pollutants are particularly toxic or hazardous or if they represent a significant load to the receiving streams. Thus, the selection of an appropriate flow measurement device presupposes some knowledge of the potential pollutants, type, concentrations, and total discharges.

Figure 362-3* shows how the accuracy of measurement and cost of installation both increase with the sophistication and permanence of the measurement device. Clearly, site-by-site selection criteria will determine the most appropriate flow measurement at a given facility and discharge.

* Editorial revision, January 1996.

Figure 362-3

Stormwater Flow Measurement Options

Technology	Measurement	Cost and Accuracy Rating[1]
Engineered and permanently constructed channel with flume	Automatic flow rate measurement with integrated flow volume calculation	*******
Pre-engineered and installed flume or weir	Automatic flow rate measurement and recorder	******
Pre-engineered and installed flume or weir	Manual level measurement and calculation of flow rate	*****
Temporary weir	Manual level measurement and calculation of flow rate	****
Temporary weir	Overflow height estimated	***
Flow channel of regular and known cross section	Flow velocity measured or estimated and manual calculation of volume	**
Irregular flow channel	Flow velocity estimated and manual calculation of volume	*

[1] Ranking is in descending order of cost and accuracy; generally, the more accurate the measurement technique, the higher the associated cost.

[The next page is Tab 300, Page 71.]

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¶363 Sampling of Stormwater Flows

There are specific techniques that must be followed in sampling discharges. These are described in the Code of Federal Regulations at 40 CFR 136. It is essential that these protocols be followed; to vary from them risks potential invalidation of the sampling data or, even worse, incorrect analyses that could lead to inappropriate permit provisions.

Numerous environmental laboratories in the United States analyze samples competently. However, it is likely to be prohibitively expensive to have laboratories provide field sampling crews during storm events. Therefore, most facilities will train their own personnel to collect or take stormwater discharge samples. There is, thus, a need to train sampling personnel adequately so that valid samples are taken.

Depending upon the analyses that are to be made, it may be necessary to take multiple samples at a given time from the same outfalls and to follow separate preservation techniques. These needs should be carefully investigated prior to initiating a sampling program.

Additionally, "chain of custody" forms should be utilized for all sampling. An example of such a form is included as Figure 363-1. These forms provide a paper trail from the time that the sample was collected to the time that it is analyzed, and are invaluable for assuring sample integrity. All environmental laboratories have forms available for use if you are utilizing their laboratory. Alternately, you may prefer to develop your own forms.

There is no requirement in the regulations to use a contract or "approved" laboratory for analyses. Samples can be analyzed in a facility's in-house laboratory. However, it is essential that the 40 CFR 130 protocols be followed.

Figure 363-1

Chain of Custody Form

Environmental Science & Engineering, Inc.

A CILCORP Company

1-800-373-1999

Chain of Custody No. _____

Purchase Order No. _____

Samples Shipped to: _____

Sheet of

Chain of Custody/Sampling Analyses Request

Project Number	Sampler's Name:	Sampler's Signature:

Sample I.D.	Date Sample Collected	Time Sample Collected	Sample Type	No. of Containers	Container Type	Laboratory Analyses Required
Total Number of Containers in Cooler:						

Relinquished By: (signature)	Date/Time	Received By: (signature)	Date/Time
Relinquished By: (signature)	Date/Time	Received By: (signature)	Date/Time
Relinquished By: (signature)	Date/Time	Received By Laboratory Custodian: (signature)	Date/Time

Method of Shipment: (shipment I.D. number)

Note: Return original signed Chain-of-Custody record, cooler and blue ice to ESE as soon as possible

Breakage and/or inconsistencies must be reported by lab to sampler immediately

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"Grab" and "Flow-Weighted Composite" Samples

There are essentially two types of samples described in the regulations—grab sample and flow-weighted composite samples. As previously mentioned, the grab samples should be taken during the "first flush," while the flow-weighted composite samples are taken for the duration of the storm event.

Grab samples. These samples should be taken within 30 minutes of this storm event or as near as possible to this time. The purpose is to catch the "first flush" of the discharge, i.e., the flushing of the sewers and the initial flush of the drainage surfaces. The highest concentrations of pollutants should come from this sample, although factors other than time, such as distance from pollutant sources to sampling points, will affect the timing of the highest pollutant concentration. The sample should be representative of the flow and therefore taken in a well-mixed section of the flow.

Flow-weighted composite samples must be taken for the duration of the storm event or the first three hours, whichever is less. The samples can be either flow-proportioned or time-proportioned. Flow-proportioned samples are taken at equal time intervals, with the sample volume dependent upon the instantaneous flow rate at the time the sample is taken. Time-proportioned samples are equal sample volumes taken at variable time intervals which are determined by the passage of a set flow volume past the sample point. EPA recognizes both methods as valid.

It is clear the regulations are oriented around automatic sampling, but EPA recognizes that this may not always be feasible due to cost and other considerations, such as the availability of samplers. Therefore, instructions and allowances have been provided for the manual collection of flow-weighted composite samples.

Automatic equipment can be either flow- or time-proportioned. The flow measuring instrument supplies a signal to the automatic sampler with which the sampler determines appropriate sample times/volumes. This sampling equipment can be battery powered for remote operation and includes refrigeration capabilities, sample volume collections, flow integration etc. Some of the difficulties associated with automatic equipment include:

- cost ($7,000 and up for battery operated models);
- reliability and operational problems, including clogging;
- non-representative sampling due to operational difficulties; and
- availability.

Manual. Manual flow-weighted composite sampling may be used if the automatic option is infeasible due to availability, cost, or other reasons. Sampling must be conducted at least three times an hour with a minimum of 15 minutes between samples. The sampling must be flow-proportioned. In practice, a person will read a flow measurement device and then take a sample volume proportional to the flow. As with grab samples, a representative sample should be taken from a well-mixed portion of the discharge.

Note that with manual sampling, the stormwater discharge flow must still be measured and integrated so as to provide complete volumetric characterization.

Detention ponds. EPA recognizes that in many cases detention ponds have been constructed to provide stormwater discharge flow mitigation and some partial treatment. Therefore, a special exemption has been made for detention ponds.

This exemption recognizes two specific characteristics of detention ponds:

- the pond volume essentially averages the flow and concentration of pollutants; and
- treatment will occur in a detention pond which reduces the pollutant load being discharged.

In place of the grab and flow-weighted composite sample, only one sample is required from the discharge of a detention pond. This should be a grab sample from the outfall of the pond.

In practice then, a storm event occurs and at the conclusion of the storm event a grab sample is taken from the discharge of the detention pond and all analyses are conducted on this grab sample.

As mentioned previously in ¶362, it is permissible to substitute one representative outfall for a number of outfalls with the director's approval. Note that prior approval must be obtained.

Exemptions to the Sampling Requirements

There are specific exemptions from the sampling requirements for the following:

- construction;
- oil, gas and mining operations; and
- new sources.

Construction is a special form of industrial activity for which no discharges need to be sampled. Due to the ongoing disturbance of the soil, any sampling would necessarily be non-representative.

Clearly, new source applications cannot be sampled since they theoretically should not exist until a permit is approved.

It is normally thought that all discharges must be sampled during one storm event. This is desirable, but not necessary. It is acceptable to sample different outfalls during different storm events. Thus, a strategy of utilizing one automatic sampler and measurement station could be employed which is moved from site to site for different storms. While technically feasible, this will result in confusing and erratic data. Note that Form 2F is clearly set up to be used during one storm event. Nonetheless, it is acceptable to utilize different storm events for the sampling of different discharges.

[The next page is Tab 300, Page 81.]

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¶364 Analysis of Stormwater Samples

EPA expects most applicants to use outside contract laboratories to conduct their analyses of stormwater samples, but this is not required. However, the analytical protocols found in 40 CFR 136 must be followed. In the event that no appropriate protocol is found in 40 CFR 136, then the analytical laboratory must adhere to recognized standards for analysis of the particular pollutant.

The regulations specifically identify pollutants that must be analyzed for, and additionally require analysis for any other pollutants which you may have reason to believe could be present in the discharges. These requirements are described below.

Conventional Pollutants

The following pollutants are considered to be "conventional" and will be analyzed for in all samples (with exceptions as discussed below).

Oil and grease
BOD_5
COD
Total suspended solids
Total Kjeldahl nitrogen
Nitrate and nitrite nitrogen
Total phosphorous
pH

In the preamble to the final rule, EPA commented on the problems that these conventional pollutants cause:

> Oil and grease and TSS are a common component of storm water and can have serious impacts on receiving waters. Oxygen demand (COD and BOD_5) will help the permitting authority evaluate the oxygen depletion potential of the discharge. BOD_5 is the most commonly used indicator of potential oxygen demand. COD is considered a more inclusive indicator of oxygen demand, especially where metals interfere with the BOD_5 test. The pH will provide the permitting authority with important information on the potential availability of metals to the receiving flora, fauna and sediment. Total Kjeldahl nitrogen, nitrate plus nitrite nitrogen, and total phosphorous are measures of nutrients which can impact water quality.

Also, EPA has already constructed stormwater effluent concentration guidelines in ten industrial categories as described in Tab 100. If the applicant is included in one of these industry categories, then all stormwater discharge samples must be analyzed for all the pollutants listed in the existing effluent guideline.

Also, if the facility has a current NPDES permit with specific effluent concentration limitations, then the stormwater discharge must be analyzed for all components/chemicals/pollutants specifically identified in the current NPDES permit. Note that this is an effort to validate the potential for cross contamination of stormwater discharges and to determine if residual contamination on the site exists which "leaches" into the stormwater discharges.

Finally, it is further required that stormwater discharges be analyzed for any other pollutant which you believe or should have reason to believe may be present. This can be from current or past operations at the facility. Form 2F includes a list of toxic pollutants (Table 2F-3) and hazardous substances (Table 2F-4) which must be considered. However, beyond that you are required to consider any potential pollutant which you may have reason to believe could be present. There is one exception for substances whose presence in the stormwater discharge is due solely to their presence in the intake non-contact cooling water (if present). Note that this exception presumes a mixed discharge in which the stormwater discharge is mixed with the non-contact cooling water.

In addition, small businesses and operators of small coal mines are exempt from the reporting requirements for the organic and toxic pollutants listed in Table 2F-3. See the instructions to Form 2F in Appendix 2 for a definition of "small business."

As previously noted, for detention ponds which have a minimum 24-hour detention volume (i.e., the stormwater flow in 24 hours will not exceed the capacity of the pond), just one grab sample of the discharge from the pond is required for analysis. It is required that analyses for all pollutants as described previously be conducted on this one sample.

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Laboratory Analysis Costs

It is anticipated that a tremendous amount of analytical support will be required nationwide in order to complete these permit applications. The costs associated with the analytical portion will be substantial. The cost for the analysis of one sample for conventional pollutants should range from approximately $150–$200. Depending upon the nature of other pollutants in effluent guidelines or which are specific to the facility, the costs can easily total over $1,000. Clearly, if there are a number of outfalls to be sampled, the analytical costs associated with the permit application and with annual or semi-annual monitoring can be extensive.

Note that laboratory analytical costs are often discounted from the published schedule and it is possible to negotiate for discounted pricing. This is especially true if a large number of samples is to be provided. Group applicants should definitely explore this possibility in order to minimize costs associated with analyses of stormwater samples.

[The next page is Tab 300, Page 121.]

¶370 Examples of Completed Forms

This section includes examples of forms 1 and 2F as completed for an imaginary company known as "Central Processing Company." This is the same name utilized by EPA for its sample site map. In completing these forms certain assumptions were made regarding facility location and other details. These are the only forms which are required for discharges composed entirely of stormwater. Other EPA forms are required for other types of discharges.

EPA expects that as a result of the stormwater program other discharges will be discovered that have not been permitted. For this reason, users of this manual may need one or more of the following (found at Appendix 2*):

- Form 2C—Wastewater Discharge Information
- Form 2D—New Sources and New Dischargers
- Form 2E—Facilities Which Do Not Discharge Process Wastewater

¶371 Form 1

Form 1 will be completed by all facilities making individual applications for permits. Form 1 is the general information form and primarily includes contact and location information about the site. It also provides, via questions and answers, guidance as to additional forms that should be submitted.

Form 1 includes definitions and instructions and an example of a site map. This form is fairly straightforward. The guidelines included in the form should be reviewed carefully prior to completing the form.

The comments below are supplementary and provided as general information.

Item II C. A yes answer to this question would seem to indicate that a Form 2C is required. However, Form 1 was designed prior to the current stormwater discharge program. As explained in the regulations, for discharges which consist entirely of stormwater, use Form 2F only. However, if the discharge includes other than stormwater, Form 2C or other additional forms may be required.

Item VII: SIC codes. Room is provided for up to four SIC codes, to indicate the diversity of operations at a given facility. However, only one is strictly required.

Item XI: Map. Note that a sample map is provided with Form 1 for an imaginary facility called "Central Processing." Several specific types of information are required on the map. Additional information is also required on the map submitted with Form 2F. In ¶373, the combining of maps for forms 1 and 2F is suggested in order to avoid duplication of effort.

* Editorial revision, January 1996.

¶372 Form 2F

Individual applicants will complete the entire Form 2F including narrative answers and quantitative data. Group applicants which are representative sites will complete only item VII, parts A, B, C and D. No other sections of the form will be completed.

For individual applicants, Forms 1 and 2F and any supplementary information provided constitute a complete application package. The permit writer will use this information in preparing the permit and the permit conditions. It therefore behooves the applicant to follow instructions carefully and to provide all pertinent data for the permit writer. Be aware that the permitting process is indeed a process, and that opportunities exist for negotiation and presentation of key data to support your point of view.

The instructions that are included with Form 2F should be followed exactly. The comments below are supplementary to the instructions contained in Form 2F.

Item I: Outfall location. EPA requires the location of each outfall to be determined to the nearest 15 seconds in both latitude and longitude. You can probably scale this from a USGS map to the nearest 15 seconds.

The numbering system for outfalls is traditionally a three-digit number, where the first outfall is number 001 and others are numbered consecutively. There is no required system to follow in assigning outfall numbers—the numbering system simply provides a convenient way to identify outfalls for future reference.

Item II: A and B improvements. Note that part B, which requests information about future planned water pollution or environmental projects, is not required. An answer here is optional. The advisability of reporting such information here depends upon your permit situation and the potential for violation of effluent limitations. It may be advisable to make a site-by-site determination of this optional reporting.

Item III: Site drainage map. This is a fairly comprehensive map which will identify numerous features at the site. This will be similar in format to the map required in Form 1. It is suggested that the map requirements for Forms 1 and 2F be combined to produce one map package. This is discussed further in ¶373.

Item IV: A, B and C. Narrative description of pollutant sources. An estimate of impervious surface area is required in part A. As described in the instructions, this will include paved areas and building roofs. Consider also unpaved, but hard-surfaced parking lots or access ways which may represent a "hard pan" and from which water will rapidly run off. This estimate can be based upon areas as delineated on the map previously described in item III. It is not necessary to make field measurements of these areas at this time.

In item IV B, an extremely wide range of chemicals must be included in the term "significant materials." These are delineated in the instructions. The area provided is probably insufficient for the amount of information which must be detailed and a supplementary sheet is suggested.

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If there is doubt as to whether or not a material or chemical should be included on this list, it might be evaluated in the following way. Is it possible that the chemical or material could be found to be the cause of significant environmental impairment? If so, by not reporting it now, you may be laying the groundwork for later problems from both a compliance and a public relations viewpoint. It is suggested that if in doubt the chemical should be included in the narrative description of significant materials.

In item IV C, it is unlikely that there will be many situations in industrial facilities in which stormwater is currently being treated. The list of treatment technologies is included with the form in Table 2F-1. Most commonly, the code for a "discharge to surface water," 4-A, will be utilized. If, however, there is a detention pond, the codes 1-U or 3-G may be utilized.

Item V: Non-stormwater discharges. As previously discussed, EPA has suggested three means for certifying that stormwater discharges contain only stormwater. These include smoke tests, fluorometric dye tests and analysis of accurate schematics. EPA further requires that a description of the method used be provided.

If the discharge conveyances are all above ground, it should be relatively simple to certify compliance after making field observations as to the drainage pattern. If some or all the conveyances are underground, then the first approach should be to analyze accurate schematics for the presence of non-stormwater discharges. It may be cost-effective to invest some money in upgrading the existing schematics, thereby gaining the value of current schematics above and beyond their use in complying with these regulations. Finally, physical tests such as smoke or dye tests can be conducted with underground conveyances. TV cameras can also be used to inspect sewers. The latter will be expensive and most likely contracted out to companies specializing in these tests. It is also likely that such tests will reveal a need for repairs to the storm sewers.

Item VI: Significant leaks and spills. This section requires reporting of all "significant" leaks and spills in the past three years. As in item IV B, it is suggested that the word "significant" be widely interpreted to include practically all leaks and spills which have been identified. At a minimum, it is essential to include any previously reported spills, such as those of reportable quantities of hazardous materials reported under SARA Title III, section 304, or those otherwise known such as leaks of underground storage tanks. It may even be advisable to include copies of the reports of those leaks or spills in the documentation.

Note that reporting of these leaks and spills will inevitably bring up the question of what was done about them. Provide or be prepared to provide an appropriate response.

Item VII: Discharge information. This information is reported in five parts, A-E. Parts A-D are printed on separate pages. Note that a separate set of pages for parts A-D is required for each outfall.

Item VII A. These are the conventional pollutants. It is required that all outfalls be analyzed for these pollutants. Note that under the column of flow-weighted composite do not report an analysis for oil and grease. This is because oil and grease should only be analyzed in a grab sample. Thus, on the example form provided we have put an "x" through that space. Note also that the pH is reported only for the grab sample and not for the flow-weighted composite sample.

Item VII C. Note that in addition to the pollutants listed in tables 2F-2, 2F-3 and 2F-4, you are required to report any other pollutant you have reason to believe is present. This is a fairly comprehensive requirement. Looking back to items IV and VI, a permit writer could reasonably ask for analysis relating to the significant materials stored outdoors and/or materials involved in significant leaks and spills in the past.

Note also that Table 2F-2 includes nitrate-nitrite, oil and grease, and total Kjeldahl nitrogen. These are also included in item IV A as conventional pollutants. Although it is not necessary to report these numbers over again, it is suggested for completeness that they be reported again in item VII C.

Item VII D. Physical data regarding a storm event and the flow rates during the event are to be reported in this section. It is with this data that the total mass discharge of pollutants can be calculated on both an instantaneous basis and also over the course of the entire storm event. Only one storm event needs to be reported in this part. However, if more than one storm event was sampled and provided quantitative data, it is recommended that all such storm events be reported in this section.

The method of flow measurement is also reported in this part. This gives the permit writer a feeling of the accuracy and precision of the data supplied for the storm event(s).

Item VII E. Refer especially to the instructions while completing this part of the form. It requires you to report what chemicals are used in your manufacturing process which may be listed in tables 2F-2, 2F-3 and 2F-4 and as additionally called out in the instructions. In certain instances it could be demonstrated that this requirement is unduly burdensome. In this event the requirement may be waived.

Note that in some copies of this form, an answer of "no" is followed by an instruction to proceed to item IX, thereby skipping item VIII. This is apparently a typographical error and, in fact, you should next go to item VIII.

Item VIII: Biological toxicity testing data. Most facilities will not have had biological toxicity testing on any of their discharges. However, if it has been done, this information should be reported. This will be particularly beneficial to the permit writer in considering your stormwater discharge permit limitations.

Item IX: Contract analysis information. It is anticipated that most analyses will be done through an outside laboratory. Therefore EPA requests information on what laboratory completed the analyses.

It is crucial that the chain of custody forms be prepared for all samples. If there are problems or disputes regarding the sample analysis, EPA will be in contact with the contract laboratory. It will be important then to demonstrate that the samples were handled properly and that the correct samples are under consideration.

Item X: Certification. Note here that there are specified individuals who should sign this form. These are covered in the instructions to the form.

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¶373 Map Requirements for Forms 1 and 2F

As previously discussed, Forms 1 and 2F both require submission of a map. Although the requirements for the maps differ, one map set may be prepared which includes all the requirements for both forms. This will avoid duplication of effort and provide a comprehensive map for the permit writer.

For convenience, the map requirements are detailed below and include data requested for both forms. These can be further amplified by consulting the instructions for Forms 1 and 2F.

EPA prefers that USGS topographical maps be utilized to meet this mapping requirement, and the requirements are set with the idea that such USGS maps will be used. However, the scale on these maps is sufficiently large that it may be difficult to show all the information required in Form 2F. Therefore, it is suggested that the base map of the USGS topographical map be supplemented with a site-specific map which will show greater detail. Such a map probably already exists for most facilities. This is often a plant map or facility map which is utilized for a variety of purposes. This map can be traced over or in some way modified to provide more specific information.

The items below should be included in a map set that consists of a USGS topographical map and a supplementary, more detailed map. Parentheses indicate the source, by form number, of the required information:

- the legal boundaries of the facility (1);
- the location and serial number of each existing and proposed intake and discharge structure (1);
- all hazardous waste management facilities (1);
- all wells in which fluids are injected underground (1);
- all springs and surface water bodies in the area plus all drinking water wells within 1/4 mile of the facility boundary which are identified in the public record or otherwise known to you (1);
- the map (preferably topographical) must extend at least one mile beyond the property boundaries of the facility (1);
- include the map scale (1);
- include a meridian arrow showing north (1);
- at least one each latitude and longitude to the nearest whole second (1);
- on maps of rivers show the direction of the current (1);
- in tidal waters show the direction of the ebb and flow tides (1);
- outline of the drainage area of each outfall (2F);
- paved area and buildings within the drainage area of each stormwater outfall (2F);
- all known past or present areas used for outdoor storage or disposal of significant materials (2F);
- all existing structural control measures to reduce pollutants in stormwater runoff (2F);

- materials loading and access areas (2F);
- areas in which pesticides, herbicides, soil conditioners and/or fertilizers are applied (2F); and
- springs and other surface water bodies which receive stormwater discharges from the facility (1, 2F).

In light of the fact that many USGS maps are as much as 10- to 15-years old or older, it may be necessary to update the map for more recent conditions at your facility.

EPA has provided a sample map with Form 1. This map is clearly a photocopy of a USGS topographic map. It appears to meet most of the requirements with the exception that it does not extend a mile outside of the facility boundaries. It may be presumed that, for space purposes, only this portion of the map was provided. The best approach is to meet all the requirements of Forms 1 and 2F relating to maps.

The sample set for the imaginary company includes an additional map to supplement the topographic map. Drawn to a larger scale, it allows more accurate representation of details regarding the specific site. Taken together, the topographic map and the supplementary map make up a complete map package satisfactory for submission with Forms 1 and 2F.

¶374 Sample Completed Forms

The following pages illustrate how the imaginary "Central Processing Company" would complete its individual stormwater discharge permit application. Central Processing's application package includes Forms 1 and 2F, a supplemental information sheet, and a two-part map package. EPA's actual printed forms are slightly larger than illustrated.

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Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved. OMB No. 2040-0086 Approval expires 7-31-88

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program
(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

S F — F/A C D

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill—in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill—in area*(s)* below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of **bold—faced terms.**

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)		X		B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.**? (FORM 2B)		X	
C. Is this a facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)	X			D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)	X			F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)	X		
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X		J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP CENTRAL PROCESSING CO

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 ANDERSON JOHN PLANT MANAGER	123 456 7890

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX: 3 4440 SOUTHERN AVE

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 CENTRAL CITY	OH	11111

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER: 5 4440 SOUTHERN AVE

B. COUNTY NAME: WARREN

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 CENTRAL CITY	OH	11111	

EPA Form 3510-1 (Rev. 10-80)

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

VII. SIC CODES *(4-digit, in order of priority)*

A. FIRST	B. SECOND
7 0000 (specify) (Name of activity)	7 0000 (specify) (Name of activity)
C. THIRD	**D. FOURTH**
7 0000 (specify) (Name of activity)	7 (specify)

VIII. OPERATOR INFORMATION

A. NAME: 8 CENTRAL PROCESSING CO

B. Is the name listed in Item VIII-A also the owner? ☒ YES ☐ NO

C. STATUS OF OPERATOR *(Enter the appropriate letter into the answer box; if "Other", specify.)*

F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC *(other than federal or state)*
O = OTHER *(specify)*

P *(specify)*

D. PHONE *(area code & no.)*: A 123 456 7890

E. STREET OR P.O. BOX

F. CITY OR TOWN: B

G. STATE

H. ZIP CODE

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☐ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*: 9 N 0000-00	D. PSD *(Air Emissions from Proposed Sources)*: 9 P
B. UIC *(Underground Injection of Fluids)*: 9 U 0000-00	E. OTHER *(specify)*: 9 *(specify)*
C. RCRA *(Hazardous Wastes)*: 9 R 0000-00	E. OTHER *(specify)*: 9 *(specify)*

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements. Combined with Form 2F map.

XII. NATURE OF BUSINESS *(provide a brief description)*

Central Processing provides process services and related products such as xxx, yyy, and zzz. It primarily serves a multistate area, but has provided qqq internationally. It employs bbb number of employees. This is its only plant.

XIII. CERTIFICATION *(see instructions)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
Robert Miles Vice President, Manufacturing		xx/xx/xx

COMMENTS FOR OFFICIAL USE ONLY

C

EPA Form 3510-1 (Rev. 10-80) Reverse

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EPA ID Number *(copy from Item I of Form 1)*

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

Form **2F** NPDES

EPA

United States Environmental Protection Agency
Washington, DC 20460

Application for Permit To Discharge Stormwater Discharges Associated with Industrial Activity

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 28.6 hours per application, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of this collection of information, or suggestions for improving this form, including suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., SW, Washington, DC 20460, or Director, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

I. Outfall Location

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. Outfall Number *(list)*	B. Latitude			C. Longitude			D. Receiving Water *(name)*
010	40°	48'	30"	75°	39'	45"	Nashville Creek
011	40°	48'	15"	75°	39'	00"	Nashville Creek

II. Improvements

A. Are you now required by any Federal, State, or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

1. Identification of Conditions, Agreements, Etc.	2. Affected Outfalls		3. Brief Description of Project	4. Final Compliance Date	
	number	source of discharge		a. req.	b. proj.
NONE					

B. You may attach additional sheets describing any additional water pollution (or other environmental projects which may affect your discharges) you now have under way or which you plan. Indicate whether each program is now under way or planned, and indicate your actual or planned schedules for construction. NONE

III. Site Drainage Map

Attach a site map showing topography (or indicating the outline of drainage areas served by the outfall(s) covered in the application if a topographic map is unavailable) depicting the facility including: each of its intake and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each known past or present areas used for outdoor storage or disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied; each of its hazardous waste treatment, storage or disposal units (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which receive storm water discharges from the facility.

 Continue on Page 2

Continued from the Front

IV. Narrative Description of Pollutant Sources

A. For each outfall, provide an estimate of the area (include units) of impervious surfaces (including paved areas and building roofs) drained to the outfall, and an estimate of the total surface area drained by the outfall.

Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)	Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)
010	75,000 sq. ft. on site	4,000,000 sq. ft. on site 40,000,000 sq. ft. off site	011	1,250,000 sq. ft. on site	10,000,000 sq. ft. on site 75,000,000 sq. ft. off site

B. Provide a narrative description of significant materials that are currently or in the past three years have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage, or disposal; past and present materials management practices employed, in the last three years, to minimize contact by these materials with storm water runoff; materials loading and access areas; and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

See supplementary sheets

C. For each outfall, provide the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the schedule and type of maintenance for control and treatment measures and the ultimate disposal of any solid or fluid wastes other than by discharge.

Outfall Number	Treatment	List Codes from Table 2F-1
010	None	4-A
011	None	4-A

V. Nonstormwater Discharges

A. I certify under penalty of law that the outfall(s) covered by this application have been tested or evaluated for the presence of nonstormwater discharges, and that all nonstormwater discharges from these outfall(s) are identified in either an accompanying Form 2C or Form 2E application for the outfall.

Name and Official Title *(type or print)*	Signature	Date Signed
Robert Miles Vice-President, Manufacturing		xx/xx/xx

B. Provide a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test.

1. Observation of all surface conveyances during rain event 5/13/xx
2. Review of accurate schematic of underground conveyances, 6/5/xx
3. Dye testing of in-plant sewer 6/25/xx

VI. Significant Leaks or Spills

Provide existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years, including the approximate date and location of the spill or leak, and the type and amount of material released.

See supplementary sheets

 Continue on Page 3

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EPA ID Number *(copy from Item I of Form 1)*

Continued from Page 2

VII. Discharge Information

A,B,C, & D: See instructions before proceeding. Complete one set of tables for each outfall. Annotate the outfall number in the space provided. Tables VII-A, VII-B, and VII-C are included on separate sheets numbered VII-1 and VII-2.

E: Potential discharges not covered by analysis - Is any pollutant listed in Table 2F-2 a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☒ Yes *(list all such pollutants below)* ☐ No *(go to Section IX)*

XXX

XXX

VIII. Biological Toxicity Testing Data

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☐ Yes *(list all such pollutants below)* ☒ No *(go to Section IX)*

IX. Contract Analysis Information

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

☒ Yes *(list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)* ☐ No *(go to Section X)*

A. Name	B. Address	C. Area Code & Phone No.	D. Pollutants Analyzed
XXX Environmental Testing Services	123 Main St. Newtown, OH	(000) 000-0000	All

X. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name & Official Title *(type or print)*	B. Area Code and Phone No.
Robert Miles Vice President, Manufacturing	(123) 345-6789
C. Signature	**D. Date Signed**
	XX/XX/XX

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Outfall 010

EPA ID Number *(copy from Item I of Form 1)*

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

VII. Discharge Information *(Continued from page 3 of Form 2F)*

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		
Oil and Grease	XXX				1	
Biological Oxygen Demand (BOD5)	XXX	XXX			1	
Chemical Oxygen Demand (COD)	XXX	XXX			1	
Total Suspended Solids (TSS)	XXX	XXX			1	
Total Kjeldahl Nitrogen	XXX	XXX			1	
Nitrate plus Nitrite Nitrogen	XXX	XXX			1	
Total Phosphorus	XXX	XXX			1	
pH	~~Minimum~~ XX	~~Maximum~~	~~Minimum~~	~~Maximum~~		

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		
NPDES						
XXX	XX	XX			1	
XXX	XX	XX			1	
XXX	XX	XX			1	
XXX	XX	XX			1	

EPA Form 3510-2F (11-90) Page VII-1 Continue on Reverse

Continued from the Front Outfall 010

Part C - List each pollutant shown in Tables 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number (if available)	Maximum Values (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		
2F-2						
Kjeldahl N_2	XXX	XXX			1	
Nitrite-Nitrate	XXX	XXX			1	
Oil & Grease	XXX	XXX			1	
XXX	XXX	XXX			1	
XXX	XXX	XXX			1	
2F-3						
XXX	XXX	XXX			1	
XXX	XXX	XXX			1	
2F-4						
XXX	XXX	XXX			1	
XXX	XXX	XXX			1	
XXX	XXX	XXX			1	
Other						
XXX	XXX	XXX			1	
XXX	XXX	XXX			1	
XXX	XXX	XXX			1	

Part D - Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm (in minutes)	3. Total rainfall during storm event (in inches)	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum floe rate during rain event (gallons/minute or specify units	6. Total flow from rain event (gallons or specify units)	7. Season sample was taken	8. Form of Precipitation (rainfall, snowmelt)
5/13	200	0.75	108	25,000	6 million gallons	spring	rain

9. Provide a description of the method of flow measurement or estimate.

Rectangular, sharp-edged weir with automatic, continuous float level measurement.

EPA Form 3510-2F (11-90) Page VII-2

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Supplementary Information Sheets to Form 2F
Submitted by Central Processing Company

Item IV B: Narrative Description of Pollutant Sources

The following significant materials have been stored on-site within the last three years. The storage locations are indicated on the site map corresponding to the indicated letter.

Acids:	xxx	Area A
	yyy	
	zzz	
Solvents:	sss	Area B
	ttt	
	uuu	
Other:	ppp	Area C
	qqq	
	rrr	
	vvv	

These materials are/were stored in conventional metal exterior tanks. There are no berms or spill pads at these locations.

Management practices include written specific unloading and loading instructions/procedures to minimize the potential for spills. Rainwater does not flow onto the storage areas. Rainwater falling onto a storage area follows the natural drainage of the area.

Standard lawn chemicals are applied to the main administration building front lawn by a local lawn care service company.

Item VI: Significant Leaks and Spills

The following leaks/spills were reported in the last three years:

Date	Material
xxx	xxxxxxx .....see included report
yyy	yyyyyyy .....see included report

Additionally, some diesel fuel contamination was found in the soil during the removal of an underground storage tank in Area A. It was removed through overexcavation and an acceptable closure report was submitted to the State Fire Marshal. There is no remaining contamination.

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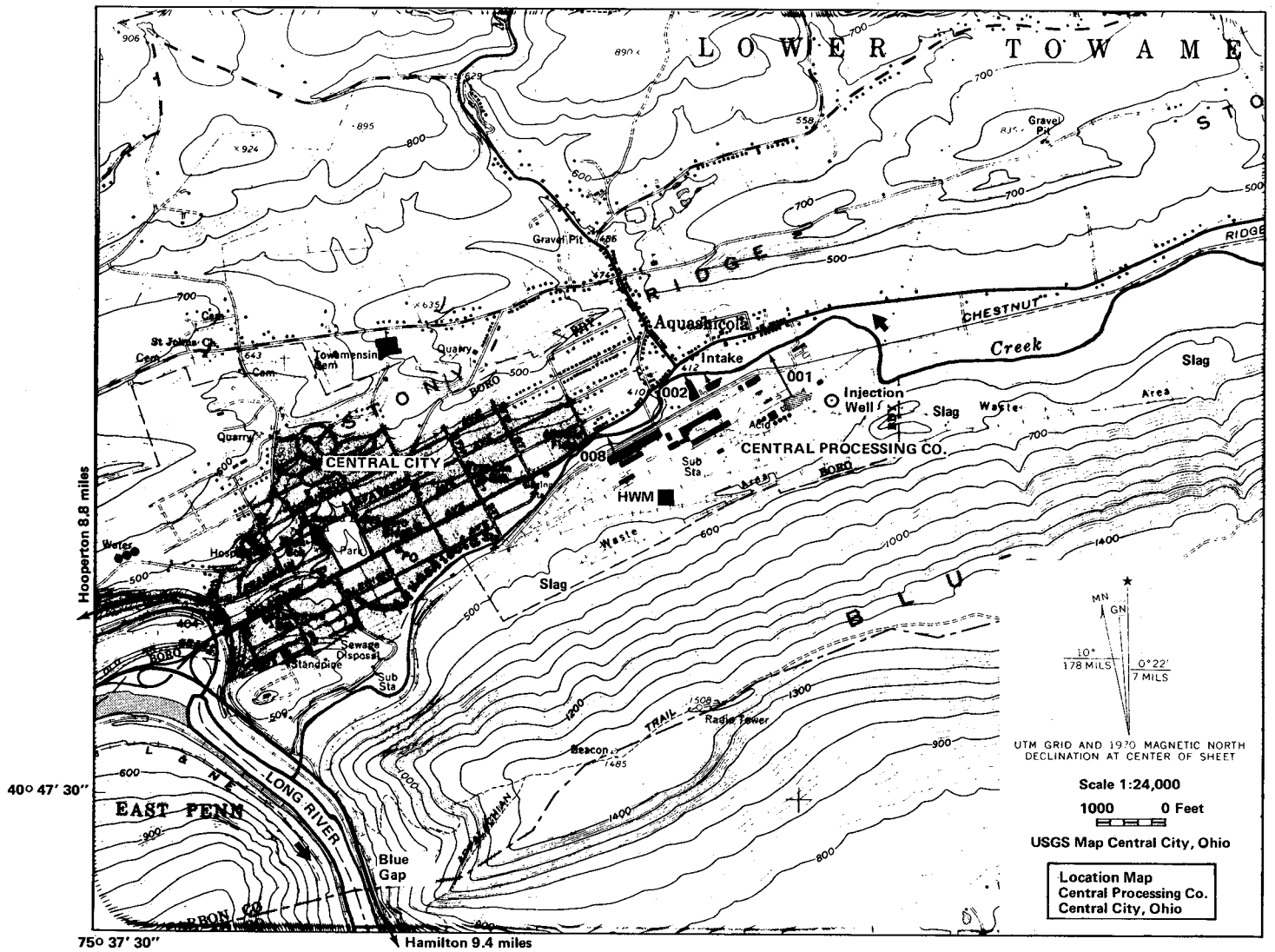
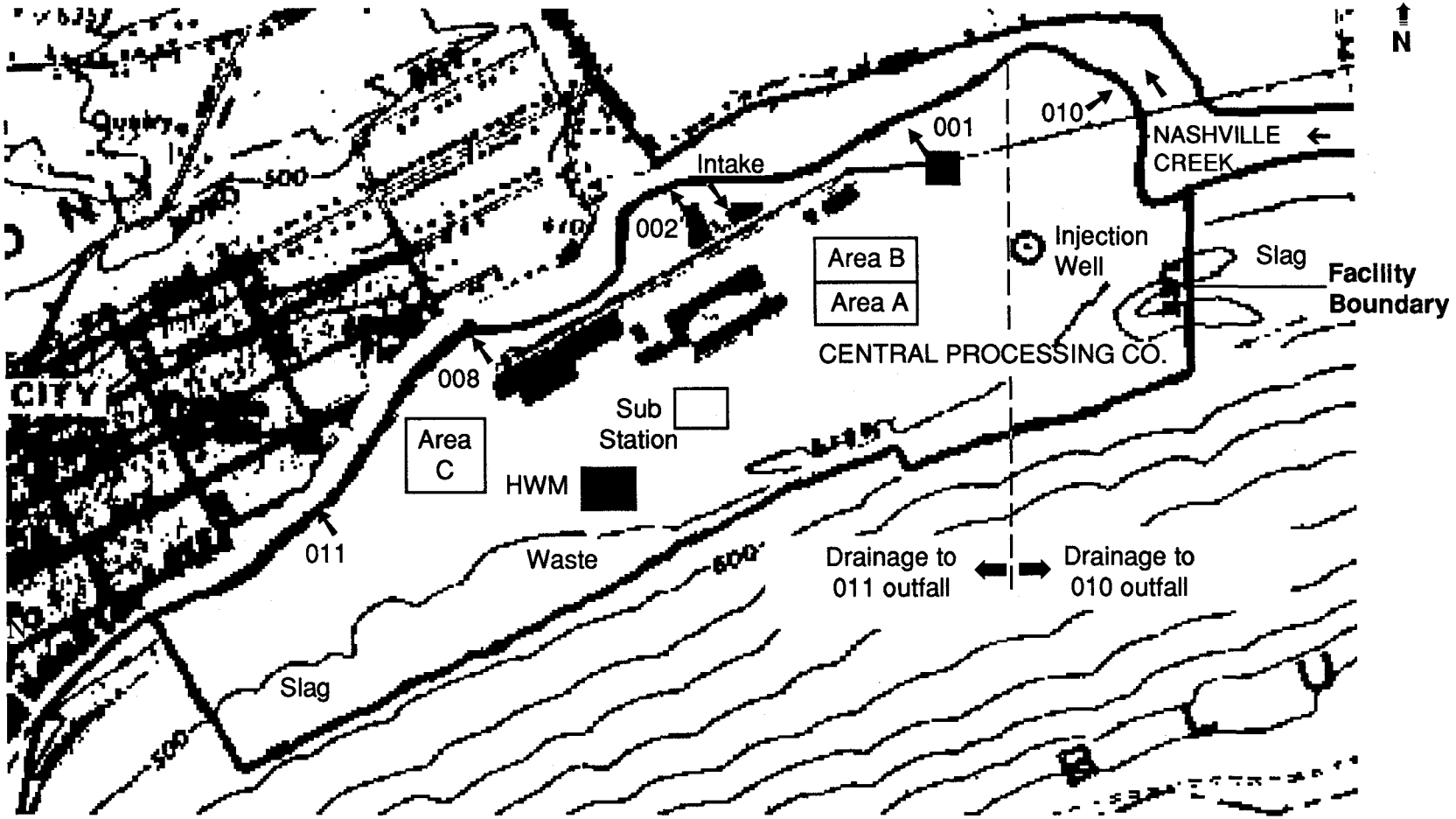

LOWER TOWAME
STONY RIDGE
Aquashicola
Intake
CHESTNUT
Creek
Slag
Area
Injection Well
001
002
008
CENTRAL PROCESSING CO.
CENTRAL CITY
HWM
Waste
Slag
Gravel Pit
Quarry
Towamensing Cem
St Johns Cem
Water
Park
Sewage Disposal
Standpipe
Sub Sta
BORO
LONG RIVER
EAST PENN
Blue Gap
BLUE
TRAIL
Radio Tower
Beacon
Hooperton 8.8 miles
Hamilton 9.4 miles
40° 47' 30"
75° 37' 30"
MN
GN
10°
178 MILS
0°22'
7 MILS
UTM GRID AND 1970 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET
Scale 1:24,000
1000 0 Feet
USGS Map Central City, Ohio
Location Map
Central Processing Co.
Central City, Ohio

Figure 374-1

Figure 374-2

Site-Specific Map



Legend

001, 002, 008	Existing NPDES permitted outfalls	010	Stormwater outfall	Area A	Acids storage area
		011	Stormwater outfall	Area B	Solvents storage area
		HWM	Hazardous Waste Management site	Area C	Other materials storage area

Tab 400

Municipal Separate Storm Sewer Systems

Executive Summary ..... ¶410

Industrial Dischargers into MS4s ..... ¶420

Permit Requirements for Industrial Dischargers ..... ¶421

Notification Requirements for Industrial Dischargers ..... ¶422

Compliance Checklist for Industrial Dischargers and Construction Activities ..... Figure 422-1

Dischargers into Nonmunicipal Systems ..... ¶423

MS4s Regulated by the NPDES Stormwater Program ..... ¶430

Regulations of Large and Medium MS4s ..... ¶440

Applying for a Permit ..... ¶441

Stormwater Management Programs for Large and Medium MS4s ..... ¶442

Identification of Illicit Connections and Improper Disposals ..... ¶443

Discharges from Landfills and Hazardous Waste, SARA Title III and Certain Other Industrial Facilities ..... ¶444

Evaluation of Stormwater Program ..... ¶445

System-wide Permit Approach ..... ¶446

Reapplication for MS4 Permits ..... ¶447

Large and Medium MS4 Permit Status ..... ¶448

Regulation of Small MS4s ..... ¶450

Applying for a Permit ..... ¶451

Stormwater Management Program for Small MS4s ..... ¶452

Implementation Options ..... ¶453

Evaluation of Stormwater Program ..... ¶454
Phase II Action Deadlines for Small MS4s ..... ¶455
Phase II Implementation Deadlines ..... Figure 455-1

Insights ..... ¶490
EPA's Final MS4 Reapplication Policy ..... ¶491
Municipal Program Implications for Industrial Facilities, Construction Sites and MS4s ..... ¶492

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¶410 Executive Summary*

This tab outlines the U.S. Environmental Protection Agency's (EPA's) stormwater permit application requirements for large, medium and small municipal separate storm sewer systems (MS4s) and, separately, requirements for businesses with stormwater discharges associated with industrial or construction activity that discharge into MS4s.

What constitutes an MS4 is often misinterpreted and misunderstood, according to EPA. MS4s are defined as systems that do not normally carry non-stormwater discharges, so they do not include wastewater sewer systems discharging into POTWs. However, EPA includes drainage ditches, roadside curbs and several other types of stormwater conveyances under its definition of separate storm sewer systems. See ¶430 for a complete discussion of MS4s regulated by the National Pollutant Discharge Elimination System (NPDES) stormwater program.

Several other types of readers should find this tab useful as well. They include:

- officials of small, medium or large municipalities that operate landfills, publicly owned treatment works (POTWs), recycling facilities, school bus or fleet maintenance facilities or certain other facilities that EPA has determined are "industrial" within the meaning of the rule;
- operators of non-municipal separate storm sewer systems, such as private or federal systems; and
- industrial stormwater dischargers who discharge through non-municipal separate storm sewer systems.

Operators of combined sewer systems are not subject to NPDES stormwater permit regulations, because these systems must already have NPDES wastewater permits for their treatment works under existing Clean Water Act (CWA) regulations.

[Next page is Tab 400, Page 5.]

* Revised, July 2000.

¶420 Industrial Dischargers into MS4s*

Generally, industrial dischargers of stormwater into MS4s face the same permit requirements as other dischargers of stormwater associated with industrial activity. EPA considers these discharges through MS4s equivalent to direct discharges into the waters of the United States, and requires the discharging facilities to obtain NPDES permits for stormwater. In addition, operators of MS4s may impose additional regulations on such dischargers or request EPA or the state permitting agencies to do so through their NPDES permits, if this is necessary to reduce pollutant loadings into the waters of the United States.

EPA believes that ensuring that large and medium MS4s have the authority to impose requirements on dischargers allows the MS4s to consider a full range of nontraditional, preventive approaches to controlling pollution linked with stormwater runoff. Creative approaches could include additional controls by municipalities on industrial dischargers.

For example, dischargers in the construction industry may be affected by EPA requirements for the development of municipal management plans to control sediments and erosion from construction sites. Another permit requirement for MS4s requires large and medium municipalities to develop plans to reduce stormwater pollution from already constructed residential and commercial areas. Other industrial dischargers of stormwater into MS4s are more likely to be affected by EPA requirements regarding illicit discharges of non-stormwater flows into large or medium MS4s.

For a detailed look at MS4 requirements for industrial facilities and construction activities, refer to the Insight article at ¶422.

¶421 Permit Requirements for Industrial Dischargers*

All dischargers of stormwater associated with industrial activity into MS4s must meet NPDES permitting requirements for stormwater. This includes industrial dischargers of stormwater into small municipal systems, that is, those serving populations of less than 100,000. Although small MS4s are not required to seek permits under phase I of the stormwater program, facilities discharging stormwater associated with industrial activity into these systems are still industrial dischargers and face the same basic NPDES requirements as other industrial stormwater dischargers.

Both MS4 operators and industrial dischargers to MS4s must comply with stormwater permit conditions. Operators of large and medium MS4s must implement plans to reduce pollutants in stormwater runoff "to the maximum extent practicable." Industrial dischargers into these systems are required by section 301(b)(2) of the CWA to adopt best available technology (BAT) and best conventional pollutant control technology (BCT) for stormwater associated with industrial activity.

¶422 Notification Requirements for Industrial Dischargers

Dischargers of stormwater associated with industrial activity that discharge through large and medium MS4s were required to notify the operators of the MS4s by May 15, 1991, or 180 days prior to commencing operations.

This information was intended to assist MS4s in devising and implementing stormwater management plans. In their notices, industrial dischargers must include:

- the name of the facility;
- a contact person and phone number;

* Revised, November 1996.

- the location of the stormwater discharge(s);
- a description of the principal products or services provided by each facility, including Standard Industrial Classification code(s); and
- any existing NPDES permit number(s) for the facility.

Industrial dischargers filing notice of intent (NOI) forms to seek coverage under a state or EPA general permit generally must submit copies of their NOIs to operators of the regulated MS4s into which they discharge (see Tab 800 for information on state programs).

Figure 422-1 Compliance Checklist for Industrial Dischargers and Construction Activities

This checklist represents a composite of municipal stormwater program requirements applicable to industrial facilities and construction activities. Checklist items are drawn from federal and state regulations, existing and proposed MS4 management programs, and EPA and state MS4 permits. This list should not be considered to be all-inclusive and may omit requirements found in certain jurisdictions. In addition, many checklist items may not apply to all types of facilities. Subscribers are encouraged to contact stormwater program managers in their local MS4s for a complete set of local stormwater permitting requirements.

Industrial Activities

MS4 notified of industrial activity within municipal limits _____

EPA or state general permit NOI or individual application filed with MS4 _____

Industrial stormwater discharge permit application filed with MS4 _____

MS4 requirements for priority industries evaluated and implemented _____

Stormwater pollution prevention plan (SWP3) prepared and maintained at facility and/or filed with MS4 _____

SWP3 evaluated for consistency with other municipal industrial permitting requirements _____

Illicit connections to MS4 evaluated and eliminated _____

Illicit non-stormwater discharges evaluated and eliminated _____

Spills mitigated and reported to MS4 _____

Stormwater monitoring data filed with MS4 _____

Best management practices (BMPs) required by MS4 are implemented _____

Stormwater utility fees paid to MS4 _____

Fee credits evaluated for stormwater controls _____

Annual compliance evaluation filed with MS4 _____

Stormwater runoff evaluated for evidence of water quality violations _____

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Construction Activities

MS4 notified of proposed construction activity within municipal limits _____

EPA or state general permit NOI or individual permit application filed with MS4 _____

MS4 requirements for small (less than 5 acres) construction sites evaluated and implemented _____

Site plan modified to incorporate MS4-required land use controls _____

Grading or building permit application filed with MS4 _____

SWP3 prepared and maintained at construction site and/or filed with MS4 _____

State and local erosion and sedimentation controls incorporated in SWP3 _____

Illicit nonstormwater and solids discharges evaluated and eliminated _____

Building or grading fees paid to MS4 _____

Development impact fees paid to MS4 _____

Fee credits evaluated for stormwater controls _____

Construction spills mitigated and reported to MS4 _____

Weekly/post-rainfall inspection reports filed with MS4 _____

Post-construction controls required by the MS4 are implemented _____

Stormwater runoff evaluated for evidence of water quality violations _____

¶423 Dischargers into Nonmunicipal Systems

All industrial dischargers into nonmunicipal separate storm sewer systems must be covered by NPDES permits. This requirement is a change from EPA's December 1988 notice of proposed rulemaking. Under the draft proposal, some industrial dischargers could have escaped from permitting so long as the owner or operator of their nonmunicipal stormwater system assumed legal responsibility for the entire system's discharges. However, under the final rule, an industrial discharger to a nonmunicipal system must either share a stormwater permit as "co-permittee" with the operator of the system, or the industrial discharger must obtain a separate permit. The EPA administrator or director of a state NPDES permitting agency has the discretion to accept or reject requests for permits involving co-permittees.

Federally owned or operated storm sewer systems and other federal stormwater conveyances must obtain NPDES permits for stormwater discharges. Federally operated systems were of particular interest to commenters on the proposed rulemaking, because many municipalities say they lack legal authority to regulate federal facilities. In the final rule, "nonmunicipal" refers both to privately owned and to federally owned storm sewer systems.

Where a nonmunicipal system has more than one operator, all operators of stormwater discharges associated with industrial activity to the system must submit applications. Any permit covering more than one operator must identify the permit conditions, such as effluent limitations, that apply to each operator.

[The next page is Tab 400, Page 21.]

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¶430 MS4s Regulated by the NPDES Stormwater Program**

What constitutes a municipal separate storm sewer system (MS4) is often misinterpreted and misunderstood, according to the U.S. Environmental Protection Agency (EPA). The term MS4 does not refer solely to municipally owned storm sewer systems, but may include systems operated by universities, local sewer districts, hospitals, military bases and prisons. In addition, an MS4 is not just a system of underground pipes, but may consist of roads with drainage systems, gutters and ditches.

EPA defines MS4 in the stormwater regulations as a "conveyance or system of conveyances" including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels or storm drains:

- owned or operated by a state, city, town, borough, county, parish, district, association or other public body;
- designed or used for collecting or conveying stormwater;
- which is not part of a publicly owned treatment works (40 CFR 122.26(b)(8)).

EPA's National Pollutant Discharge Elimination System (NPDES) stormwater permitting program categorizes MS4s as either small, medium or large for regulatory purposes. Phase I of the stormwater program covers large and medium MS4s and specifies that an MS4 is a:

- *large MS4* if the system serves—or is located in an incorporated place or county with—a population of 250,000 or more; or
- *medium MS4* if the system serves—or is located in an incorporated place or county with—a population between 100,000 and 249,999 (see ¶440).

In addition, certain MS4s that are located in areas with populations of less than 100,000, or that serve populations below 100,000, have been individually brought into the phase I program on a case-by-case basis by an NPDES permitting authority. Regardless of the size of the population served, these individually designated MS4s are treated as large or medium MS4s and regulated under phase I of the stormwater program, according to EPA.

Phase II of the stormwater program covers small MS4s. As defined in the stormwater phase II rule, a *small MS4* is any MS4 that is not covered by phase I of the stormwater program as a medium or large MS4 (i.e., any MS4 that does not currently have an NPDES stormwater permit). Small MS4s include federally owned systems, such as those at military bases. EPA notes that there is not a population threshold associated with this definition.

Because the number of small MS4s is extremely large, only a select subset of MS4s, referred to as *regulated small MS4s*, is covered by the phase II final rule (see ¶450). The phase II rule automatically covers on a nationwide basis all small MS4s located in an "urbanized area" (UA) as defined by the Bureau of Census—unless waived by the NPDES permitting authority—and those small MS4s located outside of a UA that the NPDES permitting authority designates on a case-by-case basis (see ¶143 for a discussion of regulated small MS4s and waivers from the phase II program requirements).

[The next page is Tab 400, Page 51.]

** Added April 2000.

¶440 Regulation of Large and Medium MS4s*

The final phase I stormwater rule requires all operators of large and medium municipal separate storm sewer systems (MS4s) to obtain National Pollutant Discharge Elimination System (NPDES) permit coverage (see ¶430 for a discussion of large and medium MS4s regulated by the NPDES stormwater program). The program for large and medium MS4s centers on the issuance of individual permits with requirements tailored to each permittee, rather than on general permits with blanket requirements for all permittees, which EPA recommends for phase II program implementation. (For more information on permitting options for regulated small MS4s, see ¶451.)

The final phase I stormwater rule establishes permit application requirements for medium and large MS4s to obtain NPDES individual permits (see ¶441). The application is divided into two parts. Part 1 was to be submitted to the NPDES permitting authority first, followed a year later by Part 2 (see ¶441 for permit application deadlines).

Part 2 of the phase I permit application requires the operator of a large or medium MS4 to develop, implement and enforce a stormwater management program designed to reduce the discharge of pollutants from the MS4 to the "maximum extent practicable (MEP)," to protect water quality and to satisfy the appropriate water quality requirements of the Clean Water Act (see ¶442). The MEP standard also applies to regulated small MS4s under the phase II program (see ¶450).

Every large and medium stormwater management program must include measures to:

- identify major outfalls and pollutant loadings;
- detect and eliminate nonstormwater discharges to the storm sewer system (see ¶443);
- reduce pollutants in runoff from industrial, commercial and residential areas (see ¶444); and
- control stormwater discharges from new development and redevelopment areas.

Once an MS4 operator's proposed stormwater management program is approved by the NPDES permitting authority, the permitting authority issues an individual permit to the operator. The permit requires the successful implementation of the program. In addition, permittees must conduct analytical monitoring and visual examinations, and submit periodic program assessment reports to the permitting authority that include monitoring results (see ¶445).

Where several municipal entities are responsible for obtaining a permit for various discharges within a single system, the U.S. Environmental Protection Agency (EPA) encourages the use of system-wide permit applications (see ¶446).

Large and medium MS4 permits have a five-year life, and as of mid-1996, a number of MS4 permits were set to expire. EPA issued a final policy outlining the reapplication requirements for second-round permittees. The policy allows MS4s to use recommended changes submitted in their fourth annual assessment reports as the main part of their reapplication package (see ¶447).

As of 1999, all large and medium MS4s automatically brought into the program by the final phase I rule have been permitted, as have most of the MS4s individually designated for permit coverage by a permitting authority. For information on the status of stormwater permits for medium and large MS4s, see ¶448.

* Revised, June 2000.

¶441 Applying for a Permit*

The phase I rule requires municipalities to submit a two-part application over a two-year period. According to EPA, part 1 of the permit application is intended to accomplish the following: provide a basis for identifying sources of pollutants to the municipal storm sewer system; identify stormwater discharges that are appropriate for coverage by an individual permit; and formulate a strategy for characterizing discharges from the MS4. Part 2 of the permit application is designed to supplement the information provided in part 1 and provide the MS4 with information to develop a comprehensive stormwater management program that will control the discharge of pollutants from the MS4 to the maximum extent practicable.

Part 1 of Municipal Applications

Part 1 of the MS4 application must include:

- general information regarding the permit applicant or co-applicants;
- a description of the operator's legal authority to control discharges to the system, and where necessary, a description of additional authority that will be needed and a schedule and statement of commitment to seek such additional authority;
- source identification information including a description of the historic use of ordinances or other controls to limit the discharge of nonstormwater to the MS4, and a U.S. Geological Survey 7.5 minute topographic map (or equivalent map with a scale between 1:10,000 or 1:24,000, if cost-effective) extending one mile beyond the boundaries of the permitted system that identifies the following:
    (1) the location of all known municipal sewer outfalls to U.S. waters;
    (2) a description of local land use activities, including industrial uses, and estimates of population densities and a 10-year projection of growth expected in the drainage area;
    (3) the location and description of each municipal landfill and other treatment, storage and disposal facilities for municipal waste;
    (4) the locations and permit numbers of all known NPDES permit holders discharging to the municipal storm sewer;
    (5) the location of major structural controls for municipal stormwater discharges, including retention and detention basins and major infiltration devices; and
    (6) the names of publicly owned parks, recreation areas and other open lands in the area;
- information characterizing discharges from industrial sources and other sources into the system—including the results of a field screening analysis for illicit discharges and illegal dumping into the system (see ¶443)—and quantitative data describing the volume and quantity of discharges from the MS4, plus a list of waterbodies that receive the MS4's discharge;
- a description of existing management programs to control pollutants from the MS4, including a description of the existing program to identify and prevent illicit discharges (see ¶442); and
- a description of the financial resources currently available to the municipality to complete part 2 of the application.

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Part 2 of Municipal Applications

Part 2 of the permit application for a large or medium MS4 consists of several sections. One section includes a demonstration that the applicant has the legal authority to make the municipality's stormwater program a success. In part 2 of the application, the applicant must demonstrate that it has legal authority to control:

- pollutants from industrial stormwater discharges to the system and the quality of stormwater discharged from industrial sites;
- illicit discharges;
- discharges into the MS4 from spills, dumping or the disposal of materials other than stormwater; and
- pollutant transfers from one portion of the MS4 to another.

The applicant also must demonstrate that it can require compliance with relevant conditions in its ordinances, permits, contracts or orders and carry out all inspection and monitoring procedures needed to determine compliance or noncompliance with permit conditions.

The part 2 application also requires:

- an identification of all major outfalls discharging to the waters of the United States that were not previously reported, and an inventory of any facilities discharging stormwater associated with industrial activity to the MS4;
- discharge characterization data, including: (a) quantitative data from five to 10 "representative" major outfalls that the permitting authority designates based on information received in part 1 of the permit application, (b) estimates of the annual pollutant load of the system's cumulative discharges to the waters of the United States, (c) a proposed schedule to provide data estimates for each major outfall identified through the permit application process, and (d) a proposed monitoring program for "representative" data collection for the term of the permit;
- a proposed stormwater management program covering the duration of the permit (see ¶442);
- an assessment of controls, including estimated pollutant loading reductions expected as the result of the municipal stormwater management program for the MS4 in question (see ¶445); and
- a fiscal analysis of the capital, operation and maintenance expenditures needed to accomplish the management program's objectives, for each fiscal year covered by the permit. Fiscal analyses must describe funds expected to be available to meet expected expenditures and legal restrictions on the use of such funds.

Permit Application Deadlines

The deadline for submission of part 1 applications for large MS4s was Nov. 18, 1991. The deadline for submission of part 1 applications for medium MS4s was May 18, 1992.

The deadline for submission of part 2 applications for large MS4s was Nov. 16, 1992. The deadline for submission of part 2 applications for medium MS4s was May 17, 1993.

Resources

For additional information on permit application requirements, review the following EPA documents:

- Guidance Manual for the Preparation of Part 1 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems, April 1991, EPA #505/8-91-003A; and
- Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems, November 1992, EPA #833/B-92-002.

¶442 Stormwater Management Programs for Large and Medium MS4s*

Each MS4 management program must cover the duration of the permit and include a comprehensive planning process with opportunities for public participation and intergovernmental coordination where necessary. The program must reduce stormwater pollutant discharges to the maximum extent practicable using management practices, control techniques, system design and engineering methods, and "such other provisions which are appropriate." In addition, the program must include a description of the staff and equipment available to implement the program.

The phase 1 rule states that stormwater management programs must be based on:

- a description of structural and source control measures to reduce pollutants in runoff from commercial and residential areas that are discharged from the MS4;
- a description of a program to detect and remove illicit discharges and improper disposal of nonstormwater substances (such as used motor oil) into each MS4 (or require dischargers to obtain separate NPDES permits for such discharges and improper disposal practices) (see ¶443);
- a description of a program to monitor and control pollutants in stormwater discharges to the MS4 from municipal landfills, hazardous waste facilities, industrial facilities subject to the public "Right to Know" requirements of section 313 of Title III of the 1986 Superfund Amendments and Reauthorization Act (SARA), and from industrial facilities that the operator of the MS4 determines are contributing a "substantial" pollutant loading to the system (see ¶444); and
- a description of a program to implement and maintain structural and nonstructural best management practices (BMPs) to reduce pollutant loadings to the MS4 from construction site stormwater runoff. The program must include:
    (1) site planning procedures that incorporate a consideration of potential water quality impacts;
    (2) nonstructural and structural BMPs;
    (3) procedures for identifying priorities for site inspection and control, taking into account the nature of the construction activity, the topography, the characteristics of the soils and quality of the receiving waters; and
    (4) appropriate educational and training measures for construction site operators.

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Existing Management Programs

In part 1 of the permit application, MS4 applicants must describe existing management programs to control pollutants from large or medium systems. The description must include information on existing structural and source controls, including but not limited to:

- procedures to control pollution stemming from construction activities;
- floodplain management controls;
- wetlands protection measures;
- BMPs required for new subdivisions; and
- emergency spill response programs.

The descriptions may cover controls established under state as well as local laws. The descriptions also must include information concerning existing programs to identify and prevent illicit connections to the MS4s, as well as to areas where the illicit connection identification and prevention programs have been implemented.

¶443 Identification of Illicit Connections and Improper Disposals*

In part 1 of their permit applications, large and medium MS4s must begin to identify illicit connections to their systems. In part 2, they must finish identifying all major sources of non-stormwater discharges to their systems and formulate plans for controlling pollutant loadings from illicit connections and other nonstormwater discharges. Industrial dischargers should be aware that many "illicit" connections to MS4s were legal when they were made, but are now illicit as a result of EPA's limitations on dischargers of nonstormwater to separate storm sewer systems.

In its field screening program for illicit discharges in part 1 of its permit application, the operator of the MS4 must relate the results of a field screening analysis for illicit connections and illicit dumping (e.g., of waste motor oil) for either "selected field screening points" or "major outfalls" covered by the permit application. For each screening point or major outfall, the field screening analysis must include narrative descriptions of visual observations made during a dry period and an analysis of two grab samples collected during a 24-hour period, with a minimum of at least four hours between each sample. Characterization of the grab samples must include narrative descriptions of the color, odor, turbidity and presence or absence of oil sheen or surface scum in each sample, as well as "other relevant observations regarding the potential presence of non-stormwater discharges or illegal dumping." Applicants also must provide flow rates and estimated pH, chlorine, total copper, total phenol and detergents or surfactants in each sample.

Field screening points may be major outfalls from the MS4. Alternatively, they can be other points of access (such as sewer access covers) randomly chosen according to a method involving setting up a grid system over the MS4 map, with each cell in the grid being 1/4 mile on a north-south axis by 1/4 mile on an east-west access. All cells containing a segment of the storm sewer system must be identified, and one field screening point must be selected in each cell. At least 500 screening points must be selected in each large MS4, if possible, and at least 250 points must be selected in each medium MS4, if possible.

* Revised, June 2000.

As noted in ¶442, stormwater management programs for large and medium MS4s, which are required in part 2 of the municipal permit application (see ¶441), must include a program for detecting and removing illicit discharges and for controlling the improper disposal of waste substances (such as used motor oil) into the MS4. The illicit discharge program must include:

- programs to implement ordinances, legal orders or similar means to prevent illicit discharges to the system;
- ongoing field screening activities occurring over the life of each permit, and identification of the areas or locations to be evaluated by field screening;
- procedures to investigate portions of the MS4 where there is a reasonable potential for illicit discharges or other sources of nonstormwater, based on the results of the field screening;
- procedures to prevent, contain and respond to spills that may discharge pollutants into the system;
- programs to promote public reporting of illicit discharges into the MS4 and water quality impacts associated with such discharges;
- educational and public information activities to facilitate proper management of used oil and other toxic materials; and
- where necessary, controls on the infiltration of seepage from municipal sanitary sewers into the MS4.

Each illicit discharge program must "effectively" prohibit all types of illicit discharges. But EPA will allow nonstormwater discharges into storm sewers "pursuant to an NPDES permit." The agency also recognizes several categories of nonstormwater discharges that are relatively expensive to control and that may contribute relatively few pollutants to MS4s. The following categories of non-stormwater discharges therefore must be addressed in management programs only when the municipalities involved identify them as "sources of pollutants to the waters of the United States":

> water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR §35.2005(20)) to separate storm sewers, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water.

Programs must address discharges or flows from firefighting only where they are identified as "significant" sources of pollutants to waters of the United States.

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¶444 Discharges from Landfills and Hazardous Waste, SARA Title III and Certain Other Industrial Facilities*

Large and medium MS4s have particular responsibilities to monitor and control pollutants in stormwater from facilities that EPA has identified as particularly troublesome. As part of their stormwater management plan (see ¶442), MS4 operators are required to establish a program to monitor and control discharges from the following: municipal landfills; hazardous waste treatment, disposal and recovery facilities; industrial facilities that are subject to SARA Title III section 313; and industrial facilities that the municipal permit applicant has determined are contributing a substantial pollutant loading to the municipal storm sewer system.

Each MS4 comprehensive stormwater management program must:

- identify priorities and procedures for inspections, and for establishing and implementing control measures for these discharges; and
- describe a monitoring program to be implemented during the permit term, to include quantitative data submissions on:
  - (1) any pollutant listed in an existing NPDES permit for the facility;
  - (2) any discharges for which information is required under 40 CFR §122.21 (g)(7)(iii) and (iv);
  - (3) oil and grease, COD, pH, BOD5, TSS, total phosphorous, total Kjeldahl nitrogen, and nitrate plus nitrite nitrogen; and
  - (4) any pollutants limited in effluent guidelines subcategories, where applicable.

¶445 Evaluation of Stormwater Program*

Each municipal applicant must provide an initial assessment of the effectiveness of structural and nonstructural controls proposed in its management program, as part of its permit application. The assessment does not have to be verified with quantitative data, but can be based on accepted engineering practices, according to EPA.

In addition, to ensure that site-specific management programs are developed in a timely manner, permittees must submit status reports to the NPDES permitting authority every year that reflect the development of their control program. The report is used by the permitting authority to evaluate compliance with permit conditions and to make modifications where necessary.

The program assessment reports must include:

- an analysis of data, including monitoring data, that is accumulated throughout the reporting year;
- new outfalls or discharges;
- identification of water quality improvements or degradation on a watershed basis;
- revisions to the assessment of controls and the fiscal analysis reported in the permit application;

* Revised, June 2000.

- annual expenditures and budget for the year following each annual report; and
- a summary of enforcement actions, inspections and public education programs.

According to EPA, annual monitoring data and identified water quality improvements are important factors in evaluating the success of a management program in reducing pollutants.

¶446 System-wide Permit Approach*

Where several municipal entities are responsible for obtaining a permit for numerous discharges within a single system, EPA encourages the use of system-wide or jurisdiction-wide permit applications. According to the agency, the system-wide approach allows participating municipal entities to share the resource burden of monitoring, evaluating water quality impacts and developing and implementing controls. Based on site-specific information submitted by each municipal entity as part of its permit application, the permit issuing authority develops a tailored program for each permittee.

In some cases, it may be undesirable for all municipal entities with stormwater responsibility within a municipal system to be co-permittees under one system-wide permit. Accordingly, the permit application requirements allow individual municipal entities within the system to submit permit applications and obtain a permit for the portion of the MS4 for which they are responsible. Thus, several permits may be issued to cover various subdivisions within a single MS4.

Alternatively, two or more operators of an MS4 may be co-applicants for a permit application where more than one public entity owns or operates the MS4 within a geographic area. This includes adjacent or interconnected MS4s.

¶447 Reapplication for MS4 Permits**

On May 17, 1996, EPA issued a final policy outlining the reapplication requirements for second-round MS4 permittees. MS4 permits have a five-year life, and as of mid-1996, a number of MS4 permits were set to expire.

The policy sets forth a streamlined approach for reapplication by allowing municipalities to use recommended changes submitted in their fourth annual reports as the principal component of their reapplication packages. The policy has three parts. First, EPA is not requiring that the process used for part 1 and part 2 of the initial permit application be repeated in full. Second, EPA has identified basic information that should be included in every reapplication package. Third, EPA is seeking to improve existing MS4 stormwater management programs by using information and experience MS4s have gained during the previous permit term.

The components of the MS4s original stormwater management program that were effective in controlling pollutants should be continued and made an ongoing part of the new stormwater management program, EPA said in the policy. In addition, EPA also recommended that

* Revised, June 2000.
**Added, June 2000.

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reapplicants identify any previously unidentified water bodies that receive discharges from the MS4 and provide a summary of any known water-quality impacts on the newly identified receiving waters, based on best available data.

For the full text of EPA's MS4 Reapplication Policy, see ¶491.

¶448 Large and Medium MS4 Permit Status**

The phase I rule, which establishes the NPDES permit application requirements for medium and large MS4s, was issued in 1990. Permit applications from the medium and large MS4s brought into the program by the rule (i.e., those listed in Appendices F, G, H, and I to the phase I rule) were to be submitted to the appropriate NPDES permitting authority by 1994. In situations where large and medium MS4s were brought into the program on a case-by-case basis, the deadline was determined by the permitting authority.

As of 1999, all large and medium MS4s automatically brought into the program by the rule have been permitted, as have most of the MS4s individually brought into the program by the NPDES permitting authority, according to EPA.

For an alphabetical list of approximately 1,000 MS4 operators that currently are permitted—or are in the final stages of being permitted—under phase I of the stormwater program, go to www.epa.gov/owm/sw/ms4/medlarge/list.htm. EPA notes that more than half of the permittees listed at this site were brought into the phase I program on a case-by-case basis by an NPDES permitting authority. These individually designated MS4s still are considered large or medium MS4s, and *not* small MS4s, regardless of the size of the population served.

[The next page is Tab 400, Page 71.]

**Added, June 2000.

¶450 Regulation of Small MS4s**

The stormwater phase II final rule requires operators of certain small municipal separate storm sewer systems (MS4s) to obtain National Pollutant Discharge Elimination System (NPDES) permit coverage (see ¶143 for a discussion of regulated small MS4s and waivers from the phase II program requirements, and see ¶430 for types of MS4s regulated by the NPDES stormwater program). Under the permit, an operator of a regulated small MS4 is required to develop, implement and enforce a stormwater management program designed to reduce the discharge of pollutants from its MS4 to the "maximum extent practicable," to protect water quality and to satisfy the appropriate water quality requirements of the Clean Water Act (CWA).

Unlike the phase I program, the phase II rule allows the MS4 operator to choose from three permitting options (see ¶451). The NPDES permitting authority, however, determines which options are available. In the permit application, a regulated small MS4 operator must identify its selection of best management practices (BMPs) and "measurable goals" designed to meet the requirements of six MS4 program elements, called "minimum control measures," among other things (see ¶451 for required permit application information). Every small MS4 stormwater management program must include these minimum control measures: public education and outreach on stormwater impacts; public participation and involvement; illicit discharge detection and elimination; construction site stormwater runoff control; post-construction runoff control; and pollution prevention and good housekeeping for municipal operations (see ¶452).

The phase II rule identifies various options to satisfy the required minimum control measures (see ¶453). An evaluation and assessment of the chosen BMPs and measurable goals must be included in periodic reports to the NPDES permitting authority (see ¶454).

[The next page is Tab 400, Page 75.]

** Added April 2000.

¶451 Applying for a Permit**

NPDES stormwater permits are issued by an NPDES permitting authority, which may be an NPDES-authorized state, or the appropriate regional office of the U.S. Environmental Protection Agency (EPA) (see ¶230). After the operator of a regulated small MS4 submits its permit application—thereby obtaining permit coverage—the conditions of the permit must be satisfied (see ¶452 for information on the development and implementation of a stormwater management program). In addition, periodic reports must be submitted on the status and effectiveness of the program (see ¶454).

Required Permit Application Information

The phase II program for small MS4s is designed to accommodate a general permit approach that uses a notice of intent (NOI) as the permit application; however, other permitting options exist (see discussion below). The operator of a regulated small MS4 must include the following information in its permit application or NOI:

- chosen BMPs for each of six minimum control measures—(1) public education and outreach on stormwater impacts, (2) public participation and involvement, (3) illicit discharge detection and elimination, (4) construction site stormwater runoff control, (5) post-construction stormwater management, and (6) pollution prevention and good housekeeping for municipal operations;
- measurable goals for each minimum control measure (e.g., narrative or numeric standards used to gauge program effectiveness);
- estimated months and years in which actions to implement each measure will be undertaken, including interim milestones and frequency; and
- the person or persons responsible for implementing or coordinating the stormwater program.

To help permittees identify the most appropriate BMPs for their stormwater management programs, EPA will issue a "menu" of BMPs by December 2000. The NPDES permitting authority is required to provide this menu as an aid for operators. The phase II rule allows operators to modify the EPA menu or develop their own list of BMPs.

Permitting Options

Unlike the phase I program that primarily uses individual permits for medium and large MS4s, the phase II rule allows operators of regulated small MS4s to choose from as many as three permitting options. However, the NPDES permitting authority determines which options are available to the regulated small MS4.

General Permit. The phase II program was developed to accommodate a general permit approach, and EPA strongly recommends this option. A general permit prescribes one set of requirements for all permittees. It is drafted by the NPDES permitting authority, then published for public comment before being finalized and issued. A permittee complies with permit application requirements by submitting an NOI—which serves as the application—to the NPDES permitting authority that describes the stormwater management plan, including BMPs and measurable goals. Permittees may develop an individualized stormwater program that addresses the particular needs of its system, provided the requirements of the general permit also are met.

** Added April 2000.

Individual Permits. For individual coverage under phase II, the permittee must follow phase II permit application requirements (see section above) and provide an estimate of square mileage served by the MS4 system, as well as any additional information requested by the NPDES permitting authority. The NPDES permitting authority may allow more than one regulated entity to jointly apply for an individual permit. Individual permits are required for phase I medium and large MS4s, but EPA does not recommend their use for phase II program implementation.

Modification of a Phase I Individual Permit (Co-permittee Option). The operator of a regulated small MS4 may participate as a limited co-permittee in a neighboring phase I MS4's stormwater management program by seeking a modification of the existing phase I individual permit. In this instance, the permittee must comply with the applicable terms of the phase I individual permit rather than the minimum control measures in the phase II final rule. A list of phase I large and medium MS4s can be obtained from the EPA Office of Wastewater Management.

Deadlines for Compliance

The NPDES permitting authority may issue general permits for regulated small MS4s at any time, but no later than December 9, 2002. Operators of regulated small MS4s that are automatically covered by phase II must submit their permit applications within 90 days of permit issuance, but no later than March 10, 2003. Operators of regulated small MS4s that are not automatically covered but are designated for coverage by the NPDES permitting authority must submit their permit applications within 180 days of being brought into the phase II program (see ¶143). In addition, stormwater management programs for regulated small MS4s must be developed and implemented by the end of the first permit term, typically a five-year period.

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¶452 Stormwater Management Program for Small MS4s**

The phase II rule defines a small MS4 stormwater management program as a program comprising six elements that, when implemented in concert, are expected to result in significant reductions of pollutants discharged into receiving waterbodies. The phase II rule specifies the following six MS4 program elements, called "minimum control measures:"

- public education and outreach on stormwater impacts;
- public participation and involvement;
- illicit discharge detection and elimination;
- construction site stormwater runoff control;
- post-construction stormwater management in new development and redevelopment sites; and
- pollution prevention and good housekeeping for municipal operations.

The operator of a regulated small MS4 has the flexibility to determine the BMPs and measurable goals for each minimum control measure that are most appropriate for its system. The chosen BMPs and measurable goals submitted in the permit application become the required stormwater management program. However, the NPDES permitting authority can require changes in the mix of chosen BMPs and measurable goals if all or some of them are found to be inconsistent with the phase II final rule. Similarly, the permittee can change its selected BMPs if it determines that the program is not as effective as it could be. The permittee must include such changes in its report to the permitting authority (see ¶454).

The NPDES permitting authority is required to provide a list, or "menu," of BMPs by December 2000 to assist permittees in the design and implementation of their stormwater management programs. Because the menu is intended to serve as a guidance, operators can either select from the menu or identify other BMPs to meet the permit requirements.

Public Education and Outreach

Operators of small MS4s are required to develop and implement a public education or outreach program to distribute educational materials to the community that explain the impacts of stormwater discharges on water bodies and the steps to take to help reduce stormwater pollution, according to the rule. Citizens may ease the burden on municipalities by handing out educational information and gathering support for the program.

EPA encourages owners or operators of small MS4s to develop partnerships with their states or other governmental entities to help fulfill the public education requirement. MS4 operators also may look to nongovernmental organizations (e.g., environmental, nonprofit groups and industry) for assistance, because many already have educational materials and perform outreach activities.

Using an existing state program or developing a new regional or statewide educational program may be more cost effective than having numerous MS4 owners and operators develop individual programs, according to EPA. Although the agency supports the use of existing materials and programs, owners and operators of small MS4s should try to make their materials and activities relevant to local situations and issues, while using a mix of strategies to target a wide range of audiences and communities. Strategies could include distributing brochures or fact sheets, providing economic incentives to businesses, and hosting community projects such as storm drain stenciling or watershed and beach cleanups.

** Added April 2000.

Educational materials and activities must provide the public with information on how to reduce stormwater pollution, such as how to maintain septic systems properly, or how to properly use and dispose of landscape and garden chemicals, used motor oil and household hazardous waste. In addition, materials directed toward groups of commercial, industrial and institutional entities that are likely to have a significant impact on stormwater should be specific to those groups. For instance, information given to restaurants should discuss the impact of grease clogging storm drains.

Public Involvement and Participation

Phase II requires municipal stormwater management programs to comply with applicable state and local public notice requirements. Because traditional methods of soliciting public involvement are not always successful, alternative advertising methods should be used whenever possible, including radio or television advertisements, postings at bus or subway stops and announcements in neighborhood newsletters.

Examples of practices that may be incorporated into a public participation and involvement program include conducting public meetings to allow citizens to discuss viewpoints and provide input on stormwater management policies and best management practices, and organizing a citizen watch group to aid local enforcement authorities.

Illicit Discharge Detection and Elimination

Any NPDES permit issued to an operator of a regulated small MS4 must require the operator to develop, implement and enforce an illicit discharge detection and elimination program, the rule states. "Illicit discharge" is defined as any discharge to an MS4 that is not composed entirely of stormwater, except for discharges pursuant to an NPDES permit and discharges resulting from fire-fighting activities, according to the rule.

The illicit detection and elimination program must include the following:

- a storm sewer system map showing the location of all outfalls, and names and locations of all waters of the United States that receive discharges from them;
- a prohibition, to the extent allowable under state, tribal or local law, on illicit discharges into the MS4, and appropriate enforcement procedures and actions;
- a plan to detect and address illicit discharges, including dumping, into the MS4; and
- provisions for the education of public employees, businesses and the general public about the hazards associated with illegal discharges and improper disposal of waste.

The storm sewer map should demonstrate a basic awareness of the intake and discharge areas of the system so that the MS4 operator can conduct dry-weather field screening for nonstormwater flows and respond to illicit discharge reports from the public. EPA recommends that the MS4 operator collect existing information on outfall locations (e.g., review city records, drainage maps and storm drain maps) and conduct field surveys to verify locations. The agency also recommends that plans include procedures for the following: locating priority areas (i.e., problem areas); tracing the source of illicit discharges; removing discharge sources; and evaluating and assessing the program.

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Some MS4 permittees may have limited authority under state or tribal law to establish and enforce ordinances, or similar means, to prohibit illicit discharges. In these cases, EPA encourages permittees to obtain the necessary authority, if at all possible. Otherwise, the NPDES permitting authority would assume the responsibility for implementing this component of the minimum control measure.

Control of Construction Site Runoff

Operators of regulated small MS4s must develop, implement and enforce pollutant control programs to reduce pollutants in any stormwater runoff from construction activities that result in a land disturbance of one or more acres, according to the rule. Construction activity on sites disturbing less than one acre may be included in the program if the activity is part of a larger common plan of development or sale that would disturb one acre or more.

The construction runoff control program must include an ordinance or other regulatory mechanism requiring the implementation of proper erosion and sediment controls, as well as controls for other wastes. In addition, the ordinance must establish penalties for noncompliance, such as fines, bonding requirements and/or permit denials. The small MS4 owner also must: determine appropriate erosion and sediment control BMPs; conduct site plan reviews; establish procedures for receipt and consideration of information submitted to the public; and establish procedures for site inspections and enforcement of control measures, according to the rule.

Because the small MS4 regulations apply only to discharges from the MS4, this control measure only requires small MS4 operators to control runoff into their systems. EPA anticipates, however, that MS4 operators will find that regulation of all construction site runoff will prove to be the most simple and efficient program.

To avoid duplication of small MS4 construction requirements with NPDES construction permit requirements, the final rule recognizes that the NPDES permitting authority can incorporate qualifying state, tribal or local erosion and sediment control requirements into NPDES permits for construction site discharges. This means that if a construction site is located in an area covered by a local program, the construction site operator's compliance with the local program could constitute compliance with its NPDES permit.

Post-construction Runoff Control

The phase II rule also requires an operator of a regulated small MS4 to develop, implement and enforce a program to reduce pollutants in post-construction runoff to its MS4 that results from new development and redevelopment projects that disturb one acre or more. Specifically, small MS4 owners or operators are required to: develop and implement a combination of structural and/or nonstructural BMPs appropriate for the community and ensure adequate and long-term operation and maintenance of those BMPs; use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowed under state, tribal or local law; and ensure that controls are in place to minimize water quality impacts, according to the rule.

Pollution Prevention

Recognizing the benefits of pollution prevention practices, phase II requires an operator of a regulated small MS4 to develop and implement an operation and maintenance program with the ultimate goal of preventing or reducing pollutant runoff from municipal operations into the storm sewer system. The program must include employee training on how to incorporate pollution prevention/good housekeeping techniques into municipal operations such as maintenance of parks, golf courses, fleets, buildings and storm water systems, as well as land development planning. To minimize duplication of effort and conserve resources, the MS4 owner or operator may use training materials available from EPA, its state, tribe or other relevant organizations.

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¶453 Implementation Options**

The phase II rule identifies a number of implementation options for regulated small MS4 operators. These options include sharing responsibility for program development with another governmental entity, taking advantage of existing local or state programs, or participating in the implementation of an existing phase I MS4's stormwater program as a co-permittee. These options are intended to promote a regional approach to stormwater management coordinated on a watershed basis, according to EPA.

Sharing Responsibility for Program Development

Phase II provides several options for regulated small MS4 operators to share responsibility for the development of their stormwater management program. Relying on other entities may affect who is ultimately responsible for performance of the minimum measure and who files the periodic reports evaluating the effectiveness of the measure.

If the small MS4's permit indicates that the operator is responsible for implementing a particular minimum control measure, the operator remains responsible even if another entity agrees to satisfy the measure. If, on the other hand, the permitting authority recognizes in the small MS4's permit that another entity is responsible for implementing any or all of the minimum control measures, the operator-permittee is relieved of all responsibility.

Taking Advantage of Existing Local or State Programs

In addition, the NPDES permitting authority can include conditions in a permit that direct a permittee to follow the requirements of an existing qualifying local program rather than the requirements of a minimum measure. A "qualifying local program" is defined as a local, state or tribal municipal stormwater program that imposes requirements that are equivalent to those of the phase II MS4 minimum control measures. The permittee remains responsible for the implementation of the minimum measure through compliance with the qualifying local program.

Where the operator-permittee performs one or more of the minimum control measures, it remains responsible for all of the reporting requirements under phase II (see ¶454). If, however, another regulated MS4 operator performs all of the minimum measures for the permittee, the operator-permittee is not required to file the required reports.

Joint Permit Programs

Under phase II, a regulated small MS4 operator may chose to become a co-permittee with another regulated MS4 operator under a general or individual permit.

Specifically, the phase II rule allows an operator of a regulated small MS4 to join as a co-permittee in an existing NPDES permit issued under phase I to an adjoining medium or large MS4. This option applies only with the agreement of all co-permittees.

** Added April 2000.

The phase II rule also allows operators of regulated small MS4s that choose to share responsibilities for meeting the phase II program requirements to submit jointly with the other municipalities or governmental entities an NOI that identifies who will implement which minimum measures within the area served by the MS4. Under this arrangement, the operator of each regulated small MS4 remains responsible for the implementation of each minimum measure for its MS4 (unless, as discussed above, the permit recognizes that another entity is responsible for completing the measure).

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¶454 Evaluation of Stormwater Program

Permittees are required to evaluate the effectiveness of their chosen BMPs to determine whether they are reducing the discharge of pollutants from their systems to the maximum extent practicable and to determine if the selected mix of BMPs is satisfying the water quality requirements of CWA. Permittees can revise their mix of BMPs to create a more effective program.

In addition, permittees must assess whether their progress is achieving their program's measurable goals. Although monitoring is not required under the rule, the NPDES permitting authority has the discretion to require monitoring if deemed necessary.

Frequency of Reports and Required Content

Reports must be submitted annually during the first permit term. For subsequent permit terms, reports must be submitted in years two and four, unless the NPDES permitting authority requests more frequent reports.

The reports must include the following information:

- the status of compliance with permit conditions, including an assessment of the appropriateness of the selected BMPs and progress toward achieving the selected measurable goals for each minimum measure;
- results of any information collected and analyzed, including monitoring data, if any;
- a summary of the stormwater activities planned for the next reporting cycle;
- a change in any identified BMPs or measurable goals for any minimum control measure; and
- notice of relying on another governmental entity to satisfy some of the permit obligations, if applicable (see ¶453).

Recordkeeping Requirements

Records required by the NPDES permitting authority must be kept for at least three years and made accessible to the public at reasonable times during regular business hours. Records do not need to be submitted to the NPDES permitting authority unless the permittee is requested to do so.

¶455 Phase II Action Deadlines for Small MS4s†

The chart below outlines various deadlines that apply to regulated small MS4s, as established under the phase II final rule. EPA believes that the dates allow sufficient time for completion of both the NPDES permitting authority's and the permittee's program responsibilities.

Specific compliance dates will be set by each NPDES permitting authority as it changes appropriate regulations and issues general permits. In June 2001, EPA completed a menu of BMPs for small MS4s; the menu became downloadable in October 2001 at www.epa.gov/npdes/menuofbmps/BMP_files.htm. Also in October 2001, EPA issued guidance designed to aid MS4 operators in developing measurable goals.

Figure 455-1
Phase II Implementation Deadlines

Activity	Deadline
NPDES permitting authorities issue general permits for phase II regulated small MS4s	December 9, 2002
Operators of regulated small MS4s obtain permit coverage (if automatically covered by phase II)	March 10, 2003, or within 90 days of permit issuance
Operators of regulated small MS4s obtain permit coverage (if designated for permit coverage by an NPDES permitting authority)	Within 180 days of notice
Permitting authority designates small MS4s	December 8, 2004 (if watershed plan is in place)
Operators of regulated small MS4s fully implement their stormwater management programs	End of first permit term (typically 5 years)
Re-evaluation of municipal stormwater rules by EPA	December 2013

† Revised, January 2002.

¶490 Insights

"Insights" are articles containing specific guidance for members of the regulated community written by experts in the stormwater field. Insights are found at the conclusion of most tabs of the *Stormwater Permit Manual.* Additional Insights will be added to the *Manual* as part of the monthly update service. Subscribers are encouraged to contact the editors with suggestions for future Insights.

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¶491 Insight: EPA's Final MS4 Reapplication Policy*

Introduction

The U.S. Environmental Protection Agency (EPA) on May 17 issued a final policy outlining the reapplication requirements for operators of municipal separate storm sewer systems (MS4s). The policy sets forth a streamlined approach for reapplication by allowing municipalities to use recommended changes submitted in their fourth annual reports as the principal component of their reapplication packages. The policy was developed in cooperation with state and regional stormwater coordinators and water management directors, members of EPA's Urban Wet Weather Flows Advisory Committee, members of the National Association of Flood and Stormwater Management Agencies and Tribal Operation Committee members.

The Municipal Separate Storm Sewer System Permit Reapplication Policy

The 1987 amendments to the Clean Water Act (CWA) added Section 402(p) which directed EPA to establish regulations governing stormwater discharges under the National Pollutant Discharge Elimination System (NPDES) program. Early in the program, Congress specifically required NPDES permits for MS4s serving populations over 100,000. In response, EPA promulgated regulations in 1990 that established permit application requirements for MS4s that serve populations over 100,000. MS4 permits have since been drafted and finalized for many municipal systems. [In mid-1996, a number of MS4 permits were due to expire and needed to be reissued.]

EPA is providing this policy memorandum to outline permit reapplication requirements for regulated MS4s. There are three components to EPA's reapplication policy. First, EPA is not requiring that the process used for part 1 and 2 of the initial permit application be repeated in full. Second, EPA has identified basic information that should be included in every reapplication package. Finally, EPA is seeking to improve existing MS4 stormwater management programs by using information and experience municipalities have gained during the previous permit term.

Q. Is a permit reapplication necessary?

A. Yes. The requirement that all point source discharges authorized by an NPDES permit must reapply is well established at 40 CFR Sections 122.41(b) and 122.46(a):

> "*Duty to reapply.* If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit."
>
> "*Duration of permits.* NPDES permits shall be effective for a fixed term not to exceed five years."

The reapplication requirement is also found at 40 CFR Section 122.21(d):

> "*Duty to reapply.* ... All other permittees with currently effective permits shall submit a new application 180 days before the existing permit expires ... ."

Therefore, all regulated phase I MS4s need to participate in a permit reapplication process.

Where a complete reapplication package has been submitted as directed by the permit authority, conditions of an expired MS4 permit will continue until the effective date of a new permit, as stated in 122.6(a) and (b):

* Added, October 1996.

(a) "*EPA permits.* When EPA is the permit-issuing authority, the conditions of an expired permit continue in force ... until the effective date of a new permit ..." and (b) "*Effect.* Permits continued under this section remain fully effective and enforceable."

Q. Are initial MS4 permit application requirements applicable to permit reapplication?

A. No. The scope of the initial permit application requirements was comprehensive and regulated MS4s invested considerable resources to develop these applications. The initial applications have laid the foundation for the long-term implementation of MS4 stormwater management programs. EPA believes reapplications should focus on maintenance and improvement of these programs.

The MS4 permit application requirements at 40 CFR Section 122.26(d)(1) and (2) apply to the first round permit applications required of large and medium MS4s. The permit application deadline regulations in Section 122.26(e)(3) and (4) clearly reflect the "one time" nature of the Part I and II application requirements for large and medium MS4s. EPA has not promulgated regulations for large and medium MS4s. EPA has not promulgated regulations applicable to reapplication for MS4s. Requirements to demonstrate adequate legal authority, perform source identification (e.g., identify major outfalls and facility inventory), characterize data, and develop a stormwater management program should have been addressed in the initial application phase. Therefore, to request the same information again, where it has already been provided and has not changed, would be needlessly redundant. Thus, as a practical matter, most first-time permit application requirements are unnecessary for purposes of second round MS4 permit applications.

Q. What basic information must be submitted for an MS4 permit reapplication?

A. EPA is committed to allowing permitting authorities to develop flexible reapplication requirements that are site-specific. In the absence of reapplication regulations specific to MS4s, minimum reapplication requirements are drawn from the generic NPDES permit application regulations at 40 CFR Section 122.21(f). EPA regulations suggest the following basic information be included as part of any permit reapplication:

- name and mailing address(es) of the permittee(s) that operate the MS4, and
- names and titles of the primary administrative and technical contacts for the municipal permittee(s).

In addition, in the reapplication, municipalities should identify any proposed changes or improvements to the stormwater management program and monitoring activities for the upcoming five year term of the permit, if those proposed changes have not already been submitted pursuant to 40 CFR 122.42(c). [A requirement to submit proposed changes to the stormwater management program is specified in the annual reporting requirements in 40 CFR Section 122.42(c)(2).] EPA encourages permitting authorities to make use of the fourth year annual report as the basic permit reapplication package.

Changes to the stormwater management program may be justified due to the availability of new information on the relative magnitude of a problem or new data on water quality impacts of the stormwater discharges. Municipalities may also propose to de-emphasize some program components and strengthen others, based on the experience gained under the first permit. Proposed elimination of a program component might be justified upon permit renewal; for example, when a component is no longer a problem area (i.e., all detention basins have been retrofitted) or when a different water quality program would serve the same goals.

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The components of the original stormwater management program which are found to be effective should be continued and made an ongoing part of the proposed new stormwater management program. Such components may include:

- continued emphasis on public education programs, particularly programs on proper disposal of waste oil and household hazardous waste and pesticide application;
- continued, if not greater emphasis on addressing impacts of new development/construction;
- proper storm design criteria for all new developments;
- retrofitting and/or upgrading of the existing storm sewer system according to a priority system;
- more frequent maintenance of storm sewer systems and stormwater treatment systems;
- coordination with adjacent MS4s on monitoring or other efforts; and
- using a watershed approach to stormwater management.

The accumulated annual report information as outlined in 40 CFR 122.42(c) should be evaluated and, to the extent applicable, be incorporated by reference into the reapplication package.

To reiterate, MS4s may use the fourth year annual report, which emphasized proposed changes to the stormwater management program, with the additional required basic information, as the MS4 permit reapplication. Changes to the stormwater management program should be jointly developed by the permitting authority and the permit applicant. In this regard, we urge permit issuance authorities and permittees to work together to assure that the permit reapplication is complete and addresses all appropriate issues. The permitting agency may request additional technical information be submitted in the reapplication. NPDES permitting authorities, therefore, can exercise their information gathering authority under CWA Section 308, or analogous state provisions to complete the permit reapplication on a case-by-case basis, as appropriate.

Q. What additional information should be considered for a reapplication?

A. EPA also recommends the following information be provided by reapplicants to the permitting authority, as outlined in 40 CFR Section 122.26(d)(1)(iv)(C):

- identification of any previously unidentified water bodies that receive discharges from the MS4, and
- a summary of any known water quality impacts on the newly identified receiving waters (based on best available data).

In addition, EPA recommends the following information be provided to the permitting authority as well:

- a description of changes in co-applicants since issuance of initial MS4 permit, and
- identification number of the existing NPDES MS4 permit.

Further, EPA encourages permitting authorities to work with permittees to determine if stormwater monitoring efforts are appropriate and useful. For example, during the previous permit term, municipalities may have found that their monitoring program was not fully successful in characterizing the nature and extent of stormwater problems. Reapplication is an appropriate time for MS4s to evaluate their monitoring program and propose changes to make the program more appropriate

and useful. To accomplish this, municipalities may wish to consider using monitoring techniques other than end-of-the-pipe chemical-specific monitoring, including habitat assessments, bioassessments and/or other biological methods.

Permitting authorities should incorporate any such new information, together with assembled materials from the initial application and the existing permit, to form the administrative record for any reissued MS4 permits. Such administrative records should be made publicly available as part of the process to reissue the permit.

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¶492 Insight: Municipal Program Implications for Industrial Facilities, Construction Sites and MS4s*

By Steven Veal, P.E. and Dan De Wilde

The purpose of this article is to discuss the affects of municipal stormwater management plans on industrial facilities and construction site operators.

At a minimum, municipalities will monitor compliance with the federal permit program. This could include making efforts to identify facilities that have not applied for a federal permit, reviewing the stormwater pollution prevention plans that each facility must develop, and/or reviewing monitoring data, if available. EPA clearly expects regulated MS4s to act as a watchdog over industrial facilities served by their systems, because EPA does not have the manpower to verify compliance for all of the facilities nationwide.

More aggressive cities have proposed stricter controls in their permit applications. These range from annual facility inspections to separate municipal permitting programs for industry. Developers may be affected by restrictions on the percentage of impervious surface allowable, or by mandatory structural controls.

Given the financial constraints on many city governments, there is a natural tendency on the part of many MS4s to attempt to shift the costs of stormwater management programs to industry and developers. Cost shifting may take the form of development or permit fees, or the creation of stormwater utilities, which charge fees to facilities based on the types of activities they support and the amounts of impervious surfaces at their sites.

MS4 Permit Requirements in General

MS4s serving populations of 100,000 or more (and some smaller cities that are part of jurisdictions that EPA or a state permitting agency has designated as requiring permits) must apply for permits to discharge stormwater from their storm sewer systems. The permits hold municipalities responsible for establishing and administering management plans to control the quality of stormwater discharges from their systems. The management plans, tailored to local conditions, must reduce pollutants to the "maximum extent practicable," and must include specific strategies for eliminating illicit discharges, carrying out inspections, monitoring, and ensuring compliance with permit conditions.

A regulated MS4's management plan must specifically address potential sources of pollutants, such as:

- commercial and residential areas;
- industrial sites and activities;
- construction sites; and
- illicit discharges into the storm drainage system.

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* Revised, November 1996.

The regulations do not generally stipulate what the content of a city's management plan must be, beyond minimum requirements. So we are apt to see a range of responses from municipalities, reflecting the diverse stormwater quality problems and political attitudes of different regions.

Both medium and large MS4s submitted their permit applications in 1992 and 1993. Federal and state permitting authorities reviewed the applications, negotiated changes, and issued final permits, which will remain in place for five years. Smaller municipalities—those serving populations under 100,000—may be regulated in phase II of the stormwater permitting program. Final rules covering small MS4s are expected in March 1999.

Industrial dischargers (or regulated construction sites) may therefore have their stormwater runoff regulated at two levels: directly by EPA or the NPDES delegated state agency when the operator applies for an industrial permit, and indirectly under a management plan proposed by the MS4 to which the facility discharges. In addition, developers who do not fall directly under EPA's industrial permitting program will be regulated through MS4 permits.

Facility operators who believed that their efforts toward compliance with stormwater pollution regulations were completed when they applied for general permit coverage may find that the demands of their municipal program are more stringent than those of the statewide general permits. At a minimum, many operators will find that their MS4s will be watching them more closely than EPA or a state agency is able to do.

EPA Guidance to Municipalities

EPA issued a guidance document (EPA 833-B-92-002) in November 1992 to assist regulated MS4s in preparing part 2 of the NPDES stormwater permit application. The document provides some insight into EPA's expectations for the municipal permitting program.

Commercial and Residential Activities. MS4 applicants must propose structural and source control measures to reduce pollutants from commercial and residential areas. The management program must include planning procedures to reduce discharges of pollutants both during and after construction from areas of new development and "significant" redevelopment. EPA calls for "design criteria and performance standards for stormwater controls ... such as buffer zones, open space preservation, erosion and sediment control, etc." Non-structural controls are highly recommended for new development. EPA also suggests that municipalities may want to require new developments to set aside a certain percentage of undisturbed area to help maintain pre-development conditions. The program also must include procedures to reduce the contribution of pollutants associated with pesticides, herbicides and fertilizers discharged to the MS4. This may include educational programs, as well as applicator training or certification for commercial and municipal applicators.

Construction Sites. The EPA guidance document calls for many of the same program elements that are required for operators developing SWP3s under EPA's general permit for construction sites. However, MS4s must address stormwater runoff from all construction sites, regardless of size. Thus, sites smaller than five acres, and not requiring coverage under the NPDES permit program, may be regulated by many cities under their MS4 permits. Applicants must propose a management program which includes:

- site planning that incorporates consideration of stormwater discharges so that water quality impacts can be eliminated or minimized;

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- a plan to acquire the authority to require site operators to install and maintain erosion control and sediment control plans, including appropriate structural and nonstructural BMPs; and
- procedures for site inspections and enforcement of control measures.

Industrial Facilities. Despite the extensive NPDES industrial permit program, EPA clearly states that regulated municipalities are "ultimately responsible for discharges from their MS4s," and EPA therefore requires each regulated MS4 to propose a stormwater management program to control pollutants from industrial stormwater discharged to the MS4. The regulations envision that NPDES permitting authorities and municipal operators will cooperate to develop management programs. Applicants must propose a management program to:

- identify priority industrial facilities that discharge to the MS4;
- describe specific steps a municipality will take after identifying a priority industrial facility, such as schedules and checklists for inspections;
- establish and implement stormwater discharge controls; and
- inspect and monitor industrial facilities to verify that they are in compliance with their NPDES stormwater permit requirements.

The guidance document states that a municipality must consider if it should place more stringent controls on discharges than required by an industrial facility's existing stormwater permit. Usually, the municipality will not need to impose controls beyond those required in an industrial facility's existing NPDES stormwater permit. However, nothing in the federal regulations would prohibit the municipality from requiring additional controls.

Illicit discharges and improper disposal. EPA requires each MS4 applicant to propose a detailed program to detect and remove (or require the discharger to obtain a separate NPDES permit for) illicit discharges and improper disposal to the MS4. The proposed program must include:

- a description of inspection procedures, orders, ordinances, and other legal authorities necessary to prevent illicit discharges to the MS4, and how the prohibitions will be implemented and enforced;
- a program for continued dry weather field screening during the term of the permit;
- procedures for investigating those portions of the MS4 where field screening or other information indicates a reasonable potential for illicit discharges; and
- procedures that the municipality will implement to prevent, contain and respond to spills that may discharge into the MS4.

Compliance Burden Shifting

When it comes to regulating stormwater pollution, cities are in an unenviable position. They are legally responsible for the stormwater discharged from their MS4s, yet most of the possible pollutants in the discharges come from sources beyond a city's direct control: residences, commercial areas, and industrial facilities. The costs for developing a permit application and implementing a management program are high. Permit application costs for large municipalities have run between $500,000 and $1 million. The city of Dallas, for example, estimates the costs for activities proposed in its MS4 permit to be $12 million over the five-year term of the permit. Therefore there is a natural tendency for cities, already strapped for cash, to attempt to shift costs of compliance over to those in the community who generate the pollution.

Cost-shifting of this sort, such as development fees, industrial permit fees, or discharge fees, also may be politically more acceptable than general tax increases to pay for stormwater controls. Local politics may determine how aggressively a municipality attempts to shift costs to industry. If the city proposes an industrial permitting or inspection program with provisions beyond the minimum required by EPA, it is likely that city officials will find some way to recover some of the added costs.

MS4 Management Programs—An Overview

To prepare this section, information was collected from a variety of MS4 applicants. Part 2 permit applications from five MS4s were reviewed, as well as permits or draft permits from 10 additional regulated municipalities in various regions of the country. In addition, research conducted on local stormwater management programs established prior to the commencement of NPDES permitting was incorporated.

The majority of municipalities have followed EPA guidance closely in preparing their permit applications—particularly in NPDES states that simply have adopted the federal rules. Many cities require only the minimum from industry and construction site operators—to obtain coverage under a federal or NPDES state agency industrial permit, and file an NOI with the city when they file it with their permitting agency. These "hands off" cities will probably only investigate stormwater permittees further if they receive a citizen complaint or if watershed monitoring uncovers a problem.

Other cities have proposed surveys and inspection programs to identify possible sources of stormwater pollution. More aggressive municipalities may require that permitted facilities file their SWP3s or submit annual monitoring data with MS4 stormwater officials. Cities in areas with a tradition of environmental activism, such as Austin, Texas; the San Francisco Bay Area; and cities around Puget Sound in Washington, have implemented much stricter controls, including their own industrial permitting programs.

The Santa Clara Valley Water District in California, for example, has a very broad definition of violations. Its MS4 permit prohibits any discharge of stormwater which causes or contributes to conditions adversely affecting the waters of California, including floating, suspended, or deposited particulate matter; alteration of temperature, turbidity, or odor; the presence of oil or other petroleum products, and concentrations of toxic substances deemed to cause deleterious effects on wildlife.

Due to the high cost of structural "end of the pipe" controls, most regulated MS4s that don't have structural controls already in place are emphasizing source control and the elimination of illicit discharges. Cities want industry to control pollution on-site. In the case of newly developing and redeveloping areas, most programs emphasize integrating stormwater management into land use planning from the very beginning.

In securing stormwater discharge permits, MS4s commit themselves to solving stormwater pollution problems through their proposed management programs. If MS4s are not successful in reducing pollutant loadings, state and federal regulators may require more aggressive measures when renewing their permits after five years. Accordingly, stormwater management programs like those in place in Austin and Bellevue may well represent the future of stormwater regulation in many regions.

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Municipal Program Implications for Business and Industry

Program Financing. Because of the high cost to cities of preparing their stormwater permit applications, and to offset the ongoing costs of implementing stormwater management programs, most MS4s will attempt to recover costs from regulated industries. There are two principal methods to accomplish this:

- collecting fees from developers or industrial permit programs; and
- creating local stormwater utilities, which generate revenues from a broad base of residents, commercial establishments, and industry.

Development fees are contributions of land or money intended to alleviate the impact of the development on the community or to fund new services required, such as roads, fire protection, and sanitary sewers. Development fees to pay for stormwater controls are not common yet, but are likely to increase in the future. For example, the Florida Water Management Districts' fee for individual (site-specific) discharge permits is $3,000. Lee County, Fla., charges $2,500 plus $60 per acre for new construction permits when stormwater management is necessary.

Besides development, permit or discharge fees, there are additional ways to shift costs directly to the discharging facilities: cities can require industrial facilities to pay for the costs of inspections, for example, or direct them to conduct their own stormwater monitoring.

Although stormwater utilities may be less acceptable to some communities, because they affect everyone, they have the advantage of being able to generate substantial revenues from small individual payments. A 1992 survey showed that for 44 stormwater utilities, the median monthly charge to residential customers was $2.82. The local government, acting through the utility, collects monthly, quarterly, or annual fees to fund the operation of the storm sewer system and the stormwater management program. Rates generally are based on an estimate of the amount of stormwater discharged from each property, as well as the type of activity occurring at the site.

Another advantage of stormwater utilities is that the fees can be set at a low level during the study and permit application process, getting the public accustomed to the idea of paying for stormwater management, and then raised later on when more money is required to implement the activities required by the proposed permits. This may well be the route that many phase II cities elect to take, as they have ample evidence from the phase I group of the serious cost burden.

Identification of Facilities. As part of their NPDES permit applications, regulated MS4s are asked to provide inventories of known industrial discharges to their systems, and to describe how they will identify additional sites that are likely contributors to stormwater pollution. EPA and state authorities do not have the personnel to go out and knock on every door, so they are expecting cities to inventory industrial facilities for them. When the federal permitting program began in 1990, many industrial and commercial facilities were unaware of their obligations under the new program. In Dallas, for example, the first filing of NOIs to EPA Region VI consisted of 40 applications. However, when the city compiled an inventory for its MS4 permit application, it counted more than 1,000 industrial and commercial sites.

The federal permitting program requires that industrial facilities file copies of their NOIs with the MS4 to which they discharge. Some cities will rely on the information from the federal program for their database of industrial facilities. But many cities are proposing to take additional steps to identify noncomplying facilities. EPA suggests that "municipalities should explore other sources of

information on industrial facilities to help identify gaps in inventory." Other sources include information submitted under other environmental programs, such as air pollution and hazardous materials permits, pretreatment program applications, building permits, business licenses, and local tax rolls. Although the MS4s were required to conduct these inventories in preparing their permit applications, it is anticipated that this work will continue during the term of the permit.

Identifying regulated facilities within the jurisdiction of an MS4 that have failed to apply for permit coverage was one of EPA's three enforcement priorities for fiscal year 1994-95, according to an internal EPA enforcement document. EPA intends to review the lists compiled by cities in their part 2 permit applications, and match them with a list of NOIs and industrial permit applications to verify compliance.

Reporting Obligations. In addition to receiving NOIs from industrial permittees under their jurisdictions, many cities also may ask industrial facilities to provide their SWP3s, their quantitative monitoring data, if any, and the results of their annual compliance evaluations.

Stormwater Pollution Prevention Plans. An SWP3 for regulated industrial facilities is required by the federal permitting program. The SWP3 must include:

- identification of potential sources of stormwater pollution at the facility;
- a plan for the management of significant pollution sources through the implementation of BMPs; and
- a plan for annual review of the site and facility operations to ensure that the management controls are still effective, and to identify modifications that may require revisions in the SWP3.

Some cities, such as Dallas, may choose not to review the SWP3s which facilities develop for their industrial permits unless there are special circumstances, but most will want to see SWP3s, either in the course of a regular industrial inspection, or as a submitted report. Shreveport proposes to incorporate stormwater review into its existing industrial inspection program, including a review of a facility's SWP3. Charlotte, N.C., will have inspections focused on stormwater management, in which SWP3s will be reviewed.

Some municipalities will accept the SWP3s developed for EPA as sufficient, but others will want more information. Orange County, Fla., proposes to "accept the BMPs required by EPA as adequate to maintain the quality of discharges to the MS4 system unless monitoring or other information indicates otherwise."

Many cities are in the process of developing lists or manuals of recommended BMPs. Dallas proposes to conduct a review of existing industrial BMPs to determine which are effective. The city plans to eventually write BMP guidelines for five industrial categories and specify discharge limits, which will be added to the Dallas City Code.

At this time, most cities are recommending, rather than requiring, specific BMPs. Many are in the process of developing checklists of BMPs best suited for local industries. The North Central Texas Council of Governments recently issued a detailed manual, "Best Management Practices for Industrial Activities," and the Washington State Department of Ecology has developed a comprehensive set of BMP guidelines for use in the Puget Sound area. This will be used as a guidance document for cities as they develop their own municipal management programs.

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Municipal Monitoring Requirements. Water quality monitoring can be a substantial, ongoing expense of a municipal storm water management program. EPA requires regulated municipalities to conduct monitoring at selected outfalls during the term of the permit, and to select some monitoring locations with significant upstream industrial facilities. But most cities do not have budgets for extensive monitoring, and EPA suggests that MS4s may want to secure legal authority to require industry to conduct self-monitoring.

Most MS4 cities will want to see all monitoring data that industry may have available, or that dischargers propose to conduct to comply with their federal permits. In addition, cities may do additional sampling, or require industries to perform it themselves.

If persistent problems emerge in a watershed, EPA will want cities to conduct additional monitoring to uncover the sources of the problems. In these cases, it is natural for cities to look for ways to shift the expense to industry, if it is determined that industry may be causing the problem.

Inspections. As part of their stormwater permit obligations, municipalities must devise industrial site inspection programs. Site inspections must include (1) evaluations of pollution prevention plans, and (2) on-site visual inspections to evaluate the potential for discharges of contaminated water and to assess the effectiveness of pollution prevention plans. Most cities will be adding staff to conduct these inspections.

A few cities that have been concerned with stormwater pollution for many years have created their own industrial permitting programs. In these cities, industrial stormwater dischargers will need to secure permits from both the federal and municipal programs.

Chemical Use and Disposal Restrictions. Cities must include in their permit applications programs for reduction of stormwater pollution associated with the application of pesticides, herbicides and fertilizers. They must also describe educational and other appropriate activities to facilitate the proper disposal of used oil and toxic materials. Many of these program activities are directed to the general public and municipal agencies responsible for maintaining landscaping in city-owned parks and roadside areas. However, commercial applicators and distributors of landscaping chemicals will be affected. Also, EPA's emphasis on proper disposal of lawn chemicals, motor oil and hazardous waste is likely to stimulate municipalities to investigate whether businesses are disposing of these items properly. In the process, MS4s may focus particular attention on small commercial facilities that may have avoided proper procedures in the past.

Pavement Washdown Restrictions. Field screening tests conducted on storm drain outfalls as part of the part 1 municipal permit applications pinpointed surfactants (soap residues) as the most common pollutant detected. Undoubtedly, much of this pollution is caused by degreasers and detergents in wash water from pavement cleaning. It is possible to avoid discharging waste water to storm drains by shifting to dry vacuum or water recycling systems. Commercial facilities with large areas of pavement, or pavement areas that need frequent cleaning, such as gasoline service stations, are likely to see future restrictions on pavement washdowns if MS4 cities continue to find substantial concentrations of surfactants in storm drain discharges.

Elimination of Illicit Discharges and Connections. EPA states that illicit connections and improper disposal to MS4s make a substantial contribution to municipal stormwater pollution problems, and that "elimination of these sources of pollution would result in a dramatic improvement in the

quality of stormwater discharges from MS4s." EPA guidance suggests that regulated MS4s are not expected to tolerate any illicit connections to their storm systems. Thus, the part 2 municipal permit application requires a vigorous program to identify and eliminate illicit connections, including:

- ongoing field screening during the life of the permit;
- a step-by-step process to investigate, identify and prohibit illicit discharges.

Most municipalities surveyed for this section have proposed strong programs. Most cities are proposing public awareness programs, with the objective of encouraging public reporting of illicit connections and illegal dumping. Cities are also proposing substantial increases in fines to be assessed if illicit connections are not corrected.

It should be obvious to industrial and commercial facilities that, if they are discharging illegally to an MS4, there is a strong probability that this will be discovered, either by field screening or targeted inspections. Industries should pay close attention to the self-inspection procedures performed as part of the federal permitting process and ensure that they have made every effort to uncover any illicit connections or improper disposal to the storm drain system. In many cases, these connections may have been legally permissible, and approved by the city, at the time they were installed.

Spill Reporting and Response. Industry is required to report releases of reportable quantities of a large number of listed substances to EPA. Following such releases, dischargers must revise their SWP3s to ensure that the chances of the releases recurring are eliminated or minimized. In cases where there is too great a risk of spills from an industrial facility, EPA may require the facility to apply for an individual stormwater discharge permit, as opposed to the more lenient baseline general permit.

Municipalities are being required, as part of their own MS4 permits, to implement a management program to "prevent, contain, and respond to spills that may discharge into the MS4." EPA's intention is to get cities to examine their spill response programs to make sure that they take stormwater quality, as well as public safety, into consideration. Cities also will examine SWP3s of industrial facilities, to make sure their spill response programs are effective, particularly if reportable releases have occurred.

Annual Reports and EPA/Municipality Cooperation. Many of the programs required in the MS4 permits duplicate EPA state agency permit programs for industrial facilities and construction sites. As noted above, EPA is asking regulated MS4s to ensure that industrial and construction site dischargers comply with federal stormwater requirements. Clearly, EPA is expecting cities to act as watchdogs. An EPA enforcement strategy document indicates that for the agency itself "review of SWP3s and other permit requirements for every facility is not a high priority activity for FY 1994 and 1995." The strategy document suggests that if an MS4 operator believes that an industrial facility is not in compliance, the MS4 should report this to EPA or the state NPDES agency:

> "Although the MS4 entity does not have authority to enforce the requirements of a federal permit, compliance and enforcement activities of the local program will be done by the MS4 entity ... [which] can refer a case of a facility that has failed to apply for a federal permit, or suspected noncompliance with a federal permit to EPA."

Many regulated MS4s, as noted previously, will review a facility's SWP3 and any other relevant information collected for the purposes of the federal permit. They will also report to EPA any evidence of noncompliance or inaccuracies in the permit. The term of the MS4 permit is five years.

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Clearly, EPA expects that any problems that a regulated city does not solve during this period will be strongly addressed in its application for renewal. But pressure on a municipality to attack problems vigorously may occur before the five-year term is completed.

Cities are required to file annual reports on the progress of their storm water management programs. Besides the status of the overall program, the reports must include any data accumulated throughout the year, particularly data that indicate water quality improvements or degradation. If, during the term of the permit, a city uncovers a significant pollution problem in an industrial watershed, this will be included in the annual report. It is likely that EPA will respond by requiring measures to fix the problem. Also, the report is a public document, so neighborhood groups or environmental organizations could use the report to pressure a city to act on the problem.

Annual reports can be substantial documents. EPA Region IV, which has responsibility for Florida, is asking for extensive details. Besides including an overall evaluation of the stormwater management program, including major findings of water quality improvements or degradation, and an analysis of program weakness and strengths, the annual report must thoroughly discuss each activity in the management program, with its accomplishments quantified. For example, the report on monitoring must include a summary chart of all data collected, any results or conclusions derived from the data, the status of monitoring activities compared with the schedule required by the permit, and a discussion of any proposed revisions in the monitoring schedule.

Municipal Program Implications for Developers and Construction Site Operators

Development Restrictions. EPA's guidance document states that "controlling the contribution of pollutants in stormwater discharges at the onset of land development is the most cost-effective approach to stormwater management." Most of the 15 cities surveyed for this section followed EPA's lead and drafted strong sections on new development and significant redevelopment. Several MS4 cities, like Shreveport and Dallas, are proposing to use their first five-year permit terms to study how to incorporate stormwater management controls into the planning process. Their eventual goal is to develop local stormwater ordinances, or consolidate existing ordinances under one program.

Some applicants such as Little Rock, Ark., and Sarasota County, Fla., are content to call for limiting, minimizing or reducing the discharge of pollutants from newly developed or redeveloped areas. Others, such as Warren, Mich., and Baltimore state that the goal of their management programs will be to limit the discharge of pollutants to predevelopment levels. Warren's permit also calls for minimizing "downstream water quality impacts resulting from developments that increase the imperviousness of an area."

Erosion and Sedimentation Control Requirements. All regulated MS4s must respond to very specific EPA guidance on controlling erosion from construction sites. Construction activities that disturb more than five acres must be permitted under federal or state stormwater permits. However, EPA also is asking MS4s to conduct erosion and sedimentation control programs for construction sites involving review of site plans, inspection of sites, implementation of BMPs, and enforcement measures and educational programs for site developers and operators. Cities likewise are required to consider all construction sites within their boundaries, regardless of size.

Dallas proposes to "revise development ordinances as needed to assure implementation of regulated sediment and erosion control measures," and will make the submission of an SWP3 a condition of receiving a building permit. Dallas also will develop specifications and standard details

for the proper use of BMPs at construction sites. Shreveport makes the submission of an SWP3 and an NOI a requirement for receiving a building permit. The city may deny the permit if the SWP3 is not approved.

Orange County, Fla. which has had stormwater management programs in place for a number of years, requires more than simple conformance with the federal permitting program. Erosion control provisions, including recommended BMPs, as well as non-structural controls, were incorporated into the county code prior to NPDES permitting. The county code also requires that a site erosion and turbidity plan be submitted with a project's construction plans to ensure that the proposed erosion BMP's are in compliance with the county code. The county will continue its erosion control program during the term of its NPDES permit, and has proposed to improve the existing inspection program for construction sites.

Austin has a well developed local program for regulating construction site runoff. All construction and development projects involving any disturbance of land are required to obtain approved erosion and sedimentation control plans, which must be in accordance with city guidelines. Inspectors determine if the site operators are following the approved plans, and also inspect after a rainfall event to find out if the approved practices are adequate. An inspector may issue a cease-and-desist order if a site is found to be out of compliance.

Structural Stormwater Management Controls. Many municipalities with more aggressive stormwater management programs require some kind of structural controls—detention ponds, retention structures or infiltration areas—in areas of new development. Charlotte, N.C., began requiring onsite detention structures in the 1970s to improve runoff quality from new developments. Due to Florida's dependence on ground water, in 1984 the state legislature enacted a law on stormwater management which requires, among other provisions, detention structures for any direct stormwater discharges to wetlands, and water quality treatment for the first half-inch of runoff from a new development. In Austin, the city planning commission has recommended requiring new developments to use detention ponds, vegetated filtering areas, or both. Bellevue's regulation is among the most specific: "On-site stormwater controls are required to provide protection for the 24-hour one hundred year storm event." Bellevue uses a system of permitting and inspection to enforce compliance with the structural control requirements, including a maximum fine for noncompliance of $500 per day. Required structural controls such as these can consume large amounts of land—in some cases as much as 50 percent of a development's acreage.

Cities that require or strongly suggest the use of structural BMPs generally propose a thorough permitting and/or inspection program, to ensure that only city-approved BMPs are used and that they are maintained properly. Charlotte, for instance, will develop technical guidance to assist developers, including specific design criteria for 10 to 12 structural BMPs. Charlotte also will have a program to inspect and bring enforcement action against any BMP and other privately owned and operated stormwater structure not built or maintained to its standards.

Minimizing the Cost of Compliance

It is in industry's best interest to stay in close touch with the MS4 municipalities during the permitting process. Permitting for large- and medium-sized MS4s is nearly completed, but some permits are still in the draft stage. Industrial facilities likely to be affected by MS4 permitting could get involved with a municipal stormwater advisory committee, lobby through a trade association, or make comments during the public comment periods on permit applications. As cities refine their management plans, suggestions from affected industries may help make regulations less encumbering.

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It also makes sense to act promptly on stormwater pollution problems as they are identified. A problem can usually be solved with less cost and difficulty if it is addressed when discovered, rather than waiting for an inspection or monitoring data to uncover it. At that point, the discharger may have to submit to whatever conditions the city or permitting agency calls for. Also, it is prudent to avoid the ire of neighborhood or environmental groups, which can tarnish a company's image.

Careful analysis of a facility's processes and layout may suggest alterations that could minimize exposing potential contaminants to runoff. Moving exposed processes indoors and enclosing outside storage areas are good examples. It is also important to make a careful study of the various federal permit programs and to apply for the one with the fewest requirements for a particular site. Usually, the baseline general permit is the best choice.

Finally, there may be opportunities for dischargers to reduce the costs of activities required by the MS4s, such as monitoring. For example, if a facility has a large number of outfalls on its property, it may want to work with the local MS4 to consolidate them, thus reducing monitoring requirements. Alternatively, it may be possible to share costs. Large industrial sites have self-monitoring requirements imposed by EPA permitting, while a city may need to monitor an industrial watershed. It is possible that data from the industrial sites could provide what the city needs, and that the city would be willing to share the costs of conducting the monitoring. In some MS4 cities, the installation of stormwater controls may result in reductions or credits against fees or stormwater utility charges.

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Tab 500

Permit Requirements and Compliance Monitoring

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¶510 Executive Summary*

The requirements with which a stormwater discharger must comply vary on a permit-by-permit basis. However, the U.S. Environmental Protection Agency (EPA) in a final rule issued on April 2, 1992, established minimum monitoring requirements for all stormwater dischargers. These monitoring requirements are spelled out in the construction general permit and in the multi-sector general permit.

These general permits—sometimes referred to as model permits—also may be used by states with National Pollutant Discharge Elimination System (NPDES) permitting authority to establish state permit conditions. State permit conditions must be at least as stringent as those established by EPA (for the specific permit requirements for each state, see Tab 800).

Although the federal baseline industrial general stormwater permit was discontinued on Dec. 31, 1998, many states continue to run programs that resemble the expired permit. For this reason, the *Manual* will continue to provide information about compliance monitoring requirements for EPA's baseline general permit. However, for industrial facilities in states not delegated by EPA to operate an NPDES stormwater program, the provisions of the multi-sector general permit apply. EPA published a modified multi-sector permit Sept. 30, 1998, that brought all former baseline permittees into multi-sector permit coverage.

This Tab examines the permit requirements that may be imposed on stormwater dischargers based upon EPA's baseline general permits and the multi-sector permit. (*Editor's Note:* Information regarding monitoring requirements for construction activity is based on EPA's revised construction general permit issued Feb. 17, 1998 (63 FR 7858) (see Appendix 1(d)). Although specific requirements may vary from state to state, most states are expected to follow closely the conditions established by EPA. This Tab is a companion to Tab 600, which provides explanations of *how* to comply with the permit requirements set forth in this Tab.

* Revised, February 1999.

¶520 General Permit Requirements*

EPA established minimum permit and reporting requirements for all stormwater dischargers in its final rule of April 2, 1992 (see Appendix 1(b)(2)). This rule, along with EPA's general permit regulations (see Appendix 1(c) and Appendix 1(d)), set forth the basic permit terms with which stormwater dischargers must comply. On Sept. 29, 1995, EPA issued its final multi-sector general permit for industrial activities, covering discharges from 29 industrial sectors (see Appendix 1(e)). Most recently, on September 30, 1998, EPA folded all baseline industrial permittees in non-delegated states into coverage under the multi-sector permit. Information on the baseline industrial permit, which was officially discontinued Dec. 31, 1998, will remain in this *Manual* because many states have requirements that closely resemble provisions in the federal baseline permit.

April 2, 1992, Final Rule. EPA's April 2, 1992, final permitting rule described a national strategy for issuing NPDES permits for stormwater discharges associated with industrial activity. It also contained revisions to the minimum monitoring and reporting requirements for stormwater discharges associated with industrial activity. In addition, the final rule also established minimum requirements for filing notices of intent to be authorized to discharge under NPDES general permits.

Industrial, Construction and Multi-sector General Permits. EPA's general permits for industrial and construction stormwater discharges and the multi-sector general permit for industrial activities, are model general permits that have been modified for each state, Indian tribe and federal facility for which EPA is the permitting authority.

¶521 Water Quality Act of 1987

The Water Quality Act (WQA) of 1987 added Section 402(p) to the Clean Water Act (CWA) to establish a two-phased approach for EPA to address stormwater discharges. WQA clarified and amended the requirements for stormwater permits in CWA Section 402(p)(3). It also clarified that permits for discharges associated with industrial activity must meet all applicable provisions of CWA Sections 301 and 402, including best available technology (BAT)/best control technology (BCT) requirements, and that permits for discharges from municipal separate storm sewers must meet a new statutory standard requiring controls to reduce the discharge of pollutants to the maximum extent practicable. As with all point source discharges under CWA, stormwater discharges are subject to applicable water quality-based standards.

* Revised, February 1999.

¶530 Minimum Monitoring Requirements

Current NPDES regulations at 40 CFR 122.44(i)(2) require that all NPDES permits establish requirements to report monitoring results with a frequency dependent on the nature and effect of the discharge, but in no case less than once a year. EPA's April 2, 1992, final rule established minimum monitoring and reporting requirements specifically addressing stormwater discharges associated with industrial activity. The final rule provides for establishing monitoring conditions in stormwater permits on a case-by-case basis (40 CFR 122.44(i); see Appendix 1(b), p. 95).

¶531 Annual Inspections

At a minimum, a permit for stormwater discharges must require the discharger to conduct an annual inspection of the facility site to identify areas contributing to a discharge and evaluate whether measures to reduce pollutant loadings (i.e., best management practices (BMPs)) identified in the stormwater pollution prevention plan for the facility are adequate and properly implemented in accordance with the terms of the permit and the plan or whether additional controls are needed (40 CFR 122.44(i)(4)(i); see Appendix 1(b), p. 96).

EPA believes that, at a minimum, annual inspections are appropriate to ensure:

- evaluation of changing conditions and practices at a site (especially those caused by winter conditions and wet weather occurring throughout the year); and
- adequate implementation of pollution prevention measures on a regular basis.

In addition, EPA notes that this rule provides sufficient flexibility for permit writers to establish monitoring requirements that reflect the potential risk of the discharge and that are appropriately related to the nature of the permit conditions for a discharge. The rule does not preclude discharge sampling and reporting requirements in stormwater permits (see ¶544 for discussion of monitoring requirements for certain categories of dischargers under EPA's baseline industrial general permit and ¶566 for requirements under the multi-sector general permit (MSGP)). Nor does it limit the authority of EPA or NPDES states to establish sampling requirements, where appropriate, based on a consideration of risk or other factors.

In fact, the MSGP requires quarterly visual inspections for each year the permit is in effect. However, analytical monitoring of stormwater discharges is only required quarterly in the second and fourth year of the MSGP.*

Who Must Conduct Inspections. EPA does not establish any requirement with regard to who must conduct the annual inspection. EPA has indicated that a minimum annual frequency of inspections compensates for less formal requirements with respect to specifying who must conduct the inspection.

Recordkeeping. The discharger is required to maintain for a period of at least three years a record summarizing the results of the annual inspection and a certification that the facility is in compliance with the pollution prevention plan and the permit, or identifying any incidents of noncompliance (40 CFR 122.44(i)(4)(ii); see Appendix 1(b), p. 96). The report and certification must be signed by a corporate official in accordance with 40 CFR 122.22 (40 CFR 122.44(i)(4)(iii); see Appendix 1(b), p. 96 and p. 65.)

* Revised, February 1999.

If the permit does not require submittal of monitoring results at least annually, the permittee must report all instances of non-compliance at least annually.

Inactive Mining Sites. A minimum annual inspection or report is not required for stormwater associated with industrial activity from inactive mining operations where annual inspections are impracticable. Rather, permits for stormwater discharges from such operations may require certification once every three years by a registered professional engineer that the facility is in compliance with the permit, or provide for additional requirements (40 CFR 144(i)(4)(iv); see Appendix 1(b), p. 96).

According to EPA, this will provide additional flexibility to address inactive mining operations. EPA anticipates that certification by professional engineers may often be appropriate for these sites given the nature of typical controls for these sites, and the limited amount of activity occurring at them. EPA indicates that alternative requirements may be appropriate in some circumstances. For example, stormwater discharges from inactive mining operations on federal lands where an operator cannot be identified present unique circumstances because of the remote nature and high number of sites on large federally owned areas.

¶532 Other Potential Requirements

In the preamble to its April 2, 1992, final rule, EPA indicated that different types of permit conditions are appropriate for different types of stormwater discharges (see Appendix 1(b)(2), p. 513). Some permits will establish technology- or water-quality-based numeric limitations. End-of-pipe numeric effluent limitations typically are used for some types or classes of stormwater discharges associated with industrial activity. For example, EPA has issued numeric effluent limitation guidelines for 10 classes of dischargers that are composed entirely of stormwater or of stormwater combined with process water. Typically, NPDES permits for those classes of discharges will contain numeric effluent limitations and sampling requirements. Discharge monitoring reports are an important means of assessing compliance with these requirements.

Permits for other types of industrial stormwater discharges will require the implementation of pollution prevention measures and/or BMPs (see ¶542).

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¶540 Baseline General Permit for Industrial Stormwater Discharges

Although EPA's baseline general permit covers only certain industrial stormwater dischargers in areas where EPA implements the stormwater program, it has been used as a model by many states, and thus, is a good indicator of the basic permit conditions that many dischargers must meet. In states where EPA is the permitting authority, facilities were required to switch over to a modified multi-sector permit.

This section will remain in the *Manual* because many states maintain stormwater permits that closely resemble the baseline general permit. References to specific requirements of the baseline permit are no longer directly applicable. Permittees in states with permitting authority are advised to consult the permits in those states and should refer to this section only as a reference.

Although state requirements must be at least as stringent as those established by EPA, the agency does not require states to adopt the provisions of the multi-sector general permit at this time.*

¶541 Special Permit Conditions

EPA's general permit for stormwater discharges associated with industrial activity established certain special permit conditions. These conditions also exist in the multi-sector permit and are similar to requirements in many delegated states.*

Prohibition on Non-stormwater Discharges. All stormwater discharges under the general permit must be composed entirely of stormwater. Any non-stormwater discharges must be in compliance with a permit—other than the stormwater permit—specifically issued to cover the discharge (see Appendix 1(c), p. 606).

Exceptions. The following non-stormwater discharges are authorized if discharged in compliance with the permit, discharges from:

- fire fighting activities;
- fire hydrant flushings;
- potable water sources including waterline flushings;
- irrigation drainage;
- lawn watering;
- routine external building washdown that does not use detergents or other compounds;
- pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used;
- air conditioning condensate;
- springs;
- uncontaminated groundwater; and
- foundation or footing drains where flows are not contaminated with process materials such as solvents.

* Revised, February 1999.

Releases in Excess of Reportable Quantities. The discharge of hazardous substances or oil in the stormwater discharge must be prevented or minimized by the facility's stormwater pollution prevention plan (see ¶542). In addition, the permittee is still subject to all applicable release reporting requirements under other federal environmental programs (40 CFR Parts 117 and 302; see Appendix 1(c), p. 606).

If a release containing a hazardous substance equal to or in excess of its reportable quantity under 40 CFR Part 117 or Part 302 occurs during a 24-hour period the following requirements apply:

- The discharger must notify the National Response Center (NRC) at (800) 424-8802 or (202) 426-2675 in the Washington metropolitan area) pursuant to 40 CFR Parts 117 and 302.
- The stormwater pollution prevention plan must be modified within 14 days to describe the release.
- The permittee must review the stormwater pollution prevention plan to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and must modify the plan if appropriate.
- The permittee must submit within 14 days a written description of the release and the circumstances leading to the release to the appropriate EPA regional office.

These requirements do not apply to multiple anticipated discharges (see discussion below).

Multiple Anticipated Discharges. Facilities that have more than one anticipated discharge per year containing the same hazardous substance in an amount equal to or in excess of its reportable quantity that occurs during a 24-hour period, if the discharge is caused by events occurring within the scope of the relevant operating system, must:

- submit notifications as discussed above with respect to other releases for the first such release that occurs during a calendar year;
- provide in the stormwater pollution prevention plan a written description of each release; and
- review the stormwater pollution prevention plan to identify measures to prevent or minimize such releases and modify the plan if appropriate (see Appendix 1(c), p. 606).

¶542 Stormwater Pollution Prevention Plans

Under EPA's baseline general permit, a permittee must develop a stormwater pollution prevention plan for the facility. The plan must be prepared in accordance with good engineering practices. The plan must identify potential sources of pollution that may reasonably be expected to affect the quality of stormwater discharges from the facility. In addition the plan must describe and ensure the implementation of practices that will be used to reduce the pollutants in stormwater discharges and to assure compliance with the terms and conditions of the permit (see Appendix 1(c), p. 607).

Signature and Plan Review. The plan must be signed in accordance with Part VII.G. of the general permit (see Appendix 1(c), p. 608 and p. 623). The plan must be retained on-site at the facility until at least one year after coverage under the permit terminates.

The permittee must make the plan available on request to EPA or an authorized representative, or if the discharge is through a municipal separate storm sewer system (MS4), to the MS4.

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EPA may notify the permittee at any time that the plan does not meet the minimum requirements. Within 30 days of such notification, the permittee must make the required changes and submit a certification to EPA that the changes have been made.

Keeping Plans Current. The permittee must amend the plan whenever there is a change in design, construction, operation or maintenance that has a significant effect on the potential for the discharge of pollutants or if the stormwater pollution prevention plan proves to be ineffective in eliminating or significantly minimizing pollutants in stormwater discharges (see Appendix 1(c), p. 608).

Contents of Plan. At a minimum, the plan must include the following items (see Appendix 1(c), p. 608):

- an identification of the facility's pollution prevention team;
- a description of potential pollutant sources including:
  - — a drainage map,
  - — an inventory of exposed materials,
  - — a list of significant spills and leaks,
  - — a summary of existing sampling data, and
  - — a risk identification and a summary of potential pollutant sources;
- a description of the stormwater management measures appropriate for the facility that addresses the following minimum components, including a schedule for implementing such controls:
  - — good housekeeping,
  - — preventive maintenance,
  - — spill prevention and response procedures,
  - — inspections,
  - — employee training,
  - — recordkeeping and internal reporting procedures,
  - — non-stormwater discharges,
  - — sediment and erosion control, and
  - — management of runoff; and
- a comprehensive site compliance evaluation.

Consistency with Other Plans. Stormwater pollution prevention plans may reflect requirements for Spill Prevention Control and Countermeasure (SPCC) plans developed for the facility under Section 311 of CWA, or BMP programs otherwise required by an NPDES permit for a facility, as long as such requirement is incorporated into the stormwater pollution prevention plan (see Appendix 1(c), p. 612).

Stormwater Discharges Through MS4s. Facilities discharging stormwater through an MS4 must comply with applicable requirements in municipal stormwater management programs developed under NPDES permits issued for the discharge of the MS4. If the MS4 serves a population of 100,000 or more, the facility must make the plan available to the municipal operator upon request (see Appendix 1(c), p. 612).

SARA Title III, Section 313 Facilities. EPA's baseline industrial general permit establishes additional plan requirements for stormwater discharges associated with industrial activity from facilities subject to reporting requirements under Section 313 of Title III of SARA for chemicals classified as "Section 313 water priority chemicals." (See Appendix 3(c), p. 31 for a list of the water priority chemicals.) The plans must describe and ensure the implementation of practices that are necessary to provide for conformance with the following guidelines.

In areas where Section 313 water priority chemicals are handled, appropriate containment, drainage control and/or diversionary structures must be provided. At a minimum, one of the following preventive systems or its equivalent must be used:

- curbing, culverting, gutters, sewers or other forms of drainage control to prevent or minimize the potential for stormwater run-on to come into contact with significant sources of pollutants; or
- roofs, covers or other forms of appropriate protection to prevent storage piles from exposure to stormwater and wind.

The plan must include a complete discussion of measures taken to conform with guidelines specified in the permit, other effective stormwater pollution prevention procedures, and applicable state rules, regulations and guidelines. These include requirements regarding:

- liquid storage areas where stormwater comes into contact with any equipment, tank, container, or other vessel used for Section 313 water priority chemicals;
- material storage areas for water priority chemicals other than liquids;
- truck and railcar loading and unloading areas for liquid water priority chemicals;
- areas where water priority chemicals are transferred, processed or otherwise handled;
- facility site runoff from other areas that might contain water priority chemicals;
- preventive maintenance and housekeeping;
- facility security;
- training; and
- engineering certification (see Appendix 1(c), p. 612).

¶543 Numeric Effluent Limitations

Any discharge composed of coal pile runoff must not exceed a maximum concentration for any time of 50 mg/L total suspended solids. Coal pile runoff must not be diluted with stormwater or other flows to meet this limitation. The pH of such discharges must be within the range of 6.0-9.0 (see Appendix 1(c), p. 615).

¶544 Monitoring and Reporting Requirements

In addition to the annual facility inspection requirement, EPA's baseline general permit establishes specific monitoring requirements for certain facilities. These requirements are significantly different from those spelled out in the multi-sector general permit. Bear in mind, the following information should be used as a reference for permittees in states with permitting authority that refer to the expired baseline general permit for monitoring requirements.*

* Revised, February 1999.

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Semi-annual Monitoring Requirements

According to the baseline permit, the following categories of stormwater dischargers must monitor their stormwater discharges at least semi-annually (two times per year). These discharges must report their results in the manner provided in the permit (see discussion below). In addition to the parameters listed below, the permittee must provide the date and duration of the storm event(s) sampled; rainfall measurements or estimates of the storm event; the duration between the storm event sampled and the end of the previous measurable storm event; and an estimate of the total volume of the discharge sampled.

SARA Title III, Section 313 Facilities. Facilities that handle Section 313 water priority chemicals are required to monitor stormwater that is discharged from the facility that comes into contact with any equipment, tank, container or other vessel, or area used for storage of water priority chemicals, or located at a truck or rail car loading or unloading area for the following parameters:

- oil and grease (mg/L);
- five day biochemical oxygen demand (BOD_5) (mg/L);
- chemical oxygen demand (COD) (mg/L);
- total suspended solids (mg/L);
- total Kjeldahl nitrogen (TKN) (mg/L);
- total phosphorus (mg/L);
- pH;
- acute whole effluent toxicity (in accordance with the procedures established in Part VI.C. of the general permit (see Appendix 1(c), p. 619), which must be initiated within 180 days after issuance of the permit or within 90 days after the commencement of a new discharge); and
- any water priority chemical.

These facilities must monitor samples collected during the sampling periods running from January to June and July to December. The results obtained during the January to December sampling period must be submitted on a discharge monitoring report by the following January 28. A separate report is required for each sampling period.

Primary Metal Industries. Facilities with stormwater associated with industrial activity classified as Standard Industrial Classification (SIC) code 33 (primary metal industry) are required to monitor for:

- oil and grease (mg/L);
- COD (mg/L);
- total suspended solids (mg/L);
- pH;
- acute whole effluent toxicity (in accordance with the procedures established in Part VI.C. of the general permit (see Appendix 1(c), p. 619), which must be initiated within 180 days after issuance of the permit or within 90 days after the commencement of a new discharge);
- total recoverable lead (mg/L);
- total recoverable cadmium (mg/L);
- total recoverable copper (mg/L);

- total recoverable arsenic (mg/L);
- total recoverable chromium (mg/L); and
- any pollutant limited in an effluent guideline to which the facility is subject.

These facilities must monitor samples collected during the sampling periods running from March to August and September to February. The results obtained during the sampling period from March to February must be submitted on a discharge monitoring report by the following April 28. A separate report is required for each sampling period.

Facilities that are classified as SIC code 33 only because they manufacture pure silicon and/or semiconductor grade silicon are not required to monitor for total recoverable cadmium, total recoverable copper, total recoverable arsenic, total recoverable chromium or whole effluent toxicity.

Land Disposal Units/Incinerators/ Boilers and Industrial Furnaces (BIFs). Facilities with stormwater discharges associated with industrial activity from any active or inactive landfill, land application site or open dump without a stabilized final cover that has received any industrial wastes, and incinerators (including BIFs) that burn hazardous waste and operate under interim status or a permit under Subtitle C of RCRA, must monitor for:

- total recoverable magnesium (mg/L);
- dissolved magnesium (mg/L);
- TKN (mg/L);
- COD (mg/L);
- total dissolved solids (TDS) (mg/L);
- total organic carbon (TOC) (mg/L);
- oil and grease (mg/L);
- pH;
- total recoverable arsenic (mg/L);
- total recoverable barium (mg/L);
- total recoverable cadmium (mg/L);
- total recoverable chromium (mg/L);
- total recoverable cyanide (mg/L);
- total recoverable lead (mg/L);
- total mercury (mg/L);
- total recoverable selenium (mg/L);
- total recoverable silver (mg/L); and
- acute whole effluent toxicity (in accordance with the procedures established in Part VI.C. of the general permit (see Appendix 1(c), p. 619), which must be initiated within 180 days after issuance of the permit or within 90 days after the commencement of a new discharge).

These facilities must monitor samples collected during the sampling periods running from October to March and April to September. The results obtained during the sampling period from October to September must be submitted on a discharge monitoring report by the following October 28. A separate report is required for each sampling period.

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Wood Treatment Facilities. Facilities with stormwater discharges from areas that are used for wood treatment, wood surface application or storage of treated or surface protected wood at any wood preserving or wood surface facilities must monitor for:

- oil and grease;
- pH;
- COD (mg/L);
- total suspended solids (mg/L).

In addition facilities that use chlorophenolic formulations must measure pentachlorophenol (mg/L) and whole effluent toxicity. Facilities that use creosote formulations must measure acute whole effluent toxicity. Whole effluent toxicity testing must be done in accordance with the procedures established in Part VI.C. of the general permit (see Appendix 1(c), p. 619) and must be initiated within 180 days after issuance of the permit or within 90 days after the commencement of a new discharge. Facilities that use chromium-arsenic formulations must measure for total recoverable arsenic (mg/L), total recoverable chromium (mg/L) and total recoverable copper (mg/L).

These facilities must monitor samples collected during the sampling periods running from January to June and July to December. The results obtained during the January to December sampling period must be submitted on a discharge monitoring report by the following January 28. A separate report is required for each sampling period.

Coal Pile Runoff. Facilities with stormwater discharges from coal pile runoff are required to monitor for:

- oil and grease (mg/L);
- pH;
- total suspended solids (mg/L);
- total recoverable copper (mg/L);
- total recoverable nickel (mg/L); and
- total recoverable zinc.

These facilities must monitor samples collected during the sampling periods running from March to August and September to February. The results obtained during the sampling period from April to March must be submitted on a discharge monitoring report by the following April 28. A separate report is required for each sampling period.

Battery Reclaimers. Facilities with stormwater discharges from areas used for storage of lead acid batteries, reclamation products or waste products, and areas used for lead acid battery reclamation (including material handling activities) at facilities that reclaim lead acid batteries are required to monitor for:

- oil and grease (mg/L);
- COD (mg/L);
- total suspended solids (mg/L);
- pH;
- total recoverable copper (mg/L); and
- total recoverable lead (mg/L).

These facilities must monitor samples collected during the sampling periods running from March to August and September to February. The results obtained during the sampling period from March to February must be submitted on a discharge monitoring report by the following April 28. A separate report is required for each sampling period.

Annual Monitoring Requirements

The following categories of stormwater dischargers must monitor their stormwater discharges at least annually (one time per year). These dischargers are not required to submit monitoring results unless specifically requested by EPA. However, they must retain for a six year period from the date of sample collection or for the term of the permit, whichever is greater, records of all monitoring information collected during the permit term. In addition to the parameters listed below, the permittee must provide the date and duration of the storm event(s) sampled; rainfall measurements or estimates of the storm event; the duration between the storm event sampled and the end of the previous measurable storm event; and an estimate of the total volume of the discharge sampled (see Appendix 1(c), p. 617).

Airports. Airports with over 50,000 flight operations per year with stormwater discharges from areas where aircraft or airport deicing operations occur (including runways, taxiways, ramps and dedicated aircraft deicing stations) must monitor for:

- oil and grease (mg/L);
- BOD_5 (mg/L);
- COD (mg/L);
- total suspended solids (mg/L);
- pH; and
- the primary ingredient in the deicing materials used at the site (e.g., ethylene glycol, urea, etc.).

Coal-fired Steam Electric Facilities. Facilities with stormwater discharges from coal handling sites at coal-fired steam electric power generating facilities (other than discharges in whole or in part from coal piles subject to stormwater effluent guidelines at 40 CFR 423—which are not eligible for coverage under EPA's general permit) must monitor for:

- oil and grease (mg/L);
- pH;
- total suspended solids (mg/L);
- total recoverable copper (mg/L);
- total recoverable nickel (mg/L); and
- total recoverable zinc (mg/L).

Animal Handling/Meat Packing Facilities. Facilities with stormwater discharges from animal handling areas, manure management areas, and production waste management areas that are exposed to precipitation at meat packing plants, poultry packing plants, and facilities that manufacture animal and marine fats and oils must monitor for:

- BOD_5 (mg/L);
- oil and grease (mg/L);
- total suspended solids (mg/L);

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- TKN (mg/L);
- total phosphorus (mg/L);
- pH; and
- fecal coliform (counts per 100 mL).

Additional Facilities. Also subject to specific monitoring requirements are facilities with stormwater discharges that:

- come in contact with storage piles for solid chemicals used as raw materials that are exposed to precipitation at facilities classified as SIC 30 (rubber and miscellaneous plastic products) or SIC 28 (chemicals and allied products);
- are from areas at automobile junkyards with any of the following:

  —over 250 auto/truck bodies with drivelines, 250 drivelines, or any combination that are exposed to stormwater;

  — over 500 auto/truck units (with or without drivelines) that are exposed to stormwater; or

  — over 100 units per year are dismantled, and drainage or storage of automotive fluids occurs in areas exposed to stormwater;
- come in contact with lime storage piles at lime manufacturing facilities;
- are from oil handling sites at oil-fired steam electric power generating facilities;
- are from cement manufacturing facilities and cement kilns;
- are from ready-mixed concrete facilities; and
- are from ship building and repair facilities.

These facilities must monitor for:

- oil and grease (mg/L);
- COD (mg/L);
- total suspended solids (mg/L);
- pH; and
- any pollutant limited in an effluent guideline to which the facility is subject.

Other Requirements

Sample Type. For discharges from holding ponds or other impoundments with a retention period greater than 24 hours, a minimum of one grab sample must be taken. For all other discharges, data must be reported for both a grab sample and a composite sample (see ¶363 for a discussion of how to conduct sampling). All samples must be taken from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event (See Appendix 1(c), p. 618).

The grab sample must be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge. However, the discharger must submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable.

The composite sample must either be flow-weighted or time-weighted. Composite samples may be taken with a continuous sampler or as a combination of a minimum of three sample aliquots in each

hour of the discharge for the entire discharge or for the first three hours of the discharge, with each aliquot separated by a minimum of 15 minutes.

Grab samples only must be collected and analyzed for pH, cyanide, whole effluent toxicity, fecal coliform, and oil and grease.

Sampling Waiver. If a discharger is unable to collect samples due to adverse climatic conditions, the discharger must submit in lieu of sampling data a description of why samples could not be collected, including available documentation about the event. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (e.g., local flooding) or otherwise make collection of a sample impracticable (e.g., drought). Dischargers are precluded from using this waiver more than once in a two year period (see Appendix 1(c), p. 618).

Representative Discharge. If a facility has two or more outfalls that—based on consideration of industrial activity, significant materials, and management practices and activities within the areas drained by the outfalls—the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of only one outfall and report that the quantitative data also applies to the other outfall(s). The permittee must include in the pollution prevention plan for the facility a description of these outfalls and an explanation of why they are expected to have substantially identical effluents. For facilities that must submit their monitoring data, this information also must be included with the discharge monitoring report (see Appendix 1(c), p. 619).

Alternative Certification. A discharger is not subject to the sampling requirements if it makes an annual certification for a given outfall, under penalty of law, that material handling equipment or activities, raw materials, intermediate products, final products, waste material, by-products, industrial machinery or operations, significant materials from past industrial activity, or in the case of airports, deicing activities, are not exposed to stormwater. The certification must be retained in the stormwater pollution prevention plan, and must be submitted to EPA (see Appendix 1(c), p. 619).

Alternative to WET Parameter. A discharger subject to requirements for whole effluent toxicity (WET) testing may, in lieu of monitoring, monitor for pollutants identified in Tables II and III of Appendix D of 40 CFR 122 that the discharger knows or has reason to believe are present at the facility site (see Appendix 1(c), p. 619).

Where to Submit. Signed copies of discharge monitoring reports and other required reports must be submitted to the director of the NPDES program at the address of the appropriate EPA regional office, as identified in the permit (see Appendix 1(c), p. 620). In addition to filing discharge monitoring reports with the EPA regional office, facilities that discharge through a medium or small MS4 must submit signed copies of the reports to the operator of the MS4. (See Appendix 3(a), for a list of EPA regional offices.)

¶545 Retention of Records

The permittee must retain the pollution prevention plan until at least one year after coverage under the permit terminates. The permittee also must retain all records of all monitoring information, required reports and records of all data used to complete the NOI until at least one year after the permit terminates.

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Dischargers subject to sampling requirements, in addition to the above requirements, must retain for a six year period from the date of sample collection or for the term of the permit, whichever is greater, records of all monitoring information collected during the permit term (see Appendix 1(c), p. 621).

¶546 Standard Permit Conditions

A permittee must comply with all conditions of the permit. Any permit noncompliance constitutes a violation of CWA and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

Penalties. EPA's general permit for industrial activities establishes specific criminal, civil and administrative penalties for violations of permit conditions (see Appendix 1(c), p. 622).

Need to Halt or Reduce Activity Not a Defense. It is not a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of the permit (see Appendix 1(c), p. 623).

Duty to Mitigate. The permittee must take all reasonable steps to minimize or prevent any discharge in violation of the permit that has a reasonable likelihood of adversely affecting human health or the environment (see Appendix 1(c), p. 623).

Duty to Provide Information. The permittee must furnish to EPA, the state, a local agency, or an affected MS4, any information that is requested to determine compliance with this permit or any other records required by the permit (see Appendix 1(c), p. 623).

Other Information. If the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the NOI or any other report submitted to EPA, he or she must promptly submit such facts or information (see Appendix 1(c), p. 623).

Signatory Requirements. All NOIs, notices of termination, stormwater pollution prevention plans, reports, certifications or information either submitted to EPA and/or the operator of an affected MS4, or that the permit requires to be maintained by the permittee must be signed in accordance with specific requirements set forth in Part VII.G. of EPA's core general permit (see Appendix 1(c), p. 623).

Penalties for Falsification of Reports. Section 309(c)(4) of CWA provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under the permit, including reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000, or imprisonment for not more than two years, or both (see Appendix 1(c), 624).

Oil and Hazardous Substance Liability. The permit does not preclude institution of any legal action or relieve the permittee of any responsibilities or liability that the permittee may be subject to under Section 311 of CWA or Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (see Appendix 1(c), p. 624).

Requiring an Individual Permit or an Alternative General Permit. EPA may require any discharger to apply for either an individual NPDES permit or an alternative NPDES general permit. Any interested person may petition EPA to take such an action (see Appendix 1(c), p. 624).

Other Laws. The permit does not exclude a permittee from the requirements or responsibilities of other federal or state laws or regulatory programs, including the Endangered Species Act (see Appendix 1(c), p. 625).

Proper Operation and Maintenance. A permittee at all times must properly monitor and maintain all facilities and systems of treatment and control that are installed to achieve compliance with the permit and the stormwater pollution prevention plan. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures (see Appendix 1(c), p. 625).

Inspection and Entry. A permittee must allow a representative of EPA, the state, or the MS4, to enter the facility, have access to and copy any records required by the permit, and inspect any facilities or equipment (see Appendix 1(c), p. 626).

¶547 Termination of Coverage

Please check state requirements for valid information about notice of termination (NOT). Typically, NOTs contain the following information:

- the name, mailing address and location of the facility;
- the name, address and telephone number of the operator;
- the NPDES permit number for the stormwater discharge;
- an indication of whether the stormwater discharges have been eliminated or the operator has changed; and
- a signed certification as set forth in Part VII.G. of EPA's baseline general permit (see Appendix 1(c), p. 623).

[The next page is Tab 500, Page 27.]

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¶550 Core Baseline General Permit for Construction Activities

Although EPA's core baseline general permit covers only certain construction-related stormwater dischargers in areas where EPA implements the stormwater program, it will be used as a model by many states, and thus, is a good indication of the basic permit conditions that many dischargers must meet. It is important to remember that a state's requirements must be at least as stringent as those established by EPA.

¶551 Special Permit Conditions*

EPA's core general permit for stormwater discharges from construction activities establishes certain special permit conditions.

Prohibition on Non-stormwater Discharges. Like the general permit for industrial dischargers, all stormwater discharges under the construction general permit must be composed entirely of stormwater. Any non-stormwater discharges must be in compliance with a permit—other than the stormwater permit—specifically issued to cover the discharge (see Appendix 1(d), p. 707).

Exceptions. Non-stormwater discharges from the following activities are authorized if discharged in compliance with the general permit:

- fire fighting activities;
- fire hydrant flushings;
- water used to wash vehicles where detergents are not used;
- water used to control dust;
- potable water sources including waterline flushings;
- routine external building washdown that does not use detergents or other compounds;
- pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used;
- air conditioning condensate;
- uncontaminated groundwater or spring water; and
- foundation or footing drains where flows are not contaminated with process materials such as solvents.

Releases in Excess of Reportable Quantities. The discharge of hazardous substances or oil in the stormwater discharge must be prevented or minimized by the facility's stormwater pollution prevention plan (see ¶552). In addition, the permittee is still subject to all applicable release reporting requirements under other federal environmental programs (see 40 CFR Parts 110,117 and 302 and Appendix 1(d), p. 708).

If a release containing a hazardous substance equal to or in excess of its reportable quantity under 40 CFR Part 110,117 or Part 302 occurs during a 24-hour period the following requirements apply:

- The discharger must notify the National Response Center (NRC) at (800) 424-8802 (or (202) 426-2675 in the Washington metropolitan area) pursuant to 40 CFR Parts 110, 117 and 302.

* Revised, May 1998.

- The stormwater pollution prevention plan must be modified within 14 days to describe the release.
- The permittee must review the stormwater pollution prevention plan to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and must modify the plan if appropriate.
- The permittee must submit within 14 days a written description of the release and the circumstances leading to the release to the appropriate EPA regional office (see Appendix 3(a) for a list of EPA regional offices).

¶552 Stormwater Pollution Prevention Plans (SWP3)*

Under EPA's construction general permit, an SWP3 must be prepared for each construction site covered by the permit. It must be prepared in accordance with good engineering practices. The plan must identify potential sources of pollution that reasonably may be expected to affect the quality of stormwater discharges from the facility. In addition, the SWP3 must describe and ensure the implementation of practices that will be used to reduce the pollutants in stormwater discharges and to assure compliance with the terms and conditions of the permit.

For more effective coordination of best management practices (BMPs) and opportunities for cost sharing, a cooperative effort by the different operators at a site to prepare and participate in comprehensive SWP3 is encouraged. Individual operators at a site may, but are not required to, develop separate SWP3s that cover only their portion of the project provided reference is made to other operators at the site. In instances where there is more than one SWP3 for a site, coordination must be conducted among the permittees to ensure the stormwater discharge controls and other measures are consistent with one another (e.g., provisions to protect listed species and critical habitat).

When developing SWP3s, applicants must follow procedures for determining whether listed endangered or threatened species or critical habitat would be affected by the applicant's stormwater discharges or stormwater discharge-related activities. Any information on whether listed species or critical habitat are found in proximity to the construction site must be included in the SWP3. Any provisions that can be taken to protect listed species or critical habitat from stormwater discharges or stormwater discharge-related activity must be incorporated in the plan. (For a detailed discussion of Endangered Species Act requirements under the construction general permit, see ¶682.)

Deadline for Plan Preparation and Compliance. The SWP3 must be completed prior to the submittal of an NOI to be covered under the permit and must be implemented by the time construction activity starts (see Appendix 1(d), p. 709).

Signature and Plan Review. The SWP3 must be signed in accordance with Part VI.G. of the general permit (see Appendix 1(d), p. 718). The plan must be retained for a period of at least three years from the date the site is finally stabilized. The permittee must retain a copy of the plan at the construction site from the date of project initiation to the date of final stabilization.

The permittee must make the plan available on request to EPA, the state, the general public and the local agency approving sediment and erosion plans, grading plans or stormwater management plans. If the discharge is through a municipal separate storm sewer system (MS4), the plan must be made available to the MS4.

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EPA may notify the permittee at any time that the plan does not meet the minimum requirements. Within seven calendar of notification, the permittee must make the required changes and submit a certification to EPA that the changes have been made (see Appendix 1(d), p. 710). EPA may take appropriate enforcement action for the period of time the permittee was operating under a plan that did not meet the minimum requirements of this permit.

Keeping Plans Current. The permittee must amend the SWP3 whenever there is a change in design, construction, operation or maintenance that has a significant effect on the potential for the discharge of pollutants or if the SWP3 proves to be ineffective in eliminating or significantly minimizing pollutants in stormwater discharges. In addition, the plan must be amended to identify any new contractor and/or subcontractor that will implement a measure of the SWP3 (see Appendix 1(d), p. 710).

Contents of Plan*

Site Description. The SWP3 must contain a site description, including the following items:

- a description of potential pollutant sources;
- a description of the nature of the construction activity;
- a description of the intended sequence of major activities that disturb soils for a major portion of the site;
- estimates of the total area of the site and the total area of the site that is expected to be disturbed;
- an estimate of the runoff coefficient of the site after construction activities are completed and existing data describing the soil or the quality of any discharge from the site;
- a general location map (*e.g.*, a portion of a city or county map);
- a site map indicating drainage patterns, topography after grading, areas of soil disturbance, location of structural and nonstructural controls identified in the plan, areas where stabilization practices will occur, surface waters, and places where stormwater is discharged to surface water;
- the location and a description of any discharge associated with industrial activity other than construction, including, stormwater discharges from dedicated asphalt plants and dedicated concrete plants, which are covered by this permit;
- the name of the receiving water(s) and the areal extent and description of wetlands and other special aquatic sites at or near the site that will receive discharges from disturbed areas of the project;
- a copy of the permit requirements; and
- information on whether listed endangered or threatened species, or critical habitat, are found in proximity to the construction activity and whether such species may be affected by the applicant's stormwater discharges or stormwater discharge-related activities.

Controls. The SWP3 also must include a description of appropriate controls and measures that will be implemented at the construction site for each major activity, and the scheduled time during the construction process that the measures will be implemented. The description and implementation of controls must address the following minimum components:

* Revised, May 1998.

- erosion and sediment controls such as
  - — stabilization practices (*e.g.*, seeding, mulching, geotextiles, sod stabilization), which must be initiated as soon as practicable (but within 14 days) in portions of the site where construction activities have ceased; and
  - — structural practices (*e.g.*, silt fences, earth dikes, drainage swales, sediment traps)
- stormwater management measures that will be installed to control pollutants in stormwater discharges that will occur after construction operations have been completed (*e.g.*, stormwater retention structures, flow attenuation by use of vegetative swales and natural depressions);
- other controls (such as prevention of waste materials from being discharged in stormwater, minimization of offsite vehicle tracking and dust generation, and compliance with state and local waste disposal and sewer regulations); and
- procedures and requirements specified in applicable sediment and erosion site plans and site permits approved by state or local officials, including a certification of compliance (see Appendix 1(d), p. 714).

Maintenance. The SWP3 also must include a description of procedures to ensure the timely maintenance of vegetation, erosion and sediment control measures and other protective measures identified in the plan in good and effective operating condition (see Appendix 1(d), p. 714).*

Inspection. Qualified personnel must inspect disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, structural control measures, and locations where vehicles enter or exit the site at least once every seven calendar days and within 24 hours of the end of a storm that is 0.5 inches or greater. Where sites have been finally stabilized or during seasonal arid periods in arid areas and semi-arid areas, such inspection must be conducted at least once every month. EPA's core general permit establishes specific inspection requirements including the preparation of an inspection report (see Appendix 1(d), p. 714).*

Non-Stormwater Discharges. Except for flows from fire fighting activities, sources of non-stormwater that are combined with stormwater discharges must be identified in the plan. The plan must identify and ensure the implementation of appropriate pollution prevention measures for the non-stormwater components of the discharge (see Appendix 1(d), p. 715).*

Editor's Note: See Appendix A of Tab 600 for a detailed look at a stormwater pollution prevention plan that withstood a legal challenge.

¶553 Retention of Records

The permittee must retain copies of SWP3s, all required reports and records of data used to complete the NOI for a period of at least three years from the date that the site is finally stabilized. The permittee must retain a copy of the at the construction site from the date of project initiation to the date of final stabilization (see Appendix 1(d), p. 716).*

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¶554 Standard Permit Conditions

A permittee must comply with all conditions of the permit. Any permit noncompliance constitutes a violation of CWA and is grounds for enforcement action, permit termination, revocation and reissuance or modification, or for denial of a permit renewal application.

Penalties. EPA's core general permit for construction activities establishes specific civil, criminal and administrative penalties for violations of permit conditions (see Appendix 1(d) p. 716).*

Continuation of Expired General Permit.* Permittees authorized to discharge under the 1992 baseline general permit for construction activity must submit a new NOI within 90 days of the effective date of the revised construction general permit (which took effect in most EPA regions on Feb. 17, 1998) for coverage to continue. An NOI is not required if the permittee is eligible to submit a Notice of Termination (NOT) (*i.e.*, construction finished and final stabilization complete) before the 90th day.

EPA will accept a late NOI, but the authorization only covers discharges from two days after the postmark date. The authorization does not retroactively apply to any prior, unpermitted discharges. EPA reserves the right to take enforcement action for any unpermitted discharges of pollutants to waters of the United States.

Need to Halt or Reduce Activity Not a Defense. It is not a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of the permit (see Appendix 1(d), p. 717).*

Duty to Mitigate. The permittee must take all reasonable steps to minimize or prevent any discharge in violation of the permit that has a reasonable likelihood of adversely affecting human health or the environment (see Appendix 1(d), p. 717).*

Duty to Provide Information. The permittee must furnish to EPA, the state, a local agency or an affected MS4, any information that is requested to determine compliance with this permit, or any other information (see Appendix 1(d), p. 717).*

Other Information. If the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the NOI or any other report submitted to EPA, he or she must promptly submit such facts or information (see Appendix 1(d), p. 718).*

Signatory Requirements. All NOIs, notices of termination, stormwater pollution prevention plans, reports, certifications or information either submitted to EPA and/or the operator of an affected MS4, or that the permit requires to be maintained by the permittee must be signed in accordance with specific requirements set forth in Part VI.G. of EPA's general permit (see Appendix 1(d), p. 718).*

Penalties for Falsification of Reports. Section 309(c)(4) of CWA provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under the permit, including reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000, or imprisonment for not more than two years, or both (see Appendix 1(d), p. 719).*

Oil and Hazardous Substance Liability. The permit does not preclude institution of any legal action or relieve the permittee of any responsibilities or liability to which the permittee may be subject

* Revised, May 1998.

under Section 311 of CWA or Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (see Appendix 1(d), p. 719).

Severability.**The provisions of the permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the remainder of the permit will not be affected (Appendix 1(d), p. 719).

Requiring an Individual Permit or an Alternative General Permit. EPA may require any discharger to apply for either an individual NPDES permit or an alternative NPDES general permit. Any interested person may petition EPA to take such an action (see Appendix 1(d), p. 719).*

State/Tribal Environmental Laws.** Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state/tribal law or regulation under authority preserved by section 510 of the CWA. No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations. (Appendix 1(d), p. 720).

Proper Operation and Maintenance. A permittee at all times must properly monitor and maintain all facilities and systems of treatment and control that are installed to achieve compliance with the permit and the stormwater pollution prevention plan. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures (see Appendix 1(d), p. 720).*

Inspection and Entry. A permittee must allow a representative of EPA, the state or the MS4, to enter the facility, have access to and copy any records required by the permit, and inspect any facilities or equipment (see Appendix 1(d), p. 720).*

* Revised, May 1998.
** Added, May 1998.

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¶555 Termination of Coverage*

Permittees must submit a Notice of Termination (NOT) form to EPA upon completion of a project. The NOT must be filed within 30 days after cessation of construction activities and final stabilization of the permittee's portion of the site (or temporary stabilization for residential construction where a homeowner is assuming control of the property). A NOT must also be submitted before another operator assumes the previous permittee's liabilities. The NOT must contain the following information:

- the mailing address of the construction site (including the latitude and longitude of the construction site);
- the name, address and telephone number of the operator;
- the NPDES permit number for the stormwater discharge;
- an indication of whether the stormwater discharge has been eliminated or the operator has changed; and
- a signed certification as set forth in Part VIII.A. of EPA's construction general permit (see Appendix 1(d), p. 721).

The NOT must be sent, using the form provided by EPA, to:

Stormwater Notice of Termination (4203)
401 M St., S.W.
Washington, D.C. 20460

Questions about the form can be directed to the Notice of Intent Processing Center at (703) 931-3230.

[The next page is Tab 500, Page 51.]

* Revised, May 1998.

¶560 Multi-sector General Permit for Industrial Activities†

EPA in 1995 issued a multi-sector general permit for stormwater discharges associated with industrial activities (60 FR 50804, Sept 29, 1995). The permit covers discharges from 29 specific industrial categories, many of which are further divided into subcategories. The multi-sector permit is an outgrowth of the group permitting process initiated by EPA in 1990. However, after receiving more than 1,200 group applications, EPA opted to issue a single permit covering a variety of industrial activities rather than attempt to issue 1,200 separate group permits.

On Sept. 30, 1998, EPA modified the multi-sector permit to add a number of new industrial subcategories, thereby expanding the scope of the original permit (63 FR 52430) (see Appendix 1(e) of the *Manual* for the full text of the modified permit). At the same time, EPA revoked its baseline industrial general permit and called for all former baseline permittees to come under the umbrella of the multi-sector permit.

It is important to note that the multi-sector permit applies only in states where EPA is the permitting authority or where the state has chosen to adopt the EPA model. Likewise, revocation of the baseline permit is only valid in states where EPA is the permitting authority. Permittees in states that have been delegated authority to operate their own general permitting programs may continue to use permits modeled after the old EPA baseline general permit.

The most significant change made by the 1998 modifications to the multi-sector permit was the addition of one new sector—Sector AD, Nonclassified Facilities—as a catch-all for facilities that do not fall into one of the original 29 industrial sectors. Aside from adding the thirtieth sector and several subsectors, the 1998 permit modifications resulted in very few changes to the original multi-sector permit.

In creating monitoring and pollution prevention requirements under the multi-sector permit, EPA used data on best management practices, types of materials stored exposed to stormwater and end-of-pipe stormwater sampling gathered during the group application process. To analyze the stormwater sampling data submitted by group applicants, the agency further subdivided many of the industry sectors into more than 70 subsectors. This caused applicants with very similar industrial activities (typically at the three digit SIC code level) to be grouped together.

Based on sampling data analysis from the subsectors, and using additional information where necessary, EPA established monitoring requirements for certain subsectors (see Figure 561-2 for a complete list of sectors and subsectors).

The original 1995 multi-sector permit expired Oct. 1, 2000, and EPA issued a revised permit on Oct. 30, 2000, that took effect immediately in regions 1, 2, 3, 4, 6, 8, 9 and 10 where EPA is the permitting authority (see Appendix 1(e)). The 2000 multi-sector permit has been reorganized to reduce duplication and decrease the length of the permit by 75 percent. Also, discussion of monitoring and stormwater pollution prevention plan (SWP3) requirements, which were repeated for each sector, has been consolidated in Parts 4 and 5 of the revised permit. The 2000 permit also clarified several of the existing requirements affecting such areas as co-located activities and Endangered Species Act and National Historic Preservation Act eligibility.

¶561 Types of Discharges Covered by the Multi-sector Permit†

The multi-sector permit offers coverage to a variety of industrial facilities in the states and territories in which EPA is the permitting authority: Maine, Massachusetts, New Hampshire, Puerto Rico, the District of Columbia, Arizona, Idaho, New Mexico, certain oil and gas facilities in Oklahoma, certain Indian lands throughout the country, Johnston Atoll and Midway, Guam, the Northern Mariana Islands, American Samoa and Wake Islands. The permit also covers federal Indian lands and federal facilities in certain states (see Figure 230-1 in Tab 200 and Appendix 1(e), p. 805).

† Revised, January 2001.

The 1995 multi-sector permit was issued in the state of Alaska, except Indian Country, on Feb. 9, 1996. Industrial facilities in Alaska outside of Indian Country will continue to be covered by the 1995 permit through Feb. 9, 2001, after which EPA will reissue the permit for Alaska.

The permit offers coverage to stormwater discharges subject to the following effluent limitation guidelines: runoff from phosphate fertilizer manufacturing, asphalt paving or roofing emulsion manufacturing, runoff at landfills, dewatering at industrial sand mines, dewatering at crushed stone mines, storage piles at cement kilns, coal piles at steam electric generators, spray down of lumber and wood products in storage yards used by the timber industry, and dewatering discharges at construction sand and gravel mines. By contrast, EPA's baseline stormwater general permit excluded all discharges subject to stormwater effluent limitation guidelines.

The multi-sector permit also covers certain allowable nonstormwater discharges such as discharges from fire fighting activities; fire hydrant flushings; potable water, including water line flushings; uncontaminated air conditioning or compressor condensate; landscape watering provided all herbicides, pesticides and fertilizer have been applied in accordance with manufacturer's instructions; pavement wash waters where no detergents are used and no spills or leaks of toxic or hazardous materials have occurred; routine external building wash down where no detergent has been used; uncontaminated groundwater or spring water; foundation or footing drains where flows are not contaminated with process materials such as solvents; and incidental windblown mist from cooling towers.

Facilities covered by the 1995 multi-sector permit must submit a notice of intent (NOI) requesting coverage under the reissued permit by Jan. 29, 2001. For these facilities, the requirements of the 1995 permit are incorporated into the revised permit and continue to apply until an NOI is submitted. Facilities currently covered by the 1995 permit that cannot immediately determine if they are eligible for coverage under the new permit can be covered for up to 270 days provided an application for an alternative permit is submitted within 90 days.

Industrial Activities Not Eligible for the Multi-sector Permit†

The 2000 multi-sector permit generally provides coverage for all stormwater discharges associated with industrial activity as defined under 40 CFR 122.26(b)(14) (see Appendix 1(b), p. 70). The following stormwater discharges, however, are not eligible for coverage under the multi-sector general permit:

- discharges that were subject to an NPDES permit that was denied, revoked or terminated by the permitting authority;
- discharges mixed with nonstormwater;
- discharges subject to antidegredation water quality standards;
- discharges from construction activities;
- discharges that were subject to a permit that was terminated at the request of the permittee;
- discharges subject to an existing NPDES individual or an alternative general permit;
- discharges subject to effluent guidelines;
- discharges that will cause violations of water quality standards;
- discharges to water quality-impaired waters or water quality-receiving waters;
- discharges from facilities that are known to have an adverse impact on endangered species or historic properties.

The multi-sector permit covers all industrial activities listed in Figure 561-2.

† Revised, January 2001.

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Table 561-1†
Key Differences Between the Baseline and Multi-sector Permits

Baseline	1995 Multi-sector	2000 Multi-sector
Eligibility		
1. Excludes discharges subject to stormwater effluent limitation guidelines.	1. Covers many discharges subject to effluent limitation guidelines (unless already subject to a permit), including runoff from: phosphate fertilizer manufacturing, asphalt paving or roofing emulsion manufacturing, storage piles at cement kilns, coal piles at steam electric generators, spray down of lumber and wood products in storage yards used by the timber industry, coal piles at all facilities covered by the permit, and dewatering discharges at sand and gravel mines located in Regions 1, 2, 6, 10 and Arizona.	1. Covers discharges subject to effluent guidelines (provided they meet other eligibility requirements), including runoff from: material storage piles at cement manufacturing facilities; phosphate fertilizer manufacturing facilities; coal piles at steam electric generating facilities; spray down or intentional wetting of logs at wet deck storage areas; mine dewatering discharges at crushed stone mines, construction sand and gravel mines and industrial sand mines; asphalt emulsion facilities; and landfills.
2. Prohibits coverage of facilities that have an adverse impact on endangered species.	2. Prohibits coverage of facilities that have an adverse impact on endangered species and requires permittees to certify there will be no impact.	2. Prohibits coverage of facilities whose discharges affect historic properties. Prohibits coverage of facilities whose discharges affect endangered or threatened species or critical habitat. Facilities have several options under which they can obtain certification of no adverse impact.
Pollution Prevention Plan		
1. Requires consideration of generic pollution prevention measures. There are no industry-specific or pollutant-specific best management practices that must be considered.	1. Twenty-nine different industry sectors plus sector AD contain requirements to consider industry-specific, some pollutant-specific and generic best management practices.	1. SWP3 requirements are essentially the same as in the 1995 permit, but have been consolidated into Part 4 of the permit, with industry-specific requirements. A new requirement prohibits the discharge of solid materials, including floating debris. In addition, tracking of waste materials and dust must be minimized. A copy of the permit must be included in the SWP3.
2. Facilities subject to EPCRA (also known as SARA Title III) 313 TRI reporting requirements are required to incorporate additional measures into their SWP3s, and to have the plan certified by a professional engineer every three years.	2. Facilities subject to EPCRA 313 TRI reporting requirements are required to incorporate additional measures into their SWP3s, however the plan only needs to be certified by a responsible corporate official.	2. Facilities that are subject to EPCRA 313 TRI reporting must identify specific areas in the facility that contain listed pollutants and develop stormwater controls for such areas.
3. Does not provide guidance on specific types of BMPs.	3. Fact sheet describes applicable BMPs for each industry sector.	3. Does not repeat BMPs applicable to each industry sector. Includes additional BMP requirements for Sectors S, T and Y.

† Revised, February 2001.

Baseline	1995 Multi-sector	2000 Multi-sector
Numeric Effluent Limitations		
1. Contains numeric effluent limits only for coal pile runoff (not at steam electric generating facilities). Limits are based on BAT/BCT effluent limitation guideline for steam electric generating industry.	1. Contains BAT/BCT numeric effluent limits taken from effluent limitation guidelines for coal pile runoff, phosphate fertilizer manufacturing runoff, asphalt emulsion manufacturing runoff, storage pile runoff at cement kilns, and dewatering discharges at sand and gravel mines.	1. Contains BAT/BCT numeric effluent limits taken from effluent limitation guidelines for coal pile runoff at steam electric generating facilities; phosphate fertilizer manufacturing runoff; landfills runoff; dewatering discharges at industrial sand mines, construction sand and gravel mines and crushed stone mines; asphalt emulsion runoff; and runoff from spraydown at wet deck storage areas.
Monitoring		
1. Monitoring is done for discharge characterization.	1. Monitoring is designed to assess effectiveness of the SWP3 and to provide incentive to reduce pollution.	1. Same as 1995 permit.
2. Requires facilities subject to EPCRA 313 TRI reporting requirements for water priority chemicals to monitor and report semi-annually.	2. Monitoring is not a function of reporting status under the EPCRA 313 program.	2. Same as 1995 permit.
3. Requires five industries to monitor and report semi-annually. Requires an additional 12 specific industry subsectors to monitor annually and retain the results onsite.	3. Requires 34 specific industry subsectors with highest risk to monitor discharges quarterly during years two and four of permit coverage. Facilities with pollutant concentrations lower than benchmarks in year two are exempt from monitoring in year four.	3. Same as 1995 permit.
4. List of parameters to be monitored for each industry is based on general research into industrial activities and significant materials.	4. List of parameters to be monitored for each industry is based on review of information from group applications, including: sampling data, descriptions of industrial activity and significant materials.	4. Same as 1995 permit.
5. Facilities may exempt themselves from all monitoring requirements where they can certify that there are no significant materials or industrial activities exposed to stormwater.	5. Facilities may exempt themselves from monitoring on a pollutant basis if they can certify that there are no sources of a pollutant present.	5. Facilities may be exempt from monitoring on a pollutant basis if they can certify that there are no sources of a pollutant present or if they can certify that the particular pollutant is located in an area of the facility that is not exposed to stormwater.
6. Facilities that monitor semi-annually are required to submit data; facilities that monitor annually retain data onsite.	6. All facilities that monitor are required to submit data. Facilities are encouraged to review monitoring results and revise their SWP3s when pollutants are above benchmark concentrations.	6. Same as 1995 permit.
7. No visual monitoring.	7. Quarterly visual monitoring to assess problems.	7. Same as 1995 permit.

Sources: *Stormwater Multi-sector General Permit Information Package*, EPA Office of Wastewater Management, Permits Division, October 1995, permit modifications, Sept. 30, 1998 (63 FR 52430), and 2000 Multi-sector permit (65 FR 64746, Oct. 30, 2000).

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Figure 561-2†
Industrial Sectors and Subsectors of the Multi-sector Permit

Sub-sector	SIC Code	Description
A. Timber Products Facilities		
1*	2421	general sawmills and planing mills
2	2491	wood preserving
3*	2411	log storage and handling
4*	2426	hardwood dimension and flooring mills
	2429	special product sawmills, not elsewhere classified
	2431-2439	millwork, veneer, plywood and structural wood (except 2434)
	2441-2449	wood containers
	2451, 2452	wood buildings and mobile homes
	2493	reconstituted wood products
	2499	wood products, not elsewhere classified
B. Paper and Allied Products Manufacturing		
1	2611	pulp mills
2	2621	paper mills
3*	2631	paperboard mills
4	2652-2657	paperboard containers and boxes
5	2671-2679	converted paper and paperboard products, except containers and boxes
C. Chemical and Allied Products Manufacturing		
1*	2812-2819	industrial inorganic chemicals
2*	2821-2824	plastics materials and synthetic resins, synthetic rubber, cellulosic and other manmade fibers except glass
3	2833-2836	medicinal chemicals and botanical products; pharmaceutical preparations; in vitro and in vivo diagnostic substances; biological products, except diagnostic substances
4*	2841-2844	soaps, detergents and cleaning preparations; perfumes, cosmetics and other toilet preparations
5	2851	paints, varnishes, lacquers, enamels and allied products
6	2861-2869	industrial organic chemicals
7*	2873-2879	agricultural chemicals, including facilities that make fertilizer solely from leather scraps and leather dust
8	2891-2899	miscellaneous chemical products
	3952	inks and paints, including china painting enamels, india ink, drawing ink, platinum paints for burnt wood or leather work, paints for china painting, artist's paints and artist's watercolors
D. Asphalt Paving and Roofing Materials Manufacturers and Lubricant Manufacturers		
1*	2951, 2952	asphalt paving and roofing materials
2	2992, 2999	miscellaneous products of petroleum and coal
E. Glass, Clay, Cement, Concrete, and Gypsum Product Manufacturing		
1	3211	flat glass
	3221, 3229	glass and glassware, pressed or blown
	3231	glass products made of purchased glass
	3281	cut stone and stone products
	3291, 3292	abrasive products and asbestos products
	3296	mineral wood
	3299	nonmetallic mineral products, not elsewhere classified
2	3241	hydraulic cement
3*	3251-3259	structural clay products
	3261-3269	pottery and related products
	3297	non-clay refractories
4*	3271-3275	concrete, gypsum and plaster products
	3295	minerals and earths, ground, or otherwise treated
F. Primary Metals		
1*	3312-3317	steel works, blast furnaces and rolling and finishing mills
2*	3321-3325	iron and steel foundries
3	3331-3339	primary smelting and refining of nonferrous metals
4	3341	secondary smelting and refining of nonferrous metals
5*	3351-3357	rolling, drawing and extruding of nonferrous metals
6*	3363-3369	nonferrous foundries (castings)
7	3398, 3399	miscellaneous primary metal products
G. Metal Mining (Ore Mining and Dressing)		
1	1011	iron ores
2*	1021	copper ores
3	1031	lead and zinc ores
4	1041, 1044	gold and silver ores
5	1061	ferroalloy ores, except vanadium
6	1081	metal mining services
7	1094, 1099	miscellaneous metal ores
H. Coal Mines and Coal Mining-related Facilities		
NA*	1221-1241	coal mines and coal mining-related facilities
I. Oil and Gas Extraction		
1	1311	crude petroleum and natural gas
2	1321	natural gas liquids
3*	1381-1389	oil and gas field services
4	2911	petroleum refining
J. Mineral Mining and Dressing		
1*	1411	dimension stone
	1422-1429	crushed and broken stone, including rip rap
	1481	nonmetallic minerals, except fuels
2*	1442, 1446	sand and gravel
3	1455, 1459	clay, ceramic and refractory materials
4	1474, 1479	chemical and fertilizer mineral mining
	1499	miscellaneous nonmetallic minerals, except fuels

† Revised, February 2001.

K. Hazardous Waste Treatment Storage or Disposal Facilities

NA*	HZ	hazardous waste treatment, storage or disposal

L. Landfills and Land Application Sites

NA*	LF	landfills, land application sites and open dumps

M. Automobile Salvage Yards

NA*	5015	automobile salvage yards

N. Scrap Recycling Facilities

NA*	5093	scrap recycling facilities

O. Steam Electric Generating Facilities

NA*	SE	steam electric generating facilities

P. Land Transportation

1	4011-4013	railroad transportation
2	4111-4173	local and highway passenger transportation
3	4212-4231	motor freight transportation and warehousing
4	4311	United States Postal Service
5	5171	petroleum bulk stations and terminals

Q. Water Transportation

NA*	4412-4499	water transportation

R. Ship and Boat Building or Repairing Yards

NA	3731, 3732	ship and boat building or repairing yards

S. Air Transportation Facilities

NA*	4512-4581	air transportation facilities

T. Treatment Works

NA*	TW	treatment works

U. Food and Kindred Products

1	2011-2015	meat products
2	2021-2026	dairy products
3	2032-2038	canned, frozen and preserved fruits, vegetables and food specialties
4*	2041-2048	grain mill products
5	2051-2053	bakery products
6	2061-2068	sugar and confectionery products
7*	2074-2079	fats and oils
8	2082-2087	beverages
9	2091-2099	miscellaneous food preparations and kindred products
	2111-2141	tobacco products

V. Textile Mills, Apparel and Other Fabric Product Manufacturing

1	2211-2299	textile mill products
2	2311-2399	apparel and other finished products made from fabrics and similar materials
	3131-3199	leather and leather products except leather tanning and finishing (see Sector Z) (except 3111)

W. Furniture and Fixtures

NA	2511-2599	furniture and fixtures
	2434	wood kitchen cabinets

X. Printing and Publishing

	2711-2796	printing, publishing and allied industries

Y. Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries

1*	3011	tires and inner tubes
	3021	rubber and plastics footwear
	3052-3053	gaskets, packing and sealing devices, and rubber and plastic hose and belting
	3061-3069	fabricated rubber products, not elsewhere classified
2	3081-3089	miscellaneous plastics products
	3931	musical instruments
	3942-3949	dolls, toys, games and sporting and athletic goods
	3951-3955	pens, pencils and other artists' materials (except 3952 as specified in Sector C)
	3961, 3965	costume jewelry, costume novelties, buttons, and miscellaneous notions, except precious metal
	3991-3999	miscellaneous manufacturing industries

Z. Leather Tanning and Finishing

NA	3111	leather tanning and finishing

AA. Fabricated Metal Products

1*	3411-3499	fabricated metal products, except machinery and transportation equipment and cutting, engraving and allied services
	3911-3915	jewelry, silverware and plated ware
2*	3479	coating, engraving and allied services

AB. Transportation Equipment, Industrial or Commercial Machinery

NA	3511-3599	industrial and commercial machinery (except 3571-3579) (except computer and office equipment, see Sector AC)
NA	3711-3799	transportation equipment (except 3731, 3732) (except ship and boatbuilding and repairing, see Sector R)

AC. Electronic, Electrical, Photographic and Optical Goods

NA	3612-3699	electronic, electrical equipment and components, except computer equipment
NA	3812-3873	measuring, analyzing and controlling instruments; photographic and optical goods, watches and clocks
NA	3571-3579	computer and office equipment

AD. Reserved for Facilities Not Covered Under Other Sectors and Designated by the Director

Source: 2000 multi-sector permit at 65 FR 64746, Oct. 30, 2000.

Notes: Letters used to enumerate the 30 industrial categories follow the format used by EPA in the *Federal Register*. "*" denotes subsector with analytical (chemical) monitoring requirements. "NA" in the Subsector column indicates those industry sectors in which subdivision into subsectors was determined by EPA to be not applicable. "NA" in the SIC code column indicates that EPA did not define the category using Standard Industrial Classification codes.

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¶562 Special Conditions of the Multi-sector Permit†

The special conditions included in the multi-sector permit are similar to those included in the baseline general permit. Nonstormwater discharges are prohibited under the 2000 multi-sector permit, with the following exceptions: fire hydrant flushings; potable water sources; routine external building washdown that does not use detergents or other compounds; uncontaminated groundwater or spring water; uncontaminated air conditioning or compressor condensate; landscape watering provided herbicides, pesticides and fertilizers have been applied in accordance with the manufacturer's instructions; pavement wash waters where no detergents are used or spilled; foundation or footing drains where flows are uncontaminated; and incidental windblown mist from cooling towers.

Reportable quantities. The requirements regarding releases of reportable quantities in the multi-sector permit are identical to those included in the baseline general permit. Permittees are required to notify both the National Response Center and the permitting authority and modify their stormwater pollution prevention plans (SWP3s) in the case of such discharges.

Co-located activities. The "co-located industrial activity" requirement is a special condition particular to the multi-sector permit. In cases where a facility has industrial activities occurring onsite that meet the eligibility requirements of more than one sector, those industrial activities are considered to be "co-located" activities. Stormwater discharges from co-located industrial activities are authorized by the permit, provided that the permittee complies with the SWP3 and monitoring requirements applicable to the co-located industrial activities.

The 2000 multi-sector permit clarifies that the applicable sector-specific conditions apply only to those areas of the facility where the sector-specific activities occur. If monitoring for the same parameter is required for more than one sector, then only one sample analysis is required for that parameter.

Co-located industrial activity originally was defined in the 1995 permit as:

> ... when a facility has industrial activities being conducted onsite that are described under more than one of the coverage sections of Part XI in this permit (Discharges Covered Under This Section). Facilities with co-located industrial activities shall comply with all applicable monitoring and pollution prevention plan requirements of each section in which a co-located industrial activity is described (60 FR 50804, Sept. 29, 1995, at p. 51123).

¶563 Pollution Prevention Plan Requirements†

Each facility covered by the multi-sector permit must develop an SWP3 tailored to the facility's site-specific conditions. The SWP3 is the most important part of the permit and should be designed with the goal of eliminating, minimizing or reducing the amount of pollution in stormwater discharged from the site. Although each industry sector covered by the multi-sector permit has industry-specific SWP3 requirements, there are a number of general requirements that pertain to all facilities regardless of the sector designation.

† Revised, February 2001.

Facilities transferring coverage from the baseline permit were required to revise and implement their SWP3s by March 29, 1999 (180 days after the Sept. 30, 1998, publication of the multi-sector permit modifications). To obtain coverage under the 2000 permit, facilities must have updated their SWP3s by Jan. 29, 2001—the date by which their notices of intent (NOIs) were due. Facilities may also request a 270 day extension to update their plans.

General Requirements

Generally, the requirements for the multi-sector SWP3 are the same as under the baseline general permit. There are two main exceptions: The multi-sector permit includes industry-specific, pollutant specific and generic best management practices for 29 different industrial sectors, plus sector AD. Under the 1995 multi-sector permit, facilities subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) (also known as SARA Title III) Section 313 toxic release inventory (TRI) are required to incorporate additional measures into their SWP3s.

Under the 2000 permit, requirements for facilities subject to EPCRA Section 313 TRI reporting were simplified. Facilities must identify the areas of their facilities that contain listed pollutants. The SWP3 must include appropriate stormwater controls for these areas.

The multi-sector permit also requires that plans be certified by a responsible corporate official.

¶564 Numeric Effluent Limitations†

The multi-sector permit provides coverage for several types of stormwater discharges subject to effluent guidelines, provided that the discharges are not already subject to an existing individual NPDES stormwater permit. These discharges include contaminated stormwater runoff from phosphate fertilizer manufacturing facilities (40 CFR 418); runoff from asphalt paving or roofing emulsion production (40 CFR 443); runoff from material storage piles at cement manufacturing facilities (40 CFR 411); runoff from coal piles at steam electric generating facilities (40 CFR Part 423); runoff resulting from spraydown or intentional wetting of logs at wet deck storage areas (40 CFR 429); runoff from mine dewatering at stone mines, construction sand and gravel mines and industrial sand mines (40 CFR 436); and runoff from landfills (40 CFR 445) (65 FR 64746, Oct. 30, 2000).

Monitoring is required for discharges subject to numeric stormwater effluent limitations to determine compliance with the limits (see ¶565 and Figure 565-3 for more information on compliance monitoring).

Facilities with discharges subject to any other effluent limitation guideline may not seek coverage under the multi-sector permit for those discharges.

¶565 Three Types of Monitoring†

The multi-sector permit requires operators of industrial facilities to perform up to three types of monitoring of their stormwater outfalls: 1) visual examination; 2) analytical monitoring; and 3) compliance monitoring. The types of monitoring required vary among industry subsectors. Monitoring is required primarily to provide facilities with a means for assessing their stormwater contamination and evaluating the performance of their SWP3s.

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Facilities that have discharges subject to analytical and/or compliance monitoring must report their results on a discharge monitoring report (DMR) to the following address: MSGP DMR (4203M), U.S. EPA, 1200 Pennsylvania Ave. NW, Washington, D.C., 20460.

Sample Type. Grab samples may be used for all visual, analytical and compliance monitoring required under the multi-sector permit, except at airports required to conduct analytical monitoring of de-icing/anti-icing activities. Such facilities must collect a flow-weighted composite in addition to a grab sample (see ¶363).

All grab samples must be collected within the first 30 minutes of discharge where practicable but not later than one hour after the first discharge. The sample must be collected from the discharge of a storm event greater than 0.1 inches in magnitude and occurring at least 72 hours after a prior measurable storm event. The 72-hour storm event interval may be waived where:

- the preceding measurable storm event did not result in a measurable discharge from the facility; or
- the permittee documents that an interval of less than 72 hours is representative for local storm events during the season when sampling is being conducted.

Tab 300 provides detailed descriptions of the technologies used for stormwater flow measurement, sampling and analysis. In addition, EPA has developed a guidance document on sampling techniques: *NPDES Stormwater Sampling Guidance Document* (EPA 800/B-92-001).

Sample Frequency. Visual examinations must be performed on a quarterly basis throughout the permit term. Analytical monitoring must be performed on a quarterly basis in years two and four of the multi-sector permit. Compliance monitoring must be performed on an annual basis throughout the permit term, with the exception of certain mine dewatering activities that must perform compliance monitoring on a quarterly basis (see compliance monitoring discussion below).

Also, modifications to the multi-sector permit published August 1998, required additional monitoring for Sector G—Metal Mining (Ore Mining and Dressing) Facilities (63 FR 42545). See ¶566.7 for a complete discussion of the monitoring requirements for Sector G.

Visual Monitoring

All facilities covered by the permit are required to perform visual examinations of their stormwater discharges on a quarterly basis throughout the period of permit coverage, with the exception of air transportation facilities and coal mining facilities (see exceptions below for more information). The examination is performed by the operator, who must examine a sample collected in the first half hour of discharge and note any color, odor, sheen, suspended solids and other visual characteristics. The visual exam is an inexpensive means for obtaining a rough assessment of the stormwater quality. A facility is not required to submit the visual examination results unless asked to do so by EPA. However, the schedule for performing visual examinations must be clearly documented in the facility's SWP3. The results are to be used by the facility to identify problems that need to be addressed by the SWP3.

Representative Discharge. When a facility has two or more outfalls that the permittee believes discharge substantially identical effluents, the permittee may examine a sample from one outfall and report that the data applies to the substantially identical effluent. The *NPDES Storm Water Sampling Guidance* (EPA 800/B-92-001) lists criteria for substantially identical outfalls.

Sampling Waivers. Visual monitoring may be waived at facilities that are inactive and unstaffed during precipitation events. In addition, when a discharger is unable to collect samples over the course of the visual examination period due to adverse climatic conditions, the reason for not performing the visual examination must be documented and retained onsite with the SWP3.

Exceptions. There are two exceptions to the requirements to conduct visual examinations on a quarterly basis within the first 30 minutes of discharge:

1) Air transportation facilities (Sector S) are not required to perform visual examinations of their stormwater discharges.
2) Coal mining-related facilities (Sector H) must perform visual monitoring within the first 60 minutes of discharge (or as soon thereafter as practical, but not to exceed two hours). Visual examinations are not required for inactive areas not under the Surface Mining Control and Reclamation Act (SMCRA) performance bond. However, visual examinations must be performed:
   - quarterly for active areas under SMCRA performance bond located in areas with annual precipitation greater than 20 inches; and
   - semi-annually for active and inactive areas under SMCRA performance bond that are located in areas with an average annual precipitation of 20 inches or less. At least one examination must be performed during each of the following periods: January through June and July through December.

Analytical Monitoring

Analytical monitoring is required only for the industry sectors or subsectors that were determined by EPA to have a high potential to discharge a pollutant at concentrations of concern (see Figure 565-1 for a list of industry sectors/subsectors subject to analytical monitoring). To identify these industries, EPA analyzed the sampling data submitted by the group application members. The data were divided by industry sector and subsector and statistically analyzed. The median concentration value and other statistics were calculated for each pollutant within each subsector. The median value was compared to a pollutant benchmark value (typically derived from the National Water Quality Criteria). Industries with one or more pollutants with median concentrations higher than benchmark values are required to perform analytical monitoring for those pollutants of concern (see Figure 565-2).

Analytical monitoring must be performed by the permittees on a quarterly basis during the second and fourth years of permit coverage. Samples should be collected within the first 30 minutes of discharge, and analytical results must be submitted on a DMR to: MSGP DMR (4203M), U.S. EPA, 1200 Pennsylvania Ave. N.W., Washington, D.C., 20460. Results should be compared to benchmark concentrations to evaluate the effectiveness of the facility's SWP3.

Monitoring requirements for waste rock and/or overburdened sources eligible for authorization under Sector G—Metal Mining (Ore Mining and Dressing) Facilities—of the multi-sector permit were modified to include additional requirements (63 FR 42533, Aug. 7, 1998). See ¶566.7 for a complete description of the monitoring requirements for Sector G.

Interpreting Analytical Monitoring Results. The result of the quarterly grab samples collected in the second year of permit coverage must be averaged and compared to the benchmark values for the pollutants. Discharges with an average pollutant concentration less than the benchmark concentration for that pollutant are not subject to the fourth year monitoring requirements. However, facilities with average pollutant concentrations that exceed the benchmark must review and revise their

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SWP3 and monitor their discharges on a quarterly basis during the fourth year of permit coverage. This incentive-based monitoring is intended to provide feedback to the permittees on the effectiveness of their SWP3s. (See Figure 565-2 for a list of pollutant benchmark values.)

Representative Discharge. When a facility has two or more outfalls that the permittee believes discharge substantially identical effluents, the permittee may examine a sample from one outfall and report that the data applies to the substantially identical effluent. The *NPDES Storm Water Sampling Guidance* (EPA 800/B-92-001) lists criteria for substantially identical outfalls.

No-exposure Exemption. A facility that is in an industry sector or subsector that is subject to analytical monitoring requirements can obtain an exemption from the monitoring for any particular pollutant if the facility operator can certify that there is no source of that pollutant that is exposed or is expected to be exposed to stormwater. Unlike the baseline general permit, the multi-sector permit requires a pollutant-by-pollutant certification. In order to obtain a similar exemption under the baseline general permit, the facility operator must certify that there is no exposure of industrial activities to stormwater.

Figure 565-1†

Industrial Sectors and Subsectors Subject to Analytical Monitoring

MSGP Sector▲	Industrial Subsector
A	General Sawmills and Planing Mills
	Log Storage and Handling
	Hardwood Dimension and Flooring Mills
B	Paperboard Mills
C	Industrial Inorganic Chemicals
	Plastics, Synthetic Resins, etc.
	Soaps, Detergents, Cosmetics, Perfumes
	Agricultural Chemicals
D	Asphalt Paving and Roofing Materials
E	Structural Clay Products
	Concrete, Gypsum and Plaster Products
F	Steel Works, Blast Furnaces, and Rolling and Finishing Mills
	Iron and Steel Foundries
	Non-Ferrous Rolling and Drawing
	Non-Ferrous Foundries (Castings)
G	Copper Ore Mining and Dressing
H	Coal Mines and Coal-Mining Related Facilities
I	Crude Petroleum and Natural Gas
	Oil and Gas Field Services
J	Dimension Stone, Crushed Stone and Nonmetallic Minerals (except fuels)
	Sand and Gravel Mining
K	Hazardous Waste Treatment Storage or Disposal
L	Landfills, Land Application Sites and Open Dumps
M	Automobile Salvage Yards
N	Scrap Recycling Facilities
O	Steam Electric Generating Facilities
Q	Water Transportation Facilities
S	Air Transportation Facilities
T	Treatment Works
U	Grain Mill Products
	Fats and Oils
Y	Tires and Inner Tubes
AA	Fabricated Metal Products Except Machinery and Transportation Equipment
	Fabricated Metal Products
	Coating, Engraving and Allied Services

▲Sectors P, R, V, W, X, Z, AB, AC and AD have no analytical monitoring requirements identified under the multi-sector permit. However, facilities under these sectors may need to monitor for parameters listed under state-specified requirements (see Tab 800).

† Revised, February 2001.

Figure 565-2†
Parameter Benchmark Values

Biochemical oxygen demand$_5$	30 mg/L	Fluoride	1.8 mg/L
Chemical oxygen demand	120 mg/L	Iron, total	1.0 mg/L
Total suspended solids	100 mg/L	Lead, total (H)	0.0816 mg/L
Oil and grease	15 mg/L	Magnesium, total	0.0636 mg/L
Nitrate + nitrite nitrogen	0.68 mg/L	Manganese	1.0 mg/L
Total phosphorus	2.0 mg/L	Mercury, total	0.0024 mg/L
pH	6.0-9.0 s.u.	Nickel, total (H)	1.417 mg/L
Acrylonitrile (c)	7.55 mg/L	PCB-1016 (c)	0.000127 mg/L
Aluminum, total (pH 6.5-9)	0.75 mg/L	PCB-1221 (c)	0.10 mg/L
Ammonia	19 mg/L	PCB-1232 (c)	0.000318 mg/L
Antimony, total	0.636 mg/L	PCB-1242 (c)	0.00020 mg/L
Arsenic, total (c)	0.16854 mg/L	PCB-1248 (c)	0.002544 mg/L
Benzene	0.01 mg/L	PCB-1254 (c)	0.10 mg/L
Beryllium, total (c)	0.13 mg/L	PCB-1260 (c)	0.000477 mg/L
Butylbenzyl phthalate	3 mg/L	Phenols, total	1.0 mg/L
Cadmium, total (H)	0.0159 mg/L	Pyrene (PAH, c)	0.01 mg/L
Chloride	860 mg/L	Selenium, total (*)	0.2385 mg/L
Copper, total (H)	0.0636 mg/L	Silver, total (H)	0.0318 mg/L
Cyanide, total	0.0636 mg/L	Toluene	10.0 mg/L
Dimethyl phthalate	1.0 mg/L	Trichloroethylene (c)	0.0027 mg/L
Ethylbenzene	3.1 mg/L	Zinc, total (H)	0.117 mg/L
Fluoranthene	0.042 mg/L		

Source: Multi-sector general permit for industrial activities (65 FR 64746, Oct. 30, 2000, at p. 64767). Notes: (*) Limit established for oil and gas exploration and production facilities only. (c) Carcinogen. (H) Hardness dependent. (PAH) Polynuclear Aromatic Hydrocarbon. Assumptions: Receiving water temperature—20 C. Receiving water pH—7.8. Receiving water hardness—$CaCO_3$ 100 mg/L. Receiving water salinity—20 g/kg. Acute to Chronic Ratio (ACR)—10.

Compliance Monitoring

The multi-sector permit offers coverage only to very specific types of discharges subject to effluent limitation guidelines (see ¶564). Figure 565-3 lists those discharges that are subject to compliance monitoring requirements, and the respective parameters for which monitoring is required.

Compliance monitoring is required to ensure that a facility's pollutant discharge concentration is less than or equal to the numeric limits established for that pollutant. Compliance monitoring of grab samples collected within the first hour of discharge is required on an annual basis. Discharges subject to compliance monitoring in the 2000 permit include landfill runoff, coal pile runoff, contaminated runoff from asphalt paving and roofing emulsion production areas, material storage pile runoff from cement manufacturing facilities, and dewatering discharges from crushed stone, construction sand and gravel, and industrial sand mines in EPA Regions 1, 2, 3, 6, 8, 9, and 10.

An annual monitoring period extends from Oct. 1 to Sept. 30. When monitoring on a quarterly basis, samples must be collected during each of the following periods: October through December, January through March, April through June and July through September. Results of the compliance monitoring must be submitted to: MSGP DMR (4203M), U.S. EPA, 1200 Pennsylvania Ave. N.W., Washington, D.C., 20460 on a DMR. Results from compliance monitoring may also be used to meet the quarterly analytical monitoring requirements for the specified pollutants, where compatible.

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Figure 565-3†
Discharges Subject to Compliance Monitoring

Discharge	Parameters
Phosphate fertilizer manufacturing runoff (40 CFR 418)	total phosphorus, fluoride
Asphalt paving and roofing emulsions production runoff (40 CFR 443)	TSS, oil and grease, pH
Cement manufacturing materials storage pile runoff (40 CFR 411)	TSS, pH
Coal pile runoff from all facilities (60 FR 51118)	TSS, pH
Construction sand and gravel, industrial sand, and crushed stone mine dewatering located in Regions 1, 2, 3, 6, 9 and 10 (40 CFR 436)	TSS, pH
Landfills runoff (65 FR 3007)	TSS, iron, others

¶565.1 Additional Changes in the 2000 Multi-sector Permit††

In addition to the changes already discussed, the 2000 multi-sector permit makes the following revisions:

- A facility is not eligible for coverage under the multi-sector permit if it discharges any pollutant into a body of water for which a total maximum daily load (TMDL) program has been established and approved by EPA unless the TMDL program allows for the discharge.
- Discharges of solid materials and floating debris are prohibited, and a requirement to minimize off-site tracking of materials and generation of dust was added.
- A notice of termination of coverage must be submitted within 30 days after a new owner or operator has assumed authority for the facility, or operations at the facility have ceased and stormwater is no longer discharged.
- A copy of the permit must be kept with the facility's SWP3.
- Manufacturing of fertilizer from leather scraps was moved from Sector Z (Leather Tanning and Finishing) to Sector C (Chemical and Allied Products).
- Effluent guidelines for landfills in Sectors K and L were added (65 FR 3007).
- Language was clarified to indicate that facilities may not choose to be designated as Sector AD (Nonclassified Facilities) but must be assigned the classification by the permitting authority.
- Additional BMPs were added for Sectors S, T and Y.

[The next page is Tab 500, Page 69.]

† Revised, February 2001.
†† Added, February 2001.

¶566 Sector Specific Monitoring Requirements

Following is information on monitoring requirements for each of the 30 industrial sectors covered under the multi-sector stormwater general permit. The paragraph for each sector includes: a complete description of the industrial activities covered by the permit; pollutants subject to numeric effluent limitations, if any; sector-specific analytical monitoring requirements; and sector-specific compliance monitoring requirements. All sectors are required to perform visual monitoring on a quarterly basis within the first 30 minutes of discharges, except for air transportation facilities (Sector S) and coal mining-related facilities (Sector H). For more information, see ¶565. The sector-specific monitoring and effluent limitations requirements *are in addition to* the basic requirements that apply to each sector. For information on the basic permit requirements, see ¶¶560-565. ***[Editor's Note: For easy reference, the letter associated with each sector is the same as is used in the text of the permit, e.g., Sector A for timber products.]****

Many of the sectors share the same monitoring periods, reporting deadlines and sampling periods. In addition, all sectors required to perform monitoring must submit with their sampling data some basic information on storm events. If a sector follows the standard patterns noted below, this information will not be listed in the paragraph for that sector. Exceptions to the standard will be noted. Consult the text of the permit for detailed information about requirements for each industrial sector and its subsectors. Three examples of sector specific requirements are provided in Appendix 1(e).

Standard monitoring periods. Most permittees that are subject to analytical monitoring requirements must monitor at least quarterly (four times per year) during the period from Oct. 1, 1998, through Oct. 1, 1999, or, in other words, during year four of the permit. (Note: The permit took effect Oct. 1, 1995, and will expire Oct. 1, 2000.)

Standard sampling periods. For most permittees required to conduct analytical monitoring, the sampling periods are: October through December, January through March, April through June, and July through September, during the years in which monitoring is required (years two and four). There are exceptions for certain sectors.

Standard reporting deadlines. The standard reporting deadline for quarterly monitoring results obtained in the Oct. 1, 1996-Oct. 1, 1997, reporting year is March 31, 1998. The standard reporting deadline for quarterly monitoring results obtained in the Oct. 1, 1998-Oct. 1, 1999, reporting year is March 31, 2000. There are exceptions for certain sectors.

Additional information. In addition to the parameters listed in the analytical monitoring tables provided for the sectors below, permittees must provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

Exceptions, exemptions and waivers. There are several provisions in the permit that may provide exceptions to or exemptions from monitoring requirements.

Sampling waiver. A sampling waiver may be obtained if the permittee is not able to conduct sampling due to adverse weather conditions or because a site is inactive or unstaffed.

* Revised, October 1999.

Low concentration waiver. A low concentration waiver may be obtained for monitoring in the fourth year of the permit, if low concentrations of pollutants of concern were found in samples taken during the second year of the permit.

Representative discharge. A permittee may use a sample from one outfall to represent conditions at another outfall if the permittee can show that the sample used is a "representative discharge"—i.e., both outfalls discharge substantially identical effluents.

Alternative certification. Dischargers can waive monitoring requirements under an "alternative certification" if they can certify that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations or any materials, equipment, products or operations associated with past industrial activity are not exposed to stormwater from a particular outfall.

¶566.1 Timber Products Facilities (Sector A)

Discharges covered. Discharges from the following activities are covered under this sector: establishments under SIC Major Group 24 that are engaged in cutting timber and pulpwood, merchant sawmills, lath mills, shingle mills, cooperage stock mills, planing mills, and plywood and veneer mills engaged in producing lumber and wood basic materials; establishments engaged in spray down of lumber and wood product storage yards where no chemical additives are used in spray down waters and no chemicals are applied to the wood during storage; and establishments engaged in wood preserving or in manufacturing finished articles made entirely of wood or related materials, except for wood kitchen cabinet manufacturers (SIC code 2434) which are addressed under Sector W (¶566.23).

Effluent limitations. Nonstormwater discharges from areas used for the storage of logs, where water without chemical additives is intentionally sprayed on logs to deter decay or infestation, are required to meet the following effluent limitations: pH must be within the range of 6.0-9.0, and there must be no discharge of debris. Chemicals may not be applied to the stored logs.

Analytical monitoring. Timber product facilities are required to monitor for the pollutants of concern listed in the tables below.

General Sawmills and Planing Mills Facilities

Pollutants of Concern	Cut-Off Concentration
Chemical Oxygen Demand	120.0 mg/L
Total Suspended Solids	100 mg/L
Total Recoverable Zinc	0.117 mg/L

Wood Preserving Facilities

Total Recoverable Arsenic	0.16854 mg/L
Total Recoverable Copper	0.0636 mg/L

Log Storage and Handling Facilities

Total Suspended Solids	100 mg/L

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Hardwood Dimension and Flooring Mills; Special Products Sawmills, not elsewhere classified; Millwork, Veneer, Plywood and Structural Wood; Wood Containers; Wood Buildings and Mobile Homes; Reconstituted Wood Products; and Wood Products Facilities not elsewhere classified

Chemical Oxygen Demand	120 mg/L
Total Suspended Solids	100 mg/L

Compliance Monitoring. Permittees with discharges from sprayed water in log storage areas must monitor the discharge for the presence of debris and pH at least annually beginning Oct. 1, 1998, and submit results by the following Nov. 1. The permittee must provide an estimate of the total volume of the discharge sampled.

¶566.2 Paper and Allied Products (Sector B)

Discharges covered. Discharges from the following activities are covered under this sector: facilities engaged in the manufacture of pulps from wood and other cellulose fibers and from rags; the manufacture of paper and paperboard into converted products, such as paper coated off the paper machine, paper bags, paper boxes and envelopes; and establishments primarily engaged in manufacturing bags of plastic film and sheet. These facilities are commonly identified by SIC Major Group 26.

Effluent limitations. There are no sector-specific numeric effluent limitations.

Analytical monitoring. Paperboard mills are required to monitor their storm water discharges for the pollutant of concern listed below.

Paperboard Mills

Pollutants of Concern	Cut-Off Concentration
Chemical Oxygen Demand	120 mg/L

Compliance monitoring. There are no compliance monitoring requirements for this sector.

¶566.3 Chemical and Allied Products (Sector C)

Discharges covered. Requirements for this sector apply to discharges from industrial activity from facilities engaged in manufacturing the following products and described by the SIC code shown:

a. Basic industrial inorganic chemicals (including SIC 281).

b. Plastic materials and synthetic resins, synthetic rubbers, and cellulosic and other humanmade fibers, except glass (including SIC 282).

c. Soap and other detergents and in producing glycerin from vegetable and animal fats and oils; specialty cleaning, polishing, and sanitation preparations; surface active preparations used as emulsifiers, wetting agents, and finishing agents, including sulfonated oils; and perfumes, cosmetics, and other toilet preparations (including SIC 284).

d. Paints (in paste and ready-mixed form); varnishes; lacquers; enamels and shellac; putties, wood fillers, and sealers; paint and varnish removers; paint brush cleaners; and allied paint products (including SIC 285).

e. Industrial organic chemicals (including SIC 286).

f. Nitrogenous and phosphatic basic fertilizers, mixed fertilizer, pesticides, and other agricultural chemicals (including SIC 287).

g. Industrial and household adhesives, glues, caulking compounds, sealants, and linoleum, tile, and rubber cements from vegetable, animal, or synthetic plastics materials; explosives; printing ink, including gravure ink, screen process ink, and lithographic; miscellaneous chemical preparations, such as fatty acids, essential oils, gelatin (except vegetable), sizes, bluing, laundry sours, writing and stamp pad ink, industrial compounds, such as boiler and heat insulating compounds, metal, oil, and water treatment compounds, waterproofing compounds, and chemical supplies for foundries (including facilities with SIC 289).

h. Ink and paints, including china painting enamels, india ink, drawing ink, platinum paints for burnt wood or leather work, paints for china painting, artists' paints and artists' water colors (SIC 3952, limited to those listed; for others in SIC 3952 see Sector Y).

i. Medicinal chemicals and pharmaceutical products, including the grading, grinding and milling of botanicals (including SIC 283).

Effluent limitations. The following effluent limitations must be met by discharges with phosphate fertilizer manufacturing runoff. The provisions of this paragraph are applicable to storm water discharges from the Phosphate Subcategory of the Fertilizer Manufacturing Point Source Category (40 CFR 418.10). The concentration of pollutants in storm water discharges must not exceed the effluent limitations in the following table.

Numeric Effluent Limitations	Effluent Limitations (mg/L)	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed
Total Phosphorus (as P)	105.0	35.0
Fluoride	75.0	25.0

Analytical monitoring. Permittees with agricultural chemical manufacturing facilities; industrial inorganic chemical facilities; soaps, detergents, cosmetics, and perfume manufacturing facilities; and plastics, synthetics, and resin manufacturing facilities must monitor their storm water discharges for the pollutants of concern listed below.

Agricultural Chemicals

Pollutants of Concern	Cut-Off Concentration
Nitrate plus Nitrite Nitrogen	0.68 mg/L
Total Recoverable Lead	0.0816 mg/L
Total Recoverable Iron	1.0 mg/L
Total Recoverable Zinc	0.117 mg/L
Phosphorus	2.0 mg/L

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Industrial Inorganic Chemicals

Total Recoverable Aluminum	0.75 mg/L
Total Recoverable Iron	1.0 mg/L
Nitrate plus Nitrite Nitrogen	0.68 mg/L

Soaps, Detergents, Cosmetics, and Perfumes

Nitrate plus Nitrite Nitrogen	0.68 mg/L
Total Recoverable Zinc	0.117 mg/L

Plastics, Synthetics, and Resins

Total Recoverable Zinc	0.117 mg/L

Compliance monitoring. Permittees with contaminated stormwater runoff from phosphate fertilizer manufacturing facilities must monitor their contaminated stormwater discharges for the presence of phosphorous and fluoride at least annually and submit monitoring results obtained during the reporting period Oct. 1, through Sept. 30, on Discharge Monitoring Report Form(s) postmarked no later than the following Nov. 31.

¶566.4 Asphalt Paving and Roofing Materials (Sector D)

Discharges covered. This sector covers facilities that manufacturing asphalt paving and roofing materials, including those facilities commonly identified by SIC codes 2951 and 2952, including portable asphalt plant facilities (also commonly identified by SIC code 2951) and facilities engaged in manufacturing lubricating oils and greases, including those facilities classified as SIC code 2992.

Effluent limitations. Discharges from areas where production of asphalt paving and roofing emulsions occurs may not exceed a TSS concentration of 23.0 mg/L of runoff for any one day, nor shall the average of daily values for 30 consecutive days exceed a TSS concentration of 15.0 mg/L of runoff. Oil and grease concentrations in storm water discharges from these areas may not exceed 15.0 mg/L of runoff for any one day, nor should the average daily values for 30 consecutive days exceed an oil and grease concentration of 10.0 mg/L of runoff. The pH of these discharges must be within the range of 6.0 to 9.0.

Analytical monitoring. Permittees with asphalt paving and roofing materials manufacturing facilities (including portable plants) must monitor for the pollutant of concern listed in the table below.

Asphalt Paving and Roofing

Pollutants of Concern	Cut-Off Concentration
Total Suspended Solids	100 mg/L

Compliance monitoring. Permittees with facilities that produce asphalt paving or roofing emulsions must monitor their stormwater discharges associated with these activities for TSS, oil and grease, and for pH at least annually and submit monitoring results for the period Oct. 1, through Sept. 30, no later than the following Nov. 30.

¶566.5 Glass, Clay, Cement, Concrete and Gypsum Product Manufacturing Facilities (Sector E)

Discharges covered. Discharges from the following activities are covered under this sector: manufacturing flat, pressed, or blown glass or glass containers; manufacturing hydraulic cement; manufacturing clay products including tile and brick; manufacturing of pottery and porcelain electrical supplies; manufacturing concrete products; manufacturing gypsum products; nonclay refractories; and grinding or otherwise treating minerals and earths. This section generally includes the following types of manufacturing operations: flat glass, (SIC code 3211); glass containers, (SIC code 3221); pressed and blown glass, not elsewhere classified, (SIC code 3229); glass products made of purchased glass (SIC code 3231) where material handling equipment or activities, raw materials, products or equipment are exposed to stormwater; hydraulic cement, (SIC code 3241); brick and structural clay tile, (SIC code 3251); ceramic wall and floor tile, (SIC code 3253); clay refractories, (SIC code 3255); structural clay products not elsewhere classified (SIC code 3259); vitreous china plumbing fixtures, and china and earthen ware fittings and bathroom accessories (SIC code 3261); vitreous china table and kitchen articles (SIC code 3262); fine earthenware table and kitchen articles (SIC code 3263); porcelain electrical supplies, (SIC code 3264); pottery products, (SIC code 3269); concrete block and brick, (SIC code 3271); concrete products, except block and brick (SIC code 3272); ready-mix concrete, (SIC code 3273); lime (SIC code 3274); gypsum products, (SIC code 3275); cut stone and stone products (SIC code 3281); abrasive products (SIC code 3291); asbestos products (SIC code 3292); mineral wool (SIC code 3296); minerals and earths, ground or otherwise treated, (SIC code 3295); nonclay refractories, (SIC code 3297); and nonmetallic mineral products not elsewhere classified (SIC code 3299).

Effluent limitations. The following numeric effluent limitations apply to cement manufacturing facility, material storage runoff. Any discharge composed of runoff that derives from the storage of materials including raw materials, intermediate products, finished products, and waste materials that are used in or derived from the manufacture of cement shall not exceed a maximum concentration for any time of 50 mg/L TSS nor the 6.0 to 9.0 range limitation for pH. Runoff from the storage piles shall not be diluted with other storm water runoff or flows to meet this limitation. Any untreated overflow from facilities designed, constructed and operated to treat the volume of material storage pile runoff that is associated with a 10-year, 24-hour rainfall event shall not be subject to the TSS or pH limitations. Dischargers subject to these numeric effluent limitations must be in compliance with these limits upon commencement of coverage and for the entire term of the permit.

Analytical monitoring. Permittees that manufacture clay products and concrete products and gypsum products must monitor for the following pollutants of concern.

Clay product manufacturers include; brick and structural clay tile manufacturers (SIC 3251), ceramic wall and floor tile manufacturers (SIC 3253), clay refractories (SIC 3255), manufacturers of structural clay products, not elsewhere classified (SIC 3259), manufacturers of vitreous china table and kitchen articles (SIC 3232), manufacturers of vitreous china plumbing fixtures, and china and earthenware fittings and bathroom accessories (SIC 3261), manufacturers of fine earthenware table and kitchen articles (SIC 3263), manufacturers of porcelain electrical supplies (SIC 3264), pottery products (SIC 3269) and non-clay refractories (3297).

Concrete and gypsum product manufacturers include concrete block and brick manufacturers (SIC 3271), concrete products manufacturers (SIC 3272), ready mix concrete manufacturers (SIC 3273), lime (SIC 3274) gypsum product manufacturers (SIC 3275) and manufacturers of mineral and earth products (SIC 3295).

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Clay Product Manufacturers

Pollutants of Concern	Cut-Off Concentration
Total Recoverable Aluminum	0.75 mg/L

Concrete and Gypsum Product Manufacturers

Total Suspended Solids	100 mg/L
Total Recoverable Iron	1.0 mg/L

Compliance monitoring. Permittees with cement manufacturing facilities must monitor runoff from material storage for the presence of TSS and pH at least annually and must report results from the monitoring period Oct. 1, through Sept. 30, by the following Nov. 30.

¶566.6 Primary Metals Facilities (Sector F)

Discharges covered. This section applies to discharges from the primary metal industry, which includes the following types of facilities:

a. Steel works, blast furnaces, and rolling and finishing mills including: steel wiredrawing and steel nails and spikes; cold-rolled steel sheet, strip, and bars; and steel pipes and tubes (SIC code 331).

b. Iron and steel foundries, including: gray and ductile iron, malleable iron, steel investment, and steel foundries not elsewhere classified (SIC code 332).

c. Primary smelting and refining of nonferrous metals, including: primary smelting and refining of copper, and primary production of aluminum (SIC code 333).

d. Secondary smelting and refining of nonferrous metals (SIC code 334).

e. Rolling, drawing, and extruding of nonferrous metals, including: rolling, drawing, and extruding of copper; rolling, drawing, and extruding of nonferrous metals, except copper and aluminum; and drawing and insulating of nonferrous wire (SIC code 335).

f. Nonferrous foundries (castings), including: aluminum die-castings, nonferrous die-castings, except aluminum, aluminum foundries, copper foundries, and nonferrous foundries, except copper and aluminum (SIC code 336).

g. Miscellaneous primary metal products, not elsewhere classified, including: metal heat treating, and primary metal products, not elsewhere classified (SIC code 339).

Effluent Limitations. There are no sector-specific effluent limitations.

Analytical Monitoring. Primary metals facilities are required to monitor their storm water discharges for the pollutants of concern listed in the tables below.

Steel Works, Blast Furnaces, and Rolling and Finishing Mills (SIC 331)

Pollutants of Concern	Cut-Off Concentration
Total Recoverable Aluminum	0.75 mg/L
Total Recoverable Zinc	0.117 mg/L

Iron and Steel Foundries (SIC 332)

Total Recoverable Aluminum	0.75 mg/L
Total Suspended Solids	100 mg/L
Total Recoverable Copper	0.0636 mg/L
Total Recoverable Iron	1 mg/L
Total Recoverable Zinc	0.117 mg/L

Rolling, Drawing, and Extruding of Non-Ferrous Metals (SIC 335)

Total Recoverable Copper	0.0636 mg/L
Total Recoverable Zinc	0.117 mg/L

Non-Ferrous Foundries (SIC 336)

Total Recoverable Copper	0.0636 mg/L
Total Recoverable Zinc	0.117 mg/L

Compliance monitoring. There are no compliance monitoring requirements for this sector.

¶566.7 Metal Mining (Ore Mining and Dressing) Facilities (Sector G)

Discharges Covered. Discharges from the following activities are covered under this sector: active and inactive metal mining and ore dressing facilities (SIC Major Group 10) if the storm water has come into contact with, or is contaminated by, any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site of the operation. SIC Major Group 10 includes establishments primarily engaged in mining, developing mines, or exploring for metallic minerals (ores) and also includes all ore dressing and beneficiating operations, whether performed at mills operated in conjunction with the mines served or at mills, such as custom mills, operated separately. For the purposes of this part of the permit, the term "metal mining" includes all ore mining and/or dressing and beneficiating operations, whether performed at mills operated in conjunction with the mines served or at mills, such as custom mills, operated separately. All storm water discharges from inactive metal mining facilities and the storm water discharges from the following areas of active, and temporarily inactive, metal mining facilities are the only discharges covered by this section of the permit: topsoil piles; offsite haul/access roads if off active area; onsite haul roads if not constructed of waste rock or if spent ore and mine water is not used for dust control; runoff from tailings dams/dikes when not constructed of waste rock/tailings and no process fluids are present; concentration building, if no contact with material piles; mill site, if no contact with material piles; chemical storage area; docking facility, if no excessive contact with waste product; explosive storage; reclaimed areas released from reclamation bonds prior to Dec. 17, 1990; and partially/inadequately reclaimed areas or areas not released from reclamation bonds.

Effluent Limitations. There are no sector-specific numeric effluent limitations.

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Analytical Monitoring. Active copper ore mining and dressing facilities are required to monitor their storm water discharges for the pollutants of concern listed in the table below.

Active Facilities

Pollutants of Concern	Cut-Off Concentration
Chemical Oxygen Demand	120 mg/L
Total Suspended Solids	100 mg/L
Nitrate plus Nitrite Nitrogen	0.68 mg/L

Monitoring requirements for waste rock and/or overburden sources eligible for authorization under Sector G of the multi-sector permit were modified to include additional requirements (63 FR 42533, Aug. 7, 1998). All permittees must conduct analytic monitoring once for the parameters listed in the Initial Monitoring Requirements chart, and twice annually for any parameters measured above the benchmark value listed in the Initial Monitoring Requirements chart. Permittees must also conduct analytic monitoring twice annually for parameters listed in the Additional Monitoring Requirements chart for each of the ore mine categories listed in that chart.**

Initial Monitoring Requirements**

For Discharges from Waste Rock and Overburden Piles at Active Ore Mining or Dressing Operations

Pollutants of Concern	Benchmark Values
Total Suspended Solids (TSS)	100 mg/L
Turbidity (NTUs)	5 NTUs above background
pH	6.0-9.0 standard units
Hardness (as $CaCo_3$)	no benchmark value
Antimony, Total	0.636 mg/L
Arsenic, Total	0.16854 mg/L
Beryllium, Total	0.13 mg/L
Cadmium, Total (hardness dependent)	0.0159 mg/L
Copper, Total (hardness dependent)	0.0636 mg/L
Iron, Total	1.0 mg/L
Lead, Total (hardness dependent)	0.0816 mg/L
Manganese, Total	1.0 mg/L
Mercury, Total	0.0024 mg/L
Nickel, Total (hardness dependent)	1.417 mg/L
Selenium, Total	0.2385 mg/L
Silver, Total (hardness dependent)	0.0318 mg/L
Zinc, Total (hardness dependent)	0.117 mg/L

Source: U.S. Environmental Protection Agency (63 FR 42546, Aug. 7, 1998).

** Added, October 1999.

Additional Monitoring Requirements (Twice Annually)**

For Discharges from Waste Rock and Overburden Piles at Active Ore Mining or Dressing Operations

Type of Ore Mined	Pollutant/Parameter		
	Total Suspended Solids (TSS)	pH	Metal, total
Tungsten Ore	X	X	Arsenic, Cadmium (H), Copper (H), Lead (H), Zinc (H)
Nickel Ore	X	X	Arsenic, Cadmium (H), Copper (H), Lead (H), Zinc (H)
Aluminum Ore	X	X	Aluminum, Iron
Mercury Ore	X	X	Nickel (H), Mercury
Iron Ore	X	X	Iron (dissolved)
Platinum Ore			Cadmium (H), Copper (H), Mercury, Lead (H), Zinc (H)
Titanium Ore	X	X	Iron, Nickel (H), Zinc (H)
Vanadium Ore	X	X	Arsenic, Cadmium (H), Copper (H), Lead (H), Zinc (H)
Copper, Lead, Zinc, Gold, Silver and Molybdenum	X	X	Arsenic, Cadmium (H), Copper (H), Lead (H), Mercury, Zinc (H)
Uranium, Radium and	X	X	Chemical Oxygen Demand, Arsenic, Radium (dissolved and total), Uranium, Zinc (H)

Note: (H) indicates that hardness must also be measured when this pollutant is measured.

Source: U.S. Environmental Protection Agency (63 FR 42546, Aug. 7, 1998). Note: (H) indicates that hardness may also be measured when this pollutant is monitored.

Compliance monitoring. There are no compliance monitoring requirements for this sector.

** Added, October 1999.

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¶566.8 Coal Mines and Coal Mining-related Facilities (Sector H)

Discharges covered. The requirements listed under this sector apply to storm water discharges from coal mining-related areas (SIC Major Group 12) if they are not subject to effluent limitations guidelines under 40 CFR Part 434. Storm water discharges from the following portions of coal mines may be eligible for this permit: haul roads (nonpublic roads on which coal or coal refuse is conveyed), access roads (nonpublic roads providing light vehicular traffic within the facility property and to public roadways), railroad spurs, sidings, and internal haulage lines (rail lines used for hauling coal within the facility property and to offsite commercial railroad lines or loading areas), conveyor belts, chutes, and aerial tramway haulage areas (areas under and around coal or refuse conveyor areas, including transfer stations), equipment storage and maintenance yards, coal handling buildings and structures, and inactive coal mines and related areas (abandoned and other inactive mines, refuse disposal sites and other mining-related areas on private lands).

Effluent Limitations. There are no sector-specific numeric effluent limitations.

Analytical Monitoring. Coal mining facilities are required to monitor their storm water discharges for the pollutants of concern listed in the table below.

Coal Mining Facilities

Pollutants of Concern	Cut-Off Concentration
Total Recoverable Aluminum	0.75 mg/L
Total Recoverable Iron	1.0 mg/L
Total Suspended Solids	100 mg/L

Compliance monitoring. There are no compliance monitoring requirements for this sector.

¶566.9 Oil and Gas Extraction Facilities (Sector I)

Discharges Covered. This sector covers storm water discharges from oil and gas facilities listed under SIC Major Group 13 which are required to be permitted under 40 CFR 122.26. These include "... oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with any overburden raw material, intermediate products, finished products, by-products or waste products located on the site of such operations." Contaminated storm water discharges from petroleum refining or drilling operations that are subject to nationally established BAT or BCT guidelines found at 40 CFR 419 and 435 respectively are not included. Industries in SIC Major Group 13 include the extraction and production of crude oil, natural gas, oil sands and shale; the production of hydrocarbon liquids and natural gas from coal; and associated oil field service, supply and repair industries. This section also covers petroleum refineries under SIC code 2911, except for discharges subject to effluent limitations guidelines.

Effluent limitations. There are no sector-specific numeric effluent limitations.

Analytical monitoring. There are no analytical monitoring requirement for this sector.

Compliance monitoring. There are no compliance monitoring requirements for this sector.

¶566.10 Mineral Mining and Processing Facilities (Sector J)

Discharges Covered. This sector covers active and inactive mineral mining and processing facilities (generally identified by SIC Major Group 14). The permit may authorize storm water discharges associated with industrial activity that are mixed with storm water discharges associated with industrial activity from construction activities, provided that the storm water discharge from the construction activity is in compliance with the terms, including applicable Notice of Intent (NOI) or application requirements, of a different NPDES general permit or individual permit authorizing such discharges.

*Effluent Limitations.** Sector-specific numeric effluent limitations apply only in EPA Regions 1, 2, 6, 10 and Arizona to discharges from construction sand and gravel, industrial sand, and crushed stone mining, and mine dewatering. Any discharge composed entirely of storm water or ground water seepage that derives from mine dewatering activities at construction sand and gravel, industrial sand, or crushed stone mining facilities located in Regions 1, 2, 6, 10 and in Arizona shall not exceed a maximum concentration for any day of 45 mg/L or an average of daily values for 30 consecutive days of 25 mg/L TSS nor the 6.0 to 9.0 range limitation for pH. The discharge from the dewatering activity shall not be diluted with other storm water runoff or flows to meet this limitation. Dischargers subject to these numeric effluent limitations must be in compliance with these limits upon commencement of coverage and for the entire term of this permit.

Analytical Monitoring. Permittees with dimension and crushed stone, and nonmetallic minerals (except fuels), and sand and gravel mining activities must monitor their storm water discharges for the pollutants of concern listed in the table below.

Sand and Gravel Mining

Pollutants of Concern	Cut-Off Concentration
Nitrate plus Nitrite Nitrogen	0.68 mg/L
Total Suspended Solids	100 mg/L

Dimension and Crushed Stone and Nonmetallic Minerals (except fuels)

Total Suspended Solids	100 mg/L

*Compliance monitoring.** Permittees with construction sand and gravel, industrial sand, and crushed stone mining facilities in Regions 1, 2, 6, 10 and Arizona that have mine dewatering discharges composed entirely of stormwater or ground water seepage which are covered by the permit must monitor the discharge from the dewatering activity for the presence of TSS and pH at least quarterly and must report results from the reporting period Oct. 1, through Sept. 30, no later than Nov. 30.

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¶566.11 Hazardous Waste Treatment, Storage or Disposal Facilities (Sector K)

Discharges covered. This section applies to storm water discharges associated with industrial activity from facilities that treat, store, or dispose of hazardous wastes, including those that are operating under interim status or a permit under subtitle C of RCRA. Coverage under this sector for facilities located in Region VI is limited to Hazardous Waste Treatment Storage or Disposal Facilities (TSDFs) that are self-generating or totally residential wastes and to those facilities that only store hazardous waste and do not treat or dispose. These permits are issued by EPA Region VI for Louisiana, New Mexico, Oklahoma, Texas, and Federal Indian Reservations in these States. Disposal facilities that have been properly closed and capped, and have no significant materials exposed to storm water, are considered inactive and do not require permits (40 CFR 122.26(b)(14)). Prohibited from coverage under this sector are those commercial hazardous wastes disposal and treatment facilities located in Region VI that dispose and treat on a commercial basis any produced hazardous waste (not their own) as a service to generators.

Effluent limitations. There are no sector-specific numeric effluent limitations.

Analytical monitoring. Permittees with hazardous waste treatment, storage, or disposal facilities (TSDFs) must monitor their storm water discharges associated with industrial activity for the pollutants of concern listed in the table below.

Hazardous Waste Treatment Storage or Disposal

Pollutants of Concern	Cut-Off Concentration
Ammonia	19.0 mg/L
Total Recoverable Magnesium†	0.0636 mg/L
Chemical Oxygen Demand (COD)	120.0 mg/L
Total Recoverable Arsenic	0.16854 mg/L
Total Recoverable Cadmium	0.0159 mg/L
Total Cyanide††	0.0636 mg/L
Total Recoverable Lead	0.0816 mg/L
Total Recoverable Mercury	0.0024 mg/L
Total Recoverable Selenium	0.2385 mg/L
Total Recoverable Silver	0.0318 mg/L

† The MDL for magnesium is 0.02 mg/L method 200.6.
†† The MDL for cyanide is 0.02 mg/L method 335.1, 335.2, or 335.3.

Compliance monitoring. There are no compliance monitoring requirements for this sector.

¶566.12 Landfills, Open Dumps and Land Application Sites (Sector L)

*Discharges covered.** The requirements listed under this section apply to storm water discharges associated with industrial activity from waste disposal at landfills, land application sites and open dumps that receive or have received industrial wastes. Landfill, land application and open dump operators that have storm water discharges from other types of industrial activities such as vehicle maintenance, truck washing, and/or recycling may be subject to additional requirements specified elsewhere in the permit.

* Revised, March 1999.

Effluent limitations. There are no sector-specific numeric effluent limitations.

Analytical monitoring. Permittees with landfill/land application sites must monitor their storm water discharges associated with industrial activity for the pollutants of concern listed in the table below.

Landfills/Land Application Sites

Pollutants of Concern	Cut-Off Concentration
Total Suspended Solids[i]	100 mg/L
Total Recoverable Iron[ii]	1.0 mg/L

[i]Applicable to all landfill and land application sites.
[ii]Applicable to all facilities except MSWLF areas closed in accordance with 40 CFR 258.60 requirements.

Compliance monitoring. There are no compliance monitoring requirements for this sector.

¶566.13 Automobile Salvage Yards (Sector M)

Discharges covered. Covered under this sector are facilities engaged in dismantling or wrecking used motor vehicles for parts recycling or resale and for scrap (SIC code 5015).

Effluent limitations. There are no sector-specific numeric effluent limitations.

Analytical monitoring. Permittees operating automobile salvage yards must monitor their storm water discharges associated with industrial activity for the pollutants of concern listed in the table below.

Salvage Yards

Pollutants of Concern	Cut-Off Concentration
Total Suspended Solids	100 mg/L
Total Recoverable Aluminum	0.75 mg/L
Total Recoverable Iron	1.0 mg/L
Total Recoverable Lead	0.0816 mg/L

Compliance monitoring. There are no compliance monitoring requirements for this sector.

¶566.14 Scrap and Waste Recycling Facilities (Sector N)

Discharges covered. The requirements listed under this section are applicable to storm water discharges from the following activities: facilities that are engaged in the processing, reclaiming and wholesale distribution of scrap and waste materials such as ferrous and nonferrous metals, paper, plastic, cardboard, glass, animal hides (these types of activities are typically identified as SIC code 5093). Facilities that are engaged in reclaiming and recycling liquid wastes such as used oil, antifreeze, mineral spirits, and industrial solvents (also identified as SIC code 5093) are also covered under this section. Separate permit requirements have been established for recycling facilities that only receive source-separated recyclable materials primarily from non-industrial and residential sources (also identified as SIC 5093) (e.g., common consumer products including paper, newspaper, glass, cardboard, plastic containers, aluminum and tin cans). This includes recycling facilities commonly referred to as material recovery facilities (MRF).

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Effluent limitations. There are no sector-specific numeric effluent limitations.

Analytical monitoring. Permittees with scrap recycling and waste recycling facilities must monitor their storm water discharges associated with industrial activity for the pollutants of concern listed in the table below.

Scrap Recycling and Waste Recycling

Pollutants of Concern[i]	Cut-Off Concentration
Chemical Oxygen Demand	120 mg/L
Total Suspended Solids	100 mg/L
Total Recoverable Aluminum	0.75 mg/L
Total Recoverable Copper	0.0636 mg/L
Total Recoverable Iron	1.0 mg/L
Total Recoverable Lead	0.0816 mg/L
Total Recoverable Zinc	0.117 mg/L

[i]Several congeners of PCBs (PCB-1016, -1221, -1242, -1248, -1260) were above established benchmarks, however, EPA believes that these constituents will readily bound up with sediment and particulate matter. Therefore, EPA believes that BMPs will effectively address sources of PCBs and that monitoring for TSS will serve as an adequate indicator of the control of PCBs.

Compliance monitoring. There are no compliance monitoring requirements for this sector.

¶566.15 Steam Electric Power Generating Facilities, Including Coal Handling Areas (Sector O)

Discharges covered. The requirements listed under this section shall apply to storm water discharges from steam electric power generating facilities, including coal handling areas. Non-storm water discharges subject to effluent limitations guidelines are not covered by this permit. Storm water discharges from coal pile runoff subject to numeric limitations are eligible for coverage under this permit, but are subject to the limitations established by 40 CFR 423.

Effluent limitations. Coal pile runoff is not subject to additional numeric effluent limitations. However, steam electric generating facilities must comply with the standard requirement in Part V.B. of the permit immediately upon permit issuance. Steam electric generating facilities are not permitted to take 3 years to meet this requirement.

Analytical monitoring. Steam electric power generating facilities are required to monitor their storm water discharges for the pollutant of concern listed in the table below.

Monitoring Requirements for Steam Electric Power Generating Facilities

Pollutant of Concern	Cut-Off Concentration
Total Recoverable Iron	1.0 mg/L

Compliance monitoring. Permittees with point sources of coal pile runoff associated with steam electric power generation must monitor these stormwater discharge for the presence of TSS and for pH at least annually and must report results for the reporting period Oct. 1, through Sept. 30, no later than Nov. 30.

¶566.16 Land Transportation Facilities (Sector P)

*Discharges Covered.** Stormwater discharges from ground transportation facilities and rail transportation facilities (generally identified by SIC codes 40, 41, 42, 43, and 5171), that have vehicle and equipment maintenance shops (vehicle and equipment rehabilitation, mechanical repairs, painting, fueling and lubrication) and/or equipment cleaning operations are eligible for coverage under this section. Also covered are public warehousing and storage facilities (SIC code 4221-4225) that do not have vehicle and equipment maintenance shops and/or equipment cleaning operations but have areas where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by products or industrial machinery are exposed to stormwater.

Effluent limitations. There are no sector-specific numeric effluent limitations.

Analytical monitoring. Analytical monitoring is not required for this sector.

Compliance monitoring. There are no compliance monitoring requirements for this sector.

¶566.17 Water Transportation Facilities (Sector Q)

Discharges covered. Covered under this sector are water transportation facilities that have vehicle (vessel) maintenance shops and/or equipment cleaning operations. The water transportation industry includes facilities engaged in foreign or domestic transport of freight or passengers in deep sea or inland waters; marine cargo handling operations; ferry operations; towing and tugboat services; and marinas (facilities commonly identified by SIC code Major Group 44).

Effluent limitations. There are no sector-specific effluent limitations.

Analytical monitoring. Water transportation facilities are required to monitor their storm water discharges for the pollutants of concern listed in the table below.

Water Transportation

Pollutants of Concern	Cut-Off Concentration
Total Recoverable Aluminum	0.75 mg/L
Total Recoverable Iron	1.0 mg/L
Total Recoverable Lead	0.0816 mg/L
Total Recoverable Zinc	0.117 mg/L

Compliance monitoring. There are no compliance monitoring requirements for this sector.

¶566.18 Ship and Boat Building or Repairing Yards (Sector R)

Discharges covered. The requirements listed under this section apply to storm water discharges from facilities engaged in ship building and repairing and boat building and repairing SIC code 373). (According to the U.S. Coast Guard, a vessel 65 feet or greater in length is referred to as a ship, and a vessel smaller than 65 feet is a boat.)

Effluent limitations. There are no sector-specific effluent limitations.

Analytical monitoring. There are no analytical monitoring requirements for this sector.

Compliance monitoring. There are no compliance monitoring requirements for this sector.

* Revised, March 1999.

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¶566.19 Air Transportation Facilities (Sector S)

Discharges covered. The requirements listed under this section apply to storm water discharges from establishments and/or facilities including airports, air terminals, air carriers, flying fields, and establishments engaged in servicing or maintaining airports and/or aircraft (generally classified under SIC code 45) which have vehicle maintenance shops, material handling facilities, equipment cleaning operations or airport and/or aircraft deicing/anti-icing operations. For the purpose of this permit, the term "deicing" is defined as the process to remove frost, snow, or ice and "anti-icing" is the process which prevents the accumulation of frost, snow, or ice.

Only those portions of the facility or establishment that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, or deicing/anti-icing operations are addressed under this section.

Effluent limitations. There are no sector-specific numeric effluent limitations.

Analytical monitoring. Airports that use more than 100,000 gallons of glycol-based deicing/anti-icing chemicals and/or 100 tons or more of urea on an average annual basis must monitor outfalls from the airport facility that collect runoff from areas where deicing/anti-icing activities occur. Airports which are subject to these monitoring requirements must sample their storm water discharges for the parameters listed in the table below.

Pollutants of Concern	Cut-Off Concentration
Biochemical Oxygen Demand (BOD_5)	30 mg/L
Chemical Oxygen Demand	120 mg/L
Ammonia	19 mg/L
pH	6.0 to 9.0

For the purposes of the final permit, the "average annual" usage rate of deicing/anti-icing chemicals is determined by averaging the cumulative amount of deicing/anti-icing chemicals used by all operators at the airport facility in the 3 previous calendar years.

Monitoring periods. Airports where more than 100,000 gallons of glycol-based deicing/anti-icing chemicals and/or 100 tons or more of urea are used on an average annual basis must monitor outfalls from the facility that collect runoff from areas where deicing/anti-icing activities occur four times per year during the months of December, January, and February when deicing/anti-icing activities are occurring, in the second and third years of the permit.

Compliance monitoring. There are no compliance monitoring requirements for this sector.

¶566.20 Treatment Works (Sector T)

Discharges covered. This sector includes all existing point source discharges of storm water from treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including lands dedicated to the disposal of sewage sludge that are located within the confines of the facility with a design flow of 1.0 MGD or more, or required to have an approved pretreatment program under 40 CFR Part 403. When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the

description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

Effluent limitations. There are no sector-specific numeric effluent limitations.

Analytical monitoring. There are no analytical monitoring requirements.

Compliance monitoring. There are no compliance monitoring requirements for this sector.

¶566.21 Food and Kindred Products Facilities (Sector U)

Discharges covered. This sector covers all storm water discharges from food and kindred products processing facilities (commonly identified by SIC code 20), including: meat products; dairy products; canned, frozen and preserved fruits, vegetables, and food specialties; grain mill products; bakery products; sugar and confectionery products; fats and oils; beverages; and miscellaneous food preparations and kindred products and tobacco products manufacturing (SIC code 21), except for storm water discharges identified under paragraph I.B.3. where industrial plant yards; material handling sites; refuse sites; sites used for application or disposal of process wastewaters; sites used for storage and maintenance of material handling equipment; sites used for residential treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; and storage areas for raw material and intermediate and finished products are exposed to storm water and areas where industrial activity has taken place in the past and significant materials remain. For the purposes of this paragraph, material handling activities include the storage, loading, and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product, or waste product.

Effluent limitations. There are no sector-specific numeric effluent limitations.

Analytical monitoring. Grain mill and fats and oils products facilities are required to monitor their storm water discharges for the pollutants of concern listed in the tables below.

Grain Mill Products

Pollutant of Concern	Cut-Off Concentration
Total Suspended Solids	100 mg/L

Grain Mill Products

Biochemical Oxygen Demand (BOD_5)	30 mg/L
Chemical Oxygen Demand	120 mg/L
Nitrate Plus Nitrite Nitrogen	0.68 mg/L
Total Suspended Solids	100 mg/L

Compliance monitoring. There are no compliance monitoring requirements for this sector.

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¶566.22 Textile Mills, Apparel and Other Fabric Product Manufacturing Facilities (Sector V)

*Discharges covered.** The requirements listed under this sector apply to storm water discharges from the following activities: textile mill products, of and regarding facilities and establishments engaged in the preparation of fiber and subsequent manufacturing of yarn, thread, braids, twine, and cordage, the manufacturing of broadwoven fabrics, narrow woven fabrics, knit fabrics, and carpets and rugs from yarn; processes involved in the dyeing and finishing of fibers, yarn fabrics, and knit apparel; the integrated manufacturing of knit apparel and other finished articles of yarn; the manufacturing of felt goods (wool), lace goods, nonwoven fabrics, miscellaneous textiles, and other apparel products (generally described by SIC codes 22 and 23). This sector also covers facilities engaged in manufacturing of finished leather and artificial leather products (SIC code 31, except 3111).

Effluent limitations. There are no sector-specific numeric effluent limitations.

Analytical monitoring. There are no analytical monitoring requirements for this sector.

Compliance monitoring. There are no compliance monitoring requirements for this sector.

¶566.23 Furniture and Fixture Manufacturing Facilities (Sector W)

Discharges covered. The requirements listed under this section apply to storm water discharges associated with industrial activities from facilities involved in the manufacturing of: wood kitchen cabinets (generally described by SIC code 2434); household furniture (generally described by SIC code 251); office furniture (generally described by SIC code 252); public buildings and related furniture (generally described by SIC code 253); partitions, shelving, lockers, and office and store fixtures (generally described by SIC code 254); and miscellaneous furniture and fixtures (generally described by SIC code 259).

Effluent limitations. There are no sector-specific numeric effluent limitations.

Analytical monitoring. There are no analytical monitoring requirements for this sector.

Compliance monitoring. There are no compliance monitoring requirements for this sector.

¶566.24 Printing and Publishing Facilities (Sector X)

*Discharges covered.** The requirements listed under this section apply to stormwater discharges associated with industrial activity from the following types of facilities: newspaper, periodical, and book publishing or publishing and printing (SIC Codes 2711-2731); book printing (SIC Code 2732); miscellaneous publishing (SIC Code 2741); commercial printing, lithographic (SIC Code 2752); commercial printing, gravure (SIC Code 2754); commercial printing, not elsewhere classified (SIC Code 2759); manifold business forms, greeting cards, bankbooks, looseleaf binders and devices, bookbinding and related work, and typesetting (SIC Codes 2761-2791); and, platemaking and related services (SIC Code 2796).

Effluent limitations. There are no sector-specific numeric effluent limitations.

Analytical monitoring. There are no analytical monitoring requirements for this sector.

Compliance monitoring. There are no compliance monitoring requirements for this sector.

* Revised, March 1999.

¶566.25 Rubber, Miscellaneous Plastic Products and Miscellaneous Manufacturing Industries (Sector Y)

Discharges covered. The requirements listed under this section apply to all storm water discharges associated with industrial activity from rubber and miscellaneous plastic products manufacturing facilities (SIC major group 30) and miscellaneous manufacturing industries, except jewelry, silverware, and plated ware (SIC major group 39, except 391).

Effluent limitations. There are no sector-specific numeric effluent limitations.

Analytical monitoring. Rubber product manufacturing facilities are required to monitor their storm water discharges for the pollutants of concern listed in the table below.

Rubber Products Manufacturing

Pollutants of Concern	Cut-Off Concentration
Total Recoverable Zinc	0.117 mg/L

Compliance monitoring. There are no compliance monitoring requirements for this sector.

¶566.26 Leather Tanning and Finishing Facilities (Sector Z)

Discharges covered. The requirements listed under this section apply to storm water discharges from the following activities: leather tanning, currying and finishing (commonly identified by SIC code 3111). Discharges from facilities that make fertilizer solely from leather scraps and leather dust are also covered under this section.

Effluent limitations. There are no sector-specific numeric effluent limitations.

Analytical monitoring. There are no analytical monitoring requirements for this sector.

Compliance monitoring. There are no compliance monitoring requirements for this sector.

¶566.27 Fabricated Metal Products Industry (Sector AA)*

*Discharges covered.** The requirements listed under this section apply to stormwater discharges associated with industrial activity from the fabricated metals industry listed below, except for electrical related industries: fabricated metal products, except machinery and transportation equipment, SIC 34, and jewelry, silverware and plated ware (SIC Code 391).

Effluent limitations. There are no sector-specific numeric effluent limitations.

Analytical monitoring. Metal fabricating facilities are required to monitor their storm water discharges for the pollutants of concern listed in the tables below. The monitoring requirements are subdivided into two classifications to determine pollutants of concern: (1) fabricated metal products except coating and (2) fabricated metal coating and engraving.

* Revised, March 1999.

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Fabricated Metal Products Except Coating

Cut-Off Concentration	
Total Recoverable Aluminum	0.75 mg/L
Total Recoverable Iron	1.0 mg/L
Total Recoverable Zinc	0.117 mg/L
Nitrate plus Nitrite Nitrogen	0.68 mg/L

Fabricated Metal Coating and Engraving

Total Recoverable Zinc	0.117 mg/L
Nitrate plus Nitrite Nitrogen	0.068 mg/L

Compliance monitoring. There are no compliance monitoring requirements for this sector.

¶566.28 Transportation Equipment, or Industrial or Commercial Machinery (Sector AB)

Discharges covered. The requirements listed under this sector apply to storm water discharges associated with transportation equipment, industrial or commercial machinery manufacturing facilities (commonly described by SIC Major Group 35 except SIC 357, and SIC Major Group 37, except SIC 373). Common activities include: industrial plant yards; material handling sites; refuse sites; sites used for application or disposal of process wastewaters; sites used for storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas for raw material and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water.

Effluent limitations. There are no sector-specific numeric effluent limitations.

Analytical monitoring. There are no analytical monitoring requirements for this sector.

Compliance monitoring. There are no compliance monitoring requirements for this sector.

¶566.29 Electronic and Electrical Equipment and Components, Photographic and Optical Goods (Sector AC)

Discharges covered. The requirements listed under this sector apply to all storm water discharges associated with industrial activity from facilities that manufacture: electronic and other electrical equipment and components, except computer equipment (SIC major group 36); measuring, analyzing, and controlling instruments; photographic, medical and optical goods; watches and clocks (SIC major group 38) and computer and office equipment (SIC code 357).

Effluent limitations. There are no sector-specific numeric effluent limitations.

Analytical monitoring. There are no analytical monitoring requirements for this sector.

Compliance monitoring. There are no compliance monitoring requirements for this sector.

¶566.30 Nonclassified Facilities (Sector AD)

Discharges covered. This category covers all facilities that meet the definition of stormwater associated with industrial activity except construction activity, and that cannot be classified in another industrial sector of the MSGP, and are not excluded from permit coverage elsewhere in the permit.

Effluent Limitations. There are no sector-specific numeric effluent limitations.

Analytical Monitoring. There are no analytical monitoring requirements for this sector.

Compliance Monitoring. There are no compliance monitoring requirements for this sector.

[The next page is Tab 500, Page 121.]

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¶570 Phase II Construction Requirements**

The stormwater phase II final rule requires operators of construction activities disturbing between one and five acres, and certain other construction sites, to obtain National Pollutant Discharge Elimination System (NPDES) permit coverage by early March 2003 (specific compliance dates will be set by the NPDES permitting authority in each state). See ¶145 for a complete discussion of regulated small construction activity and appropriate waivers from the phase II program requirements.

Under phase II, NPDES permitting authorities must issue general permits for small construction sites by December 2002. Stormwater permits may be issued by a U.S. Environmental Protection Agency (EPA) regional office or by an authorized state NPDES permitting authority. Regardless of who issues the permit, the standards set forth in the permit, at a minimum, must match the federal version of the permit. However, states can create more stringent requirements or alter certain procedures associated with the permitting process.

Permit Requirements

Similar to the phase I rule, the program requirements for the phase II small construction program are not fully defined in the rule but will be included in the NPDES permit issued by the permitting authority. EPA recommends that the NPDES permitting authorities use their existing phase I large construction general permits as a guide to developing their phase II small construction permits (see ¶550). Thus, the phase II requirements likely will be similar to the three general phase I requirements summarized below:

- submission of a notice of intent (NOI) that includes general information and certification that the activity will not affect endangered or threatened species (This certification is unique to EPA's NOIs and is not a requirement of the NOIs of most NPDES-delegated states.);
- development and implementation of a stormwater pollution prevention plan with appropriate best management practices to minimize the discharge of pollutants from the site (see ¶670); and
- submission of a notice of termination when final stabilization, as defined in the permit, of the site has been achieved or when another operator has assumed control of the site.

The phase II rule does not require submission of an NOI for general permits for stormwater discharges from small construction sites if the NPDES permitting authority finds that the use of NOIs would be inappropriate. EPA recommends the use of NOIs, however, because they track permit coverage and help prioritize inspections and enforcement. NOIs also allow for better outreach to the regulated community, EPA says.

Incorporation of Qualifying Erosion and Sediment Control Programs

The phase II rule allows the NPDES permitting authority to include in its NPDES permits for large and small construction activity conditions that incorporate by reference qualifying state, tribal or local erosion and sediment control programs if the programs meet certain requirements. A qualifying erosion and sediment control program for small construction activities must require construction site operators to:

- implement appropriate erosion and sediment control best management practices;

** Added, May 2000.

- control waste such as discarded building materials, concrete truck washout, chemicals, litter and sanitary waste that may have adverse impacts on water quality;
- develop and implement a stormwater pollution prevention plan; and
- submit a site plan for review that incorporates consideration of potential water quality impacts.

EPA notes that the incorporation-by-reference approach applies not only to the newly regulated stormwater discharges from small construction activity, but also to discharges from construction activity disturbing five or more acres if an additional requirement is met. A qualifying program for large construction activities also must include "any additional requirements" necessary to achieve the applicable technology-based standards of "best available technology" and "best conventional pollutant control technology," the final rule states.

If a state, tribal or local program does not include all of the elements listed above, the NPDES permitting authority still may refer to the program in the permit, provided it also incorporates the missing elements as a condition in the permit, according to EPA.

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¶590 Insights

"Insights" are articles containing specific guidance for members of the regulated community written by experts in the stormwater field. Insights are found at the conclusion of most tabs of the *Stormwater Permit Manual*. Additional Insights will be added to the *Manual* as part of the monthly update service. Subscribers are encouraged to contact the editors with suggestions for future Insights.

¶591 Insight: EPA Answers Commonly Asked Questions About Sampling and Monitoring Requirements

I. Introduction*

The following questions and answers about federal stormwater monitoring and sampling requirements are based on the U.S. Environmental Protection Agency's (EPA's) September 1993 *NPDES Stormwater Program Question and Answer Document, Part II.* Generally, the questions and answers provided here relate to monitoring requirements under EPA's baseline general permits. Subscribers should be aware that EPA's multi-sector general permit, which took effect Oct. 1, 1995 (60 FR 50804, Sept. 29, 1995), includes alternative monitoring and sampling requirements for many of the 29 industrial sectors that it covers. For an overview of the multi-sector monitoring provisions, see ¶560; for an EPA Q&A document on the multi-sector permit, see ¶291 in Tab 200; for the text of the multi-sector permit, see Appendix 1(e); for the text of the baseline industrial general permit, see Appendix 1(c).

In states delegated to administer the National Pollutant Discharge Elimination System (NPDES) permit program, state monitoring requirements may differ from those set forth by EPA. As a general rule, state programs administering the NPDES water pollution permit system must have environmental requirements that are at least as stringent as those established by EPA. In the NPDES stormwater program, however, EPA has tacitly allowed some NPDES-delegated states to establish monitoring requirements that appear to be much less comprehensive than those set forth in EPA's baseline general permits.

In some NPDES-delegated states, for example, industrial stormwater dischargers regulated under a state general permit do not need to perform monitoring and sampling at all. In other NPDES-delegated states, however, monitoring and sampling requirements may be significantly more elaborate than those that EPA has established. To determine monitoring and sampling requirements for your state, refer to the state program descriptions in Tab 800 of the *Stormwater Permit Manual.*

II. EPA's Questions and Answers About Stormwater Monitoring

Q: Who is required to monitor under the conditions of EPA's baseline industrial stormwater general permit?

A: EPA established tiered monitoring requirements in its final industrial stormwater general permit based on the potential to contribute pollutants to stormwater (57 FR 11394, April 2, 1992). Six classes of facilities are required to monitor semiannually and report annually, ten classes of facilities are required to monitor annually and keep the data onsite, and all other classes of facilities are not required to monitor. All facilities authorized by general permits—including those facilities not otherwise required to monitor—must still conduct annual site inspections, except for inactive mining sites where this may be impractical due to remote location and inaccessibility of sites (inspections here are required no less than once in three years).

The 16 classes of facilities that are required to monitor are specified in EPA's industrial general permit. EPA's construction site stormwater general permit requires periodic inspections in lieu of monitoring.

* Updated, December 1995

Q: If an industrial facility that is required to monitor under EPA's stormwater general permit does not have any exposure of materials or activities to stormwater, does it still have to conduct sampling?

A: Under EPA's industrial stormwater general permit, industrial facilities may provide a certification in lieu of monitoring results for a given outfall, that materials and activities are not presently exposed to stormwater and will not be exposed during the certification period (57 FR 41314, Sept. 9, 1992; see Appendix 1(c), p. 619 of the *Manual*). This determination should be applied on an outfall-by-outfall basis (e.g. permittees may elect to monitor certain outfalls while providing certification for others). The certification must be updated on an annual basis and retained in the pollution prevention plan. The six classes of facilities that are required to report monitoring results annually must submit this certification to the permitting authority in lieu of the Discharge Monitoring Report (DMR).

Q: With one drainage area leading to a single outfall, if a facility conducts two separate industrial activities that are subject to both semiannual and annual monitoring requirements, which set of monitoring requirements will apply?

A: If the discharges cannot be segregated, the combined discharge would be subject to both sets of monitoring requirements. In effect, a combined discharge could be subject to annual monitoring requirements for certain parameters and semi-annual monitoring for others. If a facility can segregate the discharges from the different activities, separate monitoring requirements would apply to each discharge.

Q: Is it possible to sample only one of several identical outfalls under the provisions of EPA's general permit?

A: Yes. To reduce the monitoring burden on the facility, the permit allows an operator to sample one outfall where it is substantially identical to the other outfalls. Permittees that intend to use this provision must justify and document in writing why one outfall is substantially identical to the others. Criteria for making this determination are presented in the *NPDES Storm Water Sampling Guidance Document* (EPA-833/B-92-001, July 1992). Facilities using this provision must include the written justifications in their stormwater pollution prevention plans (SWP3s). Any facility subject to semiannual monitoring requirements must submit a justification of why an outfall is substantially identical to the others on site with its Discharge Monitoring Report. Other facilities required to monitor under the EPA industrial general permit are not required to submit their justifications unless requested to do so by permitting authorities.

Q: If a facility had to report under Section 313 of the Emergency Planning and Community Right to Know Act (EPCRA) [also referred to as Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA)], when its notice of intent (NOI) was submitted, but no longer uses the quantity of EPCRA 313 water priority chemicals that makes such reporting necessary, is the facility still subject to special requirements in EPA's industrial general permit for facilities that handle EPCRA 313 water priority chemicals?

A: No. Such facilities are no longer subject to the special EPCRA 313 requirements contained in the industrial stormwater general permit. Operators of such facilities should modify their SWP3s accordingly, to indicate the changes in industrial activity that have occurred at their sites.

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Q: Under EPA's general permit, when and where must DMRs be submitted for facilities required to conduct semi-annual monitoring?

A: DMRs must be submitted to appropriate permitting authorities according to the following schedule:

- certain EPCRA 313 facilities and wood treatment facilities monitor from January to June and from July to December, and must report no later than January 28 following the second monitoring period;
- Primary metal facilities, facilities with coal pile runoff, and battery reclaimers monitor from March to August and from September to February, and must report no later than April 28 following the second monitoring period; and
- Land disposal facilities must monitor from October to March and from April to September, and must report no later than October 28 following their second monitoring period.

For a facility in a non-NPDES state, DMRs must be submitted to the appropriate EPA Regional Office. In states with approved NPDES permit programs, DMRs must be sent to the location specified in a state's general permit. General permits in such NPDES delegated states may also have different schedules for submitting DMRs than those specified above.

Q: Under the EPA industrial general permit, coal-fired steam electric facilities have annual monitoring requirements for stormwater discharges from coal handling sites (other than from coal pile runoff). Are access roads considered coal handling sites?

A: Coal handling sites include those areas of a facility where coal is either loaded or unloaded. Therefore, those portions of access roads where loading and unloading operations do not occur are not considered to be coal handling sites. Therefore, they are not subject to annual monitoring requirements under EPA's general permit.

Q: Are there specific numeric effluent limits in EPA's stormwater general permit for industrial dischargers?

A: EPA's general permit establishes pollutant discharge limits for total suspended solids (TSS) and for pH in coal pile runoff. For most other facilities, EPA's industrial stormwater general permits focus on stormwater management and the implementation of facility-specific pollution prevention plans. However, EPA's industrial general permits also include state-specific conditions required to protect state water quality standards under Section 401 of the Clean Water Act. These state-specific conditions, in some cases, may include additional numeric effluent limits.

Q: For what parameters does a facility have to sample under the individual application?

A: Applicants are required to obtain quantitative data from samples collected during storm events from all outfalls that discharge stormwater associated with industrial activity for the following parameters:

- any pollutant limited in an effluent guideline to which the facility is subject;
- any pollutant listed in the facility's permit for its process wastewater (if the facility is operating under an existing NPDES permit);
- oil and grease, pH, BOD_5, COD, TSS, total phosphorous, total Kjeldahl nitrogen, and nitrate plus nitrite nitrogen; and

- certain toxic pollutants listed in Tables II and III of Appendix D of 40 CFR Part 122 (and also listed in Tables 2F-2 and 2F-3 in the instructions for EPA Form 2F, for individual stormwater permit applications) that are expected to be present in the stormwater.

Q: For an individual application, how many aliquots (equal portions) of stormwater are needed to obtain a flow-weighted composite?

A: A flow-weighted composite may be taken as a combination of a minimum of three sample aliquots taken in each hour of discharge for the entire event or for the first three hours of the event, with each aliquot collection being separated by a minimum of 15 minutes. In the storm event sampled lasts less than three hours, aliquots should be collected for as long as there is sufficient flow. Large and medium municipalities subject to stormwater permitting may use different protocols with respect to time duration between collection of aliquots, with the approval of the appropriate permitting authority (see Tab 400 of the *Manual*).

Q: How does a facility measure flow if there are numerous small outfalls?

A: Applicants may provide either measurements or estimates of stormwater flows. One possible method for estimating flow is to create a conveyance that will combine flows from many of the outfalls. Alternatively, where flows are similar, the flow at one outfall may be measured to calculate flows at the other outfalls, provided that the method of measurement used is indicated to the permitting authority. EPA's *NPDES Storm Water Sampling Guidance Document* discusses several ways to estimate flows.

Q: For what parameters is the use of only a grab sample appropriate?

A: When collecting stormwater samples, grab samples are required for the following parameters: pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform, and fecal streptococcus. Both gram and composite samples are required for all other pollutants.

Q: Do both grab and composite samples have to be taken from a 24-hour holding pond?

A: No. Only a minimum of one grab sample must be taken of effluent from holding ponds or other impoundments which have retention periods of greater than 24 hours for the representative events.

Q: Can composite samples and grab samples be taken from separate storm events?

A: Grab samples and composite samples for a given outfall should be taken from the same storm event, to provide a basis for comparing the data. If this is impossible, information describing each storm event used for sample collected should be recorded and submitted with sampling results. However, applicants are advised that the appropriate permitting authority may request data to be collected from only one storm event.

Q: Is a facility required to sample all of its outfalls during a single storm event?

A: No. Unless otherwise specified by the permitting authority, a facility may sample outfalls during different storm events, provided that the storms meet the criteria established in the application regulations or in the applicable permit language. Information describing each storm event used for sample collection should be recorded and submitted with sampling results.

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Q: If a facility has two conveyances that join and leave the site as one combined discharge, where should a sample be collected?

A: If the discharge is composed entirely of stormwater, the sampling point should be at the outfall as it leaves the property. If the discharge is a combination of process wastewater and stormwater, the stormwater component of the discharge should be sampled before it commingles with the process wastewater discharges. If sampling at an outfall at the property boundaries is impossible because of safety considerations, inaccessibility, or a poor conveyance, sampling may be done closer to the discharge source.

Q: How long a 'dry' period does a facility need before sampling?

A: A 'dry' period needs to be at least 72 hours. More specifically, all samples must be collected from the discharge resulting from a storm event that occurs at least 72 hours from the previously measurable (that is, greater than 0.1 inches) storm event.

Q: If two or more outfalls at a facility have identical discharges, does each outfall have to be sampled?

A: Where a facility has outfalls that discharge "substantially identical effluent," the permitting authority may allow the applicant to test only one outfall and report that the quantitative data are representative of the substantially identical outfalls. EPA's *NPDES Stormwater Sampling Guidance Document* provides information on how to prepare this petition. Applicants may also wish to contact their permitting authorities to determine what information is required.

Q: Do analyses for stormwater pollutant parameters need to be done by certified laboratories?

A: There is no federal requirement to use a certified lab. However, certain states may require that dischargers use certified labs. Please note that laboratory analyses in any case must comply with the analytical procedures set out in 40 CFR Part 136, as discussed below.

Q: What analytical methods must be used for the pollutants for which sampling is required?

A: EPA-approved methods must be used where a method for a pollutant has been promulgated. Required methods are discussed in 40 CFR Part 136. If there is no approved method for laboratory analysis of a specified parameter, the applicant may use any suitable method, but must provide a description of the method used in its application. Additional information on general sampling issues may be obtained through EPA's *NPDES Stormwater Sampling Guidance Document.*

[The next page is Tab 500, Page 201.]

¶592 Interaction of SARA Section 313 and Stormwater General Permit Requirements

by June C. Bolstridge

June C. Bolstridge, the founder and president of the GAIA Corporation in Silver Spring, Md., has more than 10 years experience providing environmental engineering assistance to manufacturing and industrial clients, as well as to government agencies such as the U.S. Environmental Protection Agency (EPA), the Department of Defense (DOD), the Department of the Environment (DOE) and the Federal Aviation Administration (FAA). She provided support for EPA's implementation of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) during the first four years of the program and assisted in the development of many of the EPA instructional and guidance documents concerning the Section 313 toxic chemical release reporting requirements. She has been involved in stormwater monitoring in urban watersheds for nine years, and has experience in obtaining NPDES permits for several manufacturing industries. Bolstridge has a master's degree in environmental engineering from the University of Washington in Seattle, and a bachelor of science degree with honors in botany and chemistry from SUNY College of Environmental Science and Forestry and Syracuse University.

Recently, new environmental regulations have begun to impose requirements on facilities and the chemicals they use based on their coverage under other unrelated environmental regulatory programs. Often these additional requirements are tied to reporting for annual toxic chemical releases. Although linking such requirements may increase consistency among regulatory programs, it also generates confusion and conflict with respect to differing terminology and compliance deadlines.

This discussion focuses on the interaction between the stormwater general permit requirements and the annual toxic chemical release reporting requirements. Section 313 of SARA Title III (also known as the Emergency Planning and Community Right-to-Know Act (EPCRA)) requires reporting for total annual releases of certain toxic chemicals. EPA's implementation of chemical lists, deadlines and other requirements of the general permits under the stormwater program has caused overlap and potential conflict with the SARA Section 313 requirements.

This Insight provides a short overview of the requirements of SARA Section 313 and the stormwater permit requirements affecting facilities subject to Section 313 and identifies some issues of concern for facilities that are subject to both programs. The information provided here is not intended as a complete description of the requirements of Section 313, but is meant to review and focus attention on specific issues.

Overview of SARA Section 313

Section 313 of SARA Title III requires certain manufacturing facilities to evaluate their activities involving a specific list of toxic chemicals. Facilities are required to submit a report, known as Form R, for each chemical that exceeds thresholds for the manufacture, process or "otherwise use" of the chemicals during a calendar year. Facilities must file reports each July 1 for releases that occurred during the previous calendar year. Reports must be filed with both EPA headquarters and the state designated Section 313 coordinator.

Form R reports summarize the total pounds of a chemical released during the calendar year to each environmental medium, including surface water. Reportable discharges to each surface water body under Section 313 include NPDES permitted discharges, unpermitted releases, spills to water and stormwater. The percent contribution of the release that was due to stormwater for each surface water body also is reported.

Monitoring is not required for Section 313 reporting and in the absence of monitoring data, reporting facilities are allowed to enter "NA" for the percent contribution from stormwater. Any available data for the content of a chemical in stormwater, including that developed to meet other regulatory requirements, must be considered by the reporting facility in developing appropriate estimate for the contribution from stormwater. Facilities are required to document their data and to maintain records for three years from the date that the Form R report is submitted.

A specific list of chemicals is covered by the SARA Section 313 reporting requirements, which differs from that covered by any other environmental regulation. The list includes approximately 320 chemicals and chemical categories, and is frequently revised through petitions to add or delete chemicals.

The criteria for listing under Section 313 are based on whether the chemical causes or is likely to cause acute human health effects at concentrations beyond a facility's fenceline; chronic or long-term health effects in humans, including cancer, or serious harm to the environment because of its toxicity; and persistence or tendency to bioaccumulate.

Certain chemicals are listed with qualifiers. For example, aluminum, vanadium and zinc are qualified on the list as "fume or dust," and only require threshold determinations and reporting if present in those forms. Similarly only white and yellow phosphorus and asbestos that is friable are subject to threshold determinations. Ammonium nitrate and ammonium sulfate are reportable only if present in the form of a solution, and threshold and release calculations are based on the amount of these chemicals present in the solution form, not counting the water, and not including solid or pelletized forms.

Three separate activity thresholds determine the chemicals that must be reported by manufacturing facilities (Standard Industrial Classification (SIC) Codes 20-39), with 10 or more full-time employees. The thresholds, which are applied to the sum of activities at the facility during the calendar year, are as follows:

- manufacture or import—25,000 pounds/year;
- process—25,000 pounds/year; and
- otherwise use—10,000 pounds/year.

A facility that exceeds any of the thresholds for a Section 313 chemical must file a Form R report summarizing all releases and off-site transfers of that chemical during the year.

The amount of chemicals contained in mixtures are considered, for threshold determinations and release estimations, based on the percent composition by weight. Pure forms of the chemical are included with the chemical present in mixtures when evaluating data to determine whether a threshold has been reached.

The Section 313 list of chemicals contains a number of chemical categories. Facilities reporting for chemical categories must consider the total weight of all members of the category that are manufactured, processed or otherwise used by the facility. For example, a facility that processes lead oxide,

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lead chromate, lead sulfate and lead acetate would compare the total weight of all four of these materials to the 25,000 pound processing threshold for lead compounds (a listed chemical category under Section 313). Releases generally are reported in pounds of the listed chemical. However, for metal chemical categories, releases are reported in units of the parent metal (i.e., pounds of lead are reported for releases of lead compounds).

Facilities whose activities involve specific chemicals and related chemical categories must make separate threshold determinations for each (e.g., lead, a listed Section 313 chemical, and lead oxide, a lead compound and member of a listed Section 313 chemical category). If both thresholds are exceeded, the facility can either file one report for the chemical and a separate report for the chemical category, or file a combined report, because all releases of metal categories are reported as pounds of the base metal.

Overview of Stormwater Permit Requirements

EPA issued a final rule for general permits for industrial activities on April 2, 1992 (57 FR 11394), and published a final general permit for stormwater discharges associated with industrial activities on Sept. 9, 1992 (57 FR 41236), and on Sept. 25, 1992 (57 FR 44438) (see Tab 500 and Tab 600 for a discussion of EPA's permit requirements). The permit includes requirements for compliance monitoring and development of stormwater pollution prevention plans (SWP3). EPA's general permit imposes additional requirements on a number of specific categories of industrial dischargers of stormwater, including all facilities subject to the reporting requirements of SARA Section 313.

Facilities that are covered by EPA's general permit (or a state permit based on EPA's permit) and also are subject to SARA Section 313 face special monitoring and SWP3 requirements. First, a number of additional requirements apply to "significant materials," which by definition include "any chemical the facility is required to report pursuant to [SARA, Title III] Section 313." A facility with significant materials must identify in its SWP3 any location where such materials are exposed to precipitation and must include a narrative description of the significant materials that have been handled, treated, stored or disposed of in a manner to allow exposure to stormwater during the three years prior to the date of issuance of the permit and the present.

Second, EPA's general permit imposes specific, additional SWP3 requirements on certain Section 313 facilities. For any chemical being reported under Section 313 that is designated under the stormwater program as a water priority chemical (see Appendix 3(c) for a list of water priority chemicals), the facility must describe in the plan the measures taken to meet the following requirements for the chemicals:

- use of preventive systems to avoid exposure to stormwater and wind, and avoid run-on in areas where Section 313 water priority chemicals are stored, processed, or otherwise handled;
- storage in compatible containers and use of control features for storage areas in contact with stormwater to avoid leaching, runoff and wind dispersal, and to minimize discharges and control drainage;
- operation and configuration of transfer, processing or handling areas (including truck and rail car loading and unloading areas) to minimize discharges and control drainage;
- use of drainage or other control features to minimize site runoff and leachate from other areas that may contain chemicals or from which spills could cause a discharge and to control spilled or improperly disposed material;

- preventive maintenance and housekeeping, including inspection for leaks or conditions that could lead to discharges or direct contact with stormwater (if such a condition is found, action must be taken immediately or the unit or process shut down, and all contaminated material must be removed promptly and disposed in accordance with federal, state and local requirements);
- establishment of security systems to prevent entry that could cause a discharge;
- training of employees and contractor personnel that work in areas where Section 313 water priority chemicals are used or stored, at a minimum of once per year; and
- certification of stormwater pollution prevention plan by a Registered Professional Engineer, and recertification every three years.

These requirements are to be complied with "as expeditiously as practicable," but not later than Oct. 1, 1995. Facilities that become subject to SARA reporting after July 1, 1992, must comply no later than three years from the date that the facility is first subject to Section 313 requirements.

Third, Section 313 facilities with water priority chemicals also face additional monitoring requirements. Such facilities must monitor stormwater "that comes into contact with any equipment, tank, container, or other vessel or area used for storage of a Section 313 water priority chemical, or located at a truck or rail car loading or unloading area where a Section 313 water priority chemical is handled." Monitoring is required two times per year for the duration of the permit. These facilities must sample for the following parameters:

- "any Section 313 water priority chemical for which the facility is subject to the reporting requirements under Section 313";
- acute whole effluent toxicity;
- oil and grease;
- five-day biochemical oxygen demand;
- chemical oxygen demand;
- total suspended solids;
- total kjeldahl nitrogen;
- total phosphorus; and
- pH.

The facilities must submit discharge monitoring reports (DMRs) for the year no later than the 28th day of the following January to the EPA regional office. Separate DMRs are required for the January to June, and the July to December sampling periods. Most state permits that impose additional monitoring requirements on Section 313 facilities have similar reporting requirements.

Issues of Overlap Between SARA Section 313 and the Stormwater Program

Because the goals and organization of SARA and the stormwater program differ, there are a number of issues of conflict, uncertainty and overlap that require careful consideration by reporting facilities. These issues may require additional guidance from EPA. For additional information on any of the issues discussed below, contact the EPCRA (SARA) Hotline at (800) 535-0202 or the NPDES/Stormwater Hotline at (703) 821-4832.

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Regulated Chemicals: The "Section 313 List of Water Priority Chemicals" under the stormwater program (see Appendix 3(c)) includes a number of chemicals just as they appear on the Section 313 chemical list. However, the list of water priority chemicals is not simply a subset of the list of chemicals under Section 313. Instead, the water priority chemicals list includes a number of chemical compounds that are not specifically listed under Section 313, but are a part of one of Section 313's broader chemical categories. For example, the Section 313 water priority chemical list includes "cobaltous bromide," which would fall in the "cobalt compounds" category under the Section 313 list. Also, the water priority chemical list differentiates a number of chemicals into more specific forms than are required for Form R reporting (for example, Chromium and Chromium(Tri)).

Section 313 allows facilities to report for the base metal of metal compound categories (for example chromium in chromic acid) due to the inability to monitor for many of the specifically listed compounds. It is unclear whether the stormwater program will allow similar monitoring methods.

Added guidance also will be needed as to whether facilities, under the stormwater program, must differentiate between the various compounds that may be present during intermediate stages of on-site manufacturing and processing activities. Currently, it is unclear how the stormwater program will address instances where a chemical may undergo several transformations during processing. This issue does not arise under SARA because these chemicals and their various stages are included in the broader Section 313 chemical categories. The stormwater program, on the other hand, lists specific chemicals as water priority chemicals that may be present only at transient stages of the process and therefore are not capable of being monitored.

Data Development and Required Actions: A major difference between the SARA Section 313 program and the stormwater program is the types of actions that are mandated. Operators of Section 313 facilities need to be aware of these inconsistencies because they involve different ways of addressing Section 313 chemicals. Section 313 does not require a facility to take any additional actions other than assembling and documenting the data and submitting the Form R report. In contrast, the stormwater general permit places specific requirements on facilities to reduce the amount of chemicals contained in stormwater discharges, prevent run-off and mitigate any impacts. A facility that takes specific actions in response to the stormwater mandates, however, must reflect those actions in their future Form R reports for that chemical.

The stormwater program also requires facilities to promptly remove and dispose of contaminated soil, debris or other material resulting from a leak or noncontainment of a Section 313 water priority chemical. Such actions must be reflected on a Form R report filed by the facility.

In addition, the Pollution Prevention Act of 1990 amended the Form R reporting format and mandated that facilities provide information on the types of source reduction activities that are implemented during the calendar year. Source reduction activities include actions or techniques that reduce or eliminate the amounts of the toxic chemical contained in wastes that are released to the environment, treated, recycled, used for energy recovery, or sent off-site. The stormwater management controls that are required to be identified and implemented under the stormwater pollution prevention plan reflect many of the same categories of procedural and process changes. Therefore, facilities identifying stormwater management controls in their plans should reflect the implementation of those controls in the source reduction activities section of their Form R report.

Similarly, SARA Section 313 specifically states that facilities are not required to perform additional monitoring or develop new data to comply with the requirements. Facilities, instead, are required under Section 313 to develop, document and defend their best estimates for the amount of the chemical released to each environmental medium and are required to use all available data in developing the estimates. The stormwater general permit, on the other hand, defines specific monitoring requirements that apply to facilities with Section 313 water priority chemicals. Once the additional monitoring data are available, the data must be included in the Section 313 Form R report for the following year. Facilities should carefully document the dates that the additional monitoring data become available to avoid accusations that their previous Section 313 calculations did not make use of all available data.

Release Sources, Classifications and Reporting Requirements: Section 313 requires facilities to report all releases from the facility to the environment on-site, as well as during off-site transfers. Under Section 313, release is defined as any "spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing to the environment." Facilities are responsible for estimating releases to each media and transfers to each location, and are instructed to report releases based on the final disposition of the chemical. For example, if the facility spills the chemical on the land, of which a portion is washed into a surface water body, and a portion remains on the land, the releases are apportioned between those two media.

In addition, the stormwater general permits, with a few exceptions, considers only stormwater runoff resulting from precipitation, but SARA Section 313 makes no distinction as to the flow source that is carrying the chemical. The stormwater program, however, does consider leachate of Section 313 water priority chemicals to be the equivalent of facility site runoff. This is in marked contrast to Section 313 which differentiates releases between direct discharges to surface water bodies, underground injection and releases to land. Under Section 313, leachate would generally be classed as an on-site release to land, and leachate from existing on-site landfills would not require reporting.

The foregoing examples highlight the different perspectives of the two programs. Facilities subject to both programs also need to make sure that they have the right mind-set or focus for the program with which they are dealing at a particular time, as illustrated in the following example.

Section 313 reporting guidance allows a facility to estimate and report the part of an air release that is deposited within the facility as an on-site release to land. Amounts that are subsequently washed off to surface water likewise can be reported as a release to surface water from stormwater runoff (EPA Question and Answer Document for 1990, question 237, page 41). In practice, however, few facilities would be expected to perform such estimates. Therefore, they might over estimate the total release of toxic chemicals from the facility if they were to rely on a combination of stack and stormwater monitoring data without giving consideration to the effects of on-site deposition.

Thresholds and Deadlines: A final important distinction between the SARA Title III and stormwater programs relates to the thresholds that apply to SARA Section 313 reporting requirements. As discussed above, the three thresholds under Section 313 are based on the activities that involve the chemical: manufacture, process and otherwise use. Any facility that meets or exceeds a reporting threshold must report for all releases of the chemical that occurred during the calendar year. The reports are due by the following July 1; that is, reports for calendar year 1993 are due July 1, 1994.

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Stormwater planning and monitoring requirements address not only the manufacturing, processing or use of chemicals, but the storage and transfer of chemicals as well. Therefore, facilities will need to expand their consideration of the chemicals for stormwater planning purposes to address these other areas and the potential for releases or discharges of the chemicals.

In addition, a facility that becomes newly subject to the Section 313 reporting requirements has until July 1 to develop the data to report under Section 313, and would have a maximum of three years from that July deadline to comply with the added stormwater pollution prevention planning requirements for Section 313 facilities with water priority chemicals. Arguably, however, the facility becomes subject to the monitoring requirements immediately because the three-year deadline extension applies only to the SWP3 requirements. It is unclear how the July 1 reporting deadline under SARA will affect the monitoring provisions under the stormwater general permit, which requires Section 313 facilities to submit two monitoring reports every January for reporting periods running from January to June and from July to December of the previous year.

It is also unclear whether facilities that shift into and out of the Section 313 reporting requirements because their threshold activities vary from year to year must continue the additional requirements of the stormwater program. A facility may find that it requires more effort to modify its stormwater plan and have it recertified, than to continue with the additional planning and monitoring requirements, particularly when an expansion of their operations could bring them back into the Section 313 reporting program in the future.

Conclusion

As the foregoing discussion illustrates, facilities subject to requirements under both SARA Section 313 and the stormwater program must give careful consideration to the overlap, differences and inconsistencies between these two programs. Likewise, in developing and implementing the stormwater program EPA and state implementing agencies need to be aware of these issues to be able to eliminate confusion and minimize conflict.

References

EPA. *Stormwater Management For Industrial Activities: Summary Guidance.* EPA 833-R-92-002. October 1992.

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EPA. *Toxic Chemical Release Inventory Questions and Answers: Revised 1990 Version.* EPA 560/4-91-003. January 1991.

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Tab 600

Stormwater Management and Control

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¶610 Executive Summary*

After applying for the appropriate National Pollutant Discharge Elimination System (NPDES) stormwater permit, the next step dischargers face is complying with the monitoring and pollution prevention requirements specified in the permit.

Meeting these requirements is not simple and may require substantial planning and modifications at most facilities.

This tab explains how to manage and control stormwater runoff through the use of the stormwater pollution prevention plan (SWP3) and best management practices (BMPs). The information in this tab is based on the requirements of the U.S. Environmental Protection Agency's (EPA) two general permits. State permitting requirements generally parallel requirements set forth in EPA permits. However, state permits also may include additional, more stringent requirements than EPA permits. See Tab 800 for more information on state permitting programs.

[The next page is Tab 600, Page 5.]

* Revised, July 1999.

¶620 Introduction to Stormwater Management*

All stormwater permittees are required to design, implement and follow a plan for controlling or managing stormwater discharges at their facilities. These plans, known as SWP3s, are site specific, that is, they are unique to every facility. SWP3s include establishing stormwater controls called BMPs.

This tab will focus on the practical implementation of the SWP3 under the multi-sector general permit and the baseline construction general permit. SWP3 requirements of the multi-sector general permit vary by industry sector. Industrial permits in states with NPDES authority also tend to differ, based on particular environmental and geographic conditions in that state. For information on state stormwater management and control requirements and options, see Tab 800.

All stormwater permits include terms and conditions relating to effluent limitations, analytical monitoring, compliance monitoring, deadlines, reporting and recordkeeping. These conditions are covered in detail in Tab 500.

The chart that appears on the following pages details the major permit requirements of the federal multi-sector general permit, including monitoring, SWP3s, performance standards and inspections.

Editor's Note: See Appendix A of Tab 600 for a detailed look at an SWP3 that withstood a legal challenge.

* Revised, July 1999.

Figure 620-1 Summary of Permit Conditions by Sector: Multi-sector vs. Baseline Industrial Permit*

Sector	Monitoring		SWP3 Considerations	Performance Standards/Limits	Inspections
	Baseline	Multi-sector			
A. Timber Products Facilities	Wood treatment facilities must monitor semiannually for oil and grease; pH; COD; TSS; pentachlorophenol; acute WET; and total recoverable arsenic, chromium and copper.	General sawmills and planing mills must collect quarterly grab samples for COD, TSS and total recoverable zinc during the second and fourth years of permit coverage. Wood preserving facilities must collect quarterly grab samples for total recoverable arsenic and total recoverable copper during the second and fourth years of permit coverage. Log storage and handling facilities must collect quarterly grab samples for TSS during the second and fourth years of permit coverage. Mills, wood containers and other wood products facilities must collect quarterly grab samples for COD and TSS during the second and fourth years of permit coverage. All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed. All facilities may exercise the low concentration waiver, inactive and unstaffed waiver or alternative certification in lieu of analytical monitoring.	• Site map: material handling; treatment, storage, disposal of wastes; liquid storage tanks; processing; treatment chemical storage; treated wood and residue storage; wet and dry decking; untreated wood and residue storage; treatment equipment storage. • Inventory: facilities that have used chlorophenolic, creosote or inorganic formulations in the past must identify contaminated soils, equipment and stored materials. • Identify specific BMPs for specific areas of site: good housekeeping measures to limit discharge of wood debris; minimize leachate from decaying wood; minimize dust generation. • Periodic removal of debris from stormwater BMPs. • Develop response schedules to limit tracking of spilled materials. Treatment chemicals must be cleaned up immediately. • Develop BMPs for sediment and erosion control in specific areas of site. • Discharges of boiler blowdown, water treatment, wastewaters, non-contact cooling waters, contact cooling waters, wash down waters from treatment equipment and stormwater that have come in contact with site areas where hand spraying of surface protection chemicals is performed are not authorized. • Authorized non-stormwater discharges include: discharges from spray down of lumber and wood product storage yards where no chemical additives are used in the spray water and no chemicals are applied to the wood during storage. • Periodic employee training.	Wet deck storage area discharge limitations adopted from 40 CFR 429 Subpart I are as follows: pH range within 6.0 to 9.0. No discharge of debris that can not pass through a one-inch diameter opening. (Note: Wet deck storage area discharges are only allowable under this permit if no chemical additives are used in the spray water or applied to the logs.)	• Material handling and unloading and loading areas daily with activity. • Processing and treated wood storage areas monthly for drippage on unprotected soils. • Annual comprehensive site compliance evaluation.

Source: U.S. Environmental Protection Agency

* Revised, July 1999.

Sector	Monitoring		SWP3 Considerations	Performance Standards/Limits	Inspections
	Baseline	Multi-sector			
B. Paper and Allied Products Facilities	No monitoring is required under the baseline unless the facility is an EPCRA 313 facility.	Paperboard mills must collect quarterly grab samples for COD during the second and fourth years of permit coverage. All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed. All facilities may exercise the low concentration waiver, inactive and unstaffed waiver or alternative certification in lieu of analytical monitoring.	• No specific considerations beyond baseline.	None	• Annual comprehensive site compliance evaluations must be conducted at least once per year.

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C. Chemical and Allied Products Manufacturing Facilities	Facilities with stormwater discharges that come into contact with solid chemical storage piles must collect annually samples for oil and grease, COD, TSS, pH and any pollutant limited in an effluent guideline to which the facility is subject.	Industrial inorganic chemical manufacturing facilities (SIC 281) must collect quarterly grab samples for total recoverable aluminum, total recoverable iron, and nitrate + nitrite nitrogen during the second and fourth years of permit coverage. Plastic and synthetic materials manufacturing facilities (SIC 282) must collect quarterly grab samples for total recoverable zinc during the second and fourth years of permit coverage. Soap and detergent manufacturing facilities (SIC 284) must collect quarterly grab samples for total recoverable zinc and nitrate + nitrite nitrogen during the second and fourth years of permit coverage. Agricultural chemical manufacturing facilities must collect quarterly grab samples for total recoverable lead, total recoverable iron, total recoverable zinc, phosphorus, and nitrate + nitrite nitrogen during the second and fourth years of permit coverage. All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed. All facilities may exercise the low concentration waiver, inactive and unstaffed waiver or alternative certification in lieu of analytical monitoring.	• Site map: location of structures, total area of industrial activity. • Identify parameters associated with pollutant sources. • Contained areas must have valves or other means to prevent the discharge of a spill or leak. • Schedule regular waste pickup. • Maintain up-to-date inventory. • Consider using berms, curbing, hose connection points, manual valves, drip pans and overhangs in material storage areas. • Annual employee training.	Limits on the "contaminated stormwater" at phosphate fertilizer manufacturing facilities are equivalent to 40 CFR 418. The limits are as follows: Total phosphorus daily maximum = 105.0 mg/L 30-day average = 35.0 mg/L Fluoride daily maximum = 75.0 mg/L 30-day average = 25.0 mg/L.	• Two wet weather and two dry weather inspections throughout each year. • Annual comprehensive site compliance evaluation.

Sector	Monitoring		SWP3 Considerations	Performance Standards/Limits	Inspections
	Baseline	Multi-sector			
D. Asphalt Paving and Roofing Materials and Lubricant Manufacturers (does not apply to petroleum refineries)	No monitoring is required under the baseline unless the facility is an EPCRA 313 facility.	Asphalt paving and roofing materials manufacturing facilities must collect quarterly grab samples for TSS during the second and fourth years of permit coverage. All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed. All facilities may exercise the low concentration waiver, inactive and unstaffed waiver or alternative certification in lieu of analytical monitoring.	• No specific considerations beyond baseline. • Portable plants *are* covered by permit.	Limits for stormwater discharges from asphalt emulsion facilities, established in 40 CFR Part 443 Subpart A, are as follows: TSS daily maximum = 23 mg/L 30-day average = 15 mg/L Oil and grease daily maximum = 15 mg/L 30-day average = 10 mg/L pH within the range 6.0 to 9.0 (standard units).	• Periodic facility inspections. • Annual comprehensive site compliance evaluation (at least once at portable plants.)
E. Glass, Clay, Cement, Concrete and Gypsum Product Manufacturing Facilities	Cement manufacturers and ready mix concrete manufacturers must monitor their discharges annually for oil and grease, COD, TSS and any pollutant in an effluent guideline to which the facility is subject.	Clay product facilities must collect quarterly grab samples for total recoverable aluminum during the second and fourth years of permit coverage. Concrete product facilities must collect quarterly grab samples for TSS and total recoverable iron during the second and fourth years of permit coverage. All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed. All facilities may exercise the low concentration waiver, inactive and unstaffed waiver or alternative certification in lieu of analytical monitoring.	• Removal of spilled material in handling areas by sweeping or other equivalent measures. • Fine solids should be stored in areas not exposed to stormwater where practicable. • Must ensure that vehicle washwater is not discharged with stormwater. • Periodic employee training.	Numeric effluent limitations for runoff from storage piles at cement manufacturing facilities established under 40 CFR Part 411.37 are included: TSS ≤ 50 mg/L pH within the range 6.0 to 9.0 (standard units).	• Monthly inspections while the facility is in operation. • Annual comprehensive site compliance evaluation.

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F. Primary Metals Facilities	Primary metals facilities must perform semiannual monitoring for oil and grease, COD, TSS, pH, WET, total recoverable lead, total recoverable cadmium, total recoverable arsenic, chromium and any pollutant limited in an effluent guideline to which the facility is subject.	Steel works, blast furnaces and mills must collect quarterly grab samples for total recoverable aluminum and zinc during the second and fourth years of permit coverage. Iron and steel foundries must collect quarterly grab samples for total recoverable copper, zinc, iron and aluminum and TSS during the second and fourth years of permit coverage. Non-ferrous rolling and drawing must collect quarterly grab samples for total recoverable copper and zinc during the second and fourth years of permit coverage. Non-ferrous foundries must collect quarterly grab samples for total recoverable copper and zinc during the second and fourth years of permit coverage. All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed. All facilities may exercise the low concentration waiver, inactive and unstaffed waiver or alternative certification in lieu of analytical monitoring.	• Site map: identify locations of all emissions control equipment. • Significant materials should include areas of potential settling or deposition from particulate emissions. • Consider: cleaning or maintenance program, paving areas with vehicle traffic, relocating materials inside, waste removal schedule, product substitution and covering stockpiles. • Periodic employee training.	None	• Quarterly inspections of facility including pollution control equipment. • Annual comprehensive site compliance evaluations.

Sector	Monitoring		SWP3 Considerations	Performance Standards/Limits	Inspections
	Baseline	Multi-sector			
G. Metal Mining (Ore Mining and Dressing) Facilities, SIC 10 (discharges subject to effluent guidelines for mine drainage (40 CFR 440) are not eligible for coverage)	Baseline does not require metal mining facilities to perform any monitoring.	Active copper ore mining and dressing facilities must collect quarterly grab samples for total recoverable copper and total recoverable zinc during the second and fourth years of permit coverage. All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed. All facilities may exercise the low concentration waiver, inactive and unstaffed waiver or alternative certification in lieu of analytical monitoring.	Active or temporarily inactive Description of mining activities: • Site map: mine boundaries, all outfalls subject to effluent limitations, drainage of process water discharge. • Annual employee training. • Test for non-stormwater discharges or discharges subject to effluent limitation guidelines (such as mine drainage or process water of any kind). • Limit erosion and/or remove sediment. Inactive Description of mining activities: • Site map: existing structural controls, process water discharge points, storm water outfalls. • Inventory of exposed materials: describe significant materials that may be at site. • Risk identification: identify pollutants and their associated sources, assess potential for stormwater contamination.	None	Active • Designated equipment and mine areas and sediment and erosion control, monthly. • Annual comprehensive site compliance evaluation. Temporarily inactive • Designated equipment and mine areas and sediment and erosion control, quarterly. • Annual comprehensive site compliance evaluation except where impractical due to remoteness and inaccessibility in which case inspection must be performed once every three years.
H. Coal Mines and Coal Mining-Related Facilities (discharges subject to 40 CFR 434 are not allowable; floor drains from maintenance buildings are excluded)	Baseline does not impose any monitoring for coal mines or related facilities.	Coal mines and coal mining-related facilities must collect quarterly grab samples for TSS, total recoverable aluminum and total recoverable iron during the second and fourth years of permit coverage. All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed. All facilities may exercise the low concentration waiver, inactive and unstaffed waiver or alternative certification in lieu of analytical monitoring.	Good housekeeping: • Sweeping or road watering to keep dust down. Preventive maintenance: • Timely inspection. • Periodic removal of debris and sediment from BMP. • Replacement of worn BMP. Sediment and erosion control: • Plan must contain all reasonable and appropriate SMCRA regulations. • Passive/low maintenance treatment for reducing pollutants from inactive sites. • Consider stabilization and structural measures.	None	• Quarterly inspections for active sites and SMCRA inactive sites. • Annual inspection for inactive sites. • Annual comprehensive site compliance evaluation for all sites.

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I. Oil and Gas Extraction Facilities (only those that had an RQ release that was discharged through a stormwater discharge event); petroleum refineries	No monitoring is required under the baseline unless the facility is an EPCRA 313 facility.	All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed.	• Describe measures to clean up RQ releases. • Address vehicle and equipment storage, cleaning and maintenance areas. • Erosion controls (vegetative and structural practices).	None	• Quarterly inspections for equipment and vehicles that store or transport hazardous materials. • Weekly inspection of sediment and erosion controls. • Semiannual for all equipment and areas addressed in the SWP3. • Annual comprehensive site compliance evaluation. • Annual inspections for inactive oil and gas extraction facilities.
J. Mineral Mining and Processing Facilities	No monitoring is required under the baseline unless the facility is an EPCRA 313 facility.	Dimension stone, crushed stone and nonmetallic minerals except fuels mining and processing facilities must collect quarterly grab samples for TSS during the second and fourth years of permit coverage. Sand and gravel mining and processing facilities must collect quarterly grab samples for TSS and nitrate + nitrite nitrogen during the second and fourth years of permit coverage. All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed. All facilities may exercise the low concentration waiver, inactive and unstaffed waiver or alternative certification in lieu of analytical monitoring.	• Site map must indicate monitoring points. • Assess the applicability of certain BMPs commonly used at such mining sites. • Sediment and erosion control BMPs must be planned for new activities and implemented for existing activities.	Numeric effluent limitations for mine dewatering discharges in Regions 1, 2, 6, 10 and Arizona established under 40 CFR Part 436 are included: TSS daily maximum = 45 mg/L TSS 30-day average = 25 mg/L pH within the range 6.0 to 9.0 (standard units).	• Quarterly visual inspections of all BMPs for active mines. • Annual inspections for inactive operations. • Annual comprehensive site compliance evaluation for active sites. • Once every three years comprehensive site compliance evaluation for inactive sites.

Sector	Monitoring		SWP3 Considerations	Performance Standards/Limits	Inspections
	Baseline	Multi-sector			
K. Hazardous Waste Treatment Storage or Disposal Facilities (TSDFs)	Stormwater discharges from incinerators and BIFs that burn hazardous wastes must semiannually monitor for ammonia; magnesium (dissolved); TKN; COD; TDS; TOC; oil and grease; pH; total recoverable arsenic, barium, cadmium, chromium, cyanide, lead, selenium and silver; total mercury; and acute WET.	TSDFs must collect quarterly grab samples for ammonia, magnesium, COD, total recoverable arsenic, total recoverable cadmium, free cyanide, total recoverable lead, total recoverable mercury, total recoverable selenium and total recoverable silver during the second and fourth years of permit coverage. All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed. All facilities may exercise the low concentration waiver, inactive and unstaffed waiver or alternative certification in lieu of analytical monitoring.	• Specific pollutants of concern should be identified under risk identification.	None	• Inspect equipment and areas of facility at intervals specified in plan. • Annual comprehensive site compliance evaluation.
L. Landfills, Land Application Sites and Open Dumps	Land disposal units must monitor semiannually for ammonia; magnesium (dissolved); TKN; COD; TDS; TOC; oil and grease; pH; total recoverable arsenic, barium, cadmium, chromium, cyanide, lead, selenium and silver; total mercury; and acute WET.	Landfills, land application sites, and open dumps must collect quarterly grab samples for total recoverable iron and TSS during the second and fourth years of permit coverage. Municipal solid waste landfills closed in accordance with 40 CFR 248.60 are not required to monitor total recoverable iron. All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed. All facilities may exercise the low concentration waiver, inactive and unstaffed waiver or alternative certification in lieu of analytical monitoring.	• Must identify specific wastes that have been disposed. • Provide data on leachate generated at the site. • Additional sources of pollutants must be identified under risk identification. • Tracking system for waste disposed. • Additional sediment and erosion control requirement.	None	Active landfills • Weekly inspections. • Monthly inspections for stabilized facilities and those located in arid areas. • Monthly inspections if stabilized during arid season. Inactive landfills • Quarterly inspections. • Annual comprehensive site compliance evaluation.

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M. Automobile Salvage Yards	Automobile salvage yards must collect annual grab and composite samples for oil and grease, pH, COD and TSS. Requirements apply only to facilities where the following is exposed to storm water: (a) over 250 auto/truck bodies with drivelines, 250 drivelines, or any combination thereof; or (b) over 500 auto/truck units; or (c) over 100 units dismantled per year where automotive fluids are drained or stored.	Automobile salvage yards must collect quarterly grab samples for total recoverable iron, total recoverable aluminum, total recoverable lead and TSS during the second and fourth years of permit coverage. All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed. All facilities may exercise the low concentration waiver, inactive and unstaffed waiver or alternative certification in lieu of analytical monitoring.	• Site map: monitoring points, total area of industrial activities. • Identify parameters associated with pollutant sources. • Drain vehicles of fluids or other equivalent measures.	None	• Cars upon arrival for leaks. • Oily equipment quarterly for leaks. • Storage of fluids (including containers) quarterly for leaks. • BMPs, quarterly. • Annual comprehensive site compliance evaluation.
N. Scrap and Waste Material Processing and Recycling Facilities (permit conditions broken out between facilities that handle non-liquid recyclable wastes and facilities that handle liquid recyclable wastes)	Baseline imposes monitoring requirements on facilities engaged in reclaiming batteries. Battery reclaimers must monitor semiannually for oil and grease, COD, TSS, pH, copper and lead.	Scrap and waste material processing and recycling (non-liquid) facilities must collect quarterly grab samples for total recoverable copper, total recoverable aluminum, total recoverable iron, total recoverable lead, total recoverable zinc, COD and TSS during the second and fourth years of permit coverage. All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed. All facilities may exercise the low concentration waiver, inactive and unstaffed waiver or alternative certification in lieu of analytical monitoring.	• Site map: identify locations of all scrap processing equipment and locations of all significant material storage, e.g., scrap. • Schedule preventive maintenance of all pollution control equipment. • Erosion and sediment controls. • Inbound recyclable materials control program, scrap lead-acid battery program. • Control of stormwater discharges from turnings piles exposed to cutting fluids.	None	<u>Non-liquid recyclable waste facilities</u> • Quarterly inspections of facility including pollution control equipment. • Annual comprehensive site compliance evaluation. <u>Liquid recyclable wastes</u> • Site inspections. • Annual comprehensive site compliance evaluations.

Sector	Monitoring		SWP3 Considerations	Performance Standards/Limits	Inspections
	Baseline	Multi-sector			
O. Steam Electric Power Generating Facilities, Including Coal Handling Areas and Coal Piles	Baseline requires oil fired facilities to sample stormwater annually for oil and grease, COD, TSS, pH and any pollutant limited in an effluent guideline. Baseline requires coal-fired steam electric facilities to sample annually for oil and grease; pH; TSS; and total recoverable copper, nickel and zinc from coal handling sites (other than runoff from coal piles, which is not eligible for coverage).	Steam electric generating facilities must collect quarterly grab samples for total recoverable iron during the second and fourth years of permit coverage. All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed. All facilities may exercise the low concentration waiver, inactive and unstaffed waiver or alternative certification in lieu of analytical monitoring.	• Tracking of fugitive dusts. • Liquid storage tank controls. • Measures to reduce oil spills. • Controls of oil-bearing equipment in switchyards. • Annual employee training.	Numeric effluent limitations for coal pile runoff established under 40 CFR Part 423 effluent limitations are as follows: TSS ≤ 50 mg/L pH must be within the range 6.0 to 9.0. (Note: these effluent limitations apply to all sectors with coal pile runoff.)	• In addition to or as part of the comprehensive site evaluation, the following areas must be inspected on a monthly basis: coal handling areas, loading/unloading areas, switchyards, fueling areas, bulk storage areas, ash handling areas, areas adjacent to disposal ponds and landfills, maintenance areas, liquid storage tanks, and long term and short term material storage areas. • Annual comprehensive site compliance evaluation.

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P. Motor Freight Transportation Facilities, Passenger Transportation Facilities, Rail Transportation Facilities, and United States Postal Service Transportation Facilities	No monitoring is required under the baseline unless the facility is an EPCRA 313 facility.	All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed.	• Site map: vehicle and equipment storage areas. • Measures and controls: -Vehicle and equipment storage areas—confined to designated area; prevent or minimize contamination. -Fueling area—prevent or minimize contamination. -Material storage areas—maintain containers in good condition; prevent or minimize contamination. -Vehicle and equipment cleaning areas—prevent or minimize contamination. -Vehicle and equipment maintenance areas—prevent or minimize contamination. -Sanding areas—prevent or minimize contamination. • Spill prevention and response: SPCC plan may be referenced. • Annual employee training on specified topics. • Attach copy of washwater NPDES or IU permit/application.	None	• Qualified facility or company personnel shall be identified to perform inspection on a quarterly basis. • Annual comprehensive site compliance evaluation.

Sector	Monitoring		SWP3 Considerations	Performance Standards/Limits	Inspections
	Baseline	Multi-sector			
Q. Water Transportation Facilities That Have Vehicle Maintenance Shops and/or Equipment Cleaning Operations	No monitoring is required under the baseline unless the facility is an EPCRA 313 facility.	Water transportation facilities must collect quarterly grab samples for total recoverable aluminum, total recoverable iron, total recoverable lead and total recoverable zinc during the second and fourth years of permit coverage. All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed. All facilities may exercise the low concentration waiver, inactive and unstaffed waiver or alternative certification in lieu of analytical monitoring.	• Site map: vessel maintenance and repair, pressure washing, painting, sanding, blasting, welding, metal fabrication, liquid storage areas and material storage areas. • Measures and controls: -Pressure washing areas—collect and contain discharge, remove all visible solids, identify where washwater is released. -Blasting and painting areas—consider containing activities; prevent or minimize contamination. -Material storage areas—all materials stored in protected, secured location; prevent or minimize contamination; describe containments or enclosure. -Engine maintenance and repair areas—prevent or minimize contamination. -Material handling areas—prevent or minimize contamination. -Drydock activities—prevent or minimize contamination. -General yard area—schedule routine yard cleanup. • Annual employee training.	None	• Monthly in specified areas, including: pressure washing area; blasting, sanding and painting areas; material storage areas; engine maintenance and repair areas; material handling areas; drydock areas; general yard area. • Annual comprehensive site compliance evaluation.

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R. Ship and Boat Building or Repairing Yards	Baseline permit requires annual monitoring for oil and grease, COD, TSS, pH, and any pollutant limited in an effluent guideline to which the facility is subject.	All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed.	• Site map: vessel maintenance and repair, pressure washing, painting, sanding, blasting, welding, metal fabrication, liquid storage areas and material storage areas. • Measures and controls: -Pressure washing areas—collect and contain discharge, remove all visible solids, identify where washwater is released. -Blasting and painting areas—consider containing activities; prevent or minimize contamination. -Material storage areas—all materials stored in protected, secured location; prevent or minimize contamination; describe containments or enclosure. -Engine maintenance and repair areas—prevent or minimize contamination. -Material handling areas—prevent or minimize. -Drydock activities—prevent or minimize. -General yard area—schedule routine yard cleanup. • Annual employee training on specified topics.	None	• Monthly in specified areas. • Annual comprehensive site compliance evaluation.
S. Vehicle Maintenance Areas, Equipment Cleaning Areas or De-icing Areas Located at Air Transportation Facilities	Baseline requires airports with over 50,000 flight operations per year to sample oil and grease, pH, BOD_5, COD, TSS and the primary ingredient used in de-icing materials.	Facilities that use more than 100,000 gallons of glycol-based de-icing/anti-icing chemicals and/or more than 100 tons of urea on an average annual basis, shall prepare annual pollutant loading estimates for discharges of spent de-icing/anti-icing chemicals and collect quarterly grab samples for BOD, COD, ammonia and pH during the second and fourth years of permit overage. All facilities may exercise the low concentration waiver, inactive and unstaffed waiver or alternative certification in lieu of analytical monitoring.	• Site maps must be developed for areas occupied by the tenant(s) of the airport facility. • Summary of potential pollutant sources: maintain a record of the types and quantities of de-icing chemicals used. • Source reduction: evaluate alternative operating procedures which reduce the overall amount of de-icing chemicals used and/or lessen the environmental burden.	None	• In addition to comprehensive site evaluation and standard inspections, weekly inspection for areas where de-icing operations are being conducted. • Annual comprehensive site compliance evaluation.

Sector	Monitoring		SWP3 Considerations	Performance Standards/Limits	Inspections
	Baseline	Multi-sector			
T. Treatment Works	No monitoring is required under the baseline unless the facility is an EPCRA 313 facility.	All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed.	• Annual employee training.	None	• Inspect equipment and industrial areas periodically. • Annual comprehensive site compliance evaluation.
U. Food and Kindred Products Facilities	Animal handling/ meat packaging facilities must annually collect grab and composite samples (where appropriate) for BOD, oil and grease, COD, TSS, TKN, total phosphorus, pH and fecal coliform.	Grain mill product facilities must collect quarterly grab samples for TSS during the second and fourth years of permit coverage. Fats and oils facilities must collect quarterly grab samples for BOD, COD, TSS and nitrate + nitrite nitrogen during the second and fourth years of permit coverage. All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed. All facilities may exercise the low concentration waiver, inactive and unstaffed waiver or alternative certification in lieu of analytical monitoring.	• Site map to indicate all industrial activities exposed to stormwater. • Pest control chemical application/ storage practices. • Annual inspections of potential pollutant source areas. • Annual employee training.	None	• Routine inspection of: loading/unloading areas, storage areas, waste management units, vents and stacks from industrial activities, spoiled products and broken product container holding areas, animal holding pens, staging areas, air pollution control equipment. • Annual comprehensive site compliance evaluation.
V. Textile Mills, Apparel and Other Fabric Product Manufacturing Facilities	No monitoring is required under the baseline unless the facility is an EPCRA 313 facility.	All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed.	• Summary of potential pollutant sources: industry-specific significant materials, industrial activities (examples listed). • Measures and controls: -Material storage area—store materials in a protected area; prevent and minimize contamination; describe containment of enclosure for materials stored outdoors. -Fueling areas—prevent or minimize contamination. -Aboveground storage tank areas—prevent or minimize contamination. • Annual employee training.	None	• Monthly, include: all containments, storage areas, transfers, and transmission lines; spill prevention; good housekeeping practices; management of process waste products; all structural and nonstructural management practices. • Annual comprehensive site compliance evaluation.

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W. Wood and Metal Furniture and Fixture Manufacturing Facilities	No monitoring is required under the baseline unless the facility is an EPCRA 313 facility.	All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed.	• Ineffective BMPs must be recorded and date of corrective action noted.	None	• Quarterly inspections of designated areas. • Annual comprehensive site compliance evaluation.
X. Printing and Publishing Facilities	No monitoring is required under the baseline unless the facility is an EPCRA 313 facility.	All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed.	• Good housekeeping; address material handling/storage; fueling. • Employee training annually on specified topics.	All materials must be stored in protected area away from drains and labeled.	• Annual inspection: all containment and material storage areas, fueling areas, loading and unloading areas, equipment cleaning areas. • Annual comprehensive site compliance evaluation.
Y. Rubber, Miscellaneous Plastic Products and Miscellaneous Manufacturing Industries	Baseline requires monitoring at rubber manufacturers when stormwater contacts solid chemical storage areas.	Rubber product manufacturing facilities must collect quarterly grab samples for total recoverable zinc during the second and fourth years of permit coverage. All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed. All facilities may exercise the low concentration waiver, inactive and unstaffed waiver or alternative certification in lieu of analytical monitoring.	Rubber Product Manufacturers • Review the use of zinc and possible means for zinc to enter stormwater discharges. • Develop specific BMPs to control zinc.	None	• Perform routine inspections as required by the permit. • Annual comprehensive site compliance evaluation.
Z. Leather Tanning and Finishing Facilities	No monitoring is required under the baseline unless the facility is an EPCRA 313 facility.	All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed.	• Address: material storage areas; buffing/shaving areas; receiving, unloading and storage areas; outdoor storage of contaminated equipment; waste management. • Annual employee training.	None	• Quarterly inspections of leather processing vehicle and equipment maintenance areas, material storage areas, loading and unloading areas, and waste management areas. • Annual comprehensive site compliance evaluation.

Sector	Monitoring		SWP3 Considerations	Performance Standards/Limits	Inspections
	Baseline	Multi-sector			
AA. Fabricated Metal Products Industry	No monitoring is required under the baseline unless the facility is an EPCRA 313 facility.	Fabricated metal products except coating manufacturing facilities must collect quarterly grab samples for total recoverable iron, total recoverable aluminum, total recoverable zinc and nitrate + nitrite nitrogen during the second and fourth years of permit coverage. Fabricated metal coating and engraving manufacturing facilities must collect quarterly grab samples for total recoverable zinc and nitrate + nitrite nitrogen during the second and fourth years of permit coverage. All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed. All facilities may exercise the low concentration waiver, inactive and unstaffed waiver or alternative certification in lieu of analytical monitoring.	• Focus primarily on storage areas, unloading and loading areas, and any other area where outside operations occur. • Address: storage areas for raw metal, receiving, unloading and loading areas, storage of heavy equipment, metal working fluid areas, unprotected liquid storage tanks, chemical cleaners and wastewaters, raw steel collection, paints and painting equipment, hazardous waste storage, chemical transportation, galvanized products, vehicle and equipment maintenance, wooden pallets and empty drums, and retention ponds.	None	• Periodic inspections of raw metal storage areas, finished product storage areas, material and chemical storage areas, recycling areas, loading and unloading areas, equipment storage areas, paint areas, fueling and maintenance areas, and waste management areas. • Annual comprehensive site compliance evaluation.
AB. Facilities That Manufacture Transportation Equipment, Industrial or Commercial Machinery Manufacturers	No monitoring is required under the baseline unless the facility is an EPCRA 313 facility.	All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed.	• Annual employee training on specified topics. • Good housekeeping for exposed areas. • Spill prevention and response procedure for exposed areas.	None	• Annual inspections for loading and unloading areas, storage areas, waste management units, and vents and stacks. • Annual comprehensive site compliance evaluation.

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AC. Facilities That Manufacture Electronic and Electrical Equipment and Components, Photographic and Optical Goods	No monitoring is required under the baseline unless the facility is an EPCRA 313 facility.	All facilities must conduct quarterly visual examinations of stormwater discharges unless inactive and unstaffed.	• There are no considerations beyond the baseline.	None	• Perform routine inspections. • Annual comprehensive site compliance evaluation.

[The next page is Tab 600, Page 31.]

¶630 Stormwater Pollution Prevention Plans*

The purpose of an SWP3 is to focus management attention on significant sources of stormwater pollution and to control those sources to eliminate or minimize the risk of stormwater pollution. As its very name implies, the SWP3 is intended to *prevent pollution*. It is a specific plan, developed for a specific facility, in which the potential sources of stormwater pollution are identified, evaluated for potential risk and, as appropriate, controlled.

The key requirements of an SWP3 are:

- appoint a pollution prevention team to be responsible for development and implementation of the SWP3;
- develop a site map and identify potential sources of stormwater pollution at the facility and evaluate their significance;
- manage significant pollution sources by implementing measures and controls called BMPs that are appropriate to the specific site and source; and
- review the physical site, operations and plan on a regular basis—at least annually—to ensure that the management controls are still effective and that the plan is up to date.

There also are special requirements for Emergency Planning and Community Right-to-Know Act (EPCRA) Section 313 facilities and for facilities that discharge into or though municipal separate storm sewer systems serving a population of 100,000 or more.

The SWP3 should be a dynamic document. Thus, procedures must be implemented to ensure that it is kept up to date and reflects changes at the facility that could impact the plan's effectiveness in preventing stormwater pollution.

Multi-sector permit. The multi-sector permit is broken down into 29 industrial sectors and one sector designed to provide coverage for all other industries not designated under the 29 sectors. The 29 industrial categories are further divided into numerous subsectors (see Tab 500, Figure 561-2 for more details.) The multi-sector permit offers tailored monitoring and pollution prevention requirements for each industrial sector, based on the types of industrial activities, materials handled and sources of pollution common to that sector.

Permittees in certain sectors must consider the use of specific control measures to reduce pollutant loadings in stormwater discharges, such as using dry cleanup methods, performing industrial activities indoors, covering and berming storage areas and maintaining an organized inventory of materials. Facility personnel in some sectors must regularly inspect plant equipment or other key industrial areas, in addition to performing annual comprehensive site compliance evaluations. Oil and gas extraction facilities, for example, are required to conduct semiannual inspections of all equipment and areas addressed in the SWP3, and conduct quarterly inspections of equipment and vehicles that store, mix or transport hazardous materials.

Training requirements related to pollution prevention measures are tailored for each sector under the multi-sector permit. For most sectors, the permit requires periodic training to be outlined in the SWP3, but for certain sectors training must be conducted at least annually. Recordkeeping requirements vary depending on the types of industrial activities occurring onsite and the number of inspections required. For example, automobile salvage yards must consider maintaining an organized inventory of materials used at the facility that may contaminate rainfall or stormwater runoff. (Source: EPA Storm Water Multi-Sector General Permit Information Package, October 1995.)

* Revised, July 1999.

Figure 620-1 compares pollution prevention conditions and requirements related to inspections, performance standards and monitoring under the multi-sector general permit. The table is arranged according to the 29 industrial sectors included in the multi-sector permit.

State requirements and the baseline industrial permit. The federal baseline industrial general permit was terminated in December 1998. However, many existing state permits were modeled after this permit. Thus, many state permits require permittees to consider generic pollution prevention measures and include general requirements for developing BMPs. In addition, permits modeled after the now-defunct EPA baseline industrial permit require facilities subject to EPCRA 313 toxic release inventory reporting requirements to incorporate additional measures into their SWP3s. Many state permits also require that facilities have their plans certified every three years by a professional engineer (see ¶544 and Appendix 1(c), p. 608 and 612).

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¶631 Deadlines*

Facilities that transferred to the multi-sector general permit from the baseline industrial general permit upon termination of the baseline permit were required to continue to use their existing SWP3s and to revise their plans as needed to incorporate the sector-specific requirements of the multi-sector permit. The revisions were to be implemented by March 30, 1999. Facilities have until Oct. 1, 2000, to complete construction of BMPs that are needed to meet the stormwater control requirements outlined in the multi-sector permit. However, facilities with construction needs must incorporate into their SWP3s a reasonable schedule that provides for expeditious compliance with the plan.

Facilities that elected to be covered under the multi-sector permit at the time the baseline general permit expired (Oct. 1, 1997) were required to revise their SWP3s as needed to comply with sector-specific requirements prior to applying for coverage under the multi-sector permit.

Facilities that switched to the multi-sector permit from the baseline general permit when the multi-sector permit originally was issued in September 1995 were required to continue using their existing SWP3s. However, these dischargers also were required to revise their plans as needed to incorporate the sector-specific requirements of the multi-sector permit. The revisions were to be implemented by June 27, 1996.

All facilities that began operation on or before June 27, 1996, were to have prepared and implemented their plans by June 27, 1996. New facilities—those that began operations after June 27, 1996, must prepare and implement their plans prior to submitting a notice of intent to be covered by the multi-sector general permit.

Oil and gas facilities involved in exploration, production, processing or treatment that were not required to submit a stormwater permit application by Dec. 30, 1995, but that had a discharge of a reportable quantity of oil or a hazardous substance after June 27, 1996, for which notification is required under either 40 CFR 110.6 or 40 CFR 302.6, must prepare and implement an SWP3 within 60 calendar days of the release.

It is important to note that compliance with provisions of an SWP3 by the appropriate deadline, does not mean that all the identified BMPs and other controls must be implemented by that date. Instead, as will be discussed later in this tab, a schedule must be developed for the implementation of BMPs. Adherence to the schedule is considered compliance with the plan, even if all of the identified BMPs will not be fully implemented for several years (see Appendix 1(c), p. 607 and Appendix 1(e), p. 810).

Deadlines under state general permits may be different from EPA's permit. Accordingly, a discharger subject to a state permit should review the deadlines contained in that permit.

[The next page is Tab 600, Page 41.]

* Revised, July 1999.

¶632 Signatures and Certification*

Multi-sector permittees are required to have their SWP3s signed by a responsible corporate officer. The permit spells out precisely who is eligible to sign the SWP3 (and any other documents related to stormwater permitting). The signatory requirements differ for corporations, partnerships and sole proprietorships and municipal, state, federal or other public facilities (see Appendix 1(e), p. 818).

The multi-sector permit does not require additional signatory requirements for SWP3s of facilities regulated under EPCRA Section 313 (i.e., facilities that must submit a Form R annually) that handle "water priority" chemicals

However, Section 313 facilities that handle water priority chemicals and that are covered by a state permit resembling the baseline industrial general permit, may have an additional signatory requirement. The baseline general permit and most state general permits require that the SWP3 be certified by a registered professional engineer. For some facilities, the certification may simply be a review of the SWP3. For complex facilities, a professional engineer may have to be involved in the development of the SWP3 to certify the plan (see Appendix 1(c), p. 608). See Appendix 3(c) for a list of water priority chemicals.

¶633 Submission of SWP3s

Dischargers are not required to submit SWP3s for review or approval by the permitting agency. However, the plan must be retained on site and must be made available upon the request of regulatory officials. Thus, the SWP3 primarily is a document by which a facility self-regulates its stormwater discharges.

If the SWP3 is reviewed by a representative of the regulatory agency and is found to be deficient, the agency can require the facility to make any necessary corrections. Such a finding also may subject the facility to additional regulatory oversight.

Furthermore, it is important to note that the SWP3 is available to the public. Thus, it may come under scrutiny by persons outside the facility or regulatory agency. Therefore, a discharger should carefully construct the SWP3 to avoid unnecessary disclosure of confidential or sensitive information.

¶634 Best Management Practices*

As detailed in ¶650 through ¶654, an SWP3 incorporates BMPs to eliminate, minimize and control potential sources of stormwater pollution.

EPA defines BMPs as:

> ... schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

* Revised, July 1999.

EPA classifies BMPs into two categories: baseline (or traditional) BMPs and advanced BMPs. The advanced BMP category is further subdivided into activity-specific and site-specific BMPs.

EPA's baseline general permit required—and many state permits continue to require—the implementation of all appropriate BMPs for a particular site. At a minimum, facilities must implement all the baseline BMPs established by EPA. Additionally, in developing the SWP3, the facility must consider advanced BMPs, evaluate them for their potential effectiveness and implement the appropriate ones.

The multi-sector permit includes sector-specific requirements and considerations for introducing BMPs. These BMPs are tailored to meet the needs of different industries, based on the types of pollutants and equipment likely to be used in those industries.

¶635 EPA Guidance on Preparing SWP3s

EPA has developed a guidance document for the preparation of stormwater pollution prevention plans: *Stormwater Management for Industrial Activities—Developing Pollution Prevention Plans and Best Management Practices.* Relevant portions of this manual—which is over 350 pages long—are referenced in this tab and in Appendix 3.

The EPA guidance document includes worksheets, which can be used to develop an SWP3. Use of these worksheets is not required, and in some cases may not be desirable because of their complexity and redundancy. Permittees are allowed to devise their own documents and worksheets in the preparation of their SWP3s.

Blank copies of the EPA worksheets are located in Appendix 3(d) of this manual. In addition, sample completed copies of these worksheets, along with other documents, can be found in Appendix 3(e). These completed worksheets, included as part of a model plan at a simple facility, were prepared by EPA.

¶636 Pollution Prevention Team*

EPA recommends that a pollution prevention team be selected by the facility to prepare and implement the SWP3. EPA further recommends that the team consist of representatives from various segments of the facility such as:

- production, manufacturing and/or operations;
- maintenance;
- engineering;
- shipping/receiving/material handling;
- material storage;
- waste material handling;
- research and development;
- health, safety and/or environment; and
- management.

* Revised, July 1999.

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The purpose of this recommendation is to include on the team all the segments or functions at a facility that might affect the generation or control of stormwater pollution.

For large facilities it may be possible to include a separate representative from each segment of the facility. For smaller facilities, several of the enumerated functions may be represented by the same individual, thereby resulting in a smaller, more flexible team.

Other potential team members include corporate non-facility personnel or outside consultants. These additional team members may provide expertise in stormwater management technologies, as well as an independent viewpoint.

Key steps in forming a pollution prevention team include:

- assigning a team leader;
- assigning responsibilities to team members;
- familiarizing members with the facility and operational practices; and
- establishing direct lines of communication between the team and facility management.

EPA Worksheet 1 (see Appendix 3(d), p. 35) can be used to document team members and assign responsibilities.

[The next page is Tab 600, Page 47.]

¶637 Consistency with Other Plans*

EPA recognizes that the requirements of the SWP3 may overlap with requirements of plans under other regulatory programs, such as:

- spill prevention control and countermeasure plans developed under Section 311 of CWA; and
- BMP programs required by another NPDES permit.

Stormwater SWP3s may reference the existence of these other plans. Although EPA has not provided a worksheet for reviewing existing plans, it might be advisable for the pollution prevention team to create a document addressing the potential for plan overlap.

[The next page is Tab 600, Page 51.]

* Revised, July 1999.

¶640 Identification of Stormwater Pollution Sources

The first phase in the development of the SWP3 involves:

- preparing a site map;
- identifying potential sources of stormwater pollution existing at the facility;
- evaluating the degree of risk of stormwater pollution from those sources and determining which sources require additional control; and
- preparing a summary of the potential stormwater pollution sources.

¶641 Site Inspection

Although not explicitly required by EPA's general permits, a facility's pollution prevention team should conduct an initial site inspection. The inspection should be documented through the use of drawings, photographs, dictated comments, written notes, etc., regarding the current status of the site with respect to potential stormwater pollution.

This thorough inspection will familiarize the team members with the current state of the facility. As the team members review the physical facility and operational practices during this inspection, they should ask: "could this activity/area/practice be or become a source of stormwater contamination?"

The completion of other portions of the identification phase of stormwater pollution prevention planning, which include preparing material inventories and identifying stormwater conveyances, past leaks, and spills, will be facilitated by the team's knowledge of the facility's current physical status.

¶642 Site Map

A comprehensive site map is required and is essential for the completion of a successful SWP3. An example of a map is included in EPA's model plan. This sample map is suitable for a simple facility. Note that it is hand drawn and not to scale. For more complex facilities, a topographic map be used to identify stormwater flows around, onto and through the site as well as important features of the facility.

EPA's model plan includes two maps—before and after—to show the implementation of BMPs. This before and after approach is not required. It may be preferable, instead, to have one map showing the facility as it currently exists, adding BMPs to the map as they are implemented and the SWP3 is updated. Proposed BMPs can be indicated using dashed lines.

Existing facility maps also may be used as base maps for the SWP3, to which the SWP3 map requirements may be added as necessary.

During the periodic review of the SWP3 (see ¶660) the site map should be updated as appropriate to reflect changes to the physical facility or operational practices that have occurred.

EPA's Worksheet 2 (see Appendix 3(d), p. 36)* presents the specific requirements that must be included in the map. The key elements of the site map are:

- representation of all aspects of the facility, such as structures and landforms;
- location of stormwater discharges and the attendant drainage areas, on and off site;
- location and description of all potential sources of stormwater pollution; and
- identification of BMPs.

Suggestions for Preparing Site Map

1. Select an appropriate base map such as an existing facility plan or site development map.
2. Locate and label all boundaries, buildings, outside operations, storage areas, access roads, paved areas, etc.
3. Identify, locate and label on the map all stormwater discharge outfalls—places where stormwater leaves the facility. It may be appropriate to walk around the site during a rainstorm to identify all discharge locations.
4. Identify the complete drainage area for each one of the discharge points. This may entail off-site as well as on-site areas. Show the direction of stormwater flow for all areas of the facility. Show all stormwater conveyances (ditches, swales, pipes, gutters, culverts etc.).
5. Annotate the map with specific information about material storage areas, past spills or leaks, non-stormwater discharges and existing stormwater sampling areas (see ¶643 through ¶646).

[The next page is Tab 600, Page 61.]

* Editorial revision, March 1996.

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¶643 Material Inventory

The intent of the requirement to prepare a material inventory is to identify potential sources of stormwater pollution caused by handling, storage and production operations at the facility. EPA has determined that "significant materials" are of particular interest with respect to stormwater pollution. This term is defined to include

> [r]aw materials; fuels; materials such as solvents, detergents and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); any material the facility is required to report pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization ACT (SARA); fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have a potential to be released with stormwater discharges (see text of Industrial General Permit in Appendix 1(c), p. 629; or see 40 CFR 122.26 (b)(12), Appendix 1(b), p. 70).*

In addition to such "significant materials," other materials may be present at an industrial facility. If it is possible for such other materials to be present in stormwater discharges, it would be prudent for the discharger to include them in the material inventory (see Appendix 1(c), p. 609).*

EPA suggests the use of Worksheets 3 and 3a for preparing a material inventory (see Appendix 3(d), pp. 37-38).* The instructions on these worksheets indicate that "*all materials* used, stored or produced onsite" should be included. This may not be practical for facilities at which a large number of materials are handled or where the materials are not exposed to stormwater. Therefore, the discharger may want to include in the inventory only "materials used, stored, handled or produced onsite in a manner such that they are exposed to stormwater and which represent a reasonable risk of stormwater contamination." If Worksheets 3 and 3a are to be used with such a modified inventory as described above, it would be prudent to modify the instructions to so indicate. Otherwise, the worksheets could be misleading.

In addition to identifying materials that could be exposed to stormwater, it is important to identify those exposure areas on the site map and to describe how the materials are exposed to stormwater. This information can be included on Worksheets 3 and 3a, or on additional worksheets developed for the specific facility.

*Revised, April 1996.

¶644 Identification of Spills and Leaks

Past spills and leaks at an industrial facility may be significant sources of stormwater contamination. EPA Worksheet 4 (see Appendix 3(d), p. 39) can be used for the documentation of past spills and leaks. It is important to note that materials other than those included in the instructions to Worksheet 4 may have been released at the site and may represent potential sources of stormwater contamination. If so, such releases should be included on the worksheet (see Appendix 1(c), p. 609).*

In addition, past spills and leaks at the facility may have been effectively cleaned up so that they no longer pose any possibility of stormwater contamination. Nonetheless, it would be prudent to include these sources on the map and on the worksheet with a further annotation that the spills or leaks have been remediated. Additionally, any test data that is available to provide evidence of remediation also should be included.

Because the SWP3 is a public document, care must be taken that the list of spills and leaks is consistent with previous publicly reported releases.

[The next page is Tab 600, Page 65.]

*Revised, April 1996.

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¶645 Identification of Non-Stormwater Discharges

In preparing an SWP3, a discharger must investigate the stormwater conveyances to ensure that unpermitted waters are not included in the permitted stormwater discharges. As described in ¶372, the required certification that there are no unpermitted non-stormwater discharges can be accomplished through an investigation and review of accurate schematics, dye testing, smoke testing or TV surveys of stormwater conveyances.

Discharges of permitted non-stormwater discharges commingled with the stormwater discharges is authorized under the general permit. Such discharges include industrial wastewater discharges, noncontact cooling water, etc., as long as they are covered by appropriate permits (see Appendix 1(c), p. 610).*

Some types of non-stormwater discharges may be discharged with stormwater and without permits. These discharges include:

- fire hydrant and fire safety system flushings;
- discharges from fire fighting activities;
- foundation and footing drainage;
- flows from natural springs;
- irrigation waters; and
- exterior building wash downs (not containing detergents) (see Appendix 1(c), p. 611).*

EPA Worksheets 5 and 6 (see Appendix 3(d), pp. 40-41) can be used for the certification of discharges. Note that Worksheet 6 is actually a description and documentation of why a stormwater discharge could not be adequately investigated and certified as to the presence of non-stormwater discharges.

¶646 Existing Stormwater Sampling Data

The federal baseline general permit requires that existing stormwater sampling data be included in the SWP3. EPA has not provided a worksheet for the inclusion of this data. If the data does exist, the discharger may want to include an appropriate worksheet or summary of the sampling data (see Appendix 1(c), p. 609).*

This data can be used to guide investigations into potential sources of stormwater pollution. If, for example, a particular analyte is found to be present in unusually high levels in the stormwater discharge, then an investigation can be made to identify the source of that analyte.

[The next page is Tab 600, Page 69.]

* Revised, April 1996.

¶647 Narrative Summary of Pollutant Sources

The final step in this first phase of stormwater pollution prevention planning—identification of potential stormwater pollution sources—is to compile the findings of the previous steps into a list. EPA Worksheet 7 (see Appendix 3(d), p. 42)* can be used or a narrative summary can be prepared as shown in EPA's model plan (see Appendix 3(e), p. 47).* The key is to prepare some sort of comprehensive list of potential pollutant sources that then will be used to determine appropriate BMPs in the next planning phase.

The instructions to Worksheet 7 indicate that all the pollutant sources identified in the preceding worksheets should be relisted. The presumption is that in the previous worksheets all the potential sources of stormwater contamination have been identified and that Worksheet 7 should be used to summarize briefly the pollution sources so they can be further addressed if necessary.

For facilities with a large number of potential stormwater pollutant sources, of which only a few present a reasonable risk of pollution, it may be advisable to list only those few sources. In that manner, attention would then be devoted to addressing the significant potential sources of stormwater contamination.

Worksheet 7 also includes columns for descriptions of current management practices and new BMP selections. The current management practices include any of the BMPs described in ¶651 through ¶656 plus any other control measures that eliminate or minimize stormwater pollution from that source. If these practices are deemed to be inadequate to control the risk of stormwater contamination, new BMPs should be selected and described. The selection and implementation of new BMPs is described in ¶651 through ¶655.

Use of the EPA worksheets may be a bit confusing at this point. The worksheets, as designed, appear to be redundant and require multiple entries of similar information. Note that it is not necessary to use these worksheets exclusively. Facilities can devise their own worksheets and their own record of documents as suitable and appropriate for their operations.

[The next page is Tab 600, Page 81.]

* Editorial revision, March 1996.

¶650 Management of Potential Sources of Stormwater Pollution

After identifying potential sources of stormwater pollution, a stormwater discharger must next evaluate potential best management practices (BMPs) and, where appropriate, implement them. This evaluation and selection of appropriate BMPs requires the pollution prevention team to make two key judgments.

First, the team must determine which of the potential pollutant sources represent a significant risk of stormwater pollution. The team members must take into consideration factors such as:

- the hazardous nature of the material exposed to stormwater;
- the type of cover and containment, if any;
- the likelihood of release into stormwater;
- the deleterious impacts of the material as a contaminant in stormwater;
- the existence and effectiveness of existing BMPs that mitigate the potential for the material to contaminate stormwater; and
- existing treatment, if any, of the stormwater.

Based on evaluation of these factors and other items specific to the facility, the team members must determine which potential sources are inadequately managed and require additional BMPs.

Second, the team members must evaluate and select BMPs. The team members must identify potential baseline and advanced BMPs for each of the potential sources of pollution. Then, they must evaluate these BMPs and select the most appropriate ones for implementation. The following factors may be considered in evaluating BMPs:

- age of the facility;
- type of operations at the facility;
- physical constraints at the site; and
- cost and effectiveness of the BMPs.

The pollution prevention team must consider the potential benefit of the implementation of a BMP compared to its cost and impact on existing operations. The costs and benefits must be balanced to determine which BMPs are most appropriate for a given facility.

EPA has divided BMPs into two categories: baseline and advanced. The advanced BMPs are divided further into two subcategories: activity-specific and site-specific. EPA has developed an extensive list of potential BMPs (see ¶651 through ¶655). Specifically, ¶653 focuses on BMPs that are suitable to prevent or control the contamination of stormwater discharges for each of the 29 sectors covered under the multi-sector general permit.** Note that this list of BMPs is not exhaustive. Facilities can and should develop BMPs that are appropriate to their sites and operations. The key is that the BMPs serve to eliminate or minimize stormwater pollution from the facility.

** Added, November 1999.

¶651 Baseline BMPs

EPA has defined eight baseline BMPs:

- good housekeeping;
- preventive maintenance;
- visual inspections;
- spill prevention and response;
- sediment and erosion control;
- traditional stormwater management practices;
- employee training; and
- recordkeeping and reporting.

These baseline BMPs are general practices that should be applicable to most industrial facilities. EPA requires that baseline BMPs be implemented wherever possible. According to EPA, baseline BMPs are:

> practices that are inexpensive, relatively simple, and applicable to a wide variety of industries and activities. Most industrial facilities already have these measures in place for product loss prevention, accident and fire prevention, worker health and safety, or to comply with other environmental regulations. ... EPA's stormwater program is emphasizing these generic measures because they can be effective, are cost-effective, and because they emphasize prevention over treatment. ... Industrial facilities must implement, at a minimum, the above listed eight baseline BMPs, where appropriate. (*Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices*, EPA 832-R-92-006, (September 1992)).

In many cases, baseline BMPs already are employed at a facility, and it is only necessary to document them in the SWP3. If not currently employed, it would be prudent either to implement the baseline BMPs or to document why they cannot be implemented or are not appropriate for a given site and facility.

These baseline BMPs are briefly described below.

Good housekeeping. Good housekeeping consists of programs, practices, policies and procedures that maintain a clean and orderly facility. A lack of good housekeeping practices can result in generating more waste than necessary and increases the potential for stormwater contamination. A clean and orderly work area reduces the possibility of accidental spills caused by improper handling of chemicals and machinery, and reduces safety hazards to facility personnel. In addition, well-maintained material and chemical storage areas reduce the risk of pollutants mixing with stormwater.

EPA recommends these procedures to promote good housekeeping: improved operation and maintenance of industrial machinery and processes; material storage practices; material inventory controls; routine and regular cleanup schedules; maintaining well-organized work areas; and providing educational programs for employees about all of these practices.

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Good Housekeeping Checklist

- ❑ Is good housekeeping included in the stormwater pollution prevention program?
- ❑ Are outside areas kept in a neat and orderly condition?
- ❑ Is there evidence of drips or leaks from equipment or machinery onsite?
- ❑ Is the facility orderly and neat?
- ❑ Is there adequate space in work areas?
- ❑ Is garbage removed regularly?
- ❑ Are walkways and passageways easily accessible, safe, and free of protruding objects, materials or equipment?
- ❑ Is there evidence of dust on the ground from industrial operations or processes?
- ❑ Are cleanup procedures used for spilled solids?
- ❑ Is good housekeeping included in the employee program?
- ❑ Are good housekeeping procedures and reminders posted in appropriate locations around the workplace?
- ❑ Are there regular housekeeping inspections?

Preventive maintenance. Preventive maintenance programs should include a timely review of all equipment used for stormwater management or control. Additionally, any other equipment at the facility that is exposed to stormwater must be addressed by the preventive maintenance program. This program should include standardized inspection and recordkeeping procedures and follow-up to ensure that deficiencies are rectified.

Preventive maintenance involves the regular inspection and testing of plant equipment and operational systems. Inspections should uncover conditions such as cracks or slow leaks which could cause breakdowns or failures that result in discharges of chemicals to storm sewers and surface waters. The program should prevent breakdowns and failures by adjustment, repair or replacement of equipment. Examples of equipment that should be routinely inspected include: pipes, pumps, storage tanks and bins, pressure vessels, pressure release valves, process and material handling equipment. Stormwater management devices such as oil/water separators, catch basins and other structural or treatment BMPs also should be regularly inspected.

Visual inspections. At appropriate intervals, as determined by facility personnel, visual inspections of plant equipment and areas of potential stormwater contamination should be conducted. Records of visual inspections should be maintained, and deficiencies should be rectified promptly. The general permit requires facilities to identify qualified plant personnel to conduct the inspections, track inspection results and maintain records.

According to EPA, routine visual inspections are not intended to be a comprehensive evaluation of the entire stormwater pollution prevention program. Instead, they are intended to be a routine "look-over" of the facility to identify conditions that may give rise to contamination of stormwater runoff with pollutants from the facility.

Examples of areas to include in a visual inspection are: areas around equipment; areas where spills and leaks have occurred in the past; material storage areas; outdoor material processing areas; material handling areas such as loading, unloading or transfer areas; and waste generation, storage, treatment and disposal areas.

Visual Inspection Checklist

Look for these conditions during a visual inspection.

- ❑ Corroded drums or drums without plugs or covers.
- ❑ Corroded or damaged tanks, tank supports and tank drain valves.
- ❑ Torn bags or bags exposed to rainwater.
- ❑ Corroded or leaking pipes.
- ❑ Leaking or improperly closed valves and valve fittings.
- ❑ Leaking pumps and/or hose connections.
- ❑ Broken or cracked dikes, walls or other physical barriers designed to prevent stormwater from reaching stored materials.
- ❑ Windblown dry chemicals.
- ❑ Improperly maintained or overloaded dry chemical conveying systems.

Spill prevention and response. At a minimum, EPA expects that facilities will identify areas where spills can occur and the anticipated drainage pattern of such spills. Also, facilities must include in the plan, as appropriate, specific material handling procedures and practices as well as storage equipment that will be used to minimize or mitigate spills. This spill prevention and response information may be incorporated in existing spill response plans or it may be developed specifically for the SWP3. If a facility has an existing spill response plan, it can be incorporated by reference into the SWP3.

Through the process of developing various spill scenarios, ideas for eliminating or minimizing the spill or its impact will emerge. These solutions should be prioritized and adopted according to conditions of effectiveness, cost, feasibility, and ease of implementation. Following is a list of activities or alterations recommended by EPA to help reduce the potential for spills that could impact stormwater quality.

- Develop ways to recycle, reclaim and/or reuse process materials to reduce the volume bought into the facility.

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- Install leak detection devices, overflow controls, and diversion berms.
- Disconnect drains from processing areas that lead to the storm sewer.
- Adopt effective housekeeping practices.
- Adopt a materials flow/plant layout plan (e.g., do not store bags that are easily punctured near high-traffic areas where they may be hit by moving equipment or personnel).
- Perform regular visual inspections to identify signs of wear on tanks, drums, containers, storage shelves, and berms and to identify sloppy housekeeping or other clues that could lead to potential spills.
- Perform preventive maintenance on storage tanks, valves, pumps, pipes, and other equipment.
- Use filling procedures for tanks and other equipment that minimize spills.
- Use material transfer procedures that reduce the chance of leaks or spills.
- Substitute less or non-toxic materials for toxic materials.
- Ensure appropriate security.

Sediment erosion and control. The SWP3 should identify specific areas within the facility that may be subject to erosion. BMPs designed to prevent erosion include vegetative covering of the barren areas, slope and grade control, and use of rip rap and protective coatings.

Traditional stormwater management practices. Traditional stormwater management practices are measures taken to contain, control and direct stormwater runoff. These BMPs frequently involve physical structures. Traditional stormwater management practices also include the treatment of stormwater by natural (e.g., grass strips) or artificial (e.g., oil/water separators) means. Although these controls are included as baseline BMPs, they also are described as advanced site-specific BMPs by EPA.

Employee training. EPA requires employee training be implemented by stormwater dischargers. Stormwater-specific training can be incorporated into existing training programs, such as monthly safety meetings, thereby reducing the administrative burden on plant operations.

The training should include a review of the purposes and goals of the SWP3, potential sources of stormwater pollution at the site, the BMPs employed at the site and the role the employees fill in stormwater pollution prevention.

Recordkeeping and reporting. EPA expects that appropriate internal recordkeeping and reporting procedures and policies already exist at most facilities. If this is the case, significant changes to the facility that can result in additional potential for stormwater contamination will be rapidly identified and communicated and appropriate remediative measures can be taken.

[The next page is Tab 600, Page 87.]

¶652 Advanced BMPs

Advanced BMPs consist of all BMPS other than baseline BMPs. Advanced BMPs are designed to address specific potential pollution sources or activities at a site. The stormwater pollution prevention team should review potential advanced BMPs to determine which ones might be appropriate to eliminate or minimize stormwater pollution at a given facility.

Activity-specific BMPs

Activity-specific BMPs, as identified by EPA, are practices oriented toward common industrial activities such as:

- maintaining vehicles and equipment;
- fueling;
- salt storage;
- painting vehicles and equipment;
- loading and unloading materials;
- liquid storage in aboveground tanks;
- industrial waste management and outside manufacturing;
- washing vehicles and equipment; and
- outside storage of raw materials, by-products, or finished products.

BMPs for these common industrial activities can be categorized into three broad approaches:

- covering or otherwise protecting the exposed activity from stormwater;
- containing materials and/or stormwater that may come in contact with the materials in such a way as to minimize their discharge and resulting stormwater contamination; and
- inspections to ensure that the physical structures and operational practices that make up these BMPs are effective and maintained.

The pollution prevention team should look critically at the specific industrial activities to determine which practices are appropriate for each activity at a given facility. These practices are then documented as activity-specific BMPs.

EPA produced a guidance document on developing BMPs, *Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices* (EPA 832-R-92-006). Material in this section is adapted from that guidance document, which was issued prior to the enactment of the multi-sector general permit. The multi-sector permit also contains advanced BMPs for each of the 29 industrial sectors covered under the permit (see ¶653 for more information.) **

** Added, November 1999.

Vehicle and equipment maintenance. Stormwater runoff from maintenance areas can become polluted by contaminants such as solvents and degreasing products, waste automotive fluids, oils and greases, acids and caustic wastes.

Recommended BMPs for Vehicle and Equipment Maintenance Operations

EPA recommends the following BMPs to minimize stormwater contamination from vehicle and equipment maintenance operations.

- ❑ Avoid using liquid cleaners and solvents such as trichloroethylene, 1,1,1-trichloroethane or methylene chloride to clean parts. Instead scrape parts with a wire brush, or use a bake oven. Do all liquid cleaning at a centralized station so the solvents stay in one area. Use drip pans, drain boards and drying racks to direct drips into a holding tank for reuse.
- ❑ Reduce the amount of hazardous materials and waste produced at the site by substituting nonhazardous or less hazardous materials. For example, use noncaustic detergents for parts cleaning. Use detergent-based or water-based cleaning systems instead of organic solvent degreasers. Replace chlorinated organic solvents with nonchlorinated solvents like kerosene or mineral spirits. Choose cleaning agents that can be recycled.
- ❑ Clean up leaks, drips and other spills without large amounts of water. Use rags or damp mops for small spills and absorbent material for larger spills. Avoid hosing down work areas.
- ❑ Do not pour liquid waste into floor drains, sinks, outdoor storm drain inlets or other storm drains or sewer connections. Post signs at sinks and outdoor drains to remind employees.
- ❑ Place oil filters in a funnel over the waste oil recycling or disposal collection tank to drain excess oil before disposal.
- ❑ Park vehicles indoors or under a roof and observe vehicles for oil and fluid leaks. Place pans under leaks and designate a single area away from storm drains to drain and replace motor oil, coolant and other fluids.
- ❑ Be particularly careful when storing wrecked or damaged vehicles, which can drip oil and fluids for several days. Drain fluids promptly and store cracked batteries in a nonleaking secondary container.
- ❑ Recycle these materials: degreasers, used oil or oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic fluid.
- ❑ Reduce the number and type of solvents used.
- ❑ Separate hazardous and nonhazardous wastes. Do not mix used oil and solvents and keep chlorinated solvents separate from nonchlorinated ones.
- ❑ Buy recycled products such as engine oil, transmission fluid, antifreeze or hydraulic fluid.

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Fueling stations. Common activities occuring at fueling stations that can contaminate stormwater include spills and leaks that happen during fuel or oil delivery; spills caused by "topping off" fuel tanks; allowing rainfall or stormwater run-on to contact the fuel area; hosing or washing down the fuel area; and leaks from storage tanks.

Recommended BMPs for Fueling Stations

EPA recommends the following BMPs to reduce or eliminate stormwater contamination from fueling stations.

- ❑ Closely observe fuel transfers to prevent overfills.
- ❑ Install spill and overfill prevention equipment. (Overfill prevention equipment is required on all underground storage tanks (USTs) manufactured after December 1988. USTs manufactured before December 1988 must have overfill prevention equipment by 1998.)
- ❑ Discourage topping off of fuel tanks by training employees and posting signs.
- ❑ Protect fueling areas from rain by building a roof over the fueling area and paving the area with concrete instead of asphalt.
- ❑ Minimize stormwater run-on by grading, berming or curbing the area around the fuel site or locating roof downspouts so stormwater is directed away from the area. Using valley gutters to route stormwater around fueling areas also is recommended.
- ❑ Install and routinely inspect and clean oil/water separators or oil and grease traps in storm drains in the fueling area.
- ❑ Use dry cleanup methods in fueling areas. For example, clean pumps with a damp cloth and clean pavement with a damp mop rather than hosing down the area.
- ❑ Do not wash petroleum spills into the storm drain or sanitary sewer.
- ❑ If discharges from fueling areas drain to a sanitary sewer system, contact your local publicly owned treatment works.

Salt storage facilities. Salt left exposed to rain or snow can be lost. Salt spilled or blown onto the ground during loading and unloading will dissolve in stormwater runoff.

Recommended BMPs for Salt Storage Facilities

EPA recommends the following BMPs to minimize stormwater contamination at salt storage facilities.

- ❑ Store salt under a roof to prevent contact with rain.
- ❑ Build outside storage piles on asphalt to reduce the potential for groundwater contamination.
- ❑ Cover the pile with a temporary covering like polyethylene, polyurethane or polypropylene.
- ❑ Enclose or build berms around storage, loading and unloading areas.

Painting operations. Stormwater runoff from painting operations can become polluted by contaminants such as solvents and dusts from sanding and grinding that contain toxic metals like cadmium and mercury.

Recommended BMPs for Painting Operations

EPA recommends the following BMPs to minimize contamination of stormwater at painting operations.

- ❑ Use tarps and vacuums to collect old wastes produced by sanding or painting and tarps, drip pans, or other collection devices to collect spills of paints, solvents or other liquids.
- ❑ Prevent paint chips from coming into contact with stormwater.
- ❑ Ensure that parts or vehicles are dry, clean and rust free before painting.
- ❑ Overspray from conventional spray guns can be deposited on the ground where it can contaminate stormwater. Use equipment that delivers more paint to the part or vehicle, such as electrostatic spray equipment; air-atomized spray guns; high-volume/low-pressure spray guns; or gravity-feed guns.
- ❑ Train operators in techniques to reduce overspray and minimize the amount of point solids that can contaminate stormwater. Avoid spraying on windy days and use a drop cloth when spraying outdoors.
- ❑ Recycle solvents, paint and paint thinner.
- ❑ Separate hazardous and nonhazardous wastes and keep chlorinated solvents separate from nonchlorinated ones. Reduce the number of solvents used.
- ❑ Use recycled, refined or purified paints, paint thinner and solvents, when appropriate.

Loading and unloading materials. Loading and unloading operations usually take place outside on docks or terminals. Materials spilled, leaked, or lost during loading/unloading may collect in the soil or on other surfaces and be carried away by rainfall runoff or when the area is cleaned. Rainfall may wash off pollutants from machinery used to unload or load materials.

Recommended BMPs for Loading and Unloading Materials

EPA recommends the following BMPs to reduce stormwater contamination in loading and unloading operations.

- ❑ Locate loading/unloading equipment and vehicles so that leaks can be contained in existing containment and flow diversion systems.
- ❑ Routinely inspect valves, pumps, flanges and connections on vehicles and equipment for leaks, dust or fumes.
- ❑ Cover loading and unloading areas such as loading docks to reduce exposure of materials and equipment to rain.
- ❑ Minimize run-on by grading, berming or curbing to direct run-on away from the loading area and position roof downspouts so stormwater is directed away from loading sites.

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Aboveground storage tanks. Accidental releases of chemicals from aboveground storage tanks can contaminate stormwater. Materials spilled, leaked or lost from storage tanks may accumulate in soils or on other surfaces and be carried away by rainfall runoff.

Storage of oil and hazardous materials must meet specific standards set by federal and state law. These standards include spill prevention, control and countermeasure (SPCC) plans; secondary containment; installation, integrity and leak detection monitoring; and emergency preparedness plans. Federal regulations set specific standards for preventing run-on and collecting runoff from hazardous waste storage, disposal or treatment areas. These standards apply to container storage areas and other areas used to store, treat or dispose of hazardous waste. If the collected stormwater is a hazardous waste, it must be managed as a hazardous waste in accordance with all applicable state and federal regulations. States may also have standards about controlling run-on and runoff from hazardous waste treatment, storage and disposal areas.

Recommended BMPs for Liquid Storage in Aboveground Tanks

EPA recommends the following BMPs for facilities that use aboveground storage tanks.

- ❑ Train employees in correct operating procedures and safety activities to prevent errors that lead to accidental releases.
- ❑ Use engineered safeguards—such as overfill protection devices and protective guards around tanks and pipes to prevent vehicle or forklift damage—to prevent accidental releases.
- ❑ Clearly label valves to reduce human error.
- ❑ Visually inspect the tank system to identify problem areas. Audit newly installed tank systems to identify loose fittings, poor welding and improper or poorly fitted gaskets.
- ❑ Routinely inspect tank foundations, connections, coatings, tank walls and piping systems for corrosion, leaks, straining, cracks, scratches in protective coatings or other physical damage. Periodic integrity testing should be done by a qualified professional.
- ❑ Use secondary containment systems such as berms, dikes, liners, vaults and double-walled tanks, around both permanent and temporary tanks to make leak detection easier.

Waste management and outside manufacturing. Stormwater runoff from areas where industrial waste is stored, treated or disposed of can be polluted. Outside manufacturing activities can also contaminate stormwater runoff. Activities such as rock grinding or crushing, painting or coating, grinding or sanding, degreasing or parts cleaning or operations that use hazardous materials are particularly dangerous. Possible stormwater contaminants include toxic compounds, oil and grease, paints or solvents, heavy metals and high levels of suspended solids.

Recommended BMPs for Industrial Waste Management Areas and Outside Manufacturing

The best way to reduce potential stormwater contamination is to reduce the amount of waste that is created and the amount that must be stored or treated. EPA also recommends the following BMPs to minimize stormwater contamination.

- ❑ Assess activities at your facility to find situations where waste generation, emissions and environmental damage can be eliminated or reduced. The assessment involves steps similar to those used to develop the SWP3, such as collecting process-specific information, setting pollution prevention targets and developing, screening and selecting waste reduction options for further study.
- ❑ Implement BMPs that can help eliminate or reduce waste generations, such as production planning and sequencing; process or equipment modification; raw material substitution or elimination; loss prevention and housekeeping; waste segregation and separation; closed-loop recycling; training and supervision; and reuse and recycling.
- ❑ Check waste management areas for leaking containers or spills and look for containers that are rusty, corroded or damaged. Close dumpster lids to prevent rain from washing wastes out of holes or cracks in the bottom.
- ❑ Look for leaking valves, liners, seals or pumps in outside equipment.
- ❑ Inspect rooftop and other outdoor equipment like HVAC devices, air pollution control devices, transformers, and piping for leaks or dust concentrations.
- ❑ Prevent stormwater run-on or rain from entering or contacting waste management and manufacturing areas by moving the activity indoors; covering the area with a permanent roof; covering waste piles with a reinforced tarpaulin, polyethylene, polyurethane or polypropylene covering; or enclosing or building a berm around the area.
- ❑ Equip transport vehicles with spill prevention equipment such as baffles for liquid wastes, sealed gates and spill guards for solid wastes or tarps.
- ❑ Use vacuum transfer systems to minimize dust or mists.
- ❑ Use specially designed tires and wash vehicles before they leave the site to avoid tracking wastes and sediments offsite.
- ❑ At land application sites, use slopes under 6 percent, permeable solids, a low water table, locations away from wetlands or marshes and closed drainage systems.
- ❑ Do not apply waste to the site when it is raining or when the ground is frozen. Use vegetation on land disposal areas to stabilize soils.
- ❑ Maintain adequate barriers between land application sites and receiving waters.
- ❑ Use mulching and matting, filter fences, straw bales, diversion terracing or sediment basins to control erosion.
- ❑ Perform routine maintenance to ensure that erosion is controlled and the site is stabilized.

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Vehicle and equipment washing. Washing vehicles and equipment outdoors or where wash water flows onto the ground can pollute stormwater. Wash water can contain high concentrations of oil and grease, phosphates and high suspended solid loads. Vehicle wash water is a process wastewater and must be covered by an NPDES permit.

Recommended BMPs for Vehicle and Equipment Washing

EPA recommends the following BMPs to reduce stormwater contamination in vehicle and equipment washing activities.

- ❑ Use phosphate-free, biodegradable detergents.
- ❑ When possible, wash equipment indoors. Small parts should be washed over a parts washing container.
- ❑ Vehicles and large equipment should be washed in an area that is bermed and graded to collect and direct wash water to a treatment facility.
- ❑ Recycle washwater or, if this is not practical, discharge it to the sanitary sewer.

Outside storage. Raw materials, by-products, finished products, containers and material storage areas exposed to rain and/or runoff can pollute stormwater. Stormwater can become contaminated by a wide range of contaminants like metals, oil and grease when solid materials wash off or dissolve into water.

Recommended BMPs for Outside Storage of Raw Materials, By-Products or Finished Products

EPA recommends the following BMPs to minimize stormwater contamination at outside storage sites.

- ❑ Prevent stormwater run-on or rain from contacting materials by storing materials indoors, covering the storage area with a roof, covering the material with a temporary covering, or enclosing or building a berm around the area.

Site-specific BMPs

The second category of advanced BMPs is described by EPA as "site-specific." In fact, this category includes a number of BMPs previously identified by EPA as baseline and/or activity-specific BMPs. Nevertheless, they do represent a wide range of potential mitigative measures that typically are constrained by site-specific conditions.

Many of the site-specific BMPs also could be called traditional stormwater management controls and practices. They are typical civil engineering designs for stormwater flow management. EPA has divided these site-specific BMPs into six categories:

- *flow diversion:* stormwater conveyances, diversion dikes, and grading and pavement modifications that divert stormwater flow from contaminated areas;
- *exposure/minimization:* containment diking, curbing, drip pans, collection basins, sumps, coverings, vehicle positioning and unloading technologies that can be used to minimize stormwater pollution;
- *mitigative:* sweeping, shoveling, evacuation practices, vacuum and pump systems, absorbents, gelling agents, and other materials practices and procedures that mitigate or eliminate contamination from spills and leaks;
- *other preventive practices:* monitoring, dust control, signs and labeling, security, area control procedures, and vehicle washing procedures—all of which serve to prevent stormwater pollution;
- *sediment and erosion prevention practices:* vegetative practices, erosion prevention and sediment control practices; and
- *infiltration practices:* vegetative filter strips, grassed swales, level spreaders, infiltration trenches, porous pavement, concrete grids and modular pavement to enhance the percolation of stormwater into the ground.

These BMPs are highly site-specific, and their implementation is dependent on physical constraints at a given site. Because the development and implementation of these BMPs involve engineering design and practice, it may be appropriate to engage stormwater consultants for their evaluation, selection and implementation.

Flow Diversion Practices

Flow diversion practices consist of stormwater conveyances, diversion dikes, and graded areas and pavement. These methods channel stormwater away from industrial areas to avoid contamination or divert contaminated stormwater to a treatment facility.

Stormwater Conveyances. Stormwater conveyances are temporary or permanent channels, gutters, drains or sewers that collect stormwater runoff and direct its flow either away from the industrial facility or to a treatment facility. They may be constructed or lined with concrete, clay tiles, asphalt, plastic, metal, riprap, compacted soil or vegetation and are commonly employed at industrial sites.

Conveyances are more easily installed when a facility is first being constructed. Use of existing grades is more cost-efficient. However, grades should not be so steep as to increase the velocity of stormwater runoff, which can hasten erosion. The rate of erosion also depends on the type of material used to line the conveyance and the type of outlet controls that are used. The conveyance should be inspected within 24 hours of a rainfall event or daily during periods of prolonged rainfall to remove debris that may clog the system.

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When designing and constructing a stormwater conveyance system, a facility should consider the following:

- the amount and speed of typical stormwater runoff;
- the typical patterns of stormwater drainage so that channels may be located and constructed in the appropriate places to handle the amount and flow of typical stormwater events; and
- the type of material that will be used to construct the conveyance, i.e., its resistance, durability and compatibility with any pollutants with which it may come into contact.

Advantages. Stormwater conveyances are effective in directing stormwater away from industrial sites and preventing flooding. They also require little maintenance, provide erosion-resistance and provide long-term control of stormwater runoff.

Disadvantages. Conveyance systems are difficult to construct at an existing facility and may be cost-prohibitive at small facilities where space is limited. They may increase stormwater flow rates if the grading is too steep. In addition, stormwater concentrations must be routed through stable structures all the way to the receiving water or treatment plant to minimize erosion.

Diversion Dikes. Diversion dikes or berms block stormwater runoff from passing beyond a certain point. Permanent structures often are constructed from concrete or asphalt. Temporary dikes often are made from compacted soil.

Dikes generally are used to prevent stormwater from running onto industrial areas, thus reducing the amount of stormwater that may require treatment for pollutant removal. Dikes often are constructed on slopes uphill from an industrial area in conjunction with a conveyance that will direct the stormwater away from the dike, thus preventing water from pooling and seeping through the dike.

Ideally, dikes should be constructed before industrial activity begins, but they can be retrofitted as well. A temporary dike generally lasts for about 18 months, but it can be converted into a permanent dike by stabilizing it with vegetation, which will help control erosion.

Dikes should be inspected and repaired regularly, especially after a storm event that may wash away vegetation or parts of a temporary dike.

When designing and installing a dike, a facility should consider the following:

- slope of the drainage area;
- height of the dike;
- size of the typical rainfall it will need to divert; and
- the type of conveyance that will be used in conjunction with the dike.

Generally, steeper slopes will result in more stormwater runoff at higher velocities.

Advantages. Dikes effectively limit stormwater flows, can be installed at any time, are economical when built from onsite materials and can easily be converted to permanent structures.

Disadvantages. Dikes are not effective in large drainage areas unless a gentle slope is present. They also may require significant maintenance or repair after a heavy rain.

Graded Areas and Pavement. Land surfaces can be temporarily or permanently graded and/or paved to direct stormwater runoff away from industrial areas. Like conveyances and dikes, graded areas prevent stormwater runoff from contacting industrial areas and becoming contaminated.

Graded surfaces are appropriate for outdoor industrial areas, such as service stations, parking lots or outdoor storage areas. Grading often is used in conjunction with coverings, buffer zones, and other practices to reduce runoff velocity and control uncontaminated runoff, or to direct runoff to treatment facilities.

When designing and constructing a graded area and pavement, a facility should consider the following:

- Grading should divert uncontaminated stormwater away from polluted areas and contaminated stormwater to treatment facilities.
- Concrete should be used instead of asphalt, especially in potential spill or hazardous material storage areas. Asphalt absorbs organic pollutants and may slowly dissolve if it comes into contract with some fluids, thus making it a potential source of contamination itself.

Paving should be inspected regularly for cracks that could allow contaminants to seep into the ground. Receiving drains should be inspected and unclogged regularly to avoid flooding.

Advantages. Graded areas and pavement effectively limit stormwater contact with contaminants and are relatively inexpensive and easily implemented.

Disadvantages. Regrading and resurfacing of large areas may be economically unfeasible for some facilities. In addition, grading and pavement may be ineffective during heavy rains.

Exposure Minimization Practices

Though completely eliminating exposure of pollutants to stormwater is not always possible, several simple and inexpensive practices exist that can help minimize exposure of materials to stormwater.

Containment practices are used to enclose spills, drips, leaks or overflows and to isolate pollutants from stormwater runoff. Containment methods range from large structural barriers to simple drip pans and vary in cost, need for maintenance and size of the spill they can control. Containment methods that will be discussed include containment diking, curbing, drip pans, collection basins and sumps.

Other exposure minimization practices that will be discussed include covering, vehicle positioning, and loading and unloading using an air pressure or vacuum system.

Containment Diking. Containment dikes are temporary or permanent earth or concrete berms or retaining walls that are designed to hold spills. Dikes are commonly used at aboveground storage tank facilities and rail car or tank truck loading and unloading areas. Dikes surround the area of concern, thus preventing spilled materials from contacting stormwater outside the diked area. Dikes can be used at any facility but are most commonly used for controlling potentially large spills or releases.

Dikes should be inspected during and after significant rainfall or spills to check for washouts or overflows. The dike should be tested periodically to ensure that it is capable of holding spills.

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When designing and constructing a containment dike, a facility should consider the following:

- It should be large enough to hold an amount equal to the largest single storage tank or tank truck at the facility plus the volume of rainfall.
- Materials used to construct the dike should be strong enough to contain the spilled materials. Dikes may consist of earth, concrete, synthetic materials, metal or other impervious material.
- Materials used to construct the dike should be compatible with the materials the dike is designed to hold. Special liners may need to be used with reactive organic chemicals.
- Pumping systems or vacuum trucks should be available to control overflows.
- Overflow systems, which often are the source of uncontrolled leaks, should be carefully inspected.
- If no overflow system exists, accumulated stormwater should be released (and treated) periodically.
- Local authorities should be consulted prior to constructing a dike to ensure compliance with any state or local regulations.

Advantages. Dikes are commonly used and are required for certain chemical operations. Dikes contain spills, leaks and other releases and prevent them from reaching runoff conveyances, streams or underground water supplies. Dikes also allow recycling of materials collected within the dike.

Disadvantages. Dikes require constant maintenance and may be economically unfeasible for smaller facilities. In addition, dikes may collect contaminated stormwater, which could infiltrate the soil and contaminate the groundwater.

Curbing. Curbing is similar to containment diking. By acting as a barrier that surrounds an industrial area, curbing prevents spills and leaks from being released and routes runoff to treatment or control areas. Unlike containment diking, curbing generally is appropriate only for small scale operations. It is used in many small areas where handling and transferring liquid materials occur.

Common materials used to construct curbs include earth, concrete, asphalt, synthetic materials, metal or another impenetrable material.

Curbs generally are used in conjunction with pumping systems, rather than drainage systems, to collect spilled materials. Because space usually is limited, spilled materials should be removed immediately to avoid overflow. Curbs require simple maintenance such as patching and replacement.

Curbs should be inspected before and after rainfall events. Leaks and spills should be cleaned up immediately to prevent overflows and rainwater dilution, which can inhibit recycling of materials.

When designing and constructing a curbing system, a facility should consider the following:

- Traffic should be limited around curbing berms, and reinforced berms should be used in high-traffic areas.
- To minimize tracking of spilled materials that are stored within a curbed area, the surface of the curbed area should be graded so that spilled materials are directed to one area, thus making cleanup easier and minimizing contact with personnel and equipment.

Advantages. Curbing is a common industry practice and is an excellent method of controlling stormwater runon. Materials spilled within a curbed area can be recycled. It also is inexpensive and easy to install.

Disadvantages. Curbing cannot retain large spills and may require more maintenance than diking.

Drip Pans. Drip pans are temporary or permanent small depressions or pans that are designed to hold very small amounts of leaks, drips or spills. Drip pan depressions may be made from concrete, asphalt, or another impenetrable material, or they may be made of metal, plastic, or another material that does not react with the dripped chemical.

Drip pans often are placed under valves or pipes to catch small leaks that can be cleaned up and recycled easily. They may be used at any facility with valves and piping and therefore, the potential for small leaks.

When using drip pans, facilities should consider the following:

- Drip pans should be located in easy-to-reach areas because they must be inspected and cleaned frequently. They should not be placed next to walkways, on uneven ground or in any other area where they may be easily overturned or may present a hazard.
- To prevent heavy winds and rain from moving or damaging drip pans, they should be securely installed or anchored.
- Drip pans must be routinely inspected and emptied to prevent overflow. Personnel should follow clearly specified practices to maintain drip pans and ensure that the drip pans themselves are not leaking.

Advantages. Drip pans are inexpensive, easy to install and simple to operate. They also allow for recycling of collected material.

Disadvantages. Drip pans can hold small volumes only, must be inspected and cleaned frequently, and must be secured during adverse weather conditions. Facility personnel must be trained to dispose of the collected material properly.

Collection Basins. Collection basins are permanent storage basins that contain large spills or contaminated stormwater prior to cleanup or treatment. Collection basins can receive materials from many locations across a facility.

Collection basins often are confused with ponds, lagoons and other treatment structures. However, unlike such structures, basins are designed only to temporarily store stormwater. They are particularly useful in areas with a potential for large spills.

When designing and installing a collection basin, a facility should consider the following:

- A conveyance system must be present to route a spill or stormwater immediately to the collection basin.
- Collection basin contents should be emptied immediately to prevent a release and to recycle as much of the spilled material as possible.
- The collection system and basin may require cleaning after a spill is contained.
- Depending on the type of pollutants in the stormwater, the basin may require a liner to prevent infiltration into groundwater.

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- Operators should consult local authorities to ensure compliance with local and state requirements prior to installing a collection basin.
- Explosion-proof equipment should be used if the collection basin may handle combustible or flammable materials.

Advantages. A collection basin can store a large volume of stormwater until it can be directed to a treatment facility. They also can collect spills for recycling where materials can be separated.

Disadvantages. A collection basin usually requires a conveyance system to route spills and stormwater. It also may collect materials that are incompatible with each other. In addition, materials that are diluted with stormwater may be more difficult to recycle. Groundwater also may be contaminated if pollutants are permitted to infiltrate the soil.

Sumps. Sumps are temporary or permanent holes or low areas in a containment area toward which spills or leaks will flow. Frequently, a pump, used in conjunction with a sump, automatically moves liquids away from the sump when the level of liquids gets too high.

Sumps generally are used in conjunction with other spill containment and treatment methods and can be located almost anywhere onsite. Frequently, they are located in low-lying areas in material handling or storage areas.

When designing and installing a sump, a facility should consider the following:

- A sump should be constructed of an impenetrable, smooth material in the lowest lying part of the containment area.
- The size of the pump used should be based on the maximum expected volume that would be collected in the containment area. More than one pump may be required.
- Submergible pumps should be used in areas where large spills that could completely cover a sump area are possible.
- An alarm system should be installed that indicates failure of an automatic pump or whether a pump should be manually operated. Facility personnel should have access to a mechanism that will prevent spills from bypassing or overflowing containment structures.

Advantages. Sumps are commonly used at industrial facilities and provide a simple collection system for recycling, reusing or treating materials in a containment structure.

Disadvantages. Pumps may be expensive to purchase or replace, may require maintenance agreements with manufacturers and may clog easily if they are not designed correctly.

Covering. Covering involves partial or total enclosure of materials, equipment, process operations or activities to prevent stormwater from coming into contact with pollutants. Tarpaulins, plastic sheeting, roofs, buildings and other enclosures are commonly used.

Covering is most appropriate for chemical preparation areas, vehicle maintenance areas, outdoor material storage piles and areas where materials are stored in containers. Building a roof over a high-risk area may eliminate the need for ventilation and lighting systems.

When designing and installing a cover, a facility should consider the following:

- The cover should be strong and compatible with the material or activity being enclosed.
- The cover should be designed to allow personnel easy access to materials.

- Covered radioactive, biological, flammable, explosive or reactive materials may require special ventilation or temperature controls.
- Materials should be elevated and placed on an impermeable surface within the enclosure to prevent contact with stormwater runon.
- The cover should be anchored with stakes, tie-down ropes, rocks, tires or other heavy objects.
- Floor drainage within the enclosure should be properly designed if wastewater is an issue.

Advantages. Constructing covers is simple, effective and inexpensive.

Disadvantages. Covers must be inspected frequently and may pose a health or safety risk if the enclosure is built over certain hazardous activities.

Vehicle Positioning. Vehicle positioning involves strategically locating loading and unloading areas for trucks or rail cars to prevent spills that could contaminate stormwater runoff.

Vehicle positioning is appropriate at all industrial facilities where materials are transferred to or from vehicles and usually is used in conjunction with other BMPs.

When designing a vehicle positioning plan, a facility should consider the following:

- Vehicles should be positioned near containment or flow diversion systems to collect unexpected spills from transfer lines or connections.
- Walls should be constructed to help position the vehicles.
- Vehicles should be placed over a drain or on a sloped surface that drains to a containment structure.
- The proper vehicle position should be outlined on the pavement.
- Signs requiring the use of emergency brakes should be posted.
- Vehicles should be required to shut off engines during material transfer activities.

Advantages. Vehicle positioning is inexpensive, easy and effective.

Disadvantages. Vehicle positioning may require redesign of loading and unloading areas.

Loading and Unloading by Air Pressure or Vacuum. Air pressure and vacuum systems are used during loading and unloading of materials. They are simple to use and effective in transferring dry chemicals or solids from one area to another.

An air pressure system involves a safety relief valve and a dust collector that separates dry materials from air during transfer operations. The accumulated air then is released. A vacuum system uses a dust collection device and an air lock, such as a rotary gate or trap door feeder.

Both systems prevent pollutants from being exposed to wind or rain, thus minimizing the release of pollutants into the environment and stormwater runoff. They can be used at all types of industrial facilities.

When designing and installing an air pressure or vacuum system, a facility should consider the following:

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- Systems should be properly designed and installed. Some systems may be installed without contractor help. Others may have to be designed specifically for a site.
- Equipment may have to be enclosed or covered if it is not weather-resistant.
- Regular maintenance and routine inspections should be conducted, especially on dust collectors and air pressure systems.

Advantages. Air pressure and vacuum systems are fast and simple to use, minimize exposure of pollutants to stormwater and may allow materials to be recovered and recycled.

Disadvantages. Air pressure and vacuum systems may be costly to install and maintain, and site-specific designs sometimes may be required. They also may not be effective in controlling denser materials. A Clean Air Act permit may be required to install a dust collector.

Mitigative Practices

Mitigation involves cleaning up a spilled substance to reduce its potential impact on the environment. It is considered a second line of defense after pollution prevention practices have failed or are deemed impractical. Some spills cannot be avoided at industrial sites. Therefore, proper mitigative procedures should be planned in advance.

Most of the mitigative practices discussed in this section are simple and should be incorporated into a facility's good housekeeping and spill response plans. Practices to be discussed include sweeping, shoveling, excavation, vacuuming and using solvents or gels to absorb or adsorb spills.

Facility operators should be aware that some spills of toxic or hazardous substances may be covered under the Superfund Amendments and Reauthorization Act, the Comprehensive Environmental Responsibility, Compensation and Liability Act, and the Resource Conservation and Recovery Act, and may have to be reported.

Sweeping. Brooms, squeegees or other devices are used to clean up small quantities of dry chemicals or solids in areas exposed to stormwater. To be an effective mitigative practice, sweeping must take place before a rainfall event or before an outside area is hosed down. Sweeping also should be done in areas where materials may be tracked outside.

When sweeping, facilities should consider the following:

- Brooms should be stored appropriately and not exposed to precipitation.
- The same broom should not be used to clean up two incompatible chemicals.
- The broom used should be compatible with the chemical of concern.
- Swept material must be disposed of properly.

Advantages. Sweeping is inexpensive, requires no special training among staff and provides recycling opportunities for recovered dry materials.

Disadvantages. Sweeping can be labor intensive and is limited to small releases of dry materials.

Shoveling. Shoveling can be used to remove larger quantities of dry chemicals and solids, and unlike sweeping, may be used to remove wet solids and sludge. In many cases, accumulated solids, sludge and contaminated snows in ditches, sumps and other locations can be removed effectively and quickly by shoveling.

When shoveling, facilities should consider the following:

- Shovels should be cleaned and stored properly.
- Shoveled materials must be transported and disposed of properly.

Advantages. Shoveling is inexpensive, provides recycling opportunities, can be used for larger releases, and can be used with both dry and wet materials.

Disadvantages. Shoveling is labor intensive and may not be appropriate for the largest spills.

Excavation Practices. Plows, backhoes or other mechanical equipment typically are used to excavate and remove contaminated material to reduce the potential for stormwater contamination.

Excavation is used to remove large releases of dry materials and for large areas contaminated by liquid material. Cleanup must take place before a storm event.

When using excavation practices, facilities should consider the following:

- Equipment should be inspected, maintained and serviced at specified intervals.
- Parts should be replaced, rotated and lubricated at specified intervals.
- Parts should be evaluated regularly.
- Plows, backhoes and other equipment should be stored appropriately without exposure to precipitation.
- Excavated materials should be properly handled and disposed of.

Advantages. Excavation is a cost effective, commonly used and simple method for cleaning up dry materials.

Disadvantages. Excavation practices are imprecise and usually result in less recycling and reuse opportunities.

Vacuum and Pump Systems. Vacuum and pump systems generally are portable systems that can be rented and can be used at any facility to clean up both wet and dry spilled materials. Vacuum systems also can be used in material handling and process areas.

When using vacuum and pump systems, facilities should consider the following:

- The size of the system should be appropriate for the size of the area to be vacuumed.
- A portable system should have enough suction or positive air pressure to transport materials over long distances.
- Collected material must be properly disposed of or reused.

Advantages. Vacuum systems can remove materials accurately, quickly and simply. They also provide for recycling opportunities.

Disadvantages. Vacuum systems may require a high initial cost and require regular equipment maintenance.

Sorbents. Sorbents clean up spills through the chemical processes of absorption and adsorption. Absorbents take material in like a sponge when they come in contact with the spilled material. Adsorbents attract spilled material to the outer surface of the adsorbent material. Sorbents must be mixed with the spilled material to work properly.

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Types of sorbents include the following:

Common materials such as clay, sawdust, straw or flyash. These absorbent materials generally are directly applied to a spill. They are suitable for a liquid spill on a relatively impermeable surface and are usually spread over the area with shovels.

Universal sorbent material. This is a silicate glass foam consisting of rounded particles that absorb spilled material. Universal sorbent material is so named because it is suitable for use on many compounds such as acids, alkalis, alcohols, aldehydes, arsenate, ketones, petroleum products and chlorinated solvents.

Polymers such as polyurethane or polyolefin. Polymers come in the form of spheres, beads or foam tablets. These materials absorb a chemical spill by taking up the liquid into their open-pore structure. Polyurethane is especially good at absorbing benzene, chlorinated solvents, epichlorhydrin and phenol. Polyolefin is used to remove organic solvents such as phenol and other chlorinated solvents. Such materials generally are mixed into a spill via a blower and then are skimmed from the top surface using an oil broom.

Activated carbon. In a powdered or granular form, activated carbon is mixed with liquids to remove pollutants by adsorbing the organic materials to its surface. The recovered material can be recycled and reused via a process called regeneration.

Sorbents often are used in conjunction with curbs to keep small spills within a containment area. Structures called booms, pads and socks also are used in areas where small liquid spills occur or where small amounts of solids may mix with stormwater runoff.

When using sorbents, facilities should consider the following:

- Because sorbents work by a chemical or physical reaction, some sorbents work better with certain types of spills. Personnel should know the properties of spilled materials to know what type of sorbent is appropriate to use.
- Sorbents are effective only if the material spilled does not react with the sorbent to form a hazardous or toxic substance.
- Sorbents must be applied immediately after a spill to be effective. Many are not reusable.

Advantages. Sorbents such as booms or socks work well in water environments, and some types of adsorbing sorbents offer limited recycling opportunities.

Disadvantages. Personnel must be familiar with the chemical makeup of a spill so a proper sorbent can be chosen. Most sorbents do not offer recycling opportunities and may be expensive to use for large spills. They also create disposal problems and may increase disposal costs by creating a solid waste that is potentially hazardous.

Gelling Agents. Gelling agents interact with spilled liquids either physically or chemically to form a congealed, solid material that can be cleaned up manually or mechanically. Typical gelling agents include polyelectrolytes, polyacrylamide, butylstyrene, copolymers, polyacrylonitrile, polyethylene oxide and a universal gelling agent, which is a composite of these synthetic materials. Gelling agents can effectively control a liquid spill before it reaches a receiving water or infiltrates into the soil and groundwater.

Gelling agents are useful for facilities that store significant amounts of liquid materials onsite. However, gels cannot be used on surface water without authorization from the U.S. Coast Guard or the EPA regional response team.

When using gelling agents, facilities should consider the following:

- Personnel should be familiar with the properties of the spilled material so that the correct type of gel can be chosen.
- Gels must be applied immediately after a spill to prevent the movement of materials.

Advantages. Gelling agents stop the movement of spilled or released liquid materials and require no permanent structure.

Disadvantages. Personnel must be familiar with the properties of the spilled material so that a compatible gel can be chosen. Gelling agents offer no recycling opportunities, are difficult to clean up and may create disposal problems. Disposal costs may be increased because the solid waste that results from the gelling agent may have to be treated as hazardous.

Other Preventive Practices

Preventive measures taken at industrial sites include preventive monitoring practices, dust control, posting signs and labels, maintaining security, implementing area control procedures and washing vehicles.

Preventive Monitoring Practices. Preventive monitoring practices require routine observation of a process or equipment. They also may include chemical analysis of stormwater before it is discharged to the environment.

Such practices include the following:

Automatic monitoring systems. Automatic monitoring systems should be used in areas where overflows, spills or catastrophic leaks are possible. Some federal, state or local laws require such a system. In material management areas, monitoring devices such as liquid level detectors, pressure and temperature gauges, and pressure-relief devices are used. In material transfer, process and handling areas, monitoring systems such as pressure drop shutoff devices, flow meters, thermal probes, valve position indicators and operation lights are used. In loading and unloading areas, devices that measure the volume and weight of tanks or containers, and devices that measure the flow rate during loading and unloading are used.

Automatic chemical monitoring. Chemical monitoring systems measure the quality of stormwater runoff to determine whether the discharge needs to be diverted to a treatment system. Systems monitor the pH, turbidity or conductivity of stormwater retained in diked areas, sewers, drainage areas or holding ponds.

Manned operations. Personnel are stationed in material transfer and process areas to monitor the operations so that spills can be corrected immediately.

Nondestructive testing. The structural integrity of storage tanks, pipelines, valves, joints, welds and other equipment can be tested without being damaged, moved or disassembled. Such methods include acoustic emissions tests that use high frequency sound waves that reveal cracks or other malformations. Hydrostatic pressure testing will reveal a leak or structural weakness. Pressure testing often is required by federal, state or local laws.

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When using preventive monitoring, facilities should consider the following:

- Automated monitoring systems should be located in areas where personnel can see measurements easily.
- Alarms should be used in conjunction with displayed measurements to alert personnel of problems.
- Equipment should be inspected regularly and used in accordance with the manufacturer's recommendations.
- The pollution prevention team should consult with a certified safety inspector to determine the most appropriate system to use based on the hazard potential of a spill.

Advantages. Pressure testing can find potential leaks or damage before safety and stormwater contamination become problems. Automatic monitoring systems can detect leaks early and can warn personnel if a catastrophic incident is imminent.

Disadvantages. Facility personnel must be trained to properly maintain and operate automatic equipment, which can fail without warning. Also, automatic process control and monitoring equipment may be expensive to purchase and operate.

Dust Control in Land Disturbance and Demolition Areas. Dust controls reduce the potential for particles to be carried through the air or water. Types of dust control methods include the following:

Irrigation. A light application of water is applied to the soil to temporarily moisten the surface, thus preventing the formation of dust.

Minimization of denuded areas. Seeding, mulching, topsoiling, applying crushed stone or gravel, and planting trees will minimize soil transport and erosion. Maintaining existing vegetation also will help control the formation of dust.

Wind breaks. Wind breaks are temporary or permanent barriers that slow wind velocities and thus reduce airborne particles. Existing trees, board fences, snow fences, tarp curtains, hay bales, crate walls and sediment walls are effective wind breaks.

Tillage. Deep plowing will bring dense clods to the soil surface, thus roughening and protecting the topsoil from wind and water erosion. Tillage is commonly used in arid regions where vegetation growth is slow.

Chemical soil treatments. These are temporary controls that are applied to the soil surface. They include spray-on adhesives such as anionic asphalt emulsion, latex emulsion, resin-water emulsions or calcium chloride. Such controls should be used with caution because they may create a pollution problem if not used correctly.

When using dust control techniques, builders should consider the following:

- To control dust, soil exposure should be limited as much as possible. Work that causes soil disturbance should be completed in phases and accompanied by temporary stabilization measures.
- Oil should not be used to control dust.
- If irrigation is used, site drainage systems should be checked periodically to ensure that the right amount of water is used.

- Chemical treatments bond effectively only with mineral soils and, therefore, should be used only in arid regions. Generally, they should not be used at industrial sites near schools or other sensitive areas. Local laws may restrict the use of chemical treatments.
- Inspections should be frequent, depending on weather and specific conditions, and materials should be applied only when needed.

Advantages. Dust control methods can help prevent wind and water-based erosion and will reduce respiratory problems among employees. Some techniques can be implemented quickly and inexpensively. They also help to preserve the aesthetics of the site. Finally, vegetative wind breaks are permanent and are an excellent alternative to chemical treatments.

Disadvantages. Some types of controls, such as irrigation and chemical treatment, are temporary, expensive and must be reapplied regularly. Some may be ineffective under certain conditions. Overapplication of chemical treatments may result in health or environmental hazards. Improper irrigation may result in excess runoff and increased offsite tracking of mud. Finally, large structures such as wind breaks may require land space that is not available.

Dust Control at Industrial Sites. Dust controls at industrial sites are used to collect and contain dust before it ends up in stormwater runoff. They include water spraying, vacuum systems, collector systems, filter systems and street sweeping. They are used in any process area, loading and unloading areas, material handling areas, and transfer areas where dust is generated. Street sweeping is used in paved areas.

When using dust controls, industrial facilities should consider the following:

- When using mechanical dust collection systems, manufacturer's recommendations should be followed when installing the equipment.
- If water sprayers are used, dust-contaminated water should be collected and treated. Areas should be resprayed to prevent dust from spreading.
- Brush and vacuum sweepers can be used. Vacuum sweepers are more efficient on dry surfaces.
- Mechanical equipment should be inspected regularly.

Advantages. Dust control measures may reduce respiratory problems among employees. Street sweepers collect larger dust particles efficiently.

Disadvantages. Dust control measures may be more expensive than manual methods, and some equipment may be difficult for personnel to maintain. They also are labor and equipment intensive and may not be effective in controlling all pollutants.

Signs and Labels. Signs and labels provide warnings and identify potential problems or hazards at facilities. Labeling is a good way to organize large amounts of materials, pipes and equipment.

Labeling methods include consistent color coding and Department of Transportation (DOT) labeling. DOT requires that labels be prominently displayed on transported hazardous and toxic materials. The system may be used on pipes and containers to indicate if a substance is corrosive, radioactive, reactive, flammable, explosive or poisonous.

Signs and labels are particularly useful in material transfer areas, equipment areas, loading and unloading areas, and any other area where contaminants are located.

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When using signs and labels, facilities should consider including the following:

- names of facility and regulatory personnel and emergency phone numbers;
- proper uses of equipment;
- types of chemicals used in high-risk areas;
- the direction of drainage lines and ditches, and their destination;
- specific material information; and
- Occupational Safety and Health Administration standards for sizes and numbers of signs for hazardous material labeling.

Advantages. Signs and labels are inexpensive and easily used.

Disadvantages. Signs and labels must be updated when regulations change and maintained so they remain legible.

Security. A security system will help prevent vandalism, theft, sabotage or other improper uses of a facility, all of which can lead to accidental or intentional releases. Routine patrol, proper lighting and access control are effective means of security at all facilities.

When implementing a security system, a facility should consider the following:

- Security information can be included in an existing stormwater pollution prevention plan to instruct personnel about where and how to patrol.
- During routine patrol, personnel can actively search for spills, leaks or other discharges; respond to disturbances; and generally prevent unexpected events.
- Sufficient lighting will allow security personnel to see equipment clearly during checks and routine patrolling.
- Controlling access to the facility with signs, fences, guard houses, dog patrols and visitor clearance requirements will minimize security breaches.

Advantages. Security systems help to safeguard operations and prevent malfunctions and disturbances. Adequate lighting allows easy detection of vandals or thieves, and spills and leaks.

Disadvantages. Installing and implementing a security system may not be a feasible option for smaller facilities. Additional lighting may be costly to install and could result in increased energy costs. Extensive access controls also may be unfeasible at smaller facilities.

Area Control Procedures. Area control procedures involve practicing good housekeeping measures such as maintaining indoor or covered material storage areas and processing areas to prevent materials from depositing on clothing or footwear and then getting tracked outside. Keeping such areas clean will reduce the chance of leftover pollutants reaching stormwater and polluting surface water.

When implementing area control procedures, facilities should consider the following:

- Areas should be checked regularly to ensure that good housekeeping measures are being properly implemented. Floor mats and other devices used to collect residual material should be cleaned regularly.
- Clothing should be brushed off before leaving the area. Stomping feet will remove excess material on shoes.

- Floor mats should be used at area exits.
- Overgarments such as coveralls and smocks should be used in areas of exposure but should be removed before leaving the area.
- Signs should be posted to remind workers about these practices.

Advantages. Area control procedures are easy to implement and result in a cleaner facility and an improved work environment.

Disadvantages. Procedures may be seen by employees as tedious and therefore may not be followed.

Vehicle Washing. Materials that accumulate on vehicles and then spread via wind, gravity, snow or rain can contaminate stormwater. Regular vehicle washing will help prevent this type of contamination.

Vehicle washing is appropriate for any facility where vehicles come into contact with raw materials and should take place where the most vehicle activity occurs. Wastewater generated from vehicle washing should be directed away from process materials and to a treatment area.

When washing vehicles, facilities should consider the following:

- A high-pressure water spray without detergent additives should be used. In general, water will remove contaminants adequately.
- Detergents may cause other environmental impacts. Phosphate or organic-containing compounds should be avoided.
- Truck wash water may be considered a nonstormwater discharge and may require an NPDES permit.
- Blowers and vacuums can be used where materials are dry and easily removed.

Advantages. Vehicle washing prevents dispersion of materials across the facility site. It is necessary to implement only when other methods for transferring contained materials and minimizing exposure have been unsuccessful.

Disadvantages. Constructing a truck washing area or facility may be costly.

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Sediment and Erosion Prevention Practices

Though erosion and sedimentation are natural processes, human activities can accelerate erosion by removing vegetation, compacting or disturbing the soil, changing natural drainage patterns, and covering the ground with impermeable surfaces such as pavement or concrete. When the land surface is developed, stormwater cannot infiltrate the ground. Instead, it moves quickly across a site, carrying sediment and other pollutants to receiving waterbodies.

To minimize erosion and control sedimentation, developers should leave as much vegetation onsite as possible, minimize the time that soil is left exposed, prevent runoff from flowing across disturbed areas, stabilize disturbed areas as soon as possible, slow runoff, provide grassy swales for drainage, and remove sediment from stormwater before it leaves the site.

Selecting the most appropriate set of sediment and erosion control measures depends on the nature of the activities conducted onsite and site-specific conditions such as soil type, topography, climate and season. Controls may be temporary or permanent, vegetative or structural.

A vegetative cover reduces erosion potential by 1) shielding the surface soil from direct rainfall; 2) improving the soil's porosity and capacity so more water can infiltrate into the ground; 3) slowing stormwater runoff and allowing sediment to deposit; and 4) physically holding the soil in place with plant roots.

Though developers may use trees, shrubs, bark, mulch or straw as vegetative cover, grass is the most commonly used cover because it grows quickly and can provide erosion control protection within days during the growing season.

Vegetative practices discussed here include preservation of natural vegetation; buffer zones; stream bank stabilization; mulching, matting and netting; temporary seeding; permanent seeding and planting; sodding; and chemical stabilization.

Structural practices discussed here include interceptor dikes and swales, pipe slope drains, subsurface drains, filter fences, straw bale barriers, brush barriers, gravel or stone filter berms, storm drain inlet protection, sediment traps, temporary sediment basins, outlet protection, check dams, surface roughening and gradient terraces.

Preservation of natural vegetation. As a permanent measure, preserving natural vegetation stabilizes an area, minimizes erosion potential, protects water quality and is aesthetically beneficial. As a technique, it can be applied to all types of sites. It is particularly beneficial in floodplains, wetlands, stream banks, steep slopes and other areas where erosion controls would be difficult to install and maintain.

When preserving natural vegetation, developers should consider the following:

- Preservation should be planned before any site disturbance begins.
- Good site management is required to minimize the impact of construction activities on natural vegetation.
- Trees should be marked to protect them from ground disturbances around the base of the tree.
- Natural vegetation should be properly maintained.

- Different species, soil types and climates will require different maintenance practices such as mowing, fertilizing, liming, irrigation, pruning and pest control.
- State and local regulations may require some natural vegetation to be preserved in sensitive areas.

Advantages. Preserved natural vegetation can handle higher quantities of stormwater runoff than newly seeded areas. Filtering capacity is increased because the vegetation and root structure are usually denser than in newly seeded areas. Preserved areas also provide undisturbed areas for wildlife, provide noise buffers and screens for onsite operations and enhance aesthetics.

Disadvantages. Preserved natural vegetation requires planning, may not be cost effective on expensive land and may constrict available area for construction activities.

Buffer Zones. Buffer zones are vegetated strips of land used to decrease the velocity of stormwater runoff, which helps prevent erosion. Buffer zones are similar to vegetated filter strips.

Buffer zones can be areas left undisturbed during construction or they can be newly planted. They are appropriate at any site that can support vegetation and are particulary effective on floodplains and wetlands; along stream banks; and on steep, unstable slopes.

When using buffer zones, developers should consider the following:

- Buffer zones should be protected against disturbances such as grade changes, excavation, damage from equipment and other construction activities.
- Establishing new buffer strips requires dense turf, trees and shrubs.
- The need for routine maintenance depends on the species of plants and trees involved, soil types and climatic conditions.
- State and local regulations may require buffer zones especially near sensitive areas such as wetlands.

Advantages. Buffer zones provide areas for wildlife habitat, recreation, infiltration—which reduces the speed and amount of stormwater runoff—and buffers for onsite noise. Buffers also are low maintenance and are inexpensive when existing vegetation is used.

Disadvantages. Buffer zones may not be cost effective if land is expensive and may not be feasible if land is not available. Substantial plant growth is required before buffers are effective.

Stream bank stabilization. Stream bank stabilization techniques are used to minimize stream bank erosion. They are used when vegetative stabilization practices are not practical and where stream banks are subject to heavy erosion. Typical methods include the following:

Riprap. Riprap is composed of large, angular stones—uniform or graded in size—that are placed along the stream bank in an even layer. It often is used on steep slopes built with fill materials that may be subject to harsh weather or seepage. Riprap is used where water may be turbulent and fast-flowing, and where soil may erode under the design flow conditions.

Gabion. Gabion is composed of rock-filled wire cages used to create a new stream bank. Gabion often is used in conjunction with riprap and is placed over a filter blanket, such as a gravel layer or filter cloth.

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Reinforced concrete. Reinforced concrete bulkheads and retaining walls are built to replace natural stream banks and create a nonerosive surface. They may require drainage behind the bulkhead or retaining wall to prevent erosion around the structure.

Log cribbing. Retaining walls may be built of pressure-treated logs that anchor the soil against erosive forces. They usually are built on the outside of stream beds.

Grid pavers. Grid pavers are precast or poured-in-place concrete units that are placed along stream banks to stabilize the stream bank and create open spaces where vegetation can grow.

Asphalt. Asphalt paving may be placed along the natural stream bank to create a nonerosive surface.

When constructing stream bank stabilizers, developers should consider the following:

- Structures should be planned and designed by a professional engineer.
- Applicable federal, state and local requirements should be followed.
- Design features such as the foundation of the structure and the potential for the stream to erode the sides and bottom of the channel should be considered to make sure the stabilization measure is supported.
- Stream bank structures should be inspected regularly and after each large storm event. Structural damage should be repaired as soon as possible to prevent further damage or erosion of the stream bank.

Advantages. Stream bank stabilization methods can minimize erosive forces caused by the increase in stormwater flows created during land development. They may provide for wildlife habitat and form a dense, flexible cover that eventually will adapt well to uneven surfaces.

Disadvantages. Stream bank stabilization methods do not provide the water quality and aesthetic benefits that vegetative practices do. They may be expensive, require additional permits to construct, may alter stream dynamics and may negatively impact wildlife habitats. Project costs may increase if the services of a professional engineer are required.

Mulching, matting and netting. Mulching is a temporary soil stabilization practice that can reduce the velocity of stormwater runoff. Often made of grass, hay, woodchips, wood fibers, straw or gravel, mulching retains moisture and insulates the soil against extreme temperature, thus facilitating plant growth.

Mulch mattings are materials that have been formed into stable sheets of mulch. Netting typically is made from jute, wood fiber, plastic, paper or cotton and is used to hold mulching or matting to the ground.

Mulching typically is used in areas where the season or climate prevents successful seeding. On steep slopes, mulch matting is used in conjunction with netting or anchoring to hold it in place.

When using mulch, developers should consider the following:

- Netting and matting must be in continuous contact with the soil. If it is not, the material will not hold the soil and erosion will occur under the material.
- Final grading is not necessary before mulching.
- Mulching areas should be inspected regularly to detect loose material.

Advantages. Mulching, matting and netting provide immediate erosion protection to exposed soils. They help the soil to retain moisture, which may minimize the need for watering. No removal is required for naturally deteriorating mulching and matting.

Disadvantages. Mulching, matting and netting may delay germination of some seeds because the cover reduces the soil surface temperature. Netting must be removed and properly disposed of when it is no longer useful.

Temporary seeding. Temporary seeding involves growing short-term vegetation on disturbed site areas that could possibly erode. Fast-growing grasses with root systems help prevent the soil from being carried offsite by stormwater runoff or wind.

Temporary seeding is appropriate for areas that have been disturbed by construction and are likely to be redisturbed—but not for several weeks or more. Such areas may include bare areas, soil stockpiles, dikes, dams, sides of sediment basins and temporary roadbanks. Temporary seeding is impractical in arid and semi-arid regions where climate prevents fast plant growth.

When using temporary seeding, developers should consider the following:

- Proper seed bed preparation and the use of high-quality seed are needed to grow plants effectively.
- Compacted soil may need to be loosened prior to temporary seedings.
- Soil may have to be tilled before the seed is applied.
- Though topsoiling is not necessary for temporary seeding, it may improve the chances of successfully establishing temporary vegetation.
- Use of fertilizer and seeding mixtures will depend on the location of the site, soil types, slopes and season.
- Seeding areas should be covered with mulch to provide weather protection.
- Frequent inspections should be conducted to ensure that conditions for growth are good.
- Seeded areas should be kept adequately moist. If irrigation is required, avoid overwatering, which may cause erosion.

Advantages. Temporary seeding is inexpensive and easy to do. When conditions are optimal, plant cover is established quickly. Temporary seeding can stabilize soils well and can provide sedimentation controls for other site areas. It also may help reduce maintenance costs on other erosion controls, such as sediment basins.

Disadvantages. Temporary seeding is heavily dependent on season and rainfall rate. It may require extensive fertilizing, depending on the soils, which may compromise local water quality standards. Once seeded, temporary seeding requires protection from heavy use, and may require irrigation and maintenance.

Permanent seeding and planting. Permanent seeding and planting of grass and trees stabilizes soil particles. Vegetation helps to slow the velocity of stormwater runoff by helping the soil to absorb water.

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Permanent seeding and planting is appropriate for any graded or cleared area such as filter strips, buffer zones, vegetated swales, steep slopes and stream banks. This practice is particularly effective in areas where soil is unstable. In northern areas during the fall and winter, the seeded area should be covered with mulch. Other erosion control practices such as dikes, basins and surface runoff control measures should be installed prior to planting.

When seeding and planting permanent vegetation, developers should consider the following:

- It is important to select appropriate vegetation, prepare a good seedbed, properly time planting, and water and fertilize accordingly.
- Topsoils should be used where the soil is dense or impermeable, or where mulching and fertilizers alone cannot improve soil quality. Topsoil layers should be at least 2 inches deep.
- To minimize erosion, site controls should be in place before any topsoil is removed. Any topsoils brought in from another site should be compatible with the subsoils onsite.
- If topsoils are stockpiled onsite, consider using temporary seeding, mulching or silt fencing to prevent or control erosion.

Advantages. Permanent seeding and planting improves aesthetics, provides excellent stabilization of soil, filters sediments, provides wildlife habitat and is relatively inexpensive.

Disadvantages. Permanent seeding and planting may require irrigation to establish vegetation, and its success may depend on climate and weather, at least initially.

Sodding. Sodding, which often is installed in a staggered pattern, stabilizes an area by establishing permanent vegetation. It controls sedimentation and provides areas where stormwater can infiltrate the ground.

Sodding is appropriate in any graded or cleared area where permanent, long-lived vegetation is needed immediately. Sodding is particularly useful in buffer zones, stream banks, dikes, swales, slopes, outlets, level spreaders and filter strips.

When installing sod, developers should consider the following:

- The soil surface should be fine-graded before laying down the sod.
- Topsoil may be needed in areas where the soil texture is inadequate.
- Sod can be applied in alternating strips or other patterns.
- Sod should not be planted during very hot or wet weather.
- If placed on steep slopes, sod should be laid in a staggered position or be pegged. Chicken wire, jute or other netting can be placed over the sod to protect against lifting.
- The sod should be inspected regularly after it is first installed until it is established as permanent cover.

Advantages. Sodding can provide immediate stabilization and erosion control. It produces fewer weeds than seeded vegetation and can be placed at any time of the year as long as the soil is appropriately moist but not frozen.

Disadvantages. Sod may be more expensive than seeding. It may require continued irrigation if the sod is installed during dry seasons or on sandy soil.

Chemical stabilization. Chemical stabilization practices, such as chemical mulch, soil binder or soil palliative, provide temporary erosion control. Materials composed of vinyl, asphalt or rubber are sprayed onto the soil surface to hold it in place and protect against erosion from stormwater runoff and wind.

Chemical stabilization is used as an alternative to temporary seeding when season or climate does not allow for vegetation growth. It can provide immediate, effective and inexpensive erosion control.

Application rates and procedures recommended by the chemical stabilizer manufacturer should be followed closely to prevent the product from forming ponds or creating areas where moisture cannot penetrate.

Advantages. Chemical stabilizers are applied easily, are effective in areas where vegetation will not grow and provide immediate protection.

Disadvantages. Chemical stabilizers can create impervious surfaces, which may in turn increase the amount and velocity of stormwater runoff. If used incorrectly, they may harm water quality. They usually are more expensive than vegetative cover.

Interceptor Dikes and Swales. Interceptor dikes (ridges of compacted soil) and swales (excavated depressions) are used to keep upslope runoff from crossing areas where there is a high risk of erosion. This system reduces the amount and speed of flow and then guides it to a stabilized outfall or sediment trapping area. Interceptor dikes can be either temporary or permanent stormwater control structures.

Interceptor dikes or swales are generally built around the perimeter of a construction site before any major soil disturbing activity takes place. When constructed along the upslope perimeter of a disturbed or high-risk area, interceptor dikes or swales prevent runoff from uphill areas from crossing the unprotected slope.

For short slopes, a dike or swale at the top of the slope reduces the amount of runoff reaching the disturbed area. For longer slopes, several dikes or swales are placed across the slope at intervals.

Interceptor dikes and swales can be permanent controls. However, permanent controls should be: designed to handle runoff after construction is complete; permanently stabilized; and inspected and maintained on a regular basis.

Advantages. Interceptor dikes and swales are simple and effective for channeling runoff away from areas subject to erosion. They can handle flows from large drainage areas and are inexpensive because they use materials and equipment normally found onsite.

Disadvantages. If constructed improperly, interceptor dikes and swales can cause erosion and sediment transport because flows are concentrated. They may cause problems to vegetation growth if water flow is too fast, and they require additional maintenance, inspections and repairs.

Pipe Slope Drains. Made of flexible or rigid pipe, these drains carry concentrated runoff from the top to the bottom of a slope that has already been damaged by erosion or is at high risk of erosion. They also are used to drain saturated slopes that have the potential for soil slides.

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Pipe slope drains are used whenever it is necessary to convey water down a slope without causing erosion. They are especially effective before a slope has been stabilized or before permanent drainage structures are ready for use.

Temporary pipe slope drains, usually flexible tubing or conduit, may be installed prior to the construction of permanent drainage structures. Permanent slope drains may be placed on or beneath the ground surface; pipes, sectional downdrains, paved chutes, or clay tiles may be used. Paved chutes may be covered with a surface of concrete or other impenetrable material. Subsurface drains can be constructed of concrete, PVC, clay, tile, corrugated metal, or other permanent material.

The drain design should be able to handle the volume of flow. The maximum recommended drainage area for pipe slope drains is 10 acres. The inlets and outlets of a pipe slope drain should be stabilized. This means that a flared end section should be used at the entrance of the pipe. The soil around the pipe entrance should be fully compacted.

Advantages. Pipe slope drains can reduce or eliminate erosion by transporting runoff down steep slopes or by draining saturated soils. They also are easy to install and require little maintenance.

Disadvantages. Pipe slope drains require that the area disturbed by the installation of the drain should be stabilized or it too will be subject to erosion. It also may clog during a large storm.

Subsurface Drains. A subsurface drain is a perforated pipe of conduit placed beneath the surface of the ground at a designed depth and grade. It is used to drain an area by lowering the water table. A high water table can saturate soils and prevent the growth of certain types of vegetation.

There are two types of subsurface drains: relief drains and interceptor drains. Relief drains are used to dewater an area where the water table is high. They may be placed in a gridiron, herringbone or random pattern. Interceptor drains are used to remove water where sloping soils are excessively wet and subject to slippage. They are usually placed as single pipes instead of in patterns.

The drain design should be adequate to handle the volume of flow. Areas disturbed by the installation of a drain should be stabilized or they, too, will be subject to erosion.

Advantages. Subsurface drains provide an effective method to stabilize wet sloping soils and lower the water table.

Disadvantages. Subsurface drains may be pierced and clogged by tree roots, cost more than surface drains (due to the expenses of excavation for installation) and should not be installed under heavy vehicle crossings.

Filter Fence. A silt fence, also called a "filter fence," is a temporary measure for sedimentation control. It usually consists of posts with filter fabric stretched across the posts and sometimes with a wire support fence. The lower edge of the fence is vertically trenched and covered by backfill.

A silt fence is used in small drainage areas to detain sediment. These fences are most effective where there is overland flow (runoff that flows over the surface of the ground as a thin, even layer) or in minor swales or drainageways to prevent sediment from entering receiving waters.

A silt fence is only appropriate for drainage areas of 1 acre or less with velocities of 0.5 cubic feet per second or less. The fence can be used at the outer boundary of the work area, but it does not have to surround the work area completely.

Advantages. A filter fence removes sediments and prevents downstream damage from sediment deposits. It reduces the speed of runoff flow, is inexpensive and requires little clearing and grubbing to install.

Disadvantages. A filter fence may result in failure from improper choice of pore size in the filter fabric or improper installation. This method is only appropriate for small drainage areas with overland flow and requires frequent inspection and maintenance.

Straw Bale Barrier. Straw bales can be used as a temporary sediment barrier to prevent sediment from leaving the site by trapping the sediment in the barrier while allowing the runoff to pass through. Bales are placed end to end in a shallow excavated trench (with no gaps in between) and staked into place. If properly installed, they can detain sediment and reduce flow velocity from small drainage areas. It also can be used to decrease the velocity of sheetflow or channel flows of low-to-moderate levels.

The success of a straw bale barrier depends on proper installation. The bales must be firmly staked into the entrenchment and the entrenchment must be properly backfilled. To function effectively, the bales must be placed end to end and there can be no gaps between the bales.

Straw bale barriers are useful for approximately 3 months. They must be inspected and repaired immediately after each rainfall or daily if there is prolonged rainfall. Damaged straw bales require immediate replacement.

Advantages. Straw bale barriers can prevent downstream damage from sediment deposits if properly installed, used and maintained. They also are an inexpensive was to reduce or prevent erosion.

Disadvantages. Straw bale barriers may not be used in streams or large swales. They pose a risk of washouts if the barrier is installed improperly or a storm is severe. Straw bales have a short life span and a high inspection and maintenance requirement. They are appropriate only for small drainage areas and can even contribute to sediment problems if they are misused.

Brush Barrier. A brush barrier is a temporary sediment barrier constructed from materials resulting from onsite clearing and grubbing. Brush barriers are used to trap and retain small amounts of sediment by intercepting the flow from small areas of soil disturbance. Filter fabric is sometimes used as an anchor over the barrier to increase its filtering efficiency.

A brush barrier should only be used to trap sediment from runoff from a small drainage area. The slope which the brush barrier is placed across should be very gentle. Do not place a brush barrier in a swale or any other channel.

Over time, natural vegetation will establish itself within the barrier, and the barrier itself will decompose. You will not have to maintain the brush barrier unless there is a very large amount of sediment being deposited. If used, the filter fabric should be checked for tears and the damaged sections promptly replaced.

Advantages. Brush barriers can help prevent downstream damage from sediment deposits. They can be constructed of onsite materials, which usually are inexpensive, and require little maintenance, unless there are very heavy sediment deposits.

Disadvantages. Brush barriers do not replace a sediment trap or basin. They are appropriate only for small drainage areas and have very limited sediment retention.

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Gravel or Stone Filter Berm. A gravel or stone filter berm is a temporary ridge constructed of loose gravel, stone or crushed rock. It slows and filters flow, diverting it from an exposed traffic area. Diversions constructed of compacted soil may be used where there will be little or no construction traffic within the right-of-way. They also are used for directing runoff from the right-of-way to a stabilized outlet.

This method is appropriate where roads and other rights-of-way under construction should accommodate vehicular traffic. Berms are meant for use in areas with shallow slopes. They also may be used at traffic areas within the construction site.

Berm material should be well graded gravel or crushed rock. The spacing of the berms will depend on the steepness of the slope; berms should be placed closer together as the slope increases. The diversion should be inspected daily, after each rainfall, or if breached by construction or other vehicles.

Advantages. A gravel or stone filter berm is a very efficient method of sediment control.

Disadvantages. These berms are more expensive than methods that use onsite materials. They have limited life spans and can be difficult to maintain because of clogging from mud and soil on vehicle tires.

Storm Drain Inlet Protection. A storm drain inlet protection is a filtering measure placed around any inlet or drain to prevent sediment from entering inlet structures. Additionally, it serves to prevent the buildup of silt in inlets, storm drainage systems and receiving channels.

This type of protection is appropriate for small drainage areas and where permanent storm drain structures are being constructed onsite. Inlet protection may be composed of gravel and stone with a wire mesh filter, block and gravel, filter fabric or sod.

The type of material used will depend on site conditions and the size of the drainage area. Filter fabric is used for inlet protection when stormwater flows are relatively small with low velocities. Block and gravel filters can be used where velocities are higher. Gravel and mesh filters can be used where flows are higher and subject to disturbance by site traffic. Sod inlet filters are generally used where sediments in the stormwater runoff are low.

Storm drain inlet protection is not meant for use in drainage areas exceeding 1 acre or for large concentrated stormwater flows. Installation of this measure should take place before any soil disturbance in the drainage area.

Inlet protection should be used in combination with other measures, such as small impoundments or sediment traps, to provide more effective sediment removal. Inlet protection structures should be inspected regularly, especially after a rainstorm. Storm drain inlet protection structures should be removed only after the disturbed areas are completely stabilized.

Advantages. Storm drain inlet protection prevents clogging of existing storm drainage systems and the siltation of receiving waters. It also reduces the amount of sediment leaving the site.

Disadvantages. This mechanism is practical only for low sediment, low volume flows. It may be difficult to remove collected sediment from the filtration device, and it may cause erosion elsewhere if clogging occurs.

Sediment Traps. A sediment trap is formed by excavating a pond or by placing an earthen embankment across a low area or drainage swale. An outlet or spillway is constructed using large stones or aggregate to slow the release of runoff. The trap retains the runoff long enough to allow most of the silt to settle out. A temporary sediment trap may be used in conjunction with other temporary measures, such as gravel construction entrances, vehicle wash areas, slope drains, diversion dikes and swales, or diversion channels.

Sediment traps are suitable for small drainage areas, usually no more than 10 acres, that have no unusual drainage features. The volume of storage required depends upon the amount and intensity of expected rainfall and on estimated quantities of sediment in the stormwater runoff. Check your permit to see if it specifies a minimum storage volume for sediment traps.

A sediment trap is effective for approximately 18 months. During this period, the trap should be readily accessible for periodic maintenance and sediment removal.

Traps should be inspected after each rainfall and cleaned when no more than half the design volume has been filled with collected sediment. The trap should remain in operation and be properly maintained until the site area is permanently stabilized by vegetation and/or when permanent structures are in place.

Advantages. Sediment traps are inexpensive and simple to install. They can simplify the design process by trapping sediment at specific spots onsite. They protect downstream areas from clogging or damage due to sediment deposits.

Disadvantages. Sediment traps have short life spans and are suitable only for limited areas. They are effective only if properly maintained, and will not remove very fine silts or clays.

Temporary Sediment Basin. A temporary sediment basin is a settling pond with a controlled stormwater release structure used to collect and store sediment produced by construction activities. A sediment basin can be constructed by excavation or by placing an earthen embankment across a low area or drainage swale. The basin detains sediment-laden runoff from larger drainage areas long enough to allow most of the sediment to settle out.

The pond has a gravel outlet or spillway to slow the release of runoff and provide some sediment filtration. By removing sediment, the basin helps prevent clogging of offsite conveyance systems and sediment-loading of receiving waterways.

A temporary sediment basin should be installed before clearing and grading is undertaken. It should not be built on an embankment in an active stream. The creation of a dam in such a site may result in the destruction of aquatic habitats or flooding. A temporary sediment basin should be located only where there is sufficient space and appropriate topography.

A temporary sediment basin used in combination with other control measures, such as seeding or mulching, is especially effective for removing sediments. Basins are usually designed for disturbed areas larger than 5 acres. The useful life of a temporary sediment basin is about 12 to 18 months.

Sediment trapping efficiency is improved by providing the maximum surface area possible. Because finer silts may not settle out completely, additional erosion control measures should be used to minimize release of fine silt. Runoff should enter the basin as far from the outlet as possible to provide maximum retention time.

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Basins should be inspected after each rainfall and be cleaned out when about half the volume has been filled with sediment. The sediment basin should remain in operation and be properly maintained until the site area is permanently stabilized by vegetation and/or when permanent structures are in place. The embankment forming the sedimentation pool should be well compacted and stabilized with vegetation. If the pond is located near a residential area, it is recommended for safety reasons that a sign be posted and that the area be secured by a fence.

Advantages. Temporary sediment basins protect downstream areas from clogging or damage due to sediment deposits generated during construction activities. Basins also can capture smaller sediment particles than can sediment traps because of the longer detention time.

Disadvantages. These basins are a more expensive method of sediment removal than several other methods. They require regular maintenance and cleaning, and are generally suitable only for small areas. They will not remove very fine silts and clays unless used in conjunction with other measures. They require careful adherence to safety practices since ponds may be dangerous areas for children.

Outlet Protection. Outlet protection reduces the speed of concentrated stormwater flows and therefore it reduces erosion or scouring at stormwater outlets and paved channel sections. In addition, outlet protection lowers the potential for downstream erosion. This type of protection can be achieved through a variety of techniques, including stone or riprap, concrete aprons, paved sections and settling basins installed below the storm drain outlet.

Outlet protection should be installed at all pipe, interceptor dike, swale or channel section outlets where the velocity of flow may cause erosion at the pipe outlet and in the receiving channel. Outlet protection should also be used at outlets where the velocity of flow at the design capacity may result in plunge pools (small permanent pools located at the inlet to or the outfall from BMPs). It should be installed early during construction activities, but may be added at any time, as necessary.

Advantages. Outlet protection is inexpensive and may be installed easily on most sites to remove sediment as well as reduce runoff speed. It requires less maintenance than many other measures, and can be used at most outlets with high speed runoff.

Disadvantages. Outlet protection may require frequent maintenance for rock outlets with high velocity flows. Removing sediment may be difficult without removing and replacing the outlet protection structure itself.

Check Dams. A check dam is a small, temporary or permanent dam constructed across a drainage ditch, swale or channel to lower the speed of concentrated flows. Reduced runoff speed reduces erosion and gullying in the channel and allows sediments and other pollutants to settle out.

A check dam should be installed in steeply sloped swales, or in swales where adequate vegetation cannot be established. They may be built from logs, stone or pea gravel-filled sandbags.

Check dams should be used only in small open channels that drain 10 acres or less, and they should not be placed in streams, unless approved by appropriate state authorities. The center section of the check dam should be lower than the edges. Dams should be spaced so that the top of the upstream dam is at the same elevation as the top of the downstream dam.

After significant rainfall, check dams should be inspected for sediment and debris accumulation. Sediment should be removed when it reaches one half the original dam height. Check for erosion at edges and repair promptly as required. After construction is complete, all stone and riprap should

be removed if vegetative erosion controls will be used as a permanent erosion control measure. It will be important to know the expected erosion rates and runoff flow rate for the swale in which this measure is to be installed. Contact the state or local stormwater program agency or a licensed engineer for assistance in designing this measure.

Advantages. Check dams are inexpensive and easy to install. They may be used permanently if designed properly. They allow a high proportion of sediment in the runoff to settle out. They reduce water velocity and provide aeration of the water. They may be used where it is not possible to divert the flow or otherwise stabilize the channel.

Disadvantages. Check dams are useful only for drainage areas of 10 acres or less. They may kill grass linings in channels if the water level remains high after it rains or if there is significant sedimentation.

Surface Roughening. Surface roughening is a temporary erosion control practice where the soil surface is roughened by the creation of horizontal grooves, depressions or steps that run parallel to the contour of the land. Slopes that are not fine-graded and that are left in a roughened condition can also control erosion. Surface roughening also helps establish vegetative cover by reducing runoff velocity and giving seed an opportunity to take hold and grow.

Surface roughening is appropriate for all slopes. To slow erosion, roughening should be done as soon as possible after vegetation has been removed from the slope. For steeper slopes and slopes that will be left roughened for longer periods of time, a combination of surface roughening and vegetation is appropriate.

Different methods can be used to roughen the soil surface on slopes. They include stair-step grading, grooving (using disks, spring harrows or teeth on a front-end loader) and tracking (driving a crawler tractor up and down a slope, leaving cleat imprints parallel to the slope contour). The selection of an appropriate method depends on the grade of the slope, mowing requirements after vegetative cover is established, whether the slope was formed by cutting or filling, and the type of equipment available.

Cut slopes with a gradient steeper than 3:1 but less than 2:1 should be stair-step graded or groove cut. Stair-step grading works well with soils containing large amounts of small rock. Each step catches material discarded from above and provides a level site where vegetation can grow.

Grooving can be done by any implement that can safely be operated on the slope, including those described above. Grooves should not be less than 3 inches deep nor more than 15 inches apart. Fill slopes with a gradient steeper than 3:1 but less than 2:1 should be compacted every 9 inches of depth. The face of the slope should consist of loose, uncompacted fill 4 to 6 inches deep that can be left rough or can be grooved as described above, if necessary.

Any cut or filled slope that will be mowed should have a gradient less than 3:1. Such a slope can be roughened with shallow grooves parallel to the slope contour by using normal tilling. Grooves should be close together (less than 10 inches) and not less than 1 inch deep. Any gradient with a slope greater than 2:1 should be stair-stepped.

Limit roughening with tracked machinery to sandy soils that do not compact easily and avoid tracking on clay soils. Surface roughened areas should be seeded as quickly as possible. Also, regular inspections should be made of all surface roughened areas, especially after storms. If rills (small watercourses that have steep sides and are usually only a few inches deep) appear, they should be filled, graded again and reseeded immediately. Proper dust control procedures should be followed when surface roughening.

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Advantages. Surface roughening is inexpensive and simple for short-term erosion control. It provides a degree of instant erosion protection for bare soil while vegetative cover is being established.

Disadvantages. Surface roughening is of limited effectiveness in anything more than a gentle rain. It is only temporary; if roughening or vegetative cover is washed away in a heavy storm or the vegetation does not take hold, the surface will have to be re-roughened and new seed laid.

Gradient Terraces. Gradient terraces are earth embankments or ridge-and-channels constructed with suitable spacing and with an appropriate grade. They reduce erosion damage by capturing surface runoff and directing it to a stable outlet at a speed that minimizes erosion.

Gradient terraces are usually limited to use on land that has no vegetation and that has water erosion problems, or where such problems are anticipated. They should not be constructed on slopes with sandy or rocky soils. They will be effective only in conjunction with adequate outlets, such as grassed waterways, vegetated areas or tile outlets. In all cases, the outlet should direct the runoff from the terrace system to a point where the outflow will not cause erosion or other damage. Vegetative cover should be used in the outlet where possible.

The design elevation of the water surface of the terrace should not be lower than the design elevation of the water surface in the outlet at their junction. Terraces should be inspected regularly at least once a year and after major storms. Proper dust control procedures should be followed while constructing these features.

Advantages. Gradient terraces reduce runoff speed and increase the distance of overland runoff flow. They hold moisture better than smooth slopes and minimize sediment loading of surface runoff.

Disadvantages. They may significantly increase cut and fill costs and cause sloughing if excessive waste infiltrates the soil. They are not practical for sandy, steep or shallow soils.

[The next page is Tab 600, Page 201.]

¶653 Sector-specific BMPs Under the Multi-sector General Permit**

EPA believes that the most effective stormwater management control for limiting the offsite discharge of pollutants in stormwater is a combination of passive and active BMPs. Examples of BMPs range from simple housekeeping, material handling practices and preventive maintenance—called baseline BMPs (see ¶651 for more information)—to more advanced structural controls such as detention and retention ponds and infiltration devices—called advanced site-specific BMPs (see ¶652 for more information). Selecting the most effective BMPs will be based on factors such as facility size, climate, volume and type of discharge generated, and number of outfalls, according to EPA.

This section focuses on BMPs that are suitable to prevent or control the contamination of stormwater discharges at each of the 29 industrial sectors covered under the multi-sector general permit. [*Editor's Note:* This section was adapted from the fact sheet accompanying EPA's final stormwater multi-sector permit (60 FR 50804, Sept. 29, 1995). For easy reference, the letter associated with each sector is the same as is used in the text of the permit, e.g., Sector A for timber products.]

Timber products facilities (Sector A). EPA recommends that timber products facilities use exposure minimization BMPs such as containment diking, collection basins and coverings to control pollutants in stormwater discharges. (See discussion on site-specific BMPs in ¶652 for more information on exposure minimization practices.) In addition, erosion and sediment controls should be implemented to minimize the discharge of sediments from the site. Controls may include: stabilization measures such as seeding, mulching, chemical stabilization, sodding, soil retaining measures; and structural measures such as sediment traps, contouring, sediment basins, check dams and silt fences.

Recommended BMPs for Timber Products Facilities

The BMPs discussed below will provide a sufficient level of control for the types of pollutants found in discharges associated with timber products facilities, according to EPA. The lists are grouped according to areas at a site where pollutants are likely to be released.

Log, Lumber and Other Wood Product Storage Areas

- Divert stormwater around storage areas with ditches, swales and/or berms.
- Locate storage areas on stable, well-drained soil with a 2 to 5 percent slope.
- Line storage areas with crushed rock, gravel or porous pavement to promote infiltration, minimize discharge and provide sediment erosion control.
- Stack materials to minimize surface area exposed to precipitation.
- Practice good housekeeping measures such as frequent removal of debris.
- Collect and treat runoff using containment basins, sedimentation ponds and infiltration basins.
- Use ponds to collect, contain and recycle runoff from log spraying operations.
- Use silt fence and rip rap check dams in drainage ways.

Residue Storage Areas

- Locate storage areas away from drainage pathways and surface waters.
- Avoid contamination of residues with oil, solvents, chemically treated wood, trash, etc.
- Limit storage time of residues to prevent degradation and generation of leachates.
- Divert stormwater around residue storage areas with ditches, swales and/or berms.

** Added, November 1999.

- Stack materials to minimize surface areas exposed to precipitation.
- Spray surfaces to reduce windblown dust and residue particles.
- Place materials on raised pads of compacted earth, clay, shale or stone to collect and drain runoff.
- Cover and/or enclose stored residues to prevent contact with precipitation.
- Limit slopes of storage areas to minimize velocities of runoff which may transport residues.
- Collect and treat runoff using containment basins, sedimentation ponds and infiltration basins.
- Use silt fence and rip rap check dams in drainage ways.

Loading and Unloading and Material Handling Areas

- Cover loading and unloading areas.
- Enclose material handling systems for wood wastes.
- Cover materials entering and leaving areas.
- Provide good housekeeping measures to limit debris and to provide dust control.
- Pave areas to allow for easy collection of spilled materials.

Chemical Storage Areas

- Provide secondary containment around chemical storage areas.
- Provide fluid level indicators.
- Take an inventory of fluids to help identify leaks.
- Locate storage areas away from high traffic areas and surface waters.
- Develop and implement spill prevention, control and countermeasure (SPCC) plans.
- Cover and/or enclose chemical storage areas.
- Provide drip pads to allow for recycling of spills and leaks.

Wood Surface Protection and Preserving Facilities

- Extend drip time in process areas before moving to storage areas.
- Pave and berm areas used to store equipment that has come in contact with treatment chemicals.
- Dedicate equipment used in treatment activities to that purpose only to prevent the spread of treatment chemicals to other areas.
- Locate treatment chemical loading and unloading areas away from high traffic areas where tracking of the chemical may occur.
- Place drip pads under equipment.
- Visually inspect treatment chemical loading and unloading areas during and after activities.
- Cover and/or enclose treatment area.
- Provide containment in treated wood storage areas.
- Cover storage areas to prevent contact of treated wood products with precipitation.
- Elevate stored, treated wood products to prevent contact with runon and runoff.

Paper and allied products manufacturing (Sector B). According to EPA, the most common practices presently being used by the paper and allied products manufacturing industry, and the percentage of facilities implementing them, are as follows: catch basins (22 percent); diversion structures around potential contaminants (44 percent); SPCC plans (64 percent); swales, ditches, trench or graded surfaces (51 percent); and employee training (63 percent). The box below provides an additional list of BMPs that may be appropriate for the industry.

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Recommended BMPs for Paper and Allied Products Manufacturers

The BMPs provided below are grouped according to areas of a site where pollutants are likely to be released.

Outdoor Loading and Unloading Areas

- Confine loading/unloading activities to a designated response and control area.
- Avoid loading/unloading materials in the rain.
- Cover loading/unloading area or conduct activities indoors.
- Develop and implement spill plans.
- Use berms or dikes around area.
- Inspect containers for leaks or damage prior to loading.
- Use catch buckets, drop cloths and other spill prevention measures where liquid materials are loaded/unloaded.
- Pave areas to allow for easy collection of spilled materials.

Raw and/or Waste Material Storage Areas

- Confine storage to designated area.
- Store materials inside or cover storage areas with a roof or tarp.
- Use dikes or berms for storage tanks and drum storage.
- Cover dumpsters used for waste paper and other materials
- Store materials on concrete pads.
- Recycle exposed scrap paper.
- Develop and implement spill plans.
- Pave areas to allow for collection of spilled materials.
- Practice good housekeeping measures (i.e., dust and debris collection) where cyclones are used.

Log, Lumber and Other Wood Product Storage Areas

- Practice good housekeeping measures such as frequent removal of debris.
- Line storage areas with crushed rock, gravel or porous pavement to promote infiltration, minimize discharge and provide sediment and erosion control.
- Use ponds to collect, contain and recycle runoff from log spraying operations.

Chemical and allied products manufacturing (Sector C). EPA recommends that chemical and allied products manufacturing facilities use both structural and nonstructural stormwater controls and management practices. At a minimum, permittees must establish the following good housekeeping practices: schedule regular pickup and disposal of garbage and waste materials; inspect drums, tanks and containers for leaks; keep an inventory of all materials present at the facility; and clean ground surfaces using brooms, shovels, vacuum cleaners or cleaning machines.

Recommended BMPs for Material Handling and Storage Areas at Chemical and Allied Products Manufacturing Facilities

EPA has identified specific structural stormwater management controls that should be considered by all permittees involved in material handling and storage practices.

- In areas where liquid or powdered materials are stored, facilities should consider providing either diking, curbing or berms.

- For all outside storage areas, facilities should prevent or minimize stormwater runoff into the storage area by using curbing, culverting, gutters, sewers or other forms of drainage control.
- For all storage areas, materials should be covered to prevent exposure to weather.
- In areas where liquid or powdered materials are transferred in bulk from trucks or rail cars, facilities should take appropriate measures to minimize contact of materials with precipitation.
- Hose connection points of storage containers should be inside containment areas or drip pans must be used where spills may occur.
- All contained areas should be restrained by valves to prevent the discharge of a spill or leak.
- Valves used to drain containment areas should be manual or open-or-closed design (flapper-type drain valves should not be used).

Asphalt paving and roofing materials manufacturing and lubricant manufacturing (Sector D). EPA recommends two types of BMPs to prevent, reduce or eliminate pollutants in stormwater discharges from asphalt paving and roofing materials manufacturing facilities and lubricant manufacturing facilities: exposure minimization practices (e.g., covering, curbing or diking); and treatment practices that reduce or remove pollutants in stormwater (e.g., oil/water separators, sediment basins or detention ponds). According to the agency, diking, curbing or other types of diversion occur at 57 percent of the facilities. Some form of covering is used as a BMP at 25 percent of the facilities, and detention ponds are in place at 19 percent of the facilities. In addition, 38 percent of the facilities have an SPCC plan in place.

Recommended BMPs for Material Storage, Handling and Processing Activities at Asphalt Paving and Roofing Materials Manufacturing Facilities and Lubricant Manufacturing Facilities

Below are some BMPs that EPA has identified as effective in limiting pollutants in stormwater discharges from asphalt paving and roofing materials manufacturers and lubricant manufacturers engaged in material storage, handling and processing activities.

- Cover material storage and handling areas with an awning, tarp or roof.
- Practice good stockpiling practices such as: storing materials on concrete or asphalt pads; surrounding stockpiles with diversion dikes or curbs; and revegetating areas used for stockpiling to slow down runoff.
- Use curbing, diking or channelization to divert runon around areas where it can come in contact with material stored or spilled on the ground.
- Use secondary containment measures such as dikes or berms around asphalt storage tanks and fuel oil tanks.
- Use dust collection systems and properly dispose of waste materials.
- Remove spilled material and dust from paved portions of the facility by shoveling or sweeping.
- Use catch basins to collect potentially contaminated stormwater.
- Implement spill plans.
- Clean material handling equipment and vehicles to remove accumulated dust and residue.
- Use a detention pond or sedimentation basin to reduce suspended solids.
- Use oil/water separators to reduce the discharge of oil/grease.

Glass, clay, cement, concrete and gypsum product manufacturing (Sector E). There are a number of options for eliminating or minimizing the presence of pollutants in stormwater discharges from glass, clay, cement, concrete and gypsum product manufacturing facilities. Structural measures

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include: vegetative filter strips, grassed swales, detention ponds, retention ponds or recycle ponds. These measures are effective in removing heavy suspended solids that are common to stormwater discharges from these types of facilities. (See discussion on site-specific BMPs in ¶652 for more information on structural measures).

Recommended BMPs for Glass, Clay, Cement, Concrete and Gypsum Product Manufacturers

The table below is organized by the specific industrial activities which may introduce pollutants into stormwater discharged from glass, clay, concrete and gypsum product manufacturing facilities.

Storing Dry Bulk Materials

- Store materials in an enclosed silo or building.
- Cover material storage piles with a tarp or awning.
- Divert runon around storage areas using curbs, dikes, diversion swales or positive drainage away from the storage piles.
- Install sediment basins, a silt fence, vegetated filter strips or other sediment removal measures downstream/downslope.
- Store only washed sand and gravel outdoors.

Handling Bulk Materials

- Use dust collection systems to collect airborne particles generated as a result of handling operations.
- Remove spilled materials and settled dust from paved portions of the facility by shoveling and sweeping.
- Clean material handling equipment and vehicles to remove accumulated dust and residue.
- Install sediment basins, a silt fence, vegetative filter strips or other sediment removal measures downstream/downslope.

Mixing Operations

- Use dust collection systems to collect airborne particles generated as a result of handling operations.
- Remove spilled materials and settled dust from paved portions of the facility by shoveling and sweeping.
- Clean exposed mixing equipment after mixing operations are complete.
- Install sediment basins, a silt fence, vegetative filter strips or other sediment removal measures downstream/downslope.

Vehicle and Equipment Washing

- Designate vehicle and equipment wash areas that drain to recycle ponds or process wastewater treatment systems.
- Train employees on the proper procedure for washing vehicles and equipment, which includes washing vehicles indoors or in a covered area.
- Clean wash water residue from portions of the site that drain to stormwater discharge points.

Dust Collection

- Maintain dust collection system and properly remove and recycle or dispose of collected dust.

Pouring and Curing Pre-cast Concrete Products

- Pour and cure precast products in a covered area.
- Clean forms before storing outdoors.

Primary Metals (Sector F). Facilities in the primary metals industry are typically involved in one or more of the following seven activities that potentially contribute pollutants to stormwater discharges (primary sources of pollution associated with each of these activities follow in parentheses): (1) raw material storage and handling (metal products stored outside such as foundry returns, scrap metal, turnings, ingots, etc.; outdoor storage and handling of fluxes, coke, coal and casting sands); (2) vehicle maintenance (outdoor storage tanks or drums of gas, diesel, kerosene, lubricants or solvents); (3) waste material storage, handling and disposal (outside storage and/or disposal of waste sand, refractory rubble, slag or dross; fly ash, particulate emissions and baghouse dust; machine waste or obsolete equipment stored outside; material losses from handling equipment such as conveyors, trucks, pallets and hoppers); (4) furnace operations and pollution control equipment (losses during charging of coke ovens or sintering plants; particulate emissions from furnaces and fugitive emissions from poorly maintained or malfunctioning baghouses, scrubbers, etc.); (5) rolling, casting and finishing operations (casting, cooling or shakeout operations exposed to precipitation or wind; losses of particulate matter from machining operations); (6) plant yards (areas of the facility with unstabilized soils subject to erosion); (7) illicit discharges (improper connection of floor, sink or process wastewater drains).

Recommended BMPs for Primary Metals Facilities

Following are potential BMPs that should be used by all permittees involved in the listed activities, which potentially contribute pollutants to stormwater discharges.

Raw Material Storage and Handling

- Store all raw materials indoors or in sealed drums, covered dumpsters, etc.
- Minimize raw materials storage through inventory control.
- Minimize runon from adjacent properties with diversion dikes, berms, curbing, concrete pads, etc.

Vehicle Maintenance

- Store tanks and drums inside whenever possible.
- Establish regular inspection of all tanks and drums for leaks, spills, corrosion and damage.
- Utilize effective inventory control to reduce the volume of chemicals stored onsite.
- Prevent runon and runoff from tank and drum storage areas and provide adequate containment to hold spills and leaks.
- Prepare and train employees to deal with spills and leaks.

Waste Materials Storage, Handling and Disposal

- Collect wastewaters used for granulation of slag.
- Store waste materials indoors, under cover or in sealed containers.
- Establish regular disposal of waste materials to minimize quantities stored and handled onsite.
- Trap particulates in slag storage areas with filter fabric fences, gravel outlet protection, sediment traps, vegetated swales, buffer strips of vegetation, catch-basin filters or retention ponds.
- Move piles under cover or tarps whenever possible.
- Use booms, oil/water separators or sand filters to drain areas where oil is potentially present.

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Furnace Operations and Pollution Control Equipment

- Cover any exposed areas related to furnace charging or materials handling activities.
- Route runoff from particulate generating operations to sediment traps, vegetated swales, buffer strips of vegetation, catch-basins or retention ponds.
- Establish a schedule for inspection and maintenance of all pollution control equipment and check for leaks, spills or improper operation of equipment.

Rolling, Casting and Finishing Operations

- Perform all pouring, cooling and shakeout operations indoors in areas with roof vents to trap fugitive particulate emissions.
- Recycle as much casting waste as possible.
- Store all intermediate and finished products inside or under cover.
- Consider using booms, oil/water separators or sand filters for draining areas where oil is potentially present.
- Clean products of residual materials before storing outside.
- Stabilize storage areas and establish sweeping schedule.

Plant Yards

- Stabilize all high traffic areas including all vehicle entrances, exits, loading, unloading and vehicle storage areas.
- Conduct periodic sweeping of all traffic areas.
- Trap sediment originating in unstablilized areas.
- Provide employee training on proper installation and maintenance of sediment and erosion controls.

Illicit Discharges

- Inspect and test all floor, sink and process wastewater drains for proper connection to sanitary sewer and remove any improper connections to storm sewer or waters of the United States.

Metal Mining and Coal Mining Facilities (Sectors G and H). Although mining facilities often are in remote locations and may operate only seasonally or intermittently, they need year-round controls because significant materials will remain exposed to precipitation when reclamation is not completed. Effective stormwater management controls for limiting the offsite discharge of stormwater pollutants from ore mining and dressing facilities and coal mines are source reduction BMPs such as dikes, vegetative covers and berms, which generally are low in cost and easy to implement. Although in some instances, more resource intensive treatment BMPs, including sedimentation ponds and infiltration trenches may be needed, depending on the type of discharge, types and concentrations of contaminants and volume of flow.

The following categories describe BMP options for reducing pollutants in stormwater discharges from ore mining and dressing facilities and coal mines: discharge diversions; conveyance systems; runoff dispersion; sediment control and collection; vegetation; containment and treatment. Because mining is largely a land disturbing activity, BMPs that minimize erosion and sedimentation will be most effective if installed at the beginning of operations and maintained throughout active operations and reclamation of the site.

Recommended BMPs for Metal Mining and Coal Mining Facilities

The information below summarizes BMP options for the following land-disturbed areas at mining facilities: haul roads and access roads; pits and quarries or underground mines; overburden, waste rock and raw material piles; and reclamation.

Haul Roads and Access Roads

- Discharge diversions—dikes, curbs and berms.
- Conveyance systems—channels, gutters, culverts, rolling dips, road sloping and roadway water deflectors.
- Runoff dispersion—check dams, rock outlet protection, level spreaders, stream alterations and drop structures.
- Sediment control and collection—gabions, riprap, native rock retaining walls, straw bale barriers, sediment traps, catch basins and vegetated buffer strips.
- Vegetation—seedlings and willow cutting establishment.

Pits and Quarries or Underground Mines

- Discharge diversions—dikes, curbs and berms.
- Conveyance systems—channels and gutters.
- Runoff dispersion—serrated slopes, blenched slopes, contouring and stream alteration.
- Sediment control and collection—sediment settling ponds, straw bale barrier and siltation berms.
- Vegetation—seedlings.
- Containment—plugging and grouting.
- Treatment—chemical and physical treatment.

Overburden, Waste Rock and Raw Materials Piles

- Discharge diversions—dikes, curbs and berms.
- Conveyance systems—channels and gutters.
- Runoff dispersion—serrated slopes, blenched slopes, contouring and stream alteration.
- Sediment control and collection—plastic matting, plastic netting, erosion control blankets, compaction, sediment/setting ponds, silt fences and siltation berms.
- Vegetation—topsoiling, seedbed preparation and seeding.
- Containment—capping.
- Treatment—chemical and physical treatment and artificial wetlands

Reclamation

- Discharge diversions—dikes, curbs and berms.
- Conveyance systems—channels and gutters.
- Runoff dispersion—check dams, rock outlet protection, level spreaders, serrated slopes, benched slopes, contouring, drain fields, stream alteration and drop structures.
- Sediment control and collection—gabions, riprap and native rock retaining walls, biotechnical stabilization, straw bale barriers, sediment trap/catch basins, vegetative buffer strips, silt fences, siltation berms and brush sediment barriers.
- Vegetation—topsoiling, seedbed preparation, seeding and willow cutting establishment.
- Containment—capping, plugging and grouting.
- Treatment—chemical and physical treatment and wetlands.

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Oil and Gas Extraction Facilities (Sector I). Two types of BMPs may be implemented to prevent, reduce or eliminate pollutants in stormwater discharges: minimization exposure BMPs (e.g., covering, curbing or diking) and treatment type BMPs, which reduce or remove pollutants in stormwater discharges (e.g., oil/water separators, sediment basins or detention ponds).

EPA believes that exposure minimization is an effective practice for reducing pollutants in stormwater discharges from oil and gas facilities because it lessens the potential for stormwater to come in contact with pollutants. However, in some instances, more resource intensive treatment type BMPs are appropriate to reduce pollutants such as suspended solids and oil and grease in stormwater discharges associated with oil and gas facilities.

The pollutants of concern and the BMPs used at an oil and gas facility depend on what disposal techniques are used. Waste management and disposal practices may vary significantly and include: landfarming and spreading (spreading waste on land surfaces to stimulate biological degradation); backfilling (storing wastes in a pit covered with dirt or other materials); evaporation; discharging wastes to waters of the United States; and offsite disposal.

Recommended BMPs for Oil and Gas Facilities

Below are some BMPs that may be effective in limiting the amount of pollutants in stormwater discharges from oil and gas facilities, according to EPA.

- Use diking and other forms of containment and diversion around storage tanks, drums of oil, acid, production chemicals and liquids.
- Use diking and other forms of containment and diversion around material handling and processing areas.
- Use porous pads under drums and tank storage areas.
- Use covers and/or lining for waste reserve and sludge pits to avoid overflows and leaks.
- Use drip pans, catch basins or liners during handling of materials such as tank bottoms.
- Treat produced water instead of discharging it.
- Limit the amount of land disturbed during construction of access roads and facilities.
- Employ spill plans for pipelines, tanks and drums.
- Recycle oil wastes, drilling fluids and other materials onsite, or dispose of them properly.
- Take wastes offsite to be disposed of instead of burying them.
- Use oil water separators.

Mineral Mining and Dressing Facilities (Sector J). EPA believes the most effective stormwater management controls for limiting the offsite discharge of stormwater pollutants from mineral mining and processing facilities are source reduction BMPs such as diversion dikes, vegetative covers and berms. In some instances, more resource intensive treatment BMPs may be needed, depending on the type of discharge, types and concentrations of contaminants and volume of flow.

Selecting the most effective BMPs will be based on site-specific considerations such as: facility size, climate, geographic location, hydrogeology and the environmental setting of each facility and the volume and type of discharge generated

The management practices listed for Sectors G and H above are well suited mechanisms to prevent or control the contamination of stormwater discharges associated with mineral mining activities.

Hazardous Waste Treatment, Storage or Disposal Facilities (Sector K). Facilities covered under Sector K must be in compliance with the pollution control measures required by other EPA programs for operating hazardous waste treatment, storage or disposal facilities (TSDFs) (e.g., the Resource Conservation and Recovery Act (RCRA) program, 40 CFR Part 264, sets standards for TSDFs). Because of the requirements previously imposed, EPA believes that stormwater BMPs already are employed at most TSDFs.

The management practices listed below are appropriate mechanisms to prevent or control the contamination of stormwater discharges associated with hazardous waste TSDFs that are not already addressed by RCRA.

Recommended BMPs for Loading and Unloading at Hazardous Waste Treatment, Storage or Disposal Facilities

Because of the potential for spills of hazardous materials during loading and unloading operations, the list below identifies BMPs associated with these activities at hazardous waste TSDFs.

- Confine loading and unloading activities to a designated area.
- Consider performing loading and unloading activities indoors or in a covered area.
- Consider covering loading and unloading areas with permanent covers (e.g., roofs) or temporary covers (e.g., tarps).
- Close storm drains during loading and unloading activities in surrounding areas.
- Avoid loading and unloading materials in the rain.
- Inspect the loading and unloading areas to detect problems before they occur.
- Inspect all containers prior to loading and unloading of any raw or spent materials.
- Consider berming, curbing or diking loading and unloading areas.
- Use dry clean-up methods instead of washing the areas down.
- Train employees in proper loading and unloading techniques.

Landfills and Land Application Sites (Sector L). Stormwater discharges from landfill sites often contain high total suspended solid (TSS) levels because of the extensive land disturbance activities associated with landfill operations. Specific sources of TSS loadings from landfill operations include erosion from: exposed soil from excavating cells or trenches; exposed stockpiles of cover materials; inactive cells with final cover, but not finally stablilized; daily or intermediate cover placed on cells or trenches; and erosion from haul roads.

Recommended BMPs Used for Erosion Control at Landfills

EPA has recommended the following BMPs to control TSS levels in stormwater runoff.

- Stabilize soils with temporary seedling, mulching, and geotextiles.
- Leave vegetative filter strips along streams.
- Implement structural controls such as dikes, swales, silt fences, filter berms, sediment traps and ponds, outlet protection, pipe slope drains, and check dams and terraces to divert stormwater flows away from areas susceptible to erosion and to prevent sediments from entering water bodies.
- Frequently inspect all stabilization and structural erosion control measures and perform all necessary maintenance and repairs.
- Stabilize haul roads and entrances to landfill with gravel or stone.
- Construct vegetated swales along roads.
- Clean wheels and bodies of trucks or other equipment as necessary to minimize sediment tracking.

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Other potential sources of pollutants in stormwater discharges from landfill operations include: application of fertilizers, pesticides and herbicides; exposure of chemical material storage areas to precipitation; exposure of waste at open face; waste tracking onsite; and uncontrolled leachate. The specific pollutants associated with each of these sources are highly variable, depending on individual site operations and waste types received.

Recommended BMPs To Control Pollutants at Landfills and Land Application Sites.

Below is a list of BMPs that should be used to minimize pollutant loadings when potential sources of pollutants are present.

Application of Fertilizers, Pesticides and Herbicides

- Observe all applicable federal, state and local requirements when using these products.
- Strictly follow recommended application rates and methods.
- Have materials such as absorbent pads easily accessible to clean up spills.

Exposure of Waste at Open Face

- Minimize the area of exposed open face as much as practical.
- Divert flows around open face using structural measures.
- Frequently inspect erosion and sedimentation controls.

Waste Tracking Onsite

- Clean wheels and exterior of trucks or other equipment to minimize waste tracking.

Uncontrolled Leachate

- Frequently inspect leachate collection system and landfill or leachate leaks.
- Maintain landfill cover and vegetation.
- Maintain leachate collection systems.

Automobile Salvage Yards (Sector M). EPA believes the most effective BMPs for reducing pollutants in stormwater discharges from auto salvage yards is through exposure minimization practices. The agency has compiled a list of management practices that are sufficiently flexible to address different sources of pollutants at different sites.

Recommended BMPs for Automobile Salvage Yards

The BMPs identified below are grouped according to activities that may occur at auto salvage yards.

Dismantling and Vehicle Maintenance

- Drain all fluids from vehicles upon arrival at the site. Segregate the fluids and properly store or dispose of them.
- Maintain an organized inventory of materials used in the maintenance shop.
- Keep waste streams separate. A nonhazardous substance that is contaminated with a hazardous substance is considered a hazardous substance.
- Recycle antifreeze, gasoline, used oil, mineral spirits and solvents.
- Dispose of greasy rags, oil filters, air filters, batteries, spent coolants and degreasers properly.
- Label and track the recycling of waste materials.

- Drain oil filters before disposal or recycling.
- Store cracked batteries in a nonleaking secondary container.
- Do not pour liquid waste down floor drains, sinks or outdoor storm drains.
- Plug floor drains that are connected to storm or sanitary sewers. If necessary, install a sump that is pumped regularly.

Outdoor Vehicle, Equipment and Parts Storage

- Use drip pans under all vehicles and equipment waiting for or undergoing maintenance.
- Store batteries on impervious surfaces and curb, dike or berm the area.
- Confine storage parts, equipment and vehicles to designated areas.
- Cover all storage areas with a permanent or temporary cover.
- Install curbing, berms or dikes around storage areas.

Vehicle, Equipment and Parts Washing Areas

- Avoid washing parts or equipment outside.
- Use phosphate-free biodegradable detergents.
- Consider using detergent-based or water-based cleaning systems in place of organic solvent degreasers.
- Ensure that washwaters drain well.
- Inspect cleaning area regularly.
- Install curbing, berms or dikes around cleaning areas.

Liquid Storage in Above Ground Containers

- Install safeguards against accidental releases at the storage area.
- Inspect storage tanks to detect potential leaks and perform preventive maintenance.
- Inspect piping systems for failures or leaks.
- Train employees in proper filling and transfer procedures.

Improper Connection with Storm Sewers

- Plug all floor drains if not certain whether the connection is to storm sewer or sanitary sewer system or install a sump that is pumped regularly.
- Perform dye testing to determine if interconnections exist between sanitary water systems and storm sewer systems.
- Update facility schematics to accurately reflect all plumbing connections.
- Install a safeguard against vehicle washwaters and parts cleaning waters entering the storm sewer unless permitted.
- Maintain and inspect the integrity of all underground storage tanks; replace when necessary.
- Train employees in proper disposal practices for all materials.

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†*Scrap Recycling and Waste Recycling Facilities (Sector N).* EPA has developed BMPs for three classes of recycling facilities: scrap recycling and waste recycling facilities (nonliquid recyclable wastes), liquid waste recycling facilities and recycling facilities.

Scrap recycling and waste recycling focuses on ferrous and nonferrous metals, plastics and cardboard. EPA has developed BMPs and source control measures to minimize or eliminate the diversity of pollutants associated with scrap processing operations.

† Indicates new or revised material.

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Recommended BMPs for Scrap and Waste Recycling Facilities

The table below is organized by the specific activities that may introduce pollutants into stormwater discharged from scrap and waste recycling facilities.

Inbound Recyclable and Waste Material Control

- Establish program to encourage suppliers of scrap, waste and other salvageable materials to drain residual fluids prior to arrival at the facility.
- Establish acceptance program for handling, storage and disposal of lead-acid batteries.
- Establish procedures for rejecting or handling, storing and disposal of hazardous wastes and other nonhazardous residual fluids.
- Establish procedures to properly handle industrial turnings and cuttings and to prohibit cutting oils and metallic fines from coming in contact with runoff.
- Identify inspector training requirements.

Outside Scrap Metal Storage (Liquids):

- Conduct inspections for fluids (e.g., oils, transmission fluids, antifreeze, brake fluid and fuels). Establish handling, storage and disposal procedures for these materials.
- Drain and collect liquids in a designated area. Provide covered storage or impervious areas with curbing/berms or other appropriate containment.
- Establish spill prevention procedures.
- Provide adequate supply of materials for dry clean up of spills or leaks.
- Prevent runoff into liquid storage areas. Store liquid wastes in materially compatible containers. Minimize or eliminate the accumulation of liquid wastes.
- Establish procedures if hazardous wastes are discovered after material is accepted.
- Conduct periodic inspection of storage areas.
- Conduct preventive maintenance BMPs as necessary.

Outside Scrap Material Storage (Bulk Solid Materials):

- Minimize runoff coming into areas where significant materials are stored (e.g., install diversion structures such as curbing, berms, containment trenches, surface grading, and elevated concrete pads or other equivalent measure).
- Use adsorbents to collect leaking or spills of oil, fuel, transmission and brake fluids (e.g., drip pans).
- Install media filters such as catch basin filters and sand filters.
- Install oil/water separator in storage areas with vehicle transmissions and engines. Locate spill pans under stored vehicles.
- Provide nonrecyclable waste storage bins and containers.
- Conduct periodic inspections.
- Conduct preventive maintenance as necessary.
- Provide equipment operator training to minimize damage to controls (e.g., curbing and berms).

Other Storage (Lightweight Materials):

- Identify/provide supplier training or information bulletins on requirements for acceptance of lightweight materials.
- Encourage supplier participation in program to minimize/eliminate, as practicable, volume of semisolid and liquid residues in recyclable materials (e.g., residual fluids in aluminum and plastic containers).
- Provide covered storage, container bins or equivalent for lighter-weight materials such as glass, plastics, aluminum cans, paper or cardboard.

- Minimize/eliminate residue from bottles, containers, etc., from coming in contact with runoff. Establish dry cleanup methods.
- Establish procedures and employee training for the handling, storage and disposal of residual fluids from small containers.
- Prohibit wash down of tipping floor areas.
- Provide good housekeeping to eliminate particulate and residual materials buildup. Establish cleaning schedule for high traffic areas.
- Provide covered disposal containers or equivalent for residual waste materials.
- Eliminate floor drains discharging to storm sewers.

Scrap Processing Operations

- Provide training to equipment operators on how to minimize exposure of runoff to scrap processing areas.
- Schedule frequent cleaning of accumulated fluids and particulate residue around all scrap processing equipment.
- Schedule frequent inspections of equipment for spills or leakage of fluids, oil, fuel and hydraulic fluids.
- Conduct routine preventive maintenance of equipment per original manufacturer's equipment recommendations. Replace worn or malfunctioning parts.
- Site process equipment on elevated concrete pads or provide runoff diversion structures around process equipment, berms, containment trenches, or surface grading or other equivalent measure. Discharge runoff from within bermed areas to a sump, oil/water separator or media filter, or discharge to sanitary sewer.
- Conduct periodic maintenance and clean out of all sumps, oil/water separators and media filters. Dispose of residual waste materials properly (e.g., according to RCRA).
- Provide curbing, dikes and berms around scrap processing equipment to prevent contact with runoff.
- Where practicable, locate process equipment (e.g., balers, briquetters, small compactors) under an appropriate cover.
- Provide cover over hydraulic equipment and combustion engines. Provide dry cleanup materials (e.g., dry adsorbents, drip pans, absorbent booms, etc.) to prevent contact of hydraulic fluids, oils, fuels, etc., with stormwater runoff.
- Provide alarm, pump shutoff or sufficient containment for hydraulic reservoirs in the event of a line break.
- Stabilize high traffic areas (e.g., concrete pads, gravel and pavement) around processing equipment, where practicable.
- Provide site gauges or overfill protection devices for all liquid and fuel storage reservoirs and tanks.
- Establish spill prevention and response procedures, including employee training.
- Provide containment bins or equivalent for shredded material, especially lightweight materials such as fluff (preferably at the discharge of these materials from the air classification system).

Supplies for Process Equipment

- Locate storage drums containing liquids, including oils and lubricants, indoors. Alternatively, site palletized drums and containers on an impervious surface and provide sufficient containment around the materials. Provide sumps and oil/water separators, if necessary.
- Conduct periodic inspections of containment areas and containers/drums for corrosion.
- Perform preventive maintenance BMPs, as necessary.
- Instruct employees on proper material handling and storage procedures.

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Scrap Lead-acid Battery Program

- Establish inspection and acceptance procedures for scrap lead-acid batteries.
- Provide supplier training on acceptance practices for scrap batteries.
- Provide employee training on the safe handling, storage and disposition of scrap batteries.
- Separate all scrap batteries from other scrap materials.
- Store scrap batteries away from other scrap materials.
- Establish procedures for the storage, handling and disposition of cracked or broken batteries in accordance with applicable federal regulations (e.g., RCRA).
- Establish procedures to collect and dispose of leaking battery acid according to federal regulations (e.g., RCRA).
- Provide covered storage or equivalent to prevent exposure to either precipitation or runoff.

Vehicle and Equipment Maintenance

- Establish an inventory of materials used in the maintenance shop that could become a potential pollutant source of stormwater runoff (e.g., fuels, solvent, oils and lubricants).
- Store and dispose of oil rags, filters (oil and air), batteries, engine coolant, transmission fluid, used oil, brake fluid and solvents in a manner that minimizes potential contact with runoff and is in compliance with state and federal regulations.
- Label and track recycling of waste materials (e.g., batteries, solvents, used oil).
- Drain oil filters before disposal or recycling.
- Drain all fluids from all parts or components that will become scrap material or secondhand parts.
- Store liquid waste materials in compatible containers.
- Store and dispose of used batteries in accordance with the scrap lead-acid battery program.
- Disconnect all floor drains connected to storm sewer system.
- Prohibit nonstormwater discharges (e.g., dumping of used liquids down floor drains and washdown of maintenance areas).
- Provide employee training on appropriate storage and disposal of waste materials.
- Provide good housekeeping measures.
- Conduct inspections of work areas for compliance with BMPs.

Fueling

- Use spill and overflow protection devices.
- Provide high level alarms on fuel storage tanks.
- Minimize/eliminate runoff onto fueling areas.
- Reduce exposure of fueling areas to precipitation by covering the fueling area.
- Provide dry adsorbents to clean up fuel spills.
- Conduct periodic inspections of fueling areas.
- Instruct personnel on proper fueling procedures.
- Provide curbing or posts around fuel pumps to prevent collisions during vehicle ingress and egress.

Vehicle and Equipment Washing

- Avoid washing vehicles and equipment outdoors.
- Use biodegradable, phosphate-free detergents.
- Recycle wash water.
- Provide a vehicle wash rack with a dedicated sediment trap.
- Use auto shutoff valves on washing equipment.

Outdoor Vehicle Parking and Storage

- Use drip pans under all equipment and vehicles waiting maintenance.
- Cover vehicle and equipment storage areas.
- Conduct inspections of storage and parking areas for leaks and filled drip pans.
- Provide employee training.

Vehicle and Equipment Painting

- Keep paint and solvents away from traffic areas.
- Conduct sanding and painting in nonexposed areas (e.g., under cover), in accordance with OSHA standards.
- Clean up accumulated particulate matter.
- Minimize overspraying parts.
- Properly dispose of or recycle paint, solvents and thinner.
- Provide training to employees.
- Conduct periodic inspections of paint spraying areas.

Erosion and Sediment Control

- Minimize runon from adjacent properties (e.g., use/install diversion dikes, berms or equivalent).
- Trap sediment at downgradient locations and outlets serving unstabilized areas. This may include filter fabric fences, gravel outlet protection, sediment traps, vegetated or riprap swales, vegetated strips, diversion structures, catch-basin filters, retention/detention basins, or equivalent.
- Install controls for runoff containing oil and grease such as absorbent booms or sand filters in front of outlet structures or other equivalent measures.
- Stabilize all high traffic areas, including vehicle entrances and exit points.
- Conduct periodic sweeping of all traffic areas.
- Conduct inspections of BMPs.
- Perform preventive maintenance as needed on BMPs.
- Provide employee training on the proper installation and maintenance of erosion and sediment controls.

According to EPA, the most common practices being implemented by liquid waste recycling facilities, which recycle wastes such as spent solvents and used oil, and the percentage of facilities implementing them, are: secondary containment, including tanks, piping and return fill stations (70 percent); containment trenches, including closed loop containment trenches with sumps, sloped floors or berms (91 percent); roofs, including canvas tent roofs and enclosed structures (7 percent); contingency plans (e.g., spill prevention and countermeasures control plan) (100 percent); and prevention and preparedness plans (100 percent).

Recommended BMPs for Liquid Waste Recycling Facilities

The table below is organized by the specific activities that may introduce pollutants into stormwater discharged from liquid waste recycling facilities.

Individual Drum/Container Storage

- Ensure container/drums are in good condition. Store waste materials in compatible drums. Use containers that meet National Fire Protection Association (NFPA) guidelines.
- Put individual containers on pallets. Limit stack height of individual containers/drums. Provide straps, plastic wrap or equivalent around stacked containers to provide stability.

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- Label or mark drums. Segregate hazardous and flammable wastes. Comply with NFPA guidelines for segregation of flammable wastes.
- Provide semipermanent cover over wastes.
- Provide adequate clearance between stored materials to allow movement and handling.
- Establish cleanup procedures, including the use of dry adsorbents, in the event of spills or leaks.
- Prohibit washing down of material storage areas. Disconnect or seal all floor drains to the storm sewer system.
- Develop spill prevention, countermeasures and control (SPCC) procedures for all liquid container storage areas. Ensure employees are familiar with SPCC procedures. Schedule/conduct periodic employee training.
- Provide secondary containment, dikes, berms, containment trench, sumps or other equivalent measure in storage areas.

Bulk Liquid Storage

- Use welded pipe connections vs. flange connections. Inspect all flange gaskets for deterioration.
- Apply corrosion inhibitors to exposed metal surfaces.
- Provide high level alarms for storage tanks.
- Provide redundant piping, valves, pumps, motors, as necessary, at all pumping stations. Provide manually activated shutoff valves in the event of a spill. Install visible or audible alarms in the event of a spill.
- Install manually activated drainage valves, or equivalent, vs. flapper-type drain valves. Provide adequate security against vandalism and tampering.
- Provide secondary containment around bulk storage tanks, including berms, dikes, surface impoundments or equivalent. Ensure surfaces of secondary containment areas are adequately sealed to prevent leaks.
- Provide stationary boxes around all return and fill stations to eliminate/minimize hose drainage and minor waste transfer spills.

Waste Transfer Areas

- Provide secondary containment or equivalent measures around all liquid waste transfer facilities.
- Provide cover over liquid waste transfer areas.
- Establish cleanup procedures for minor spills, including the use of dry adsorbents.

Inspections

- Conduct inspections of all material storage, handling and transfer areas.
- Document signs of corrosion, worn parts or components on pumps and motors, leaking seals, and gaskets.
- Conduct periodic nondestruction testing of all bulk storage tanks for signs of deteriorating structural integrity.

Preventive Maintenance

- Conduct periodic preventive maintenance of all structural controls, replace worn parts or components on valves, pumps and motors per manufacturer's recommendations.

Vehicle Maintenance

- Establish an inventory of materials used in the maintenance shop that could become a potential pollutant source of stormwater runoff (e.g., fuels, solvents, oils and lubricants).
- Store and dispose of oily rags, filters (oil and air), batteries, engine coolant, transmission fluid, used oil, brake fluid and solvents in a manner that minimizes potential contact with runoff and in compliance with state and federal regulations.
- Label and track recycling of waste materials (e.g., batteries, solvents and used oil).

- Drain oil filters before disposal or recycling.
- Drain all fluids from all parts or components that will become scrap material or secondhand parts.
- Store liquid waste materials in compatible containers.
- Store and dispose of used batteries in accordance with scrap lead-acid battery program.
- Disconnect all floor drains connected to the storm sewer system.
- Prohibit nonstormwater discharges (e.g., dumping of used liquids down floor drains and washdown of maintenance areas).
- Provide employee training on appropriate storage and disposal of waste materials.
- Provide good housekeeping measures.
- Conduct inspections of work areas for compliance with BMPs.

Vehicle Cleaning

- Avoid washing vehicles and equipment outdoors.
- Use biodegradable, phosphate-free detergents.
- Recycle wash water.
- Provide vehicle wash rack with dedicated sediment trap.
- Use auto shutoff valves on washing equipment.

Training

- Provide employee training on proper material handling and storage procedures. Require familiarization with applicable SPCC measures.

Recycling facilities are distinguished from scrap recycling and waste recycling facilities, which accept a mixed wastestream of nonrecyclable and recyclable wastes. Recycling facilities include only those facilities that receive source-separated, recyclable materials primarily from nonindustrial and residential sources.

Recommended BMPs for Recycling Facilities

The table below is organized by the specific activities that may introduce pollutants into stormwater discharged from recycling facilities.

Inbound Recyclable Materials Control

- Provide public education brochures on acceptable recyclable materials.
- Educate curbside pick-up drivers on acceptable materials. Reject unacceptable materials at the source.
- Provide employee training.
- Provide totally-enclosed drop-off containers for public.

Indoor Storage

- Store equivalent of the average daily volume of recyclable materials indoors.
- Provide good housekeeping.
- Disconnect all floor drains from the storm sewer system.
- Prohibit illicit discharges and illegal dumping to floor drains that are connected to the storm sewer.
- Direct tipping floor wash waters to sanitary sewer system if permitted by local sanitary authority.

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Recyclable Material Processing

- Conduct processing operations indoors. Clean up residual fluids.
- Conduct routine preventive maintenance on all processing equipment.
- Schedule frequent good housekeeping to minimize particulate and residual material buildup.

Outdoor Storage

- Store only processed materials.
- Provide containment pits with sump pumps that discharge to the sanitary sewer system. Prevent discharge of residual fluids to storm sewer.
- Provide dikes and curbs around bales of waste paper.
- Use tarpaulins or covers over bales of waste paper.
- Conduct regularly scheduled sweeping of storage areas to minimize particulate buildup.

Residual Nonrecyclable Materials

- Store residual nonrecyclable materials in covered containers for transport to a proper disposal facility.
- Bale residual nonrecyclable materials and cover with tarpaulin or equivalent.

Vehicle Maintenance

- Avoid washing equipment and vehicles outdoors.
- Eliminate outdoor maintenance areas.

Fueling

- Establish spill prevention and cleanup procedures.
- Provide dry absorbent materials or equivalent.
- Provide employee training.
- Divert runoff from fueling areas.

Lubricant Storage

- Eliminate or minimize outside storage.
- Provide employee training on proper handling and storage.
- Divert runoff from storage areas.

Land Transportation and Warehousing Facilities (Sector P). This sector includes railroad transportation, local and highway transportation, and motor freight transportation and warehousing facilities; the U.S. Postal Service; and petroleum bulk stations and terminals. Potential pollutants that result from common maintenance and cleaning operations at these facilities include fuel, oil, heavy metals, solvents, wastes, organics, paint, dust, detergents, salt, suspended solids and sediment. EPA has compiled a list of commonly implemented BMPs associated with different activities that routinely take place at these types of facilities.

Recommended BMPs for Land Transportation and Warehousing Facilities

Fueling

- Use spill and overfill protection.
- Minimize run-on of stormwater into the fueling area by grading the area so that stormwater only runs off.
- Cover the fuel area to reduce exposure to stormwater.

- Use dry cleanup methods for fuel area rather than hosing the area down.
- Use proper petroleum spill control.
- Perform preventive maintenance on storage tanks to detect potential leaks before they occur.
- Inspect the fueling area to detect problems before they occur.
- Train employees on proper fueling techniques.

Vehicle and Equipment Maintenance

- Maintain an organized inventory of materials used in the maintenance shop.
- Properly dispose of greasy rags, oil filters, air filters, batteries, spent coolant and degreasers.
- Label and track the recycling of waste materials (e.g., used oil, spent solvents, batteries).
- Drain oil filters before disposal or recycling.
- Drain and contain all fluids from wrecked vehicles and "parts" cars.
- Store cracked batteries in nonleaking secondary containers.
- Promptly transfer used fluids to the proper container; do not leave full drip pans or other open containers around the shop. Empty and clean drip pans and containers.
- Do not pour liquid waste down floor drains, sinks or outdoor storm drain inlets.
- Plug floor drains that are connected to the storm or sanitary sewer; if necessary, install a sump that is pumped regularly.
- Inspect the maintenance area regularly for proper implementation of control measures.
- Train employees on proper waste control and disposal procedures.

Outdoor Vehicle and Equipment Storage and Parking

- Use drip pans under all vehicles and equipment waiting for maintenance.
- Cover the storage area with a roof.
- Inspect the storage yard for filling drip pans and other problems regularly.
- Train employees on procedures for storage and inspection of items.

Locomotive Sanding Areas

- Cover sand storage piles.
- Install sediment traps.
- Install curbs or dikes around storage piles to minimize stormwater run-on.

Painting Areas

- Keep paint and paint thinner away from traffic areas to avoid spills.
- Spray paint on an Occupational Safety and Health Act-approved hood.
- Use effective spray equipment that delivers more paint to the target and less overspray.
- Avoid sanding in windy weather, and collect and dispose of water properly.
- Recycle paint, paint thinner and solvents.
- Inspect painting procedures to ensure that they are conducted properly.
- Train employees on proper sanding, painting and spraying techniques.

Vehicle or Equipment Washing Areas

- Avoid washing parts or equipment outside.
- Use phosphate-free biodegradable detergents.
- Designate an area for cleaning activities.
- Contain and recycle washwaters.
- Ensure that washwaters drain well.
- Inspect cleaning area regularly.
- Train employees on proper washing procedures.

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Liquid Storage in Aboveground Storage Tanks

- Maintain good integrity of all storage containers.
- Install safeguards, such as diking and berming, against accidental releases at the storage area.
- Inspect storage tanks to detect potential leaks and perform preventive maintenance.
- Inspect piping systems (pipes, pumps, flanges, couplings, hoses and valves) for failures or leaks.
- Train employees on proper filling and transfer procedures.

Cold Weather Activities

- Minimize salt application.
- Use uncontaminated dirt or ash, if use is necessary.
- Train employees on proper salt, dirt, sand or ash application.

Improper Connections to Storm Sewer

- Plug all floor drains connected to sanitary or storm sewer. Alternatively, install a sump that is pumped regularly.
- Perform smoke or dye testing to determine if interconnections exist between sanitary water system and storm sewer system.
- Update facility schematics to accurately reflect all plumbing connections.
- Install a safeguard against vehicle washwaters entering the storm sewer unless permitted.
- Maintain and inspect the integrity of all underground storage tanks; replace when necessary.
- Train employees on proper disposal practices for all materials.

Water Transportation Facilities (Sector Q). EPA has established BMPs for certain common activities that take place at water transportation facilities. These activities include vehicle and equipment maintenance and washing, repairs, painting, fueling and cleaning operations. BMPs are intended to control pollutants such as paints, heavy metals, solvents, dust, oil, ethylene glycol, fuel and bacteria.

Recommended BMPs for Water Transportation Facilities

Pressure Washing

- Collect discharge water and remove all visible solids before discharging to a sewer system, or where permitted, to a drainage system or receiving water.
- Perform pressure washing only in designated areas where washwater can be effectively contained.
- Use no detergents or additives in the pressure washwater.
- Direct deck drainage to a collection system sump for settling and/or additional treatment.
- Implement diagonal trenches or berms and sumps to contain and collect washwater at marine railways.
- Use solid decking, gutters and sumps at lift platforms to contain and collect washwater for possible reuse.
- Enclose, cover or contain blasting and sanding activities to the extent practical to prevent abrasives, dust and paint chips from reaching storm sewers or receiving water.
- Where feasible, cover drains, trenches and drainage channels to prevent entry of blasting debris to the system.

- Prohibit uncontained blasting or sanding activities performed during windy conditions, which render containment ineffective.
- Inspect and clean sediment traps to ensure the interception and retention of solids prior to entering the drainage system.
- Sweep accessible areas of the drydock to remove debris and spent sandblasting material prior to flooding.
- Collect spent abrasives routinely and store under a cover to await proper disposal.

Painting

- Enclose, cover or contain painting activities to the maximum extent practical to prevent overspray from reaching the receiving water.
- Prohibit uncontained spray painting activities over open water.
- Prohibit spray painting activities during windy conditions, which render containment ineffective.
- Mix paints and solvents in designated areas away from drains, ditches, piers and surface waters, preferably indoors or under cover.
- Have absorbent and other cleanup items readily available for immediate cleanup of spills.
- Allow empty paint cans to dry before disposal.
- Keep paint and paint thinner away from traffic areas to avoid spills.
- Recycle paint, paint thinner and solvents.
- Train employees on proper painting and spraying techniques, and use effective spray equipment that delivers less overspray.

Drydock Maintenance

- Clean and maintain drydock on a regular basis to minimize the potential for pollutants in the stormwater runoff.
- Sweep accessible areas of the drydock to remove debris and spent sandblasting material prior to flooding.
- If hosing must be used as a removal method, collect washwater to remove solids and potential metals.
- Clean the remaining areas of the dock after a vessel has been removed and the dock raised.
- Remove and properly dispose of floatable and other low-density waste (wood, plastic, insulations, etc.).

Drydocking

- Use plastic barriers beneath the hull, and between the hull and drydock walls for containment.
- Use plastic barriers hung from the flying bridge of the drydock, from the bow or stern of the vessel or from temporary structures for containment.
- Weight the bottom edge of the containment tarpaulins or plastic sheeting during a light breeze.
- Use plywood and/or plastic sheeting to cover open areas between decks when sandblasting (scuppers, railings, freeing ports, ladders and doorways).
- Install tie rings or cleats, cable suspension systems or scaffolding to make implementation of containment easier.

Nondrydock Containment

- Hang tarpaulin from the boat, fixed or floating platforms to reduce pollutants transported by wind.
- Pave or tarp surfaces under marine railways.
- Clean railways before the incoming tide.
- Haul vessels beyond the high tide zone before work commences, or halt work during high tide.

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- Place plastic sheeting or tarpaulin underneath boats to contain and collect waste and spent materials, and clean and sweep regularly to remove debris.
- Use fixed or floating platforms with appropriate plastic or tarpaulin barriers as work surfaces and for containment when work is performed on a vessel in the water to prevent blast material or paint overspray from contacting stormwater or the receiving water.
- Sweep, rather than hose, debris present on the dock.

Engine Maintenance and Repairs

- Maintain an organized inventory of materials used in the maintenance shop.
- Dispose of greasy rags, oil filters, batteries, spent coolant and degreasers properly.
- Label and track the recycling of waste materials (i.e., used oil, spent solvents, batteries).
- Drain oil filters before disposal or recycling.
- Store cracked batteries in a nonleaking secondary container.
- Promptly transfer used fluids to the proper container; do not leave full drip pans or other open containers around the shop. Empty and clean drip pans and containers.
- Do not pour liquid waste down floor drains, sinks or outdoor storm drain inlets.
- Plug floor drains that are connected to the storm or sanitary sewer; if necessary, install a sump that is pumped regularly.
- Inspect the maintenance area regularly for proper implementation of control measures.
- Train employees on proper waste control and disposal procedures.

Material Handling: Bulk Liquid Storage and Containment

- Store permanent tanks in a paved area surrounded by a dike system that provides sufficient containment for the larger of either 10 percent of the volume of all containers or 110 percent of the volume of the largest tank.
- Maintain good integrity of all storage tanks.
- Inspect storage tanks to detect potential leaks and perform preventive maintenance.
- Inspect piping systems (pipes, pumps, flanges, couplings, hoses, valves) for failures or leaks.
- Train employees on proper filling and transfer procedures.

Material Handling: Containerized Material Storage

- Store containerized materials (fuels, paints, solvents, etc.) in a protected, secure location and away from drains.
- Store reactive, ignitable or flammable liquids in compliance with the local fire code.
- Identify potentially hazardous materials, their characteristics and use.
- Control excessive purchasing, storage and handling of potentially hazardous materials.
- Keep records to identify quantity, receipt date, service life, users and disposal routes.
- Secure and carefully monitor hazardous materials to prevent theft, vandalism and misuse of materials.
- Educate personnel on proper storage, use, cleanup and disposal of materials.
- Provide sufficient containment for outdoor storage areas for the larger of either 10 percent of the volume of all containers or 110 percent of the volume of the largest tank.
- Use temporary containment where required by portable drip pans.
- Use spill troughs for drums with taps.

Material Handling

- Mix paints and solvents in designated areas away from drains, ditches, piers and surface waters. Locate designated areas preferably indoors or under a shed.

Designated Material Mixing Areas

If spills occur:

- Stop the source of the spill immediately.
- Contain the liquid until cleanup is complete.
- Deploy oil containment booms if the spill may reach water.
- Cover the spill with absorbent material.
- Keep the area well ventilated.
- Dispose of cleanup materials properly.
- Do not use emulsifier or dispersant.

Shipboard Process Water Handling

- Keep process and cooling water used aboard ships separate from sanitary wastes to minimize disposal costs for the sanitary wastes.
- Keep process and cooling water away from spent abrasives and paint to avoid discharging these pollutants.
- Inspect connecting hoses for leaks.

Shipboard Sanitary Waste Disposal

- Discharge sanitary wastes from ships being repaired to the yard's sanitary system or dispose of by a commercial waste disposal company.
- Use appropriate material transfer procedures, including spill prevention and containment activities.

Bilge and Ballast Water

- Collect and dispose of bilge and ballast waters that contain oils, solvents, detergents or other additives to a licensed waste disposal company.

Ship and Boat Building or Repair Yards (Sector R). EPA compiled a list of BMPs that generally are uncomplicated and simple to implement at ship and boat building or repair facilities. The BMPs are associated with routine activities such as washing, maintenance activities, painting, sanding, surface preparation, material handling, bulk storage and process water handling. The BMPs are designed to control pollutants such as paints, heavy metals, suspended solids, solvents, dust, oil, detergents and others.

Recommended BMPs at Ship and Boat Building and Repairing Facilities

Pressure Washing

- Collect discharge water and remove all visible solids before discharging to a sewer system, or where permitted by an individual NPDES permit, to a drainage system or receiving water.
- Perform pressure washing only in designated areas where washwater containment can be effectively achieved.
- Use no detergents or additives in the pressure washwater.
- Direct deck drainage to a collection system sump for settling and/or additional treatment.
- Implement diagonal trenches or berms and sumps to contain and collect washwater at marine railways.
- Use solid decking, gutters and sumps at lift platforms to contain and collect washwater for possible reuse.

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Surface Preparation, Sanding and Paint Removal

- Enclose, cover or contain blasting and sanding activities to the maximum extent practical to prevent abrasives, dust and paint chips from reaching storm sewers or receiving water.
- Where feasible, cover drains, trenches and drainage channels to prevent entry of blasting debris to the system.
- Prohibit uncontained blasting or sanding activities over open water.
- Prohibit blasting or sanding activities during windy conditions, which render containment ineffective.
- Inspect and clean sediment traps to ensure the interception and retention of solids prior to entering the drainage system.
- Sweep accessible areas of the drydock to remove debris and spent sandblasting material prior to flooding.
- Collect spent abrasives routinely and store under a cover to await proper disposal.

Painting

- Enclose, cover or contain painting activities to the maximum extent practical to prevent overspray from reaching the receiving water.
- Prohibit uncontained spray painting activities over open water.
- Prohibit spray painting activities during windy conditions, which render containment ineffective.
- Mix paints and solvents in designated areas away from drains, ditches, piers and surface waters, preferably indoors or under a shed.
- Have absorbent and other cleanup items readily available for immediate cleanup of spills.
- Allow empty paint cans to dry before disposal.
- Keep paint and paint thinner away from traffic areas to avoid spills.
- Recycle paint, paint thinner and solvents.
- Train employees on proper painting and spraying techniques, and use effective spray equipment that delivers more paint to the target and less overspray.

Drydock Maintenance

- Clean and maintain drydock on a regular basis to minimize the potential for pollutants in the stormwater runoff.
- Sweep accessible areas of the drydock to remove debris and spent sandblasting material prior to flooding.
- If hosing must be used as a removal method, collect washwater to remove solids and potential metals.
- Clean the remaining areas of the dock after a vessel has been removed and the dock raised.
- Remove and properly dispose of floatable and other low-density waste (wood, plastic, insulations, etc.).

Drydock Activities

- Use plastic barriers beneath the hull, and between the hull and drydock walls for containment.
- Use plastic barriers hung from the flying bridge of the drydock, from the bow or stern of the vessel, or from temporary structures for containment.
- Weight the bottom edge of the containment tarpaulins or plastic sheeting during a light breeze.
- Use plywood and/or plastic sheeting to cover open areas between decks when sandblasting (scuppers, railings, freeing ports, ladders and doorways).
- Install tie rings or cleats, cable suspension systems, or scaffolding to make implementation containment easier.

Nondrydock Activities

- Hang tarpaulin from the boat, fixed or floating platforms to reduce pollutants transported by wind.
- Pave or tarp surfaces under marine railways.
- Clean railways before the incoming tide.
- Haul vessels beyond the high tide zone before work commences, or halt work during high tide.
- Place plastic sheeting or tarpaulin underneath boats to contain and collect waste and spent materials, and clean and sweep regularly to remove debris.
- Use fixed or floating platforms with appropriate plastic or tarpaulin barriers as work surfaces and for containment when work is performed on a vessel in the water to prevent blast material or paint overspray from contacting stormwater or the receiving water.
- Sweep rather than hose debris present on the dock.

Engine Maintenance and Repairs

- Maintain an organized inventory of materials used in the maintenance shop.
- Dispose of greasy rags, oil filters, air filters, batteries, spent coolant and degreasers properly.
- Label and track the recycling of waste material (i.e., used oil, spent solvents, batteries).
- Drain oil filters before disposal or recycling.
- Store cracked batteries in a nonleaking secondary container.
- Promptly transfer used fluids to the proper container; do not leave full drip pans or other open containers around the shop. Empty and clean drip pans and containers.
- Do not pour liquid waste down floor drains, sinks or outdoor storm drain inlets.
- Plug floor drains that are connected to the storm or sanitary sewer; if necessary, install a sump that is pumped regularly.
- Inspect the maintenance area regularly for proper implementation of control measures.
- Train employees on proper waste control and disposal procedures.

Bulk Liquid Storage and Containment

- Maintain good integrity of all storage tanks.
- Inspect storage tanks to detect potential leaks and perform preventive maintenance.
- Inspect piping systems (pipes, pumps, flanges, couplings, hoses, valves) for failures or leaks.
- Train employees on proper filling and transfer procedures.

Material Handling

- Store permanent tanks in a paved area surrounded by a dike system that provides sufficient containment for the larger of either 10 percent of the volume of all containers or 110 percent of the volume of the largest tank.
- Store containerized materials (fuels, paints, solvents, etc.) in a protected, secure location and away from drains.
- Mix paints and solvents in designated areas away from drains, ditches, piers and surface waters. Locate designated areas preferably indoors or under a shed.

Containerized Material Storage

- Store reactive, ignitable or flammable liquids in compliance with the local fire code.
- Identify potentially hazardous materials, their characteristics and use.
- Control excessive purchasing, storage and handling of potentially hazardous materials.
- Keep records to identify quantity, receipt date, service life, users and disposal routes.
- Secure and carefully monitor hazardous materials to prevent theft, vandalism and misuse of materials.

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- Educate personnel on proper storage, use, cleanup and disposal of materials.
- Provide sufficient containment for outdoor storage areas for the larger of either 10 percent of the volume of all containers or 110 percent of the volume of the largest tank.
- Where required, use temporary containment to portable drip pans.
- Use spill troughs for drums with taps.

Designated Material Mixing Areas

If spills occur:

- Stop the source of the spill immediately.
- Contain the liquid until cleanup is complete.
- Deploy oil containment booms if the spill may reach the water.
- Cover the spill with absorbent material.
- Keep the area well ventilated.
- Dispose of cleanup materials properly.
- Do not use emulsifier or dispersant.

Shipboard Process Water Handling

- Keep process and cooling water used aboard ships separate from sanitary wastes to minimize disposal costs for the sanitary wastes.
- Keep process and cooling water from contact with spent abrasives and paint to avoid pollution of the receiving water.
- Inspect connecting hoses for leaks.

Shipboard Sanitary Waste Disposal

- Discharge sanitary wastes from the ship being repaired to the yard's sanitary system or dispose of by a commercial waste disposal company.
- Use appropriate material transfer procedures, including spill prevention and containment activities.

Bilge and Ballast Water

- Collect and dispose of bilge and ballast waters that contain oils, solvents, detergents or other additives to a licensed waste disposal company.

Air Transportation Facilities (Sector S). This sector includes scheduled and unscheduled air transportation facilities; airports; flying fields, except those maintained by aviation clubs; and airport terminal services. Common pollutants found at these facilities include deicing chemicals, such as glycols and urea, oil and grease, hydraulic fluids, spent solvents, and waste aircraft fuel.

Recommended BMPs for Air Transportation Facilities

Aircraft, Ground Vehicle and Equipment Maintenance Areas

- Perform maintenance activities indoors.
- Maintain an organized inventory of material used in the maintenance areas.
- Drain all parts of fluids prior to disposal.
- Avoid hosing down the apron of hangar floor.
- Use dry cleanup methods.
- Collect stormwater runoff from the maintenance area, and treat or recycle.

Aircraft, Ground Vehicle and Equipment Cleaning Areas

- Clean equipment only in the areas identified in the SWP3 and site map, and clearly identify these areas on the ground.
- Describe and implement measures that prevent or minimize the contamination of stormwater runoff from cleaning areas.

Aircraft, Ground Vehicle and Equipment Storage Areas

- Store all aircraft and ground vehicles indoors.
- Use drip pans for collecting fluid leaks.
- Surround storage areas with drains, dikes or berms.

Material Storage Areas

- Store materials indoors.
- Store waste materials in a centralized location.
- Install berms or dikes around storage areas.

Airport Fuel System and Fueling Areas

- Implement spill and overflow practices (e.g., place absorbent materials beneath aircraft during fueling operations).
- Use dry cleanup methods.
- Collect stormwater runoff.

Source Reduction

- Use alternatives to urea and glycol-based deicing chemicals such as potassium acetate, magnesium acetate, calcium acetate and anhydrous sodium acetate.

Runway Deicing Operation

- Meter application of chemicals.
- Pre-wet dry chemical constituents prior to application.
- Install a runway ice detection system.
- Implement anti-icing operations as a preventive measure against ice buildup.

Aircraft Deicing Operations

- Use alternative deicing agents and containment measures for all applied chemicals.
- To reduce deicing fluid use, consider forced-air deicing systems, computer-controlled fixed-gantry systems, infrared technology, hot water, varying glycol content to air temperatures, enclosed basket deicing trucks, mechanical methods, solar radiation, hangar storage, aircraft covers and thermal blankets.
- Use ice-detection systems, airport traffic flow strategies and departure slot allocation systems.

Runoff Management

- Use a deicing facility with a runoff collection/recovery system.
- Use vacuum/collection trucks.
- Store contaminated stormwater and deicing fluids in tanks, and release controlled amounts to a publicly owned treatment works.
- Collect contaminated runoff in a wet pond for biochemical decomposition.
- Direct runoff into vegetative swales or other infiltration measures.

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- Recover deicing materials when these materials are applied during nonprecipitation events (e.g., covering storm sewer inlets, using booms, installing absorptive interceptors in drains, etc.) to prevent the materials from later becoming a source of stormwater contamination.
- Recycle used deicing fluid whenever possible.

Treatment Works (Sector T). This sector includes facilities that treat domestic sewage, or any other sewage sludge or wastewater treatment device or system used in the storage, treatment, recycling and reclamation of municipal or domestic sewage. It also includes land dedicated to the disposal of sewage sludge. Pollutant sources include spills and leaks of process chemicals, fertilizing operations, aboveground storage and pest control activities.

Recommended BMPs for Treatment Works

Preparation of Biological and Physical Treatment Process

- Use drip pans under drums and equipment where feasible.
- Store process chemicals inside buildings.
- Inspect the storage yard for filling drip pans and other problems regularly.
- Train employees on procedures for storing and inspecting chemicals.

Soil Amending and Grass Fertilizing

- Use the appropriate amount of fertilizer.
- Train employees on proper fertilizing techniques.

Liquid Storage in Aboveground Storage Containers

- Maintain good integrity of all storage containers.
- Install safeguards (such as diking or berming) against accidental releases at the storage area.
- Inspect storage tanks to detect potential leaks and perform preventive maintenance.
- Inspect piping systems (pipes, flanges, couplings, hoses and valves) for failure or leaks.
- Train employees on proper filling and transfer procedures.

Pest Control

- Minimize pesticide application.
- Only apply pesticide if needed.
- Train employees on proper pesticide application.

Sludge Drying Beds

- Ensure drying bed is draining properly (e.g., check for clogging); avoid overfilling drying bed; grade the land to divert flow around drying bed; berm, dike or curb drying bed areas; cover drying beds.

Sludge Storage Piles

- Confine storage of sludge to a designated area as far from any receiving waterbody as possible; store sludge on an impervious surface (e.g., concrete pad); grade the land to divert flow around storage piles; berm, dike or curb sludge storage piles; cover sludge storage piles.

Sludge Transfer

- Promptly remove any sludge spilled during transfer; conduct transfer operations over an impervious surface; avoid transferring sludge during rain events; grade the land to divert flow around transfer areas; berm, curb or dike transfer areas; avoid locating transfer operations near receiving waterbodies.

Incineration—Ash Impoundments/Piles

- Line ash impoundments with clay (or other type of impervious material); ensure ash impoundments will hold maximum volume of ash and a 10-year, 24-hour rain event; curb, berm or dike ash storage areas; avoid locating ash storage areas near receiving waterbodies.

Miscellaneous

- Properly dispose of grit and scum; properly dispose of screens on a daily basis; maximize vegetative cover to stabilize soil and reduce erosion.
- Route stormwater to the treatment works, or cover exposed materials.

Food and Kindred Products Facilities (Sector U). This sector includes facilities that manufacture and process foods and beverages for human consumption, and that prepare animal feed. Facilities that manufacture cigarettes, cigars and other tobacco products also are covered. Stormwater contaminants can include acids, ammonia, animal cages, bleach, blood, bone meal, chlorine, detergent, eggs, fats, greases and others. EPA has compiled both a general set and a specific set of BMPs for Sector U.

Recommended BMPs for Food and Kindred Products Facilities

Raw Material Unloading/Produce Loading

- Ensure that a facility representative is present during loading/unloading activities.
- Inspect the loading/unloading areas to detect problems before they occur.
- Close storm drains during loading/unloading activities in surrounding areas.
- Inspect all containers prior to loading/unloading of any raw or spent materials.
- Install backflow prevention devices on liquid transfer equipment.
- Inspect all connection equipment (e.g., hoses and couplings), and replace when necessary before performing loading/unloading activities.
- Perform all loading/unloading activities in a covered area.
- Situate loading/unloading areas indoors or in a covered area.
- Use rubber seals in truck loading dock areas to contain spills indoors.
- Drain hoses back into truck, railcar, etc. after loading/unloading materials.
- Install high level alarm on tanks to prevent overfilling.
- Ensure that berms and dikes are built around the loading/unloading areas, if applicable.
- If outside or in covered areas, minimize runon of stormwater into the loading/unloading areas by grading the areas to ensure that stormwater runs off.
- Use dry cleanup methods for loading/unloading areas rather than washing the areas down.
- Train employees on proper loading/unloading techniques.
- Initiate an inventory control for all raw and spent materials.

Storage Containers

- Inspect the external condition (corrosion, leaks) of the containers.
- Inspect the general area around the containers.
- Ensure that berms and dikes are built around the containers.
- Cover and/or enclose storage containers.
- Bulkhead liquid storage tanks indoors (i.e., tank outlets located inside buildings).
- Ensure that all containers are closed (e.g., valves shut, lids and manways sealed, caps closed).

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- Wash containers indoors before storing empty containers indoors.
- If outside or in a covered area, minimize runon of stormwater into a storage area by grading area to ensure that stormwater runs off.
- Train employees on proper storage techniques (e.g., filling and transferring contents).
- Maintain employee training on proper handling and transportation of materials.
- Maintain an inventory control of all raw and spent materials.
- Employ measures to protect against spills from overflows (e.g., high level sensors, alarms).
- Consider vacuum emissions control systems to control airborne dust and particulate matter.

Waste Management

- Perform treatment processes in-house, if possible.
- Inspect the outside pipe connections (couplings, valve seals and gaskets, flanges, etc.) of the treatment system for leaks, corrosion and poor maintenance upkeep.
- Inspect the general area around the solid waste (e.g., look for signs of leaching).
- Store waste so that it is physically contained (dumpsters, drums, bags).
- Store waste in an enclosed/covered area.
- If outside or in a covered area, minimize exposure to stormwater by grading the area to ensure that stormwater runs off.
- Ensure hazardous waste disposal practices are performed in accordance with federal, state and local requirements.
- Route trash compactor leakage to a treatment system or sanitary sewer.
- Clean around vents and stacks that release emissions to atmosphere from process and storage areas.
- Place tubs around vents and stacks for easy collection of settling particles.
- Inspect air emission control systems (e.g., baghouses) regularly, and repair and replace as necessary.
- Route overflows/condensates from process vents to an onsite treatment system or to the sanitary sewer.

Pest Control

- Follow manufacturers' directions for application of pest control materials to site.
- Time application for dry weather conditions.
- Store partially full containers indoors or undercover.
- Apply insecticides during breeding months.
- Protect rat bait houses from stormwater.

Improper Connections to the Storm Sewer

- Perform smoke or dye testing to determine if interconnections exist between the sanitary and storm sewers.
- Plug all floor drains leading to storm sewers.
- Update facility schematics to accurately reflect all plumbing connections.

General

- Offer employee incentives so that employees will develop cost effective, worker efficient BMPs.
- Request ouside firms to conduct a stormwater inspection/audit.
- Inspect material transfer lines/connections for leaks or signs of wear and repair or replace as necessary.

BMPs for specific facilities within Sector U include the following:

Meat Products

- Inspect area around animal holding pens.
- Enclose/cover fowl hanging area.
- Enclose/cover animal holding pens.
- Grade the areas around the animal holding pens to ensure stormwater runs off of the holding pen.
- Train employees on proper material (i.e., hide, hair, feathers, animal parts) cleanup procedures around and within the animal holding pens.
- Store animal manure and other materials from cleanup activities in appropriate containers in an enclosed/covered area.
- Area for trailers holding empty bird cages should have stormwater runon/runoff controls in place.
- Use mechanical sweepers around site to clean up fugitive feathers, dust and manure.

Dairy Products

- Inspect area around aged/spoiled dairy products.
- Store aged/spoiled products in enclosed area.
- Train employees on proper disposal methods for all aged/spoiled dairy products.
- Ensure that all aged/spoiled products (e.g., bottles, cartons, plastic containers) are disposed of in a proper manner (bagged, covered).

Canned Frozen and Preserved Fruits, Vegetables and Frozen Specialties

- Inspect all fruit and vegetable storage areas.
- Store all fruits and vegetables in appropriate containers (e.g., bins, bushels, baskets, buckets) and in enclosed/covered areas.
- Store empty fruit and vegetable containers in an enclosed/covered area.
- Train employees on proper handling/disposal methods for fresh/rotten fruits and vegetables.
- Consider air emission control systems for all cooking processes to reduce particulate matter.
- Minimize fruit and vegetable storage time outdoors.

Grain Mills

- Inspect the general area around the grain storage.
- Store all grain in appropriate containers (e.g., silos, hoppers) in an enclosed/covered area.
- Consider a vacuum control system in all grain mixing areas.

Bakery Products

- Inspect ingredient storage areas.
- Store all ingredients (e.g., corn sweeteners, flour, shortening, syrup, vegetable oils) in appropriate containers (e.g., tanks, drums, bags) in an enclosed or covered area.
- Remove flour dust/oil accumulation around ventilation exhaust systems.
- Install an air emission control system for all baking processes to reduce particulate matter.

Sugar and Confectionery

- Consider a vacuum control system in all granular and powdered processing areas.

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Fats and Oils

- Inspect all fats and oil storage areas.
- Store all fats and oils (e.g., butcher shop materials, hair, hide, tallow, bone meal and offal) in enclosed or covered areas.
- Ensure all fats and oils are physically contained.

Beverages

- Ensure grain is stored in enclosed or covered area.
- Consider an air emission control system for all grain handling and brewing processes.
- Protect reusable beverage containers that are stored outdoors from stormwater contact.

Textile Mills and Facilities (Sector V). Stormwater pollutants from Sector V facilities are released during the storage and handling of raw material; dyes; materials for scouring and cleaning; materials for bleaching, printing and finishing; and other activities. Pollutant sources include wool, cotton, synthetics, rayon, dyes, fuels, oils, lubricants, detergents and others.

Recommended BMPs for Textile Mills and Facilities

Preparation (e.g., Desizing and Scouring)

- Reuse waste stream for typical bleach unit processing, recycle J-box or kier drain wastes to saturator.
- Make use of countercurrent washing.
- Use washer waste from scour operations for batch scouring.

Dyeing

- Perform analysis of spent dye baths for residual materials.
- Where feasible, obtain background information and data necessary before making product substitutions. This includes OSHA Form 20 data and technical data.
- Be aware of potential problem chemicals, such as aryl phenol ethoxylates, chlorinated aromatics and metals.
- Employ pad batch dyeing to eliminate the need for salts and chemical specialties from the dyebath, with associated reduction in cost and pollution source reduction.

Finishing

- Reuse residual portions of finish mixes as much as possible by adding back to them the required components to make up the next mix.
- Return noncontact cooling water and stream condensates to either a hot water holding tank or a clear well. If neither is available, segregate waste streams from sources that do not generally require treatment from other waste streams that do require treatment.

General Water Conservation Techniques

- Use "low liquor ratio" dyeing machines where practicable.
- Use foam processing (mercerizing, bleaching, dyeing, finishing) where practicable as a water conservation process.

Chemical Screening and Inventory Control

- Employ prescreening practices to evaluate and consider chemicals using a wide range of environmental and health impact criteria.

- Develop and perform a routine raw material quality control program.
- Review and develop procedures for source reduction of metals.
- Promptly transfer used fluids to the proper container; do not leave full drip pans or other open containers around the shop. Empty and clean drip pans and containers.
- Do not pour liquid waste down floor drains, sinks or outdoor storm drain inlets.
- Plug floor drains that are connected to the storm or sanitary sewer; if necessary, install a sump that is pumped regularly.
- Inspect the maintenance area regularly for proper implementation of control measures.
- Train employees on proper waste control and disposal procedures.

Material Handling: Bulk Liquid Storage and Containment

- Store permanent tanks in a paved area surrounded by a dike system that provides sufficient containment for the larger of either 10 percent of the volume of all containers or 110 percent of the volume of the largest tank.
- Maintain good integrity of all storage tanks.
- Inspect storage tanks to detect potential leaks and perform preventive maintenance.
- Inspect piping systems (pipes, pumps, flanges, couplings, hoses, valves) for failures or leaks.
- Train employees on proper filling and transfer procedures.

Material Handling: Containerized Material Storage

- Store containerized materials (fuels, paints, solvents, etc.) in a protected, secure location and away from drains.
- Store reactive, ignitable or flammable liquids in compliance with the local fire code.
- Label all materials clearly.
- Identify potentially hazardous materials, their characteristics and use.
- Control excessive purchasing, storage and handling of potentially hazardous materials.
- Keep records to identify quantity, receipt date, service life, users and disposal routes.
- Secure and carefully monitor hazardous materials to prevent theft, vandalism and misuse of materials.
- Educate personnel on proper storage, use, cleanup and disposal of materials.
- Provide sufficient containment for outdoor storage areas for the larger of either 10 percent of the volume of all containers or 110 percent of the volume of the largest tank.
- Use temporary containment where required by portable drip pans.
- Use spill troughs for drums with taps.

Material Handling: Designated Material Mixing Areas

- Mix solvents in designated areas away from drains, ditches and surface waters.

If spills occur:

- Stop the source of the spill immediately.
- Contain the liquid until cleanup is complete.
- Deploy oil containment booms if the spill may reach the water.
- Cover the spill with absorbent material.
- Keep the area well ventilated.
- Dispose of cleanup materials properly.
- Do not use emulsifier or dispersant.

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Wood and Metal Furniture and Fixture Facilities (Sector W). The sector includes facilities that manufacture wood kitchen cabinets, office furniture and other related office and store fixtures, partitions, shelving and other related items. Pollutant sources include coal, sawdust, ash, painting operations, gluing operations, used rags, unloading of processing materials, open dumps and others. EPA has compiled general BMPs for these facilities.

Recommended BMPs for Furniture and Fixture Manufacturing Facilties

Outdoor Loading and Unloading

- Confine loading/unloading activities to a designated area.
- Perform all loading/unloading activities in a covered or enclosed area.
- Close storm drains during loading/unloading activities in surrounding areas.
- Avoid loading/unloading materials in the rain.
- Inspect all containers prior to loading/unloading of any raw or spent materials.
- Berm, curb or dike loading/unloading areas.
- Use dry cleanup methods instead of washing the areas down.
- Train employees on proper loading/unloading techniques.

Outdoor Material Storage (including waste and particulate emission management)

- Train employees on proper waste control and disposal.
- Berm, curb or dike any areas around tanks.
- Ensure that all containers are properly sealed and valves closed.
- Inventory all raw and spent materials.
- Inspect air emission control systems regularly, and repair or replace when necessary.
- Store wastes in covered, leak-proof containers (e.g., dumpsters, drums).
- Store wastes in enclosed and/or covered areas.
- Ensure hazardous and solid waste disposal practices are performed in accordance with applicable federal, state and local requirements.
- Ship all wastes to offsite landfills or treatment facilities.

Printing and Publishing Facilities (Sector X). EPA developed general BMPs to address pollutants such as heavy metals, ink, fuel, oil, solvents and others that result from various activities at printers and publishers.

Recommended BMPs for Printing and Publishing Facilities

Plate Preparation

- Use aqueous-developed lithographic plates or wipe-on plates.

Printing

- Use press wipes as long as possible before discarding or laundering; use dirty ones for the first pass, clean ones for the second pass.
- Squeeze or centrifuge solvent out of dirty rags.

- Set up an in-house dirty rag cleaning operation if warranted, or send to approved industrial laundries, if available.
- Dedicate press for inks with hazardous pigments or solvents.
- Segregate used oil from solvents or other materials.
- Use water-based inks in gravure and flexographic printing process.

Cleanup

- Label sinks as to proper disposal of liquids.
- Keep equipment in good condition.
- Use doctor blades and squeegees to remove as much ink as possible prior to cleaning with solvent and rags.
- Control solvent use during equipment cleaning; use only what is needed.
- Designate special areas for draining or replacing fluids.
- Substitute nontoxic or less toxic cleaning solvents.
- Recover waste solvents onsite with batch distillation if warranted, or utilize professional solvent recyclers.
- Centralize liquid solvent cleaning in one location.
- Have refresher courses in operating and safety procedures.

Stencil Preparation for Screen Printing

- Recapture excess ink from silkscreen process before washing the screen to decrease amount of ink and cleaning emulsion used.

Material Handling and Storage Areas

- Store containerized materials (fuels, paints, inks, solvents, etc.) in a protected, secure location and away from drains.
- Store reactive, ignitable or flammable liquids in compliance with the local fire code.
- Identify potentially hazardous materials, their characteristics and their use.
- Eliminate or reduce exposure to stormwater.
- Control excessive purchasing, storage and handling of potentially hazardous materials.
- Keep records to identify quantity, receipt date, service life, users and disposal routes; secure and carefully monitor hazardous materials to prevent theft, vandalism and misuse of materials.
- Educate personnel on proper storage, use, cleanup and disposal of materials.
- Maintain good integrity of all storage tanks.
- Inspect storage tanks to detect potential leaks and perform preventive maintenance.
- Provide sufficient containment for outdoor storage areas for the larger of either 10 percent of the volume of all containers or 110 percent of the volume of the largest tank.
- Use temporary containment where required by portable drip pans.
- Use spill troughs for drums with taps.
- Train employees on proper filling and transfer procedures.
- Inspect piping systems (pipes, pumps, flanges, couplings, hoses, valves) for failures or leaks.
- Handle solvents in designated areas away from drains, ditches and surface waters. Locate designated areas preferably indoors or under a shed.

If spills occur:

- Stop the source of the spill immediately.
- Contain the liquid until cleanup is complete.
- Deploy oil containment booms if the spill may reach the water.

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- Cover the spill with absorbent material.
- Keep the area well ventilated.
- Dispose of cleanup materials properly.
- Do not use emulsifier or dispersant.

Rubber, Plastics and Miscellaneous Manufacturing Facilities (Sector Y). This sector includes not only rubber and plastic products, but a wide variety of products not classified elsewhere, such as musical instruments, games, toys and athletic goods, art supplies, buttons, and pins and needles. Pollutants can include zinc, solvents, oil and grease, organics, hydrocarbons, acids, and others. EPA compiled a general list of BMPs as well as specific BMPs for the control of zinc at rubber facilities.

Recommended BMPs for Rubber, Plastic and Miscellaneous Facilities

Outdoor Loading and Unloading

- Confine loading/unloading activities to a designated area.
- Consider performing loading/unloading activities indoors or in a covered area.
- Consider covering loading/unloading area with a permanent cover (e.g., roof) or a temporary cover (e.g., tarp).
- Close storm drains during loading/unloading activities in surrounding areas.
- Avoid loading/unloading materials in the rain.
- Inspect the loading/unloading areas to detect problems before they occur.
- Inspect all containers prior to loading/unloading of any raw or spent materials.
- Consider berming, curbing or diking loading/unloading areas.
- Dead-end sump where spilled materials could be directed.
- Use dry cleanup methods instead of washing the areas down.
- Train employees on proper loading/unloading techniques, and spill prevention and response.

Outdoor Material Storage (including waste and particulate emission management)

- Confine storage of materials, parts and equipment to designated areas.
- Consider curbing, berming or diking all liquid storage areas.
- Train employees on proper waste control and disposal.
- Train employees in spill prevention and response.
- Consider covering tanks.
- Ensure that all containers are closed (e.g., valves shut, lids sealed, caps closed).
- Wash and rinse containers indoors before storing them outdoors.
- If outside or in covered areas, minimize runon of stormwater by grading the land to divert flow away from containers.
- Consider using leak detection and container integrity testing.
- Direct runoff to onsite retention pond.
- Inventory all raw and spent materials.
- Clean around vents and stacks.
- Place tubs around vents and stacks to collect particulates.
- Inspect air emission control systems (e.g., baghouses) regularly, and repair or replace when necessary.

- Store wastes in covered, leak-proof containers (e.g., dumpsters, drums).
- Consider shipping all wastes to offsite landfills and treatment facilities.
- Ensure hazardous waste disposal practices are performed in accordance with federal, state and local requirements.

Control of Zinc at Rubber Facilities

- Train employees in spill prevention, response and cleanup methods.
- Store zinc indoors.
- Use special large volume sacks with less potential for release of zinc.
- Cover dumpsters, move dumpsters inside, or use linked dumpsters that do not leak.
- Perform regular maintenance activities on baghouses that collect dust.
- Use a dust collection system or reduce the amount of dust generated.
- Consider using alternate compounds.

Leather Tanning and Finishing Facilities (Sector Z). Common pollutants and pollutant sources at leather facilities include degreasing processes, leather processing, leather dust, scraps and hair, detergents, dyes, tannins, and extraneous hide substances. EPA compiled a list of general BMPs for sector Z.

Recommended BMPs at Leather Tanning and Finishing Facilities

Temporary Outdoor Storage of Fresh or Brine Cured Hides

- Store hides indoors if possible.
- Cover the hides with a roof or temporary covering (e.g., polyethylene, tarpaulin, etc).
- Minimize stormwater runon by enclosing the area or by building a berm around the area.
- Inspect area regularly for proper implementation of good housekeeping and control measures.

Beamhouse Operations

- Store chemical drums and bags, and empty lime and depilatory chemical containers indoors if possible; conduct preventive maintenance activities.
- Cover chemical drums and bags, empty lime and depilatory chemical containers, and leather scraps with a roof or temporary covering (e.g., tarpaulins, polyethylene); store on elevated impermeable surface.
- Use containment dikes around chemical storage, empty lime and depilatory chemical containers, and leather scrap storage area.
- Inspect area regularly for leaking drums, broken bags, proper implementation of good housekeeping and control measures, material inventory, material storage, and operation and maintenance.
- Clean up leaks and spills quickly and completely, and use drip pans for leaking equipment.
- Sweep all paved areas regularly; eliminate unnecessary flushing with water, and label chemical drums and containers.
- Train employees on good housekeeping procedures and proper handling of chemicals.

Tanyards

- BMPs for tanyards are the same as those listed above for beamhouse activities.

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Retan and Wet Finish

- Reduce dust through frequent inspection of vacuum, collector (bag and cyclone) and filter systems.
- Reduce dust by using enclosures and covers.
- Maintain and inspect dust collection systems.
- Regularly sweep paved areas, eliminate unnecessary flushing with water, and label chemical drums and containers.
- Train employees on good housekeeping and proper handling of chemicals.

Dry Finish

- Inspect and maintain spray booths.
- Train employees on proper disposal of spent solvents.

Receiving and Shipping

- Cover shipping and receiving area.
- Cover trucks.
- Position trucks while transferring materials to prevent spills onto the ground surface.
- Grade berm or curb area to prevent stormwater runon contamination; divert rain gutters away from loading area.
- Cleanup spills immediately.
- Inspect trucks for leaks.
- Train employees in spill prevention.

Liquid Storage in Aboveground Tanks

- Clearly tag valves to avoid human error.
- Install overflow protection devices on tank systems to warn operator or to automatically shut down transfer pumps when tanks reach full capacity.
- Install secondary containment around tanks.
- Inspect tank foundations, connections, coatings, valves and piping systems.
- Comply with spill prevention, control and countermeasures plan requirements, and federal and state laws.
- Have qualified professionals conduct tank integrity testing.

Improper Connections to Storm Sewers

- Plug all floor drains connected to sanitary or storm sewer.
- Perform smoke or dye testing to determine if interconnections exist between sanitary water system and storm sewer system.
- Update facility schematics to accurately reflect all plumbing connections.
- Install a safeguard to prevent washwaters from processing areas from entering the storm sewer unless permitted.
- Train employees on proper disposal practices for all materials.

Waste Management

- Conduct waste reduction assessment, and develop guidelines for the elimination of waste generation emissions.
- Institute industrial waste source reduction and recycling BMPs.
- Move waste management activities indoors (after safety concerns are addressed), and cover waste piles, dumpsters and hoppers; place them on impermeable elevated surfaces.

- Prevent stormwater runon by curbing or building berms.
- Cover trucks and inspect for leaking wastes.
- Inspect waste management areas for leaking containers, spills, damaged containers; inspect uncovered waste piles, dumpsters and hoppers.
- Inspect roof areas and outside equipment.
- Develop and maintain proper erosion control or site stabilization measures.
- Train employees on proper disposal practices for all materials.

Fabricated Metals Manufacturing Facilities (Sector AA). This sector includes facilities that manufacture ferrous and nonferrous products such as metal cans, tinware, hardware, nonelectrical equipment and a variety of other metal and wire products made from iron or steel. EPA has not compiled a list of BMPs for Sector AA.

Transportation Equipment Manufacturing Facilities (Sector AB). Facilities under sector AB include those that manufacture engines and turbines, farm equipment, construction and mining equipment, metalworking machinery, and others. Pollutants primarily result from outdoor material loading, unloading and storage activities.

Recommended BMPs for Transportation Equipment Manufacturing Facilities

Outdoor Loading and Unloading

- Confine loading/unloading activities to a designated area.
- Consider performing loading/unloading activities indoors or in a covered area.
- Consider covering loading/unloading area with permanent cover (e.g., roof) or temporary cover (e.g., tarp).
- Close storm drains during loading/unloading activities in surrounding areas.
- Avoid loading/unloading materials in the rain.
- Inspect the loading/unloading areas to detect problems before they occur.
- Inspect all containers prior to loading/unloading of any raw or spent materials.
- Consider berming, curbing or diking loading/unloading areas.
- Use dry cleanup methods instead of washing the areas down.
- Train employees on proper loading/unloading techniques.

Outdoor Material Storage (including waste and particulate emission management)

- Confine storage of materials, parts and equipment to designated areas.
- Consider curbing, berming or diking all liquid storage areas.
- Train employees on proper waste control and disposal.
- Consider covering tanks.
- Ensure that all containers are closed (e.g., valves shut, lids sealed, caps closed).
- Wash and rinse containers indoors before storing them outdoors.
- If outside or in covered areas, minimize runon of stormwater by grading the land to divert flow away from containers.
- Inventory all raw and spent materials.
- Clean around vents and stacks.

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- Place tubs around vents and stacks to collect particulates.
- Inspect air emission control systems (e.g., baghouses) regularly, and repair or replace when necessary.
- Store wastes in covered, leak-proof containers (e.g., dumpsters, drums).
- Consider shipping all wastes to offsite landfills or treatment facilities.
- Ensure that hazardous waste disposal practices are performed in accordance with federal, state and local requirements.

Electronic and Electrical Equipment Manufacturing Facilities (Sector AC). This sector includes the manufacturing of measuring, analyzing and controlling equipment; photographic, medical and optical equipment; and watches and clocks. Pollutants are generated primarily during outdoor loading, unloading and storage activities.

Recommended BMPs for Electronic and Electrical Equipment Manufacturing Facilities

Outdoor Loading and Unloading

- Confine loading/unloading activities to a designated area.
- Consider performing loading/unloading activities indoors or in a covered area.
- Consider covering loading/unloading area with permanent cover (e.g., roof) or temporary cover (e.g., tarp).
- Close storm drains during loading/unloading activities in surrounding areas.
- Avoid loading/unloading materials in the rain.
- Inspect the loading/unloading areas to detect problems before they occur.
- Inspect all containers prior to loading/unloading of any raw or spent materials.
- Consider berming, curbing or diking loading/unloading areas.
- Dead-end sump where spilled materials could be directed.
- Use dry cleanup methods instead of washing the areas down.
- Train employees on proper loading/unloading techniques, and spill prevention and response.

Outdoor Material Storage (including waste and particulate emission management)

- Confine storage of materials, parts and equipment to designated areas.
- Consider secondary containment using curbing, berming or diking of all liquid storage areas.
- Train employees in spill prevention and response techniques.
- Train employees on proper waste control and disposal.
- Consider covering trucks.
- Ensure that all containers are closed (e.g., valves shut, lids sealed, caps closed).
- Wash and rinse containers indoors before storing them outdoors.
- If outside or in covered areas, minimize runon of stormwater by grading the land to divert flow away from containers.
- Conduct leak detection and container integrity testing.
- Direct runoff to onsite retention pond.
- Inventory all raw and spent materials.
- Clean around vents and stacks.
- Place tubs around vents and stacks to collect particulates.

- Inspect all air emission control systems (e.g., baghouses) regularly, and repair or replace when necessary.
- Store wastes in covered, leak-proof containers (e.g., dumpsters, drums).
- Consider shipping all wastes to offsite landfills or treatment facilities.
- Ensure hazardous waste disposal practices are performed in accordance with federal, state and local requirements.

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¶654 Evaluation, Selection and Implementation of BMPs

After reviewing potential BMPs, including those identified by EPA or devised by facility personnel, a facility's pollution prevention team should identify those BMPs that may be applicable at the site.

Next, the team should evaluate the identified BMPs and estimate the potential effectiveness, cost of implementation and practicality for the facility. Finally, the BMPs that are deemed most suitable for the facility should be selected for implementation. This decision process is very subjective and, as with the entire stormwater program, is highly site-specific.

EPA Worksheets 7, 7a and 8 (see Appendix 3(d), pp. 42-44) can be used to document the selection and implementation of BMPs. These worksheets are redundant in parts, however, and teams may wish to devise their own, more useful, documentation. The key is to select carefully and document suitable BMPs to address specific stormwater pollution sources and then to devise an implementation schedule.

Under the federal industrial general permit, the deadline for implementing SWP3s was Oct. 1, 1993, six months after the April 1, 1993, deadline for the development of the SWP3. The deadline for developing and implementing SWP3s under the multi-sector general permit was June 27, 1996, but the deadline later was extended to Sept. 25, 1996 (61 FR 5248, Feb. 9, 1996; and see Appendix 1(e), p. 810). State general permits may have different deadlines. It is important to note that the required implementation of the SWP3 does not necessarily mean that all BMPs must be in place by that deadline. It does mean that the plans devised in the SWP3 must be underway. This can mean that the implementation schedule depicted in Worksheet 8 (or an equivalent schedule devised by the team) is adhered to. As long as the implementation schedule is being followed, the permittee is in compliance. Thus, major expenditures and other changes to the facility can be planned and programmed according to a schedule that is suitable for that facility—within reason.

¶655 Employee Training

As discussed in ¶651, employee training is one of the baseline BMPs identified by EPA. EPA emphasizes the importance of employee training by making it a required activity to be included as part of an SWP3. EPA devised Worksheet 9 (see Appendix 3(d), p. 45) to be used to document training activity. It may be desirable to conduct stormwater-related training in conjunction with other regular training activities at the facility. Thus, team members may want to devise alternative worksheets or other documentation.

Frequency of training. Training should address each component of the pollution prevention plan, including spill prevention and response, good housekeeping and material management practices. Although EPA does not specify precisely how often training must be conducted, the agency does advise that training frequency should be based on the complexity of a given operation and the type of BMPs used. The pollution prevention plan must state how often training is conducted.

Examples of tools to use for a successful training program are: employee handbooks, films and slide presentations, drills, routine employee meetings; bulletin board postings; suggestion boxes, newsletters, environmental excellence awards or other employee incentive programs.

Spill prevention and response. The training program should provide a forum for informing all employees—not just spill response team members—about procedures or plans related to spill response. Training should:

- identify potential spill areas and drainage routes, including information on past spills and their causes;
- state that persons reporting spills will not be penalized;
- explain how to implement spill response procedures.

Good housekeeping. Teach all personnel how to maintain a clean, safe work environment:

- require regular vacuuming or sweeping;
- promptly clean up spills to prevent runoff;
- identify the location of cleanup equipment;
- remind employees of the importance of good housekeeping;
- discuss the progress of good housekeeping practices at every meeting;
- train employees how to secure drums and containers and instruct them to check frequently for leaks and spills; and
- outline a regular housekeeping schedule.

Materials management practices. This portion of the training should focus on:

- organizing materials for storage;
- identifying toxic and hazardous substances used and produced onsite; and
- handling procedures for toxic and hazardous substances.

The key is that employee training must be documented, and this documentation must be maintained in the SWP3. EPA has sent a clear signal that employee training is a very important part of an SWP3.

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¶660 Review of Compliance

EPA's general permits require an annual "comprehensive site compliance review." This review must include:

- an annual inspection;
- review of recordkeeping practices; and
- updates to the SWP3, where appropriate.

To meet this requirement, a site inspection similar to the initial site inspection should be conducted. This inspection should note any modifications or changes to the physical structures and/or operational practices at the facility. These changes should be reflected on the site map and incorporated into the SWP3.

A review of the facility's records and recordkeeping procedures should be conducted to ensure that changes that occur between inspections, which may materially affect the SWP3, are reported to the pollution prevention team so that the team is able to make the appropriate modifications to the SWP3 in a timely manner.

Finally, a thorough review of the SWP3 should be conducted to ensure that it adequately reflects current situations and practices at the facility. If it has been determined that some BMPs are ineffective, additional BMPs should be developed to control stormwater contamination.

The SWP3 should be a dynamic document that is modified on at least an annual basis. The records from the review should be diligently maintained and incorporated into the SWP3. This will provide an audit trail so that if the SWP3 is evaluated by the permitting agency, it can be shown that the annual comprehensive site compliance evaluation is being conducted appropriately.

[The next page is Tab 600, Page 601.]

¶670 Stormwater Management at Construction Sites*

As with industrial activities, EPA has issued a baseline general permit for construction activity disturbing five or more acres. EPA originally issued the permit in September 1992, but a revised permit was issued Feb. 17, 1998. The permit that applies in most states where EPA implements the stormwater program. The new permit will be used as a model by many states that have general permitting authority (63 FR 7858).

The following discussion is based on EPA's revised construction general permit. It is important to note, however, that permit requirements will vary from state to state. Thus, subscribers are urged to read their permits carefully.

Under EPA's construction permit, dischargers must develop stormwater pollution prevention plans (SWP3s) for construction sites of greater than five acres (for a discussion of the requirements of EPA's construction general permit, see ¶552). For a copy of a model SWP3 for construction activities developed by EPA, see Appendix 3(f), p. 71. The best management practices (BMPs) for construction activities primarily address erosion and sedimentation control. According to EPA, these BMPs are standard operating procedure at many construction sites.

EPA has identified six major phases of stormwater pollution prevention planning for construction activities:

- site evaluation and design development;
- assessment (this phase includes a new requirement to assess the potential effect of the construction activity on listed endangered or threatened species or critical habitats);
- control selection and plan design;
- certification and notification;
- construction/implementation; and
- final stabilization/termination.

EPA has developed a guidance document that provides step-by-step guidance on preparing pollution prevention plans for construction activities, *Stormwater Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices* (EPA document number EPA 832-R-92-005 (September 1992)). Excerpts from this document are included in this Tab and in Appendix 3(f), p. 71.

Another resource that may be helpful to land developers is the U.S. District Court Case *City of New York v. Angelbrook* (891 F. Supp. 908 (S.D.N.Y. April 14, 1995)). In April 1995, a federal court judge ruled that New York City could not block construction of a golf course in Somers, N.Y., because the city failed to prove that stormwater runoff from the proposed construction project would damage the drinking water supply. The case is interesting for two reasons. First, the judge's opinion provides a detailed look at each element of the defendant's stormwater pollution prevention plan and explains why the plan did, in fact, meet specifications of the New York general permit. Second, the judge found that the standards for the development of stormwater pollution prevention plans set out in New York's general permit are intended to be guidelines, rather than mandatory requirements.

* Revised, November 1999.

¶671 Site Evaluation and Design Development

The first phase in preparing an SWP3 for construction activities is to identify the characteristics of the construction site and the type of construction that will be occurring at the site. This phase consists of four required activities: collecting site information, developing site plan design, describing construction activity and preparing a pollution prevention site map.

Collecting Site Information. EPA's general permit for construction activities requires the SWP3 to include the following information regarding the existing conditions at the construction site:

- existing soil information;
- existing data concerning the runoff quality at the construction site;
- the location and extent of surface waters (including wetlands) adjacent to or included within the construction site; and
- the name and location of the receiving water for runoff from the construction site.

Developing a Site Plan Design. After collecting information about the existing site conditions, a site plan design should be developed. In developing the site plan design, the following approaches to reducing stormwater pollution should be considered:

- disturb the smallest area possible;
- avoid disturbing sensitive areas such as steep or unstable slopes, surface waters, areas with soils susceptible to erosion, or existing drainage channels; and
- identify areas to be preserved or left as open space.

Describing Construction Activity. The SWP3 must contain a description of the purpose or goal of the construction project (*e.g.*, a single family residential development). In addition, the SWP3 must list all soil disturbing activities necessary to complete the project (*e.g.*, clearing, excavating and stockpiling).

Preparing Pollution Prevention Site Map. The information collected during the previous steps in the site evaluation and design development phase should be combined into a comprehensive pollution prevention map. According to EPA, the starting point for the map should be the site plan prepared for the construction design. The map should be drawn to scale with topography. The scale of the map should be small enough to distinguish features such as drainage swales and control measures that will be added later.

The site map must include the following information:

- the location of surface waters;
- the location and steepness of slopes after grading;
- the location of areas of soil disturbing activities or the total area of the site where soil will be disturbed (also include an outline of areas that will not be disturbed); and
- the drainage patterns of the site after major grading activities and the location of the points where stormwater will discharge from the site, using topographic contour lines or arrows to indicate the direction of runoff flow (also show the location of swales, channels, or new or proposed underground storm drain systems).

The plan must also include a general location map where the construction site is identified. This can be done using a portion of a city or county map.

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Endangered Species Protection

When developing SWP3s, permit applicants must follow procedures to determine whether listed endangered or threatened species or critical habitat would be affected by stormwater discharges or stormwater discharge-related activities. Any information on whether listed species or critical habitat are found in proximity to the construction site must be included in the plan. "In proximity" is defined to include species:

- located in the path or immediate area through which or over which contaminated point source stormwater flows from construction activities to the point of discharge into the receiving water;
- located in the immediate vicinity of, or nearby, the point of discharge into receiving waters; or
- located in the area of a site where stormwater BMPs are planned or are to be constructed.

The permit's coverage does not extend to discharges and discharge-related activities likely to jeopardize the continued existence of species proposed, but not yet listed as endangered or threatened or that result in the adverse modification of habitat proposed to be designated as critical habitat.

The Endangered Species Act (ESA) places several different requirements on activities covered by the construction general permit. First, unless specifically authorized, ESA prohibits any person from "taking" a listed animal species (*e.g.*, harassing or harming it). Second, ESA requires that permittees consult with the appropriate federal agencies (*e.g.*, Fish and Wildlife Services (FWS) or the National Marine Fisheries Service (NMFS)) to determine whether stormwater discharges that result from construction activity will have an adverse effect on listed species or critical habitat. ESA regulations provide two types of consultation:

1) *Formal consultation*—this is a 135-day process that results in issuance of a biological opinion by either FWS or NMFS. Their opinion must state whether the stormwater discharges related to construction activity or implementation of the SWP3 are likely to jeopardize the existence of a listed species or result in adverse modification or destruction of critical habitat. Formal consultation can also provide authorization for anticipated incidental "take" of listed animal species.

2) *Informal consultation*—this is an optional process that includes discussions, correspondence, etc., between FWS or NMFS and the permittee to determine whether stormwater discharges related to construction activity or implementation of the SWP3 is likely to have an adverse effect on listed species or critical habitat. During informal consultation, FWS or NMFS may suggest modifications to the SWP3 that could help avoid any adverse effects. Although informal consultation is not a prerequisite to formal consultation, most consultations are carried out informally.

[The next page is Tab 600, page 631.]

¶672 Project Assessment

The second phase in developing an SWP3 for construction activities is to conduct a project assessment that measures the size of the land disturbance and estimates the impact the project will have on stormwater runoff from the site using the information gathered in the first phase.

Measuring Site Area. Under EPA's general permit, the SWP3 must include an estimate of the total site area and the area that will be disturbed. The total site area estimate must represent the size of the parcel of property or right of way on which the construction is occurring. The disturbed area estimate must represent the portion of the total site area that will be disturbed over the course of the construction project.

Determining Drainage Area. The drainage area for each point where concentrated flow will leave the site is not required to be included in the SWP3. However, according to EPA, this information will help in the selection and design of sediment control and stormwater management measures. Drainage areas are portions of the site where runoff will flow in one particular direction or to a particular discharge point.

Calculating the Runoff Coefficient. Under EPA's general permit, the SWP3 must include an estimate of the runoff coefficient of the site after construction is complete. The runoff coefficient is an estimate of the fraction of total rainfall that will appear as runoff. For example, the "c" value of lawn area is 0.2, which indicates that only 20 percent of the rain falling on grassy areas will end up as surface runoff. In contrast, the "c" value of a paved area can be 0.9 or higher, indicating that 90 percent of the rain falling on this type of surface will run off. Runoff coefficients for sites with more than one land use are estimated by calculating a weighted average (based upon area) of the runoff coefficients for each land use. Figure 682-1 lists runoff coefficients for various land uses.

Figure 682-1: Typical "C" Values (ASCE 1960)

Description of Area	Runoff Coefficients
Business	
Downtown Areas	0.70-0.95
Neighborhood Areas	0.50-0.70
Residential	
Single-family areas	0.30-0.50
Multiunits, detached	0.40-0.60
Multiunits, attached	0.60-0.75
Residential (suburban)	0.25-0.40
Apartment dwelling areas	0.50-0.70
Industrial	
Light Areas	0.50-0.80
Heavy Areas	0.60-0.90
Parks, cemeteries	0.10-0.25
Playgrounds	0.20-0.35
Railroad yard areas	0.20-0.40
Unimproved areas	0.10-0.30
Streets	
Asphalt	0.70-0.95
Concrete	0.80-0.95
Brick	0.70-0.85
Drives and walks	0.75-0.85
Roofs	0.75-0.95
Lawns - course textured soil (greater than 85% sand)	
Slope: Flat, 2%	0.05-0.10
Average, 2-7%	0.10-0.15
Steep, 7%	0.15-0.20
Lawns - fine textured soil (greater than 40% clay)	
Slope: Flat, 2%	0.13-0.17
Average, 2-7%	0.18-0.22
Steep, 7%	0.25-0.35

Source: *Stormwater Maqnagement for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices* (EPA Document No. EPA 832-R-92-005 (Sept. 1992)).

¶673 Control Selection and Plan Design

The next phase in the process of pollution prevention planning is to select pollution and stormwater management controls and to design the SWP3. During this phase, the following steps should be undertaken:

- review and incorporate state and local requirements;
- select erosion and sediment controls;
- select other controls;
- select stormwater management controls;
- indicate the location of controls on the site map;
- prepare an inspection and maintenance plan;
- prepare a description of controls; and
- prepare a sequence of major activities.

State and Local Requirements. Before designing an SWP3, a permittee first must determine what additional state or local requirements, if any, exist for sediment and erosion site plans, site permits or stormwater management site plans. If such requirements exist, they must be incorporated into the SWP3 design.

Erosion and Sediment Controls. The SWP3 must describe the erosion and sediment controls to be used during the construction project. Such controls include stabilization measures for disturbed areas and structural controls to divert runoff and remove sediment. Although the selection of these controls depends on a number of factors, the primary factor is site conditions.

Stabilization. Under EPA's general permit, disturbed areas of the construction site that will not be redisturbed for 21 days or more must be stabilized by the 14th day after the last disturbance. Stabilization measures include:

- temporary seeding;
- permanent seeding; and
- mulching.

Structural Control Measures. EPA's general permit requires that the SWP3 include structural practices to divert flows away from disturbed areas, to store flows or to limit the discharge of pollutants from the site. Structural control measures include:

- earth dikes;
- silt fences;
- sediment traps; and
- sediment basins.

EPA's general permit requires that, where attainable, a temporary or permanent sediment basin be installed in any drainage location where more than ten acres in the upstream drainage area are disturbed at one time. The sediment basin must provide at least 3,600 cubic feet of storage for every

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acre of land that it drains (flows from upland areas that are undisturbed may be diverted around the basin). For drainage locations with ten or fewer disturbed acres, sediment traps, filter fences or equivalent measures must be installed along the downhill boundary of the construction site.

Other Controls. The SWP3 also must include controls that address other potential sources of stormwater pollution such as:

- ensuring proper disposal of construction site waste materials;
- treating or disposing of sanitary wastes in accordance with state or local requirements;
- preventing offsite tracking of sediments and generation of dust; and
- identifying and preventing contamination of non-stormwater discharges.

Stormwater Management Controls. Under EPA's general permit, the SWP3 must include a description of the stormwater management controls that will be installed to control pollutants in stormwater after construction is complete. For sites in which the development results in runoff flows that are higher than pre-construction levels, the plan must include a technical explanation of why a particular stormwater management method was selected. EPA expects that most sites can employ measures to remove 80 percent of the total suspended solids from post-construction runoff. These control methods include:

- retention ponds;
- detention ponds;
- infiltration measures; and
- vegetated swales and natural depressions.

In addition to removing pollutants, the stormwater management portion of the SWP3 must address velocity dissipation at discharge locations. EPA's general permit requires that velocity dissipation devices, such as riprap outlet protection, be placed along the length of any outfall where the discharge from the developed area may erode the channel.

Location of Controls. The pollution prevention measures selected for the site must be shown on the site map, including the location of each measure used for erosion and sediment control, stormwater management and other pollution controls. After this information is added to data discussed in ¶681, the map is ready for inclusion in the SWP3.

Inspection and Maintenance Plan. Once the SWP3 is prepared and implemented, the stormwater discharger is responsible for inspecting and maintaining the controls identified in the plan. Under EPA's general permits, the SWP3 must contain a description of the procedures that will be used to maintain the pollution measures onsite. The plan should include an inspection and maintenance checklist for each control measure.

Description of Controls. The SWP3 should include a list of the controls to be used at the site, describing each control, its purpose and why it is appropriate. The description also should include specific information about the control such as size, required material and methods of installation/ use. The permit should be reviewed carefully to ensure that the plan includes all required controls.

Sequence of Major Activities. As part of the plan design phase, a sequence of major activities should be prepared. The sequence should address the installation of all controls, earth disturbing activities, and stabilization activities, and the maintenance required for the controls. The sequence should indicate clearly the order in which these activities will take place.

According to EPA, the following general principles are helpful in developing the sequence of major activities:

- install downslope and sideslope perimeter controls before the land disturbing activity occurs;
- do not disturb an area until it is necessary for construction to proceed;
- cover or stabilize disturbed areas as soon as possible;
- time construction activities to limit impact from seasonal climate changes or weather events;
- delay construction of infiltration measures until the end of the construction project when upstream drainage areas have been stabilized; and
- do not remove temporary perimeter controls until after all upstream areas are finally stabilized.

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¶674 Certification and Notification

The next phase of the planning process involves certifying the SWP3 and submitting a notice of intent (NOI) to the appropriate agency.

Certifying the SWP3. EPA's baseline construction general permit requires that the SWP3 be certified. This certification should be made by the authorized representative of the site operator—someone at or near the top of the management chain, such as the president, vice president or a general partner, who has been delegated authority to sign and certify this type of document. In signing the plan, this person certifies that the information is true and assumes liability for the plan.

In addition, the general permit requires that the contractors and subcontractors responsible for implementing measures in the SWP3 be listed in the plan with the measures for which they are responsible and that they sign a certification statement that they understand the permit requirements.

Notice of Intent. EPA's construction general permit requires the NOI to be submitted at least two days before construction activities begin. See ¶322 for a discussion of the NOI requirements. EPA has developed a one-page form (see Appendix 2(f), p. 71) that should be used when submitting the NOI. An electronic version of the NOI form is available at EPA's Office of Wastewater Management website (http://www.epa.gov/owm/) and various EPA regional web pages.

According to EPA, parties who have day-to-day responsibilities for site operations, and parties who have control over the designs and specifications necessary to ensure compliance with plan requirements and permit conditions, must submit an NOI. EPA anticipates that there will be projects where more than one entity (e.g., the owner, developer or general contractor) will need to submit an NOI so that both of these requirements for an operator are met. In such cases, those persons will become co-permittees.

The SWP3 must be completed prior to submitting the NOI. The plan must be implemented by the time construction activity begins.

Submit NOIs to the following address:

Storm Water Notice of Intent (4203)
401 M St., S.W.
Washington, D.C. 20460

The EPA Notice of Intent Processing Center can be reached at (703) 931-3230.

¶675 Construction and Implementation

The next phase of the pollution prevention planning process involves undertaking the activities identified in the plan, including:

- implementing controls;
- inspecting and maintaining controls;
- maintaining records of construction activities;
- updating the plan to keep it current;
- taking proper action when there is a reportable quantity spill; and
- having the plan accessible.

Implementing Controls. The controls that were identified in the SWP3 should be constructed or applied in accordance with state or local specifications, or if such specifications do not exist, in accordance with good engineering practices. The controls must be constructed in the order indicated in the sequence of major activities and within the timeframe specified in the permit.

Inspect and Maintain Controls. EPA's construction permit requires inspection every seven days or within 24 hours of a storm of 0.5 inches or more in depth. All disturbed areas, areas for material storage, locations where vehicles enter or exit the site, and all of the erosion and sediment controls that were identified as part of the plan must be inspected. Controls must be in good operating condition until the area they protect has been completely stabilized and the construction activity is complete.

The person inspecting the site must record any damages or deficiencies on an inspection report form. These forms can be used to request maintenance and repair and to prove that inspection and maintenance were performed. Damages or deficiencies should be corrected as soon as possible after the inspection, but in no case later than seven days after the inspection. Any changes that may be required to correct deficiencies in the SWP3 also should be made as soon as possible, but in no case later than seven days after the inspection.

Maintain Records of Control Activities. The operator of the site also should maintain records containing the following information about the construction activities at the site:

- the dates when major grading activities occur in a particular area;
- the dates when construction activities cease in an area, temporarily or permanently; and
- the dates when an area is stabilized, temporarily or permanently.

These records can be used to ensure that areas where there is no construction activity will be stabilized within the required timeframe.

Update the SWP3. To maintain full compliance with the stormwater permit and for the SWP3 to be effective, the plan must be updated to reflect accurately site features and operations. The plan also must be changed if it is not effective in minimizing pollutant discharges from the site.

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Report Releases of Reportable Quantities. Releases of reportable quantities of hazardous substances during construction must be reported in the following manner:

- notify the National Response Center immediately at (800) 424-8802 (in Washington, D.C., (202) 426-2675);
- within 14 days, submit a written description of the release to the EPA regional office providing the date and circumstances of the release and the steps to be taken to prevent another release; and
- modify the pollution prevention plan to include the information listed above.

Provide for Plan Location and Access. A copy of the SWP3 must be kept at the construction site from the time construction begins until the site is finally stabilized. Copies of the SWP3, all other reports required by the permit and the data used to complete the NOI must be retained for three years after the completion of final site stabilization. The SWP3 and related records must be made available upon request to EPA, to any state or local agency that is approving erosion and sediment control or stormwater management plans, or if runoff is discharged to an MS4, to the operator of the MS4.

¶676 Final Stabilization and Termination

A permittee must continue to comply with permit conditions until:

- he or she no longer meets the definition of an operator of a construction site; or
- the construction activity is complete, all disturbed soils have been finally stabilized, and temporary erosion and sediment controls have been or will be removed.

A permittee must submit a notice of termination (NOT) to inform EPA that he or she is no longer an operator of the construction activity. Permittees also must submit an NOT to EPA upon completion of a project. The NOT must be filed within 30 days after cessation of construction activities and final stabilization of the permittee's portion of the site (or temporary stabilization for residential construction where a homeowner is assuming control of the property). An NOT must also be submitted before another operator assumes the previous permittee's liabilities.

Final Stabilization. Final stabilization is defined by EPA's general permit as meaning that all soil disturbing activities at the site have been completed and that a uniform perennial vegetative cover with a density of 70 percent of the cover for unpaved areas not covered by permanent structures has been established or equivalent permanent stabilization measures (*e.g.*, the use of riprap, gabions or geotextiles) have been employed.

Notice of Termination. The NOT is a one-page form that should be completed and submitted to EPA when a site has been finally stabilized or when an operator of a construction activity changes. See ¶555 for a discussion of the NOT requirements. NOTs should be mailed to:

Stormwater Notice of Termination (4203)
401 M St., S.W.
Washington, D.C. 20460

Questions about the form can be directed to the Notice of Intent Processing Center at (703) 931-3230.

Record Retention. The permittee must keep a copy of the SWP3 and records of all data used to complete the NOI for a period of at least three years following final stabilization.

[The next page is Tab 600, Page 681.]

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¶677 Recommended BMPs for Small Construction Sites**

The BMPs used for controlling pollutants in stormwater discharges from small construction sites may vary from those used for large sites, according to EPA. For example, operators of small sites may have more limited access to qualified design personnel and technical information. Also, small sites may have less space for installing and maintaining certain BMPs.

According to EPA, the following practices have shown to be efficient, cost effective and versatile for small construction site operators to implement. The practices are divided into two categories: nonstructural and structural

Nonstructural BMPs

EPA has identified the following nonstructural BMPs for small sites:

- minimizing disturbance;
- preserving natural vegetation; and
- good housekeeping.

Structural BMPs

Structural BMPs can be divided into erosion and sediment control practices. Most of these require regular maintenance to operate correctly. Accumulated sediments should be removed frequently and materials should be checked periodically for wear. Regular inspection by qualified personnel should be performed after major rain events.

Erosion control practices include:

- mulch;
- grass; and
- stockpile covers.

Sediment control practices include:

- silt fences;
- inlet protection;
- check dams;
- stabilized construction entrances; and
- sediment traps.

[The next page is Tab 600, Page 701.]

** Added, May 2000.

¶690 Insights

"Insights" are articles containing specific guidance for members of the regulated community written by experts in the stormwater field. Insights are found at the conclusion of most tabs of the *Stormwater Permit Manual*. Additional Insights will be added to the *Manual* as part of the monthly update service. Subscribers are encouraged to contact the editors with suggestions for future Insights.

¶691 Insight: Atmospheric Deposition and the CWA Anti-backsliding Provision: How Disneyland Solved its Copper Problem

Author Robert Antonoplis is senior counsel in The Walt Disney Co. corporate environmental compliance department, which is responsible for advising Disney operations in the United States on environmental legislative, regulatory and compliance matters. He also serves as chairman of the Entertainment and Event Center Coalition, a business group of theme park, sports facility, and theater operators affected by current and proposed environmental regulations.

Normally an article on how a facility solved a potentially troublesome stormwater discharge issue by amending its National Pollutant Discharge Elimination System (NPDES) permit would drive readers into a deep somnambulistic trance. However, it becomes more interesting when the solution literally came from above and the facility happens to be the Happiest Place on Earth.

This article discusses how in-house resources investigated and creatively solved a potentially troublesome NPDES discharge issue, including overcoming the Clean Water Act's (CWA) anti-backsliding prohibition, which prohibits the lessening or removal of NPDES permit effluent limitations unless certain narrow exceptions apply.

Since 1983, Disneyland in Anaheim, Calif., has had a site-specific NPDES stormwater discharge permit. This permit regulated stormwater runoff and discharges from the various waterways used in park attractions. The permit contained a 0.10 mg/l effluent limitation for total copper, which includes both the soluble and insoluble copper present in the effluent. In 1994, the California Regional Water Quality Control Board (RWQCB) lowered the limit to 0.05 mg/l, effective Oct. 1, 1995.

Monitoring data indicated that compliance with the new 0.05 mg/l limit would be problematic. Disneyland and the RWQCB had developed a good working relationship over the years, and the RWQCB had always shown a willingness to work jointly with Disneyland on problem-solving. Disneyland immediately brought the situation to the attention of RWQCB staff. After reviewing the data, the RWQCB agreed to allow Disneyland to conduct and submit a copper discharge evaluation study prior to the effective date of the new effluent limit.

This study would assess the nature and extent of Disneyland's copper discharge, as well as the effectiveness of best management practices for reducing the discharge. Disneyland agreed to submit the study by May 1995.

Disneyland assembled a project team consisting of Disneyland environmental compliance personnel, researchers from Disney's environmental research and development department, outside consultants, and in-house environmental counsel. The team first reviewed all uses of copper and copper-containing materials within the park. This involved a comprehensive review of material safety data sheets and interviews with operations personnel.

Surprisingly, this review concluded that there was virtually no use of copper within the park, including all areas that would come into contact with park waterways or stormwater runoff. The project team also determined that materials such as pennies tossed by guests into waterways or copper piping do not contribute to the copper levels observed in the park stormwater discharge.

Editor's Note: Reprinted with permission of Business Development Associates (BDA). This article first appeared in the January 1996 edition of BDA's *Environmental Corporate Counsel Report* under the title, "At Disneyland, an NPDES Compliance Solution is Heaven-Sent."

Previously, Disneyland had used copper algicides in park waterways, but their use had been discontinued by 1985. The RWQCB originally imposed the 0.10 mg/l copper limitation in 1983 because of the use of these copper algicides.

The monitoring data continued to show elevated levels of copper in the stormwater discharge—levels that the small amount of copper present in the park's incoming water supply would not account for. Suspecting a copper source within the park storm drains, Disneyland cleaned out sediment from all of these drains. Tests of the sediment for copper content indicated that the copper concentration in storm drain sediment was relatively constant throughout the park. Disneyland staff believed that this finding was inconsistent with the presence of a copper source within the park, but they still could offer no explanation for the effluent copper levels. Even after cleaning the storm drains, levels persisted.

In undertaking the copper evaluation study, one of Disneyland's goals was to develop a technical justification, if feasible, for changing the copper effluent limitation. Disney looked first at an Oct. 1, 1993, memorandum, in which the U.S. Environmental Protection Agency (EPA) had recommended using soluble metal concentrations in lieu of total copper in order to set and measure compliance with water quality standards. The EPA memorandum noted that typically only the soluble fraction is potentially harmful to aquatic life. Disney's goal was to establish a permit condition based upon soluble copper concentration since initial sampling suggested a low ratio of soluble to insoluble copper in the park effluent.

After testing, Disney discovered there was not a consistent ratio of soluble to insoluble copper in its effluent. Taking many stormwater samples from various locations within the park and analyzing both the soluble and total copper fractions produced results that were at best inconclusive: The soluble copper fraction throughout the park ranged from 11 percent to 100 percent, and averaged about 50 percent. The project team concluded this data was not sufficient to establish a permit condition based upon soluble copper content.

Another study goal was to establish—regardless of the copper concentrations—that the effluent was not harmful to plant and animal life. Disney conducted its own acute aquatic bioassay with *Ceriodaphnia dubia*, an organism notably sensitive to copper, to determine the threshold soluble copper concentration that exhibits toxicity. The toxicity testing indicated that a soluble copper concentration of 0.16 mg/l was not toxic, and that concentration was well above Disneyland's total copper effluent limit of 0.10 mg/l.

The findings had the project team stumped. They were unable to pinpoint the source of copper in the stormwater effluent. There was nothing in the Disneyland operations that could have been discharging copper into storm drains. The effluent copper discharge persisted even after cleaning the storm drains of the copper-bearing sediments. And, finally, the efforts to change the copper limitation from a total copper to a soluble copper limit were inconclusive. Nevertheless, the troublesome permit condition scheduled to take effect on Oct. 1, 1995, was still pending. The project team returned to the drawing board.

The breakthrough came in a literature survey conducted by Disney's environmental research and development department. The researchers found several articles that discussed the phenomenon of atmospheric copper deposition and its impact on surface water quality. These articles discussed how sources such as copper-bearing vehicle brakepads and fuel combustion (copper is naturally-occurring in crude oil) generate airborne copper particles that gradually deposit themselves over land. The settled copper particles would then be swept up during storms and discharged to the

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storm drains. One article concluded that atmospheric copper deposition accounted for much of the copper found in Lake Michigan. Another discussed the rates of atmospheric copper deposition in metropolitan Chicago and Los Angeles.

Given that Disneyland is in an industrialized urban area with more than its fair share of automobiles and fuel consumption, the project team surmised that atmospheric copper deposition could be a source of the copper found in Disneyland's stormwater runoff. Researchers from Disney's environmental R&D department set up experiments throughout the Disneyland property to measure the rate of atmospheric copper deposition.

The results were striking: the atmospheric deposition rate was as high as 270 grams per day, which was consistent with previous studies in other regions. Moreover, a material balance, which took into account the copper deposition rate and the size of the Disneyland property, concluded that more than 99 percent of the copper present in the stormwater effluent could be attributed to atmospheric copper (the other 1 percent came from the incoming water supply). The uniform copper deposition rate, combined with the nightly park washdowns, also helped explain the relatively uniform copper concentrations found in storm drain sediment throughout the park.

It was now apparent that Disneyland was up against a pollutant over which it had no control. The project team then experienced a major paradigm shift in its thinking. Instead of seeking a soluble copper effluent limitation, the team concluded that regulating copper in Disneyland's stormwater effluent was no longer appropriate and it would request that RWQCB remove the copper limitation from the NPDES permit.

One last hurdle remained. The CWA's anti-backsliding provision (33 U.S.C. §1342(o)) prohibits removing a permit condition or making a condition less stringent unless certain exceptions apply. These exceptions can occur when:

> (A) material and substantial alterations to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation;
>
> (B)(i) information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance; or
>
> (ii) the Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit;
>
> (C) a less stringent effluent is necessary because of events over which the permittee has no control and for which there is no reasonably available remedy;
>
> (D) the permittee has received a permit modification under section 1311(c), 1311(g), 1311(h), 1311(i), 1311(n), or 1326(a) of Title 33; or
>
> (E) the permittee has installed the treatment facilities required to meet the effluent limitation in the previous permit and has properly operated and maintained the facilities but has nevertheless been unable to achieve the previous effluent limitations, in which case the limitations in the reviewed, reissued or modified permit may reflect the level of pollutant control actually achieved (but shall not be less stringent than required by effluent guidelines in effect at the time of permit renewal, reissuance or modification).

Absent the presence of any one of these five criteria, the RWQCB could not remove or lessen the effluent copper limitation in Disneyland's NPDES permit.

The project team concluded that criteria (A) and (C) were directly applicable in this instance. RWQCB file documents indicated that the agency imposed the copper limitation largely because of the widespread use of copper algicides in park waterways when the RWQCB issued the permit in 1983.

The facts were that Disneyland eliminated all use of copper algicides in 1985, and that, per the determination of the project team, there were no other uses of copper at the park which could contribute copper to the stormwater effluent. These facts clearly constituted changed circumstances which warranted revisiting the need for a copper effluent limitation.

More importantly, Disneyland had no control over the atmospheric copper deposited on its property, and the empirical data suggested that atmospheric copper accounted for virtually all of the copper found in Disneyland's stormwater effluent. This fit squarely into the exception found at 33 U.S.C. §1342(o)(2)(C). The RWQCB concurred, and in July 1995 it removed the copper effluent limitation from the permit.

This incident illustrates how keeping an open mind and discarding preconceived notions on the outcome of an investigation can lead to an unexpected and highly beneficial outcome. For those facilities that are experiencing compliance difficulties with metals effluent limitations, their prospects may literally be looking up. However, even if atmospheric deposition is a legitimate source of the effluent metals in surface water runoff, lurking in the background still is the anti-backsliding hurdle.

[The next page is Tab 700, Page 1.]

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Tab 700

EPA's Regulatory Strategy

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¶710 Executive Summary*

This tab discusses the long-term regulatory strategy mandated for stormwater under the Clean Water Act (CWA) and U.S. Environmental Protection Agency's (EPA) National Pollutant Discharge Elimination System (NPDES) stormwater permitting regulations.

It describes the original four-tiered regulatory strategy for regulating stormwater discharges mapped out by EPA in 1990, and discusses current developments in the permitting program.

The tab provides a brief description of the phase I and phase II permitting programs and the agency's strategy for both groups of dischargers. It also describes EPA's National Water Program Agenda for the Future and discusses the agency's attempts to "reinvent" the NPDES permitting program through paperwork reduction, performance-based reporting and monitoring and no-exposure incentives.

Finally, the tab gives an overview of EPA's NPDES watershed strategy, which is part of the agency's larger watershed protection approach to regulation, and describes EPA's effluent trading policy.

[The next page is Tab 700, Page 5.]

* Revised, June 1996.

¶720 EPA's Regulatory Strategy

The CWA amendments of 1987 established a phased approach to stormwater permitting and management, designed to allow EPA to focus first on stormwater discharges believed to cause the worst water quality problems. In response to the 1987 amendments, EPA issued two rules to regulate those sources that were immediately subject to permitting requirements (see Appendix 1(a) and Appendix 1(b)).

The stormwater application rule issued in November 1990 describes the types of facilities subject to the NPDES stormwater permitting program and how covered facilities may obtain stormwater permits. The stormwater implementation rule issued in April 1992 describes the minimum requirements for NPDES stormwater permit terms and conditions (see Appendix 1(b)(1) and Appendix 1(b)(2)).

¶721 The Four-tiered Approach

In the stormwater application rule, EPA set forth a preliminary strategy for developing permitting priorities. The strategy is broken down into four tiers designed to be implemented over time. They are:

- Tier I—baseline permitting;
- Tier II—watershed permitting;
- Tier III—industry-specific permitting; and
- Tier IV—facility-specific permitting (see Appendix 1(b)(2), p. 508).

1

Baseline permitting. It was EPA's intention to issue general permits that initially would cover the majority of stormwater discharges associated with industrial activity in states without authorized NPDES programs. These permits also were to serve as models for states with authorized NPDES programs. EPA did in fact issue two general permits in September 1992: the baseline industrial general permit and the baseline construction general permit (see Appendix 1(c) and Appendix 1(d).)

The consolidation of many sources under one permit was intended to reduce the administrative burden on EPA and state permitting authorities and to establish requirements for the majority of discharges, giving dischargers the opportunity to come into compliance with CWA. It also was intended to help EPA collect and review data on industrial stormwater discharges from priority industries to aid in developing subsequent permitting activities. In addition, the baseline permits were intended to provide a forum for public comment on the development of subsequent phases of the permitting strategy, including the development of state programs. Initially the coverage of the baseline permits was to be broad, but was expected to shrink as the agency issued other permits for stormwater discharges associated with industrial activities outlined under Tiers II through IV.

2

Watershed permitting. Under the four-tiered strategy, facilities in watersheds shown to be harmed by stormwater discharges would be targeted for individual and general permitting. This process was to be initiated by identifying receiving waters where stormwater discharges could be identified as a source of use impairment.

EPA in 1994 adopted an NPDES watershed strategy that establishes objectives for the agency, its regions and the states (see ¶750). As of this writing, state programs were in the forefront of watershed planning and management.

Industry-specific permitting. Under the third tier, EPA was to target specific industry categories for individual or industry-specific general permits. These permits would allow permitting authorities to focus attention and resources on industry categories of particular concern and/or industry categories where tailored requirements are appropriate. EPA was to work with states to develop model permits for selected classes of industrial stormwater discharges and to identify priority industrial categories. In addition, group applications were to be used to develop model permits for appropriate industries.

EPA in September 1995 issued the multi-sector general permit for industrial activities (see Appendix 1(e), p. 801). The multi-sector permit offers separate, tailored monitoring and stormwater pollution prevention requirements for 29 different industrial categories and numerous subcategories. Dischargers from the 29 covered industrial categories that also were covered under the baseline general permit were given the opportunity to switch to the multi-sector permit. The deadline for submitting a notice of intent to be covered by the multi-sector permit was March 29, 1996. (See Appendix 1(e), p. 808.)

EPA said it would encourage NPDES-delegated states to create their own versions of the multi-sector permit and anticipated that perhaps as many as half the states eventually would adopt some type of sector-specific permit. As of this writing, EPA had no definite plans to develop other industry-specific permits or to add additional categories to the existing multi-sector permit.

Facility-specific permitting. In developing its early strategy, EPA said individual permits would be appropriate for stormwater discharges with high potential for polluting waterways; where there is an identified need for specific, individual control mechanisms; and in cases where reduced administrative burdens exist. For example, individual NPDES permits for facilities with process discharges may be expanded during the normal process of permit reissuance to cover stormwater discharges from the facility.

¶722 Current Developments*

EPA's approach has strayed somewhat from the preliminary strategy outlined above as the result of a variety of factors. For example, due to the overwhelming response of group applicants in the early 1990s, EPA issued a single permit—the multi-sector general permit—for use by 29 different industries, instead of creating numerous group permits for the thousands of facilities and groups that submitted information to the agency. In addition, the fact that EPA fell significantly behind schedule in issuing both the multi-sector permit and the phase II rule covering smaller stormwater discharges likely caused the agency to stray from its original four-tiered plan.

Since the four-tiered plan was outlined in September 1992, EPA has updated and revised its strategy to accommodate a variety of conditions, including: new data regarding the impact of stormwater discharges on water quality; information gleaned from the experience of administering the stormwater program over a period of several years; and input from industry, states and environmental groups on the successes and failures of the existing stormwater permitting program.

In August 1996, the agency issued a policy statement to aid permit writers in incorporating water quality-based effluent limits into stormwater permits. The policy was developed as a result of the variable nature of stormwater discharges and the lack of information on which to base numeric water quality-based effluent limits.

* Revised, December 1996.

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The policy recommends the use of best management practices (BMPs) in first-round stormwater permits and expanded or better-tailored BMPs in subsequent permits. The policy examines a number of technical questions surrounding the use of numeric effluent limits in stormwater permits and indicates that the agency is willing to entertain a variety of approaches to this complex subject.

The text of EPA's policy statement and a detailed question and answer document are included at ¶791.

As of this writing, EPA was working with a group of stakeholders to revise and refine phase I of the stormwater permitting program and to define requirements for phase II dischargers, who must be fully phased into the permitting program by 2001 (see ¶730). More information on this process is provided in the following sections.

On Jan. 9, 1998 (63 FR 1536), EPA proposed supplemental regulations for phase II dischargers. The proposed regulations, which are to be finalized by March 1, 1999, would replace existing 1995 rules and would expand the NPDES stormwater program to smaller municipal storm sewer systems (those that serve under 100,000 people) and construction sites that disturb between one and five acres of land. The proposed regulations are intended to establish a cost-effective, flexible approach for reducing negative environmental impact by stormwater discharges from currently unregulated sources. The proposal encourages the use of general permits and provides flexibility for municipalities to determine the nature of stormwater controls. It also provides flexibility in the use of watershed approaches and incorporates existing structures and mechanisms for public participation.

In an effort to provide flexibility, EPA recommended the creation of "safety valves" that would allow certain sources to be excluded from the national program based on the lack of impact on water quality, as well as to pull in other sources not regulated on a national basis based on localized adverse impact on water quality (see chart next page). EPA also recommended excluding from the program certain industrial activities that meet a condition of "no exposure" to stormwater (see ¶743).

Additionally, the proposal suggests the implementation of six minimum best management practices (BMPs) for small municipalities that are designated for coverage under the program. The BMPs are intended as a cost-effective method for significantly reducing pollutants in urban stormwater compared to existing levels. EPA also suggested implementing similar BMPs for small construction sites in an effort to reduce pollutant discharges and improve surface water quality.

The proposal suggested implementation of the following six minimum measures:

- public education and outreach programs on stormwater impacts;
- public involvement/participation in developing, implementing and reviewing the stormwater management program;
- illicit discharge detection and elimination;
- pollutant control program to reduce construction site stormwater runoff;
- post-construction stormwater management in new development and redevelopment; and
- pollution prevention/good housekeeping for municipal operations.*

* Added, March 1998.

Summary of Coverage of Stormwater Discharges Associated with Other Activity Under the NPDES Stormwater Program	
Automatic Designation: Required national coverage	Construction activities that result in a land disturbance of equal to or greater than one acre and less than five acres. Sites disturbing less than one acre are included if part of a larger common plan of development or sale.
Potential Designation: Optional evaluation and designation by the permitting authority	1) Construction activities that result in land disturbance of less than one acre based on the potential for adverse impact on water quality or for significant contribution of pollutants. 2) Any other non-municipal stormwater discharges.
Potential Waiver: Waiver from requirements as determined by the permitting authority	Any automatically designated construction activity where the owner/operator certifies: 1) a rainfall erosivity factor ("R" in the Revised Soil Loss Equation) of less than two, or 2) an annual soil loss of less than two tons/acre/year, or 3) that the activity will occur within an area where controls are not needed based on "waste load allocations" that are part of total maximum daily loads (TMDLs), or a comprehensive watershed plan.

Summary of Coverage of Small Municipal Separate Storm Sewer Systems Under the NPDES Stormwater Program	
Automatic Designation: Required nationwide coverage	All owners or operators of small municipal separate storm sewer systems (MS4s) located within an "urbanized area."
Potential Designation: Required evaluation by the permitting authority for coverage	All owners or operators of small MS4s located outside of an "urbanized area" with a population of at least 10,000 and a population density of at least 1,000. All owners or operators of small MS4s that contribute substantially to the stormwater pollutant loadings of a physically interconnected MS4 that is regulated by the NPDES stormwater program.
Potential Designation: Optional evaluation by the permitting authority for coverage	Owners and operators of small MS4s located outside of an "urbanized area" with a population of less than 10,000 or a density of less than 1,000.

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Who is Eligible for a Waiver or an Exemption from the Small MS4 Permit Requirements?	
Potential Waiver: Locally based waiver from requirements as determined by the permitting authority	Owners or operators of small MS4s, located within an "urbanized area" with a jurisdiction of less than 1,000 persons and a system that is not contributing substantially to the pollutant loadings of a physically interconnected MS4 may certify that stormwater controls are not needed based on: 1) waste load allocations that are part of "total maximum daily loads" (TMDLs) that address the pollutants of concern; or 2) a comprehensive watershed plan, implemented for the water body, that includes the equivalents of TMDLs, and addresses the pollutants of concern.
Exemption: Not defined as a regulated small MS4	Federal Indian reservations where the population within the "urbanized area" portion of the reservation is less than 1,000 persons.

[The next page is Tab 700, Page 51.]

¶730 EPA's Stormwater Permitting Program*

The U.S. Environmental Protection Agency's (EPA's) stormwater permitting program is implemented in two parts, known as phase I and phase II. Phase I dischargers, which are covered under EPA's 1990 application rule and 1992 implementation rule, include heavy industry, large and medium-sized municipal separate storm sewer systems (MS4s) and large construction sites (see ¶130). A final phase II rule issued in August 1995 would have required all unregulated (non-phase I) stormwater dischargers to obtain permit coverage by Aug. 7, 2001. That rule was meant only as an interim measure until a more targeted and specific phase II rule was developed, according to EPA. The agency in December 1999 issued a final phase II rule that supersedes and replaces the August 1995 phase II rule. The December 1999 rule narrows the types of covered dischargers to include only construction activities between one and five acres and small (<100,000 population) MS4s, and extends their deadline for National Pollutant Discharge Elimination System (NPDES) permit coverage to March 2003 (see ¶140).

Although discharges from light industrial, retail, commercial and institutional facilities are not covered under either rule, these facilities eventually may be regulated at the state level either by industrial category (e.g., all service stations in a given state) or on a facility-by-facility basis.

¶731 Phase I Permitting

Prior to Oct. 1, 1992, EPA was prohibited by law from requiring stormwater permits for any sources outside the five categories of dischargers included under phase I, or those believed to be responsible for the majority of water quality problems. The five categories covered under phase I of the permitting program are:

- facilities already covered by an NPDES permit for stormwater;
- facilities that engage in industrial activity;
- large municipal separate storm sewer systems (>250,000 population);
- medium municipal separate storm sewer systems (>100,000 and <250,000); and
- facilities that have stormwater discharges that are contributing to a violation of water quality or that are "significant contributors" of pollutants to waters of the United States.

The majority of phase I permittees are covered under EPA's baseline general permit for industrial activities in the states in which EPA is the permitting authority, or by similar industrial general permits offered by the delegated states. (See Tab 200 for information on states with general permitting authority.) Other phase I permittees are covered by individual stormwater permits.

Members of a federal advisory committee on urban wet weather flows in 1995 and 1996 examined the pros and cons of phase I of the permitting program, in preparation for making recommendations to EPA on how to improve the existing program and how to implement phase II stormwater permitting. Some of the questions and concerns examined by the group were:

- How can municipalities be sure that the best management practices (BMPs) they invest in will work for their particular circumstances and how should performance be assessed? How can municipalities determine whether nonstructural BMPs—like education—are working?
- Is industry complying with stormwater general permits? If not, how can this be improved?

* Revised, July 2000.

- Should a watershed approach be used and, if so, how should this be accomplished?
- What aspects of existing municipal or industrial permitting are burdensome or create barriers to effective stormwater management?
- Are water quality standards achievable for stormwater? Should performance standards be used as an alternative?
- How should "maximum extent practicable" be defined for stormwater permits?
- How can costs be controlled? How do municipalities fund programs?
- What monitoring must be done to obtain representative results while keeping costs down?
- Is atmospheric deposition a significant source of pollution, and do permits need to account for this?
- Do annual reports on program effectiveness provide useful information? Do they require too much or too little detail?
- Should municipalities be able to opt out of the program if industrial activities are not exposed to stormwater?

¶732 Phase II Permitting*

The second phase of the stormwater program was published in the *Federal Register* on Dec. 8, 1999 (64 FR 68722). The new phase II rule supersedes the interim phase II direct final rule published on Aug. 7, 1995, which required all nonregulated (non-phase I) stormwater dischargers to apply for permit coverage by Aug. 7, 2001.

The 1999 phase II rule automatically regulates two classes of stormwater dischargers on a nationwide basis:

- Operators of small MS4s located in "urbanized areas" as defined by the Bureau of Census—termed "regulated" small MS4s (see ¶143). A "small" MS4 is any MS4 not already covered by phase I of the NPDES program. Waivers from coverage are available.
- Operators of construction activities that disturb between one and five acres of land (see ¶145). Waivers from coverage are available.

Additional small MS4s outside of urbanized areas and construction sites disturbing less than one acre of land, as well as other sources that significantly contribute pollutants to waters of the United States, may be brought into the NPDES stormwater program by the NPDES permitting authority.

The NPDES permitting authorities must issue general permits for regulated small MS4s and small construction activity by December 2002. Operators of regulated small MS4s and small construction activity must obtain NPDES permit coverage by March 2003, unless the permitting authority sets an earlier deadline. EPA will try to list deadlines for each state as general permits are issued. In addition, entities regulated under phase II are required to implement stormwater discharge management controls, known as "best management practices" to reduce or prevent the discharge of pollutants into receiving waters. (See ¶450, ¶570 and ¶677 for more information on phase II program requirements and implementation options.)

The phase II rule also revises the "no-exposure" provision originally included in the 1990 regulations for phase I of the NPDES stormwater program. Under phase II, a conditional no-exposure exemption is available to operators of all categories of phase I and phase II regulated industrial

* Revised, July 2000.

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activity (except construction activity) that can certify that all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt and/or runoff. To obtain the no-exposure exemption, written certification must be submitted to the NPDES permitting authority. The final rule includes a No-Exposure Certification form for use only by operators of industrial activity in areas where EPA is the NPDES permitting authority. (See ¶124 for more information.)

[The next page is Tab 700, Page 101.]

¶740 EPA's Agenda for the Future*

In announcing EPA's National Water Program Agenda for the Future at the close of 1994, EPA assistant administrator for water Robert Perciasepe said the national water program was at "an historical crossroads." Perciasepe said that EPA had an obligation to improve its programs, even though Congress for several years running had failed to agree on CWA reauthorization legislation. In a memo announcing the water program agenda, Perciasepe called for industry and EPA to focus on shared priorities and to abandon activities that are no longer needed "due to the evolution of our programs and our past successes."

According to the agenda, water quality inventories have identified wet-weather flows as the largest remaining threat to water quality, including agricultural runoff, combined sewer overflows, urban stormwater, and sanitary sewer overflows. The Clinton administration's March 1994 Clean Water Initiative focused on reducing this threat to water quality, reducing costs, and providing state and local governments with greater flexibility to solve wet-weather problems. Consistent with these guiding principles, the Office of Water promised to take the following specific actions as part of its agenda for the future:

- target resources, effort and investment by all levels of government to address wet-weather issues;
- provide the necessary legal framework for a common sense approach to phase II stormwater program development, targeting real threats to water quality through the process;
- appoint an urban wet-weather advisory group to address policy and technical issues related to urban wet weather;
- identify and take appropriate steps to reduce the existing burden of the phase I stormwater program, and consider changes to existing monitoring and permitting requirements;
- encourage state and local partners to target wet-weather programs to protect surface and groundwater on a watershed basis;
- resolve questions regarding what cities must do under stormwater control requirements;
- streamline monitoring requirements under the existing stormwater program, and consolidate existing state reporting requirements;
- strengthen nonpoint source management by increasing flexibility for states in program design and in the grants process;
- consolidate gains in state Coastal Zone Amendments and Reauthorization Act programs by making common sense adjustments to current program requirements;
- integrate a policy to address the issue of wet-weather flows that cause sanitary sewer overflows and sewer backups into an overall wet-weather strategy; and
- continue to use pollution prevention, incentive-based volunteer efforts, and outreach to address nonpoint sources that EPA has not traditionally regulated.

¶741 Reinventing the NPDES Program*

One of the main objectives of the Clinton administration's regulatory reinvention initiative is to identify unnecessary monitoring, recordkeeping and reporting burdens imposed on the regulated community, with a goal of ultimately reducing existing burdens by 25 percent. In its agenda for the

* Added, June 1996.

future, the Office of Water also pledged to work with key stakeholders to find common sense solutions to the most pressing problems. This pledge included a commitment to reduce reporting burdens for Office of Water programs by 25 percent.

EPA found that reporting burdens associated with discharge monitoring reports under the NPDES program represented the greatest single burden on the regulated community. Over 8 million hours (over 80 percent) of the Office of Wastewater Management reporting burdens are associated with discharge monitoring reports, the agency said. As a result EPA sought sensible ways to reduce the reporting requirements without compromising the quality of point source discharges or the nation's waters.

¶742 Performance-based Reporting and Monitoring*

To accomplish this goal, the Office of Water and the Office of Enforcement and Compliance Assurance worked together to develop a proposal for performance-based reporting and monitoring. A June 1995 agency proposal outlines a four-tiered approach to performance-based reporting and monitoring that offers increasing reductions in reporting and monitoring activities.

Under Tier I, permittees would maintain their current reporting and monitoring frequency as set forth in existing permits. Under Tier II, permittees would reduce reporting and outfall-specific monitoring based on a demonstrated record of good compliance. Good compliance would be measured using existing performance tracking records such as no "significant non-compliance" (SNC), "reportable non-compliance" (RNC), or some combination of both. Tier II also would take into consideration the number of violations incurred by a facility.

Under Tier III, permittees could obtain additional reductions in reporting and monitoring requirements based on a continuing record of good compliance and by demonstrating that pollutants of concern in the permit have been controlled beyond water quality-based permit limits or to a degree that is better than existing technology. Larger reductions could qualify for greater decreases in reporting and monitoring. Tier IV would provide permittees with further reductions of reporting and monitoring based on meeting Tier II or III requirements for a specified period of time, and approval of an overall environmental management system, as certified by an outside third-party organization.

Movement from the current baseline (Tier I) through the other tiers would be based on demonstrated good performance and, for Tier IV, willingness of facilities to put in place comprehensive environmental management systems—including auditing—for managing all significant environmental impacts, not just those related to water.

These changes would be built into general permits or into the individual permit for a particular facility and would take effect after written notification from the permitting authority. Violating tier specifications would cause a facility to move back to a lower tier.

The reductions in monitoring and reporting would be available only for facilities that 1) have either demonstrated that their discharges pose no significant threat to the designated use of the receiving water; or 2) are willing and able to take steps beyond compliance with existing permit limits to substantially reduce pollutant contributions.

* Added, June 1996.

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Good performance could be measured either against a given facility's history of consistently demonstrating a good level of compliance (Tier II); or a facility's ability to perform better than permit limits, at least for pollutants of concern (Tier III).

¶743 No-exposure Provisions*

In December 1999, EPA published a revised "no exposure" provision in the phase II final rule at 40 CFR 122.26(g). The new provision is a conditional exclusion applicable to all categories of industrial activity (except construction activity) with no exposure of industrial materials and activities to stormwater.

Specifically, the provision conditionally excludes from the NPDES stormwater program any facility that certifies a condition of "no exposure," meaning all its industrial materials and/or activities are completely protected from rain, snow, snow melt or runoff by a storm-resistant shelter. To claim relief under the provision, an industrial operator must certify that a condition of no exposure exists at the facility. The certification must be submitted to the appropriate NPDES permitting authority (EPA or the state) once every five years. Facilities that discharge to a municipal separate storm sewer system (MS4) also must provide certification to the MS4 operator.

¶744 Endangered Species Certification

Stormwater permits issued under the NPDES program have always required dischargers to comply with the Endangered Species Act, but applicants for the multi-sector permit were the first permittees to be required to certify that their discharges, pollution prevention plans and best management practices do not adversely affect endangered species. It is expected that future stormwater permits, including revised or reissued baseline industrial and construction general permits due out in 1997, will also include an endangered species certification requirement.

EPA published an endangered species guidance document as part of the multi-sector permit that is designed to help companies comply with the new certification component of the application process. The guidance includes a list of endangered species broken down by state and county and instructions on how to properly certify (see Appendix 1(e) and Appendix 3(b)(2) of the *Manual*).

¶745 Phase II Tool Box*

In the December 1999 phase II final rule, EPA included provisions that will result in the development of a "tool box" to assist states, Indian tribes, municipalities and other parties involved in the phase II program. By December 2002, a fully operational tool box will be available, according to EPA. The agency plans to update the tool box as resources and data become available. The tool box will include information from a combination of sources both inside and outside EPA. Such information may include research and demonstration projects, grants, stormwater management-related programs, and compendiums of available documents, including guidance, related directly or indirectly to the comprehensive NPDES stormwater program. Tool box guidance will

* Revised, January 2000.

likely include examples of municipal and construction programs, and permitting authority guidance on designation and waiver criteria, as well as models of current state, tribes, municipalities, and others in establishing programs.

Ideally, the tool box will also include a comprehensive list of reference documents organized according to subject area, such as illicit discharges, watersheds, water quality standards attainment, and funding sources; educational materials; technical research data; and demonstration project results.

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¶750 NPDES Watershed Strategy

EPA in March 1994 adopted a policy on watershed protection called the NPDES Watershed Strategy. The strategy was developed by the Office of Wastewater Enforcement and Compliance with detailed input from states and EPA regions. The strategy represents a first step toward the Office of Water's goal of fully integrating the NPDES program into the broader watershed protection approach supported by the Office of Water.

EPA's watershed protection approach is intended to promote integrated solutions to surface water, groundwater, and habitat concerns on a watershed basis. The approach is not a new program; rather, it is a decision-making process that reflects a common strategy for information collection and analysis and a common understanding of the roles, priorities and responsibilities of all stakeholders within a watershed. A number of states are already aggressively developing or implementing a watershed protection approach, supported by EPA regions.

The purpose of the NPDES watershed strategy is to outline national objectives and activities for the NPDES program to integrate NPDES program functions into the broader watershed protection approach, and to support the development of state-wide basin management approaches. EPA said it will focus on five key objectives to implement the NPDES watershed strategy:

- Review and revise NPDES program oversight, administration, and regulations to eliminate impediments to integrating the NPDES program into the broader watershed protection approach.
- Allow the resources and level of effort dedicated to developing and reviewing NPDES permits to vary depending on the environmental impacts of each source in the basin to achieve the greatest environmental benefit with maximum efficiency.
- Use the compliance monitoring and enforcement program in conjunction with the permitting program to advance the objectives of the watershed protection approach.
- Coordinate with other key water quality management programs to develop and implement state-wide basin management frameworks.
- Support related program activities such as monitoring strategies, phased total maximum daily loads, and nonpoint source controls that address priorities in individual basins.

The strategy calls for EPA to implement a methodology for issuing NPDES permits on a watershed basis and emphasize training on watershed protection. EPA would streamline the permit development, issuance and review process and create new approaches to NPDES permitting on a watershed basis. The strategy also calls for EPA to develop a state-wide monitoring strategy; establish point source ambient monitoring requirements to aid in developing monitoring consortia and individual monitoring efforts; and promote comparable data collection, analysis and use by all stakeholders.

EPA took a step toward implementing this methodology in its proposed phase II supplemental rulemaking issued in January 1998. Although the proposal does not require states to use a watershed approach, EPA strongly encourages its use. The proposed rule was "designed to facilitate watershed planning and analysis" particularly in the area of designating stormwater sources to be covered under the program or giving regulatory relief to stormwater discharges already designated, but also in determining and implementing the requirements for the owners and operators of small MS4s.*

* Added, March 1998.

EPA expects that the NPDES permitting authority would work with state agencies who have jurisdiction over nonpoint sources and other areas within the watershed not covered under the NPDES program in the development of a comprehensive watershed plan.

EPA will continue to encourage the use of the watershed approach through activities that included tailoring the EPA program to support this direction; publishing case studies for states to use as examples; creating a tools directory; undertaking other outreach efforts, such as a quarter newsletter; including watershed activities on the EPA Internet home page; training for permit writers and the regulated community; and sponsoring conferences such as "Watershed 96."

¶751 Effluent Trading Policy

EPA in January 1996 released its first trading policy for water pollution sources in watersheds. The policy reflects the agency's move toward a watershed approach to managing wastewater and stormwater runoff.

Effluent trading occurs when a source that is able to cost-effectively reduce pollutants to levels lower than required sells or barters "credits" for its excess reduction to another source that is unable to reduce its own pollutants as cheaply. Sources such as industrial dischargers and sewage treatment plants are likely to take advantage of the effluent trading policy, according to EPA.

The policy states that EPA "strongly supports and will actively promote" effluent trading within watersheds to achieve water quality. Trading is an innovative approach that will give sources greater flexibility to reduce costs; achieve equal or greater pollution reductions; create economic incentives to go beyond minimum environmental requirements; encourage broader use of pollution prevention and innovative technologies; and address broader environmental goals within an ecosystem, EPA said in announcing the policy.

To participate in a trade, a point source must be in compliance, and remain in compliance, with applicable technology-based limits, the policy states. Facilities will trade pollutant reductions or water quality improvements. To ensure that water quality standards are met throughout a watershed, an equivalent or better water pollutant reduction must result from a trade, EPA said. The agency has proposed definitions for several types of effluent trades:

- Intra-plant trading—a point source is allocated pollutant discharges among its outfalls in a cost-effective manner, provided that the combined permitting discharge with trading is not greater than the combined permitted discharge without trading in the watershed.
- Pretreatment trading—an indirect industrial point source that discharges to a publicly owned treatment works arranges, through the local control authority, for additional control by other indirect point sources beyond the minimum requirements in lieu of upgrading its own treatment for an equivalent level of reduction.
- Point/point source trading—a point source arranges for other point source(s) in a watershed to undertake greater than required control in lieu of upgrading its own treatment beyond the minimum technology-based treatment requirements.
- Point/nonpoint source trading—a point source arranges for control of nonpoint source discharge(s) in a watershed in lieu of upgrading its own treatment beyond the minimum technology-based treatment requirements.

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- Nonpoint/nonpoint source trading—a nonpoint source arranges for more cost-effective control of other nonpoint sources in a watershed in lieu of installing or upgrading its own control.

EPA believes the potential for trading is largely untapped and that its usefulness will depend on the site-specific water quality conditions in any given situation.

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¶790 Insights

"Insights" are articles containing specific guidance for members of the regulated community written by experts in the stormwater field. Insights are found at the conclusion of most tabs of the *Stormwater Permit Manual*. Additional Insights will be added to the *Manual* as part of the monthly update service. Subscribers are encouraged to contact the editors with suggestions for future Insights.

¶791 Insight: Questions and Answers on EPA's Interim Permitting Approach for Water Quality-based Effluent Limitations in Stormwater Permits*

The Environmental Protection Agency (EPA) developed a set of questions and answers to help municipalities and permitting authorities implement its policy for incorporating water quality-based effluent limitations into National Pollutant Discharge Elimination System (NPDES) stormwater permits. The policy was developed to address the variable nature of stormwater discharges, and the typical lack of information on which to base numeric water quality-based effluent limitations, according to EPA. The policy addresses issues related to the type of effluent limitations that are most appropriate for NPDES stormwater permits to provide for the attainment of water quality standards.

The policy was issued Aug. 26, 1996 (61 FR 43761). The Q&A document was published on Nov. 6, 1996 (61 FR 57425).

EPA Policy Statement

In response to recent questions regarding the type of water quality-based effluent limitations that are most appropriate for NPDES stormwater permits, the EPA is adopting an interim permitting approach for regulating wet weather stormwater discharges. Due to the nature of stormwater discharges, and the typical lack of information on which to base numeric water quality-based effluent limitations (expressed as concentration and mass), EPA will use an interim permitting approach for NPDES stormwater permits.

The interim permitting approach uses best management practices (BMPs) in first-round stormwater permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards. In cases where adequate information exists to develop more specific conditions or limitations to meet water quality standards, these conditions or limitations are to be incorporated into stormwater permits, as necessary and appropriate. This interim permitting approach is not intended to affect those stormwater permits that already include appropriately derived numeric water quality-based effluent limitations. Since the policy only applies to water quality-based effluent limitations, it is not intended to affect technology-based limitations, such as those based on effluent guidelines or the permit writer's best professional judgment, that are incorporated into stormwater permits.

Each stormwater permit should include a coordinated and cost-effective monitoring program to gather necessary information to determine the extent to which the permit provides for attainment of applicable water quality standards and to determine the appropriate conditions or limitations for subsequent permits. Such a monitoring program may include ambient monitoring, receiving water assessment, discharge monitoring (as needed), or a combination of monitoring procedures designed to gather necessary information.

This interim permitting approach applies only to EPA, however, EPA also encourages authorized states and tribes to adopt similar policies for stormwater permits. This interim permitting approach provides time, where necessary, to more fully assess the range of issues and possible options for the control of stormwater discharges for the protection of water quality. The interim permitting approach may be modified as a result of the ongoing Urban Wet Weather Flows Federal Advisory Committee policy dialogue on this subject.

* Added, December 1996.

Questions and Answers

Q: Must EPA require that stormwater dischargers, industrial or municipal, be subject to numeric water quality-based effluent limitations (expressed as concentration and mass) in order to attain water quality standards?

A: No. Although NPDES permits must contain conditions to ensure that water quality standards are met, this does not require the use of numeric water quality-based effluent limitations. Under the Clean Water Act (CWA) and NPDES regulations, permitting authorities may employ a variety of conditions and limitations in stormwater permits, including BMPs, performance objectives, narrative conditions, monitoring triggers, action levels (e.g., monitoring benchmarks, toxicity reduction evaluation action levels), etc., as the necessary water quality-based limitations, where numeric water quality-based effluent limitations are determined to be unnecessary or infeasible.

Analysis

A. CWA does not require numeric effluent limitations.

Section 301 of CWA requires that discharger permits include effluent limitations necessary to meet state or tribal water quality standards. Section 502 defines "effluent limitation" to mean any restriction on quantities, rates and concentrations of constituents discharged from point sources. CWA does not say that effluent limitations need be numeric. As a result, EPA and states have flexibility in terms of how to express effluent limitations.

B. EPA's regulations do not always require numeric effluent limitations.

EPA has, through regulation, interpreted the statute to allow for non-numeric limitations (e.g., BMPs, see 40 CFR 122.2) to supplement or replace numeric limitations in specific instances that meet the criteria specified at 40 CFR 122.44(k). This regulation essentially codifies a court case addressing stormwater discharges (*NRDC v. Costle*, 568 F.2d 1369 (D.C. Cir. 1977)). In that case, the court stated that EPA need not establish numeric effluent limitations where such limitations were infeasible.

C. EPA has interpreted the statute and regulations to allow BMPs in lieu of numeric limitations.

EPA has defended use of BMPs as a substitute for numeric limitations in litigation involving stormwater discharges (*Citizens for a Better Environment v. EPA*, 91-70056 (9th Cir.)(brief on merits)) and in correspondence (Letter from Michael Cook, EPA, to Peter Lehner, NRDC, May 31, 1995). EPA has found that numeric limitations for stormwater permits can be very difficult to develop at this time because of the existing state of knowledge about the intermittent and variable nature of these types of discharges and their effects on receiving waters. Some stormwater permits, however, currently do contain numeric water quality-based effluent limitations where adequate information exists to derive such limitations.

Q: Has EPA provided guidance on a methodology for deriving numeric water quality-based effluent limitations?

A: Yes, but primarily for continuous wastewater discharges at low flow conditions in the receiving water, not intermittent wet weather discharges during high flow conditions. Regulations at 40 CFR 122.44(d) specify the requirements under which permitting authorities establish water quality-based effluent limitations when a facility has the "reasonable potential" to cause or contribute to an excursion of numeric or narrative water quality criteria. In addition, EPA guidance in the *Technical Support Document for Water Quality-Based Toxics Control* and the *NPDES Permit Writers Training Manual*, supplemented with total maximum daily load (TMDL) and modeling guidance, supports

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issuing permits that include numeric water quality-based effluent limitations. This guidance was based on crafting numeric water quality-based effluent limitations using TMDLs, or calculations similar to those used in developing TMDLs, and wasteload allocations derived through modeling. EPA expects the Urban Wet Weather Flows Federal Advisory Committee (60 FR 21189, May 1, 1995) will review this issue at greater length and may provide recommendations on how to proceed.

Q: Why can numeric water quality-based effluent limitations be difficult to derive for stormwater permits?

A: Stormwater discharges are highly variable both in terms of flow and pollutant concentrations, and the relationships between discharges and water quality can be complex. The water quality impacts of stormwater discharges are related to the uses designated by states and tribes in their water quality standards, the quality of the stormwater discharge (e.g., conventional or toxic pollutants conveyed to the receiving water) and quantity of the stormwater (e.g., erosion and loss of habitat caused by increased flows and velocity). Uses may be impacted by both water quality and water quantity. Depending on site-specific considerations, some of the water quality impacts of stormwater discharges may be more related to the physical effects (e.g., stream bank erosion, streambed scouring, extreme temperature variations, sediment smothering) than the type and amount of pollutants present in the discharge. For municipal stormwater discharges in particular, the current use of system-wide permits and a variety of jurisdiction-wide BMPs, including educational and programmatic BMPs, does not easily lend itself to the existing methodologies for deriving numeric water quality-based effluent limitations. These methodologies were designed primarily for process wastewater discharges which occur at predictable rates with predictable pollutant loadings under low flow conditions in receiving waters. Using these methodologies, limitations are typically derived for each specific outfall to be protective of low flows in the receiving water. Because of this, permit writers have not made wide-spread use of the existing methodologies and models for stormwater discharge permits. In addition, wet weather modeling is technically more difficult and expensive than the simple dilution models generally used in the permitting process.

Q: Has EPA previously recognized the technical difficulty in deriving numeric water quality-based effluent limitations for stormwater discharges?

A: Yes. EPA recognized the technical difficulty in deriving numeric water quality-based effluent limitations for wet weather discharges in its brief on the merits in *CBE v. EPA*, 91-70056 (9th Cir.) and in the Great Lakes Water Quality Guidance (58 FR 20841, April 16, 1993). In the CBE case, EPA explained why it was technically infeasible to derive numeric water quality-based effluent limitations for the discharge of metals in stormwater into South San Francisco Bay and asserted that a water quality-based effluent limitation could take the form of a narrative statement, such as a BMP, if it was infeasible to derive a numeric limitation. In explaining its arguments in the CBE case, EPA cited 40 CFR 122.44(k)(2), which provides that BMPs may be imposed in NPDES permits "to control or abate the discharge of pollutants when ... [n]umeric effluent limitations are infeasible."

In the Great Lakes Water Quality Guidance, EPA did not extend the method for calculating wasteload allocations, the basis for numeric water quality-based effluent limitations, to stormwater or combined sewer overflow (CSO) discharges because the varying nature of these discharges is inconsistent with the assumptions used in developing the guidance. The Great Lakes Water Quality Guidance defers to national guidance and policy on wet weather and does not seek to establish a separate and distinct set of wet weather requirements. EPA expects the Urban Wet Weather Flows

Advisory Committee to provide recommendations about how to address the broader technical issues involved in achieving compliance with water quality standards in a wet weather context.

Q: What are the potential problems of using standard methodologies to derive numeric water quality-based effluent limitations for stormwater permits?

A: Correctly derived numeric water quality-based effluent limitations provide a greater degree of confidence that a discharge will not cause or contribute to an exceedance of the water quality standards, because numeric water quality-based effluent limitations are derived directly from the numeric component of those standards. In addition, numeric water quality-based effluent limitations can avoid the expense associated with overly protective treatment technologies because numeric water quality-based effluent limitations provide a more precisely quantified target for permittees. Potential problems of incorporating inappropriate numeric water quality-based effluent limitations rather than BMPs in stormwater permits at this time are significant in some cases.

Deriving numeric water quality-based effluent limitations for any NPDES permit without an adequate effluent characterization, or an adequate receiving water exposure assessment (which could include the use of dynamic modeling or continuous simulations) may result in the imposition of inappropriate numeric limitations on a discharge. Examples of this include the imposition of numeric water quality criteria as end-of-pipe limitations without properly accounting for the receiving water assimilation of the pollutant or failure to account for a mixing zone (if allowed by applicable state or tribal water quality standards). This could lead to overly stringent permit requirements, and excessive and expensive controls on stormwater discharges, not necessary to provide for attainment of water quality standards.

Conversely, an inadequate effluent characterization could lead to water quality-based effluent limitations that are not stringent enough to provide for attainment of water quality standards. This could result because effluent characterization and exposure assessments for discharges with high variability of pollutant concentrations, loadings, and flow are more difficult than with process wastewater discharges at low flows.

Q: How are water quality-based effluent limitations developed for CSO discharges?

A: The CSO Control Policy issued by EPA on April 19, 1994 (59 FR 18688) provides direction on compliance with the technology-based and water quality-based requirements of the CWA for communities with combined sewer systems. The CSO Policy provides for implementation of technology-based requirements (expressed as "nine minimum controls") by January 1, 1997.

In addition, under the CSO Policy, communities are also expected to develop long-term control plans that will provide for attainment of water quality standards through either the "presumption approach" or the "demonstration approach." Under the presumption approach, CSO controls would be presumed to attain water quality standards if certain performance criteria are met. A program that meets the criteria specified in the CSO policy is presumed to provide an adequate level of control to meet the water quality-based requirements of the CWA, provided the permitting authority determines that such presumption is reasonable based on characterization, monitoring, and modeling of the system, including consideration of sensitive areas. Under the demonstration approach, the permittee would demonstrate that the selected CSO controls, when implemented, would be adequate to meet the water quality-based requirements of the CWA.

The CSO Policy anticipates that it will be difficult in the early stages of permitting to determine whether numeric water quality-based effluent limitations are necessary for CSOs, and, if so, what the limitations should be. For that reason, in the absence of sufficient data to evaluate the need for

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numeric water quality-based effluent limitations, the Policy recommends that the first phase of CSO permits ("phase I") contain a narrative requirement to comply with water quality standards. Further, so-called "phase II" permits would contain water quality-based effluent limitations, as provided in 40 CFR 122.44(d)(1) and 122.44(k), that may take the form of numeric performance or design standards, such as a certain number of overflow events or a certain percent volume capture. Generally, only after the long-term control plan is in place and after collection of sufficient water quality data (including applicable wasteload allocations developed during a TMDL process) would numeric water quality-based effluent limitations be included in the permit. This would likely occur only after several permitting cycles.

Q: If BMPs alone are demonstrated to provide adequate water quality protection, are additional controls necessary?

A: No. If the permitting authority determines that, through implementation of appropriate BMPs required by the NPDES stormwater permit, the discharges have the necessary controls to provide for attainment of water quality standards and any technology-based requirements, additional controls need not be included in the permit. Conversely, if a discharger (municipal or industrial) fails or refuses to adopt and implement adequate BMPs, the permitting authority may have to consider other approaches to ensure water quality protection.

If, however, the permitting authority has adequate information on which to base more specific conditions or limitations, such limitations are to be incorporated into stormwater permits, as necessary and appropriate. Such conditions or limitations may include an integrated suite of BMPs, performance objectives, narrative standards, monitoring triggers, numeric water quality-based effluent limitations, action levels, etc. Stormwater permits may also need to include additional requirements to receive state or tribal 401 certifications.

Q: What is EPA doing to develop information about the linkage between BMPs and water quality and to facilitate a watershed-based approach to stormwater permitting?

A: The agency has cooperative agreements with the Water Environment Research Foundation and the American Society of Civil Engineers to research which BMPs are most effective under which circumstances. The results of this research should provide permitting authorities and permittees with information about how to evaluate the effectiveness of different kinds of BMPs in different circumstances and to select the most appropriate controls to achieve water quality objectives. EPA also has cooperative agreements with the Watershed Management Institute and other organizations to conduct research over the next two to four years that will examine the capability of stormwater BMPs to improve receiving water quality and restore/protect the biological integrity of those waters. EPA expects the Urban Wet Weather Flows Federal Advisory Committee to provide recommendations on how to permit stormwater discharges on a watershed basis.

Q: The interim permitting approach states that permits should include monitoring programs to generate necessary information to determine the extent to which permits are providing for the attainment of water quality standards. What types of monitoring should be included and how much monitoring is necessary?

A: The amount and types of monitoring necessary will vary depending on the individual circumstances of each stormwater discharge. EPA encourages dischargers and permitting authorities to carefully evaluate monitoring needs and stormwater program objectives so as to select useful and cost-effective monitoring approaches. For most dischargers, stormwater monitoring can be

conducted for two basic reasons: (1) to identify if problems are present, either in the receiving water or in the discharge, and to characterize the cause(s) of such problems; and (2) to assess the effectiveness of stormwater controls in reducing contaminants and making improvements in water quality.

Under the NPDES stormwater program, large and medium municipal separate storm sewer system permittees are required to conduct monitoring. EPA recommends that each such municipal permittee design the monitoring effort to be supportive of the goals and objectives of its stormwater management program when developing such a program for the term of its NPDES permit. To accomplish this, a municipal permittee may use a variety of stormwater monitoring tools including receiving water chemistry; receiving water biological assessments (benthic invertebrate surveys, fish surveys, habitat assessments, etc.); effluent monitoring; including chemical, whole effluent and visual examinations; illicit connections screening; and combinations thereof, or other methods. Techniques that assess receiving waters will help to identify the degree to which stormwater discharges are contributing to any water quality problems.

Techniques that assess stormwater discharge characteristics will help to identify potential causes of any identified water quality problems. The municipal permittee, in conjunction with the applicable NPDES permitting authority, should determine which monitoring approaches would be most appropriate given the objectives of the stormwater management program. If municipal permittees conduct ambient monitoring, it may be most cost-effective to pool resources with other organizations (including, for example, other municipalities, states and tribes) conducting monitoring within the same watershed. This could be best accomplished through a coordinated watershed monitoring strategy.

For industrial stormwater dischargers, monitoring may be required under the terms of an NPDES permit for stormwater discharges. For those industrial stormwater permits that do require monitoring, this is typically done to characterize contaminants that might be found in the industrial runoff and/or to assess the effectiveness of the industrial stormwater pollution prevention plan in reducing these contaminants. This typically involves end-of-pipe chemical-specific monitoring. End-of-pipe monitoring may be more appropriate for an industrial facility than for a municipal permittee, given the industrial facility's more discrete site characteristics, which make management strategies such as collection and treatment more feasible. Industries, for the most part, have readily defined stormwater conveyances into which runoff flows from discrete drainage areas. Industries may more readily identify and control existing on-site sources of stormwater contamination or provide collection and treatment within these discrete drainage areas to control pollutant concentrations in their stormwater discharges.

EPA and other organizations are currently working to improve approaches for monitoring stormwater and the potential effects upon water quality. These new approaches are called stormwater program "environmental indicators." Environmental indicators are designed to be more meaningful monitoring tools that stormwater dischargers can use to conduct stormwater monitoring for the purposes described above. A manual describing each of the recommended stormwater program environmental indicators is being prepared by the Center for Watershed Protection in Silver Spring, Md. That manual should provide useful information for stormwater dischargers contemplating the need to develop a cost-effective, meaningful stormwater monitoring program. In addition, EPA expects the Urban Wet Weather Flows Federal Advisory Committee to provide recommendations on how to better monitor stormwater and other wet weather discharges using a watershed approach.

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Q: Does this interim permitting approach apply to both stormwater discharges associated with industrial activity and stormwater discharges from municipal separate storm sewer systems?

A: Yes. The interim permitting approach is applicable to both discharges from municipal separate storm sewer systems and stormwater discharges associated with industrial activity (as defined by 40 CFR 122.26(b)(14)). The interim permitting approach would not affect, however, permits that already incorporate appropriately derived numeric water quality-based effluent limitations. Since the interim permitting approach only addresses water quality-based effluent limitations, it also does not affect technology-based effluent limitations, such as those based on effluent limitations guidelines or developed using best professional judgment, that are incorporated into stormwater permits. In addition, particularly for some industries, adequate information may already have been collected with which to assess the reasonable potential for a stormwater discharge to cause or contribute to an excursion of a water quality standard, and from which a numeric water quality-based effluent limitation can be (or has been) appropriately derived. An adequate amount of stormwater pollutant source information may also exist with which to assess the effectiveness of the industrial stormwater control measures in complying with the limitations and in reducing stormwater contaminants for protecting water quality.

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¶890.35 North Dakota ..... p. 491
¶890.36 Ohio ..... p. 501
¶890.37 Oklahoma ..... p. 511
¶890.38 Oregon ..... p. 521
¶890.39 Pennsylvania ..... p. 531
¶890.40 Rhode Island ..... p. 541
¶890.41 South Carolina ..... p. 551
¶890.42 South Dakota ..... p. 561
¶890.43 Tennessee ..... p. 571
¶890.44 Texas ..... p. 581
¶890.45 Utah ..... p. 591
¶890.46 Vermont ..... p. 601
¶890.47 Virginia ..... p. 611
¶890.48 Washington ..... p. 621
¶890.49 West Virginia ..... p. 631
¶890.50 Wisconsin ..... p. 641
¶890.51 Wyoming ..... p. 651
American Samoa .....
¶890.53 Guam ..... p. 671
Northern Mariana Islands .....
¶890.55 Puerto Rico ..... p. 691
¶890.56 Virgin Islands ..... p. 701

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Note: States not yet assigned paragraph numbers will be added as part of your subscription to the *Manual*.

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¶810 Executive Summary

This tab contains detailed information about specific state NPDES stormwater programs. As state programs mature, and program information and permit conditions change, the tab will focus on how state programs differ from the federal program. Look to this tab for particulars of state general permits, required content for notices of intent, variations on application filing procedures, and related state programs.

Current State of Affairs

In terms of implementing EPA's stormwater regulations, the states are divided into three basic categories: delegated NPDES states with general permitting authority; delegated NPDES states without general permitting authority; and states without delegated NPDES authority.

With the obvious exception of the states that do not have NPDES authority (see Figure 810-1 for information on state permitting authorities), where administration of the stormwater program rests with EPA regional offices, states have devised a wide array of special regulations for stormwater discharges.

Many states share EPA's concern about the environmental hazards caused by stormwater runoff. At the same time, a large number are troubled by the administrative burden that these regulations place on them, because the size of the regulated NPDES community increased significantly under this program.

Several states have general permits that require permittees to utilize "best management practices" or "best professional judgments" with respect to controlling stormwater runoff.

Some states have individual permit applications based on EPA's Form 2F. Many states have adopted general permits that are similar to EPA's former baseline general permit. Some states are developing stormwater permits based upon language in existing NPDES permits. Other states regulate stormwater under existing NPDES individual permits. Some states also have adopted or are in the process of adopting EPA's multi-sector model general permit or certain portions of it.

NPDES States With General Permitting Authority. NPDES states with general permitting authority may administer the NPDES stormwater program in their states in the same way that EPA regional offices administer the program in non-NPDES states. They may issue general permits for specific groups of industrial dischargers, and have the option of issuing permits based on EPA's multi-sector model general permit for 29 industry categories. Having such authority does not, however, oblige a state to issue general permits. States with general permitting authority may elect to issue only individual permits.

Under the Clean Water Act, state NPDES programs must be at least as strict as EPA's programs but may be more stringent. Several states have adopted program requirements that exceed EPA minimums.

NPDES States Without General Permitting Authority.† Of the NPDES states, only the Virgin Islands lack general permitting authority. The Virgin Islands administer its NPDES program in the same manner as other NPDES states, except that it does not have EPA delegated authority to issue general permits.

† Revised, October 2001.

Related State and Local Regulations. Readers should be aware of related state and local regulations. Many states currently have their own stormwater-related regulations in effect. Erosion and sediment control are also matters subject to state, and even more often, local (usually county or municipal) jurisdiction. Erosion and sediment control often are not administered by the same state offices as the NPDES stormwater program. Some states have re-examined their regulatory approaches, particularly at construction sites, in light of federal stormwater regulations.

Some states address erosion and sediment control issues in the permit-writing process. States addressing erosion and sediment control issues during the permitting process usually require permittees to certify that they are in compliance with all "applicable existing regulations" and/or "all applicable local ordinances" governing erosion and sediment control.

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Figure 810-1
State Permitting Authorities†

State	NPDES States: States With General Permitting Authority	NPDES States: States Without General Permitting Authority	Non-NPDES States (Permitting done by EPA Regional Offices as indicated)
Alabama	✓		
Alaska			Region 10 - Seattle
Arizona			Region 9 - San Francisco
Arkansas	✓		
California	✓		
Colorado	✓		
Connecticut	✓		
Delaware	✓		
District of Columbia			Region 3 - Philadelphia
Florida	✓		
Georgia	✓		
Hawaii	✓		
Idaho			Region 10 - Seattle
Illinois	✓		
Indiana	✓		
Iowa	✓		
Kansas	✓		
Kentucky	✓		
Louisiana	✓		
Maine	✓		
Maryland	✓		
Massachusetts			Region 1 - Boston
Michigan	✓		
Minnesota	✓		
Mississippi	✓		
Missouri	✓		
Montana	✓		
Nebraska	✓		
Nevada	✓		
New Hampshire			Region 1 - Boston
New Jersey	✓		

† Revised, October 2001.

Figure 810-1, continued

State Permitting Authorities†

State	NPDES States: States With General Permitting Authority	NPDES States: States Without General Permitting Authority	Non-NPDES States (Permitting done by EPA Regional Offices as indicated)
New Mexico			Region 6 - Dallas
New York	✓		
North Carolina	✓		
North Dakota	✓		
Ohio	✓		
Oklahoma	✓		
Oregon	✓		
Pennsylvania	✓		
Rhode Island	✓		
South Carolina	✓		
South Dakota	✓		
Tennessee	✓		
Texas	✓		
Utah	✓		
Vermont	✓		
Virginia	✓		
Washington	✓		
West Virginia	✓		
Wisconsin	✓		
Wyoming	✓		
American Samoa			Region 9 - San Francisco
Guam			Region 9 - San Francisco
Northern Mariana Islands			Region 9 - San Francisco
Puerto Rico			Region 2 - New York
Virgin Islands		✓	

[The next page is Tab 800, Page 15.]

† Revised, October 2001.

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¶820 Directory of State Contacts†

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Permitting, Enforcement & Remediation Division
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† Revised, August 2001.

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[The next page is Tab 800, Page 91.]

¶890 State Stormwater Programs

This section includes a detailed discussion of each state's stormwater program. Program pages will feature, as appropriate:

- General information contact person (name, title, state office, address, phone and fax numbers);
- Permit application office (if different from above);
- State agency(ies) involved with stormwater regulation (if different from above);
- Related state programs including state stormwater program, state erosion and sediment control regulations;
- References to relevant state regulations and legislation;
- Types of permits issued by the state; and
- Unique aspects of the state NPDES and stormwater program including any fees, monitoring requirements and related information.

Most states with general permitting authority or for which EPA implements the stormwater program (EPA states) have chosen to cover most stormwater dischargers with general permits. Most of these permits are based on EPA's core baseline general permits, although there are state-specific variations. Figure 890-1 compares the various aspects of the state general permits for non-construction, industrial dischargers. The following abbreviations and footnotes are included in Figure 890-1:

SWP3 ..... stormwater pollution prevention plan
SARA ..... Superfund Amendments and Reauthorization Act
W.P.C. ..... water priority chemicals
* ..... same as EPA requirements
** ..... EPA state
PE ..... Professional engineer
Y ..... yes
N ..... no
(1) ..... for facilities with SARA Title III water priority chemicals
(2) ..... only for semi-annual monitoring requirements
(3) ..... request-by-request basis
(4) ..... heavy industry only
(5) ..... all permittees
(6) ..... unless acute toxicity exceeds minimum
(7) ..... subject to the 20% rule
(8) ..... annual reports submitted; not SWP3
(9) ..... only those subject to effluent limitations
(10) ..... SARA Title III, coal piles, wood treaters
(11) ..... anticipated later
(12) ..... semi-annual inspections required
(13) ..... upon request and approval
(14) ..... compliance deadline for additional plan requirements is Nov. 1, 1995
(15) ..... facilities with effluent limitations under 40 CFR Subchapter N only

Figure 890-1: Comparison of State General Permits for Industrial Stormwater Dischargers

	PERMITS			"SWP3"					MONITORING		
State	No. of Permits	Expiration date	Fees	Completion deadline	Implementation deadline	Special rqts. SARA Title III W.P.C.	Require PE cert.	Submit SWP3	Monitoring required	Submit results	Rep. discharge allowed
EPA baseline permit	1	10/1/97	N	4/1/93	10/1/93	Y	Y(1)	N	Y; industry-specific, risk-based	Y(2)	Y
AL	21	mid-late 1997	Y	varies	varies	N	N	N*	varies	Y	Y(3)
AK**	1	10/1/97*	N	4/1/93*	10/1/93*	Y*	Y*	N*	Y*	Y*	Y*
AZ**	1	9/9/97*	N	4/1/93*	10/1/93*	Y*	Y*	N*	Y*	Y*	Y*
AR	1	9/30/97	Y	4/1/93*	10/1/93*	Y*	Y*	N*	Y	Y*	Y*
CA	1	4/17/02	Y	at time of permit application	at time of permit application	N	N	N	Y	Y	Y
CO	6	12/31/01	Y	at time of permit application	the later of the start of operations or issuance of permit	Y*	N	Y(4)	Y*(4) (3) for other facilities	Y(3)	Y
CT	1	10/1/97*	Y	4/1/93*	10/1/93*	N	Y	N*	Y(5)	N(6)	Y(7)
DE	10	10/1/02	Y	before NOI is submitted	w/in 90 days of coverage	Y	N	N	Y(1)	N	Y*
FL**	1	10/1/97*	N	4/1/93*	10/1/93*	Y*	Y*	N*	Y*	Y*	Y*
GA	1	5/31/98	N	12/31/93	5/31/94	N	N	N	Y	N	Y*
HI1	1	10/28/97	Y	120 days after coverage	180 days after coverage	Y*	Y	Y	Y	Y	Y
ID**	1	9/9/97*	N	4/1/93*	10/1/93*	Y*	Y*	N*	Y*	Y*	Y*
IL	1	10/1/97*	N	w/in 180 days of coverage	w/in 365 days of coverage	N	N	Y(8)	N	N	N
IN	permit by rule	none	Y	none	365 days after NOI	N	N	N	Y(5)	Y	Y
IA	2	10/1/02*	Y	before NOI is submitted	before industrial activity begins	Y*	N	N*	Y*	Y(9)	Y*
KS	draft										

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Figure 890-1 (cont'd)

PERMITS				"SWP3"					MONITORING		
State	No. of Permits	Expiration date	Fees	Completion deadline	Implementation deadline	Special rqts. SARA Title III W.P.C.	Require PE cert.	Submit SWP3	Monitoring required	Submit results	Rep. discharge allowed
KY	7	9/30/02	N	180 days after coverage	365 days after coverage	N	N	N*	Y(5)	N	Y
LA	1	10/1/97*	N	4/1/93*	10/1/93*	Y*	Y*	N*	Y*	Y*	Y*
ME**	1	10/1/97*	N	4/1/93*	10/1/93*	Y*	Y*	N*	Y	N	Y
MD	5	varies	Y	before NOI submittal	before NOI submittal	Y*	N	N*	N	N	N
MA**	1	10/1/97*	N	4/1/93*	10/1/93*	Y*	Y*	N*	Y*	Y*	Y*
MI	1	1/31/99	Y	w/in 18 months of coverage	w/in two years of coverage	N	N	Y	N	N	N
MN	2	2002	Y	one year from coverage	two years from coverage	N	N	N	N	N	N
MS	8	7/13/97	N	4/1/93*	10/1/93*	Y	Y	Y	Y(10)	Y	Y
MO	at least 45	varies	Y	varies	varies	varies	varies	varies	varies	varies	varies
MT	2	N/A	Y	6 months after coverage	12 months after coverage	N	N	Y	Y(5)	Y	Y
NE	1	9/17/02	N	by the time industrial activity begins	on or before start of industrial activity	N	Y*	N	Y	Y	N
NV	2	5/14/98	Y	w/in 6 months of authorization	w/in one year of authorization	N	N	Y	Y(15)	Y(15)	N
NH**	1	10/1/97*	N	4/1/93*	10/1/93*	Y*	Y*	N*	Y*	Y*	Y*
NJ	1	11/1/97	Y	5/2/93	11/2/94	N	N	N*	N	N	N
NM**	1	10/1/97*	N	4/1/93*	10/1/93*	Y*	Y*	N*	Y*	Y*	Y*
NY	1	8/1/98	Y	2/1/94	8/1/94	Y(14)	Y*	N*	Y	Y	Y*
NC	18	varies	Y	12 months after coverage	12 months after coverage	Y(12)	N	N*(13)	Y	Y	Y(13)

Figure 890-1 (cont'd)

PERMITS				"SWP3"					MONITORING		
State	No. of Permits	Expiration date	Fees	Completion deadline	Implementation deadline	Special rqts. SARA Title III W.P.C.	Require PE cert.	Submit SWP3	Monitoring required	Submit results	Rep. discharge allowed
ND	2	3/31/01	N	w/in 90 days of coverage	w/in 180 days or 90 days of approval	Y*	Y*	Y(5)	Y	Y	Y(7)
OH	5	varies	Y	on or before submitting NOI	on or before submitting NOI	Y*	Y*	N*	Y*	Y*	Y*
OK	1	10/1/97*	Y	4/1/93*	10/1/93*	Y*	Y*	Y*	Y*	Y*	Y*
OR	3	7/22/02 and 8/6/02	Y	w/in 90 days of coverage for existing facilities; prior to starting operations for new facilities	w/in 90 days of coverage for existing facilities; prior to starting operations for new facilities	N	Y	N	Y(5)	Y	Y
PA	1	11/6/97	Y	before submitting NOI	before submitting NOI	Y	Y	N	Y	Y	Y*
RI	1	March 1998	Y	4/1/93*	10/1/93*	Y*	Y*	N*	Y*	Y*	Y*
SC	1	9/30/97	N	4/1/93*	10/1/93*	Y*	Y*	N*	Y*	Y*	Y*
SD	1	10/1/97*	N	4/1/93*	10/1/93*	Y*	Y*	N*	Y*	Y*	Y*
TN	1	3/1/02	N	11/30/97	at the start of operations	Y*	Y*	N*	Y	Y	Y
TX**	1	10/1/97*	N	4/1/93*	10/1/93*	Y*	Y*	N*	Y*	Y*	Y*
UT	1	9/30/97	Y	4/1/93*	10/1/93*	Y*	Y*	N*	Y*	Y*	Y*
VT	1	10/1/97*	N	4/1/93*	10/1/93*	Y*	Y*	N*	Y*	Y*	Y*
VA	3	6/29/99	Y	w/in 180 days of coverage	w/in 365 days of coverage	Y*	Y*	N*	Y*	Y*	Y*
WA	1	11/18/00	Y	11/18/93	11/18/94	N	N	N*	N	N	N
WV	1	6/7/97	Y	w/in 180 days of coverage	w/in 365 days of coverage	Y*	Y*	N	Y	Y	Y(13)
WI	3	10/31/99	Y	w/in 12 months of coverage	9/12/94	N	N	Y	Y	Y	Y
WY	1	8/31/97	N	w/in 180 days of coverage	w/in 365 days of coverage	N	N	N	N	N	N

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¶890.1 Alabama

State Contact(s):*

Alabama Department of Environmental Management
Water Division and Field Operations Division
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For information on permits issued by the Industrial Branch of the Water Division, contact:
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For more information on permits issued by the Mining and Nonpoint Source Branch of the Field Operations Division, contact:
Section Secretary
(334) 394-4311

Program Description:*

Alabama is an NPDES delegated state with general permitting authority. The Alabama Department of Environmental Management (ADEM) has 22 general permits for stormwater discharges from various industrial activities. ADEM's Industrial Branch administers 19 of the general permits; the remaining three (including one for construction sites) are administered by ADEM's Mining and Nonpoint Source Branch of the Field Operations Division. Although Alabama has not adopted EPA's multi-sector permit, it has modified its own permits to correct any inconsistencies between them and the EPA permit.

Application Requirements:

To obtain coverage under a permit, a discharger must submit a notice of intent (NOI), a permit fee and proof that the public has been notified of the discharger's intent to seek coverage.

ADEM only accepts NOIs and individual applications. Group applications also may be used, but only as a petition for coverage under one of the state's general permits.*

Notice of Intent (NOI) Forms: Dischargers seeking coverage under general permits for inactive and abandoned mines, non-metallic and non-coal mining activities, and construction sites (permit numbers ALG040000, ALG490000 and ALG610000) must obtain appropriate forms and instructions from ADEM's Mining and Nonpoint Source Branch. Dischargers seeking coverage under the other 19 general permits must obtain forms and instructions from ADEM's Industrial Branch.

Public Notice Requirement: Each applicant seeking coverage under a state general permit must place a public notice in a newspaper of local circulation. The public notice should be as described in the information materials accompanying the NOI form. A public notice should run for at least one day. The applicant must obtain proof of publication from the newspaper and submit this proof to ADEM as noted below.

Submitting Applications: An applicant for general permit coverage must send the proof of public notice, completed NOI form and a $250 check payable to ADEM to the following address:*

ADEM
Permits and Services Division
P.O. Box 301463
Montgomery, Ala. 36130-1463

Applicants should submit this material as soon as proof of publication of the public notice is obtained, and should not wait for expiration of the 15-day comment period on the public notice.

Program Notes:

General Permits Administered by Industrial Branch: Currently, ADEM has issued the following general permits that are administered by the Industrial Branch:

- **Asphalt and Concrete Industries.** Authorizes the discharge of cooling water, boiler water, stormwater and vehicle and equipment wash water. Permit No. ALG020000.
- **Lumber, Wood and Paperboard Industries (does not include wood preserving facilities).** Authorizes the discharge of cooling water, boiler water, stormwater and some process wastewater discharges from most industries involving lumber, wood and paperboard. Permit No. ALG060000.

* Revised, October 1999.

* Revised, October 1999.

- **Boat, Shipbuilding and Repair Industries.** Authorizes the discharge of cooling water, boiler water, treated sanitary wastewater, bilge/ballast water, wash water, hydrostatic and pressure test water (not including wet abrasive blast water) and stormwater from boat, shipbuilding and repair industries. Permit No. ALG030000.
- **Portland Cement and Concrete Industries.** Authorizes the discharge of cooling water, boiler water, wash water and stormwater. Permit No. ALG110000.
- **Primary Metals, Metals Fabrication and Metals Finishing Industries.** Authorizes the discharge of cooling water, boiler water, wash water and stormwater from most facilities. Permit No. ALG120000.
- **Transportation Terminals and Warehousing Activities.** Authorizes the discharge of cooling water, boiler water, wash water and stormwater from most activities. Permit No. ALG140000.
- **Food and Related Substances Industries.** Authorizes the discharge of cooling water, boiler water, and stormwater. Permit No. ALG150000.
- **Landfills (does not include landfills that discharge leachate).** Authorizes the discharge of stormwater from a landfill and from any construction activities at a landfill. Permit No. ALG160000.
- **Manufacturing of Paint and Related Products.** Authorizes the discharge of cooling water, boiler water, wash water and stormwater. Permit No. ALG170000.
- **Salvage and Recycling Activities.** Authorizes the discharge of cooling water, boiler water, wash water and stormwater. Permit No. ALG180000.
- **Plastics and Rubber Industries.** Authorizes the discharge of cooling water, boiler water, wash water and stormwater. Permit No. ALG200000.
- **Stone, Glass and Clay Industries.** Authorizes the discharge of cooling water, boiler water, wash water and stormwater. Permit No. ALG230000.
- **Textile Industries.** Authorizes the discharge of cooling water, boiler water, wash water and stormwater. Permit No. ALG240000.
- **Cooling and Boiler Water.** Authorizes the discharge of cooling water and boiler water. Permit No. ALG250000.
- **Offshore Facilities (facilities usually associated with the oil and gas industry).** Authorizes the discharge of cooling water, sanitary wastewater and other minor discharges from offshore facilities. Permit No. ALG280000.
- **Activities Involved in the Handling and Storage of Petroleum Products.** Authorizes the discharge of cooling water, boiler water, some process wastewater and stormwater from most activities involved in the handling and storage of petroleum products. Discharges of treated groundwater from cleanup of groundwater contaminated by petroleum products also are covered by this permit. Permit No. ALG340000.
- **Hydropower Facilities.** Authorizes minor discharges from hydropower facilities and imposes best management practices on construction, repair and maintenance activities conducted above water. Permit No. ALG360000.
- **Hydrostatic Test Waters.** Authorizes the discharge of hydrostatic test waters. Permit No. ALG670000.
- **Uncontaminated Stormwater.** Authorizes the discharge of uncontaminated stormwater from facilities that have no exposure of industrial activity to stormwater. Permit No. ALG990000.

With the exception of permit numbers ALG280000 and ALG360000, all of the permits listed above expire in 2002. Permit number ALG280000 expires on May 31, 2004 and permit number ALG360000 expired on September 30, 1999.*

General Permits Administered by ADEM Mining and Nonpoint Source Branch: ADEM also has issued the following three general permits that are administered by the Mining and Nonpoint Source Branch:

* Revised, October 1999.

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- **Inactive or Abandoned Mining Sites.** Authorizes the discharge of stormwater. Permit No. ALG040000. This permit expired Aug. 1997. ADEM is in the process of renewing it.
- **Nonmetallic and Noncoal Mining Activities.** Authorizes the discharge of stormwater from activities involving areas of less than five acres. Permit No. ALG490000. This permit expires March 31, 2003.
- **Construction Sites and Other Land-disturbing Activities.** Authorizes the discharge of stormwater from construction sites and other activities involving land disturbances. Permit No. ALG610000. This permit expired last year. It was renewed effective Aug. 1997, and will expire July 31, 2002. The renewed permit includes several significant changes over the old permit. Permittees are no longer subject to mandatory sampling provided an inspection of the site deems sampling unnecessary. Inspections must be conducted by a credential led qualified professional (a professional engineer or a certified professional in erosion and sediment control.)

Fees: Alabama charges a fee of $250 for five-year coverage under the state's general stormwater permits. An individual stormwater permit may cost up to $2,000.*

Monitoring and Recordkeeping Requirements: These are outlined in the industry-specific general permits.

Reporting Requirements: These are outlined in the industry-specific general permits.

Construction Site Sedimentation and Erosion Control:

The Mining and Nonpoint Source Branch of ADEM implements the state regulations for construction site sedimentation and the state nonpoint source pollution control program. This section also issues the state general permit for stormwater discharges at construction sites.

State Water Quality Standards:

For information about state water quality standards, contact ADEM's Office of General Counsel, 1751 Congressman Dickinson Drive, Montgomery, Ala. 36109-2608; (334) 271-7855.

Coastal Zone Management Program:

Stormwater discharges from construction activities and other industrial operations along the Gulf of Mexico may be subject to provisions of the Alabama Coastal Zone Management Program. For more information, contact the Coastal Zone Management Program at (334) 271-7700.

Municipal Stormwater Permits:

The cities of Birmingham, Huntsville, Montgomery and Mobile must obtain stormwater permits for their municipal separate storm sewer systems. For more information, contact Dennis Harrison at (334) 271-7801.

[The next page is Tab 800, Page 121.]

* Revised, October 1999.

¶890.2 Alaska

EPA Contact(s):*
Joe Wallace
(206) 553-8399
U.S. EPA, Region 10
1200 Sixth Ave.
Mailcode: OW-130
Seattle, Wash. 98101

Ted Rockwell
(907) 271-3689
U.S. EPA Alaska Operations Office
222 West 7th Ave., P.O. Box 19
Anchorage, Alaska 99513-7588

State Contact(s):*
Kenwyn George
(907) 465-5313
Fax: (907) 465-5274
Alaska Department of Environmental Conservation
Wastewater Section
410 East Willoughby Ave.
Juneau, Alaska 99801
e-mail: KGeorge@envircon.state.ak.us

Program Description:*

Alaska does not have NPDES permitting authority, although it has a water quality permitting program quite similar to the federal NPDES program. NPDES permits issued by the U.S. Environmental Protection Agency (EPA) become state permits after issuance and are enforceable by the Alaska Department of Environmental Conservation (ADEC).

EPA Region 10 will handle stormwater permitting for Alaska. Stormwater dischargers may be covered under EPA's baseline general permits for industrial dischargers (57 FR 41236, see Appendix 1(c)) or regulated construction sites (57 FR 41176, see Appendix 1(d)) published on Sept. 9, 1992, with specific provisions for Alaska. Alaska dischargers also may obtain coverage through an individual application. The baseline general permit expires on Oct. 1, 1997.

Dischargers are also eligible for coverage under EPA's multi-sector permit (60 FR 50804, see Appendix 1(e)). This permit expires Oct. 1, 2000.

* Revised, April 1997.

Application Requirements:*

To obtain coverage under EPA baseline or multi-sector general permits, facilities should submit notice of intent (NOI) forms to: Stormwater Notice of Intent (4203), 410 M St., S.W., Washington, D.C. 20460. The federal NOI forms included with the EPA general permits in Appendix III of this manual may be photocopied and used for this purpose. To obtain additional forms, call (703) 821-4823.

Copies of NOIs and of federal notices of termination (NOTs) should be submitted to the appropriate regional office of ADEC. NOTs also should be submitted to: Stormwater Notice of Termination (4203), 401 M St., S.W., Washington, D.C. 20460. With the copy of the NOI sent to the state, the facility should include a brief description of the activities to be covered. This information must be submitted on a single sheet and must describe the area to be disturbed to the nearest acre, the primary pollutants expected from the activities on site and the type of treatment to be provided. The following are the addresses of ADEC's regional offices:

Alaska Department of Environmental Conservation
Northern Regional Office
610 University Ave.
Fairbanks, Alaska 99709-3643
(907) 451-2360
Fax: (907) 451-2187

Alaska Department of Environmental Conservation
Southeastern Regional Office
410 W. Willoughby, Suite 105
Juneau, Alaska 99801
(907) 465-5350
Fax: (907) 465-5362

Alaska Department of Environmental Conservation*
Southcentral Regional Office
555 Cordova St.
Anchorage, Alaska 99501
(907) 563-6529
Fax: (907) 562-4026

Alaska Department of Environmental Conservation
Pipeline Corridor Regional Office
411 W. 4th Ave., Suite 2C
Anchorage, Alaska, 99502
(907) 278-8594
Fax: (907) 272-0690

* Revised, April 1997.

Program Notes:

The Alaska general permit requirements are essentially identical to those in EPA's baseline and multi-sector general permits, with the minor exceptions noted below.

Stormwater Pollution Prevention Plans: The SWP3 requirements for industrial stormwater dischargers parallel EPA's baseline requirements. However, permittees drawing up SWP3s should also send copies of their inventories of exposed materials and records of spills and leaks (as required by the permit) to the appropriate ADEC regional office by the deadline for preparing the SWP3.

The SWP3 requirements for regulated stormwater discharges from construction sites parallel EPA's baseline requirements, but include a state-specific condition concerning inspections. Under the Alaska general permit "qualified personnel provided by the discharger" must inspect disturbed areas of the construction site that have not been finally stabilized, areas used to store materials that are exposed to precipitation, structural control measures, and locations where vehicles enter or leave the site at least once every seven calendar days. Inspections also must occur within 24 hours of the end of any storm of 0.5 inches or greater.

In addition, inspections must be conducted at least once every month on construction sites that have been finally stabilized, or during seasonal dry periods in arid areas (i.e., areas with 0-10 inches average annual rainfall) and semi-arid areas (i.e., areas with 10-20 inches average annual rainfall). In areas that have been finally stabilized, monthly inspections must be conducted until the NOT has been submitted for the area.

Releases in Excess of Reportable Quantities: For both industrial discharges and construction site discharges covered by EPA's baseline general permits, permittees must inform EPA and the appropriate ADEC regional office within 14 calendar days of any release of toxic substances in excess of reportable quantities on site.

Monitoring Requirements: Monitoring requirements under the Alaska permit are essentially identical to those in EPA's baseline and multi-sector general permits. However, the multi-sector permit establishes a different benchmark value for zinc of 0.117 mg/l.* Copies of required discharge monitoring reports (DMRs) also must be submitted to the director of ADEC at the appropriate ADEC regional office, at the addresses listed above.

Questions about Alaska stormwater issues may be directed to the EPA Alaska Operations Office at the address listed above or to Paul Rusanowski, Director, or Gretchen Kaiser, Project Analyst, Office of Management and Budget, Division of Governmental Coordination, P.O. Box 11030, Juneau, Alaska 99811-0030; (907) 465-3562 or fax (907) 465-3075.

Log Sorting Yard Regulations:

Under existing NPDES regulations, EPA regulates stormwater discharges from log sorting yards at log transfer facilities owned by the timber industry. For more information contact the EPA Alaska Operations Office.

Placer Mining, Hardrock Mining:

The discharge of process wastewater and the handling of stormwater by the placer mining industry are regulated by EPA through the NPDES program. There are approved best management practices for placer mines. EPA and ADEC also administer several NPDES permits regulating wastewater discharges from hard rock mining facilities. For more information, contact the EPA Alaska Operations Office.

Coastal Zone Management Program:

Alaska has an extensive coastal zone. State coastal zone management programs are implemented by a variety of state agencies and are coordinated by the Division of Governmental Coordination, which expedites permitting for projects requiring multiple permits in the coastal area. For information about coastal zone requirements, contact Gretchen Kaiser or Paul Rusanowski, Office of Management and Budget, Division of Governmental Coordination, P.O. Box 110030, Juneau, Alaska 99811-0030; (907) 465-3562.* Available from the Division of Governmental Coordination are several publications that list coastal regulations and agency contacts by coastal zone region, including "The Alaska Coastal Management Program: Statutes and Regulations" and "How to Apply for Permits in Alaska's Coastal Zone."

* Revised, April 1997.

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State Nonpoint Source Program:

Alaska has an EPA-approved Section 319 Nonpoint Source Pollution Control Strategy. It is primarily non-regulatory in nature and includes descriptions of recommended best management practices for some industries. Staff of this program have helped in a recent update of the state Forest Practices Act, which regulates management practices for the timber industry. For more information, contact Drew Grant, NPS Coordinator, Alaska Department of Environmental Conservation, Division of Environmental Quality, Water Quality Management Section, P.O. Box O, Juneau, Alaska 99801-1800; (907) 465-5300.

Tideland Regulations:

Developers of projects within Alaska's tideland areas must obtain tideland permits from the state Department of Natural Resources. For information about how to apply for such permits, contact Gretchen Kaiser, Office of Management and Budget, Division of Governmental Coordination, P.O. Box 110030, Juneau, Alaska, 99811-0030; (907) 465-3562.*

Anadromous Fish Streams:

Facilities discharging into or otherwise affecting anadromous fish streams may be required to obtain Title 16 permits from the state fish and game agency. For more information contact Gretchen Kaiser, Office of Management and Budget, Division of Governmental Coordination, P.O. Box 110030, Juneau, Alaska, 99811-0030; (907) 465-3562.*

* Revised, April 1997.

¶890.3 Arizona

EPA Contact(s)
Eugene Bromley
U.S. EPA, Region 9
75 Hawthorne St.
Mailcode: W-5-1
San Francisco, Calif. 94105
(415) 744-1906

State Contact:
Robert Wilson
State Stormwater Coordinator
Arizona Department of Environmental Quality
Water Permits Section
Wastewater, Construction and Federal Permits Unit
3033 North Central Ave.
Phoenix, Ariz. 85012
(602) 207-4574

Mailing address:
P.O. Box 600
Phoenix, Ariz. 85001-0600

Program Description:*

Arizona does not have NPDES permitting authority. Stormwater regulation in the state is handled by the U.S. Environmental Protection Agency (EPA), Region 9.

EPA regulates stormwater dischargers in Arizona under one of its general permits—either the industrial multi-sector general permit (60 FR 50804, Sept. 29, 1995; 63 FR 7858, Sept. 30, 1998) (see Appendix 1(e)) or the construction general permit (63 FR 7858, Feb. 17, 1998) (see Appendix 1(d)). Arizona dischargers also may obtain coverage through an individual application. All permits expire five years after the date of issuance. The multi-sector permit is scheduled to expire Oct. 1, 2000, and the construction permit will expire in 2003.

Under an EPA grant, the Arizona Department of Environmental Quality (ADEQ) has established a state stormwater coordinator to answer questions about the federal stormwater program and act as a liaison to regulated dischargers in Arizona. The state stormwater coordinator may be contacted at the address above.

* Revised, July 1999.

Application Requirements:*

Arizona requires the duplicate submission of federal forms to ADEQ.

To obtain coverage under the EPA industrial multi-sector general permit or the construction permit for Arizona, stormwater dischargers must submit federal notice of intent (NOI) forms to EPA at: Stormwater Notices of Intent (4203), 401 M St. S.W., Washington, D.C. 20460. NOIs also must be submitted to the state stormwater coordinator at the address listed above. The federal NOI forms included with the EPA general permits in Appendix III of this manual may be photocopied and used for this purpose.

Any NOI submitted to ADEQ must include the registration number of any dry well or injection well to which stormwater from the facility is discharged.

For facilities other than construction which discharge to the storm sewer systems operated by the cities of Phoenix, Tempe, Mesa, Tucson or Pima County, the NOI also must be sent to the municipal operator of the affected system. The appropriate addresses are:

Lori Sundstrom
Development Services Department
City of Phoenix
125 E. Washington St.
Phoenix, Ariz. 85004

Lee Quaas
Public Works Department
City of Tempe
P.O. Box 5002
Tempe, Ariz. 85280

Richard Grimaldi
Pima County Department of Environmental Quality
130 W. Congress, 2nd Floor
Tucson, Ariz. 85701

City of Tucson
Department of Transportation
Planning and Programs Division
P.O. Box 27210
Tucson, Ariz. 85726-7210

* Revised, July 1999.

Peter Knudsen
City Engineering Department
City of Mesa
P.O. Box 1466
Mesa, Ariz. 85211

For construction projects operating under approved state or local sediment and erosion plans, grading plans or stormwater management plans, the NOI must be sent to the local agency approving such plans.

In addition, all permittees in the NPDES stormwater program must notify the city of their existence if the city is a phase I municipality. This is accomplished by submitting a copy of the NOI to the city.

Notices of termination for the multi-sector permit and the construction general permit must be submitted to the state at the address listed above and to EPA at: Stormwater Notice of Termination, 401 M St. S.W., Washington, D.C. 20460. Copies of the NOTs also must be submitted to ADEQ's stormwater coordinator at the address listed above.

In addition to regulating Arizona stormwater dischargers under its general permits, EPA Region 9 will accept individual applications. Applicants for individual stormwater permits must submit a completed EPA Form 1 and Form 2F, including required stormwater monitoring data, to Region 9.

Program Notes:*

Industrial Multi-Sector Permit

EPA's multi-sector general permit applies in Arizona with the following state-specific conditions. Arizona requires that discharges covered by the permit comply with all applicable state water quality standards.

Secondary Containment Requirements for "Water Priority" Chemicals: Under the Arizona-specific provisions for the multi-sector permit, the appropriate containment requirements for facilities with water priority chemicals under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) provide that such containment must include:

- secondary containment for at least the entire contents of the largest single tank on site, plus sufficient freeboard to allow for a 25-year, 24-hour precipitation event;
- a strong spill contingency and integrity testing plan; and/or
- other equivalent measures.

"Significant" Sources of Non-Stormwater Discharge: The Arizona-specific provisions of the multi-sector permits include a definition of "significant sources of non-stormwater," which include, but are not limited to, discharges that could cause a violation of Arizona water quality standards, discharges that could contribute to a violation of Arizona water quality standards, and discharges of oil or hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (see 40 CFR 11.10 and 40 CFR 117.21) or under Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 as amended (see 40 CFR 302.4).

Stormwater Pollution Prevention Plans (SWPSs): Facilities covered by the multi-sector general permit and subject to EPCRA Section 313 must operate liquid storage areas to minimize the discharges of Section 313 chemicals. Appropriate measures must include secondary containment for at least the entire contents of the largest tank plus sufficient freeboard to allow for the 25-year, 24-hour precipitation event, a strong spill contingency and integrity testing plan, and/or other equivalent measures.

In addition, any facility covered by the multi-sector permit with a portion of the facility located at or below the base elevation must delineate those locations on the site map. Base elevation is defined as the elevation of a surface water body having a 1 percent chance of being equaled or exceeded during any given year.

Monitoring and Reporting Requirements: The multi-sector permit offers tailored monitoring and pollution prevention requirements for each industrial sector, based on the types of industrial activities, materials handled and sources of pollution common to that sector.

* Revised, July 1999.

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Facilities subject to monitoring and reporting requirements must also submit discharge monitoring report forms to: Stormwater Coordinator/DMR, ADEQ, 3033 N. Central Ave., Phoenix, Ariz. 85012.

Fees: There are no fees for NPDES permits.

Stormwater Regulation on Indian Lands in Arizona: Stormwater dischargers on Indian lands in Arizona, and those on Navajo Territory in the states of New Mexico and Utah, are regulated separately by EPA Region 9 under the terms of EPA's baseline general permits.

State Water Quality Standards:*

Arizona requires all permittees to comply with water quality standards. The standards are located in the Ariz. Admin. Code, tit. 18, ch. 11, effective April 24, 1996.

State water quality laws are contained in "Arizona Laws Relating to Environmental Quality, 1992 Edition." For more information about state water quality standards, contact Steve Pawlowski, ADEQ, Surface Water Quality Monitoring and Standards Unit, 3033 N. Central Ave., Cube 335, Phoenix, Ariz. 85012; (602) 207-4219.

State Nonpoint Source Program:*

Arizona's nonpoint source pollution control program was reorganized in 1999. Nonpoint source program elements are no longer managed by a core nonpoint source unit, but have been distributed across the entire water division.

Riparian Area Study: A report—*Analysis of Water Quality; Functions of Riparian Vegetation*—published in 1994, discusses the condition of Arizona's riparian areas and recommendations for protecting them if necessary from various impacts of civilization. Interested persons may obtain a copy of this report by contacting ADEQ's library at (602) 207-4335.

Best Management Practices for Runoff Control: In Arizona, specific BMPs exist for the agricultural application of nitrogen fertilizers and management of nitrogen wastes from concentrated animal feeding operations (CAFOs). The BMPs are in a rule and require agricultural operators applying nitrogen fertilizer or managing nitrogen containing waste at CAFOs to implement selected BMPs to minimize nitrogen pollution of surface and groundwater resources. The Agricultural BMP Program was adopted in May 1991. In addition, Arizona recently established BMP program for livestock grazing activities. The rules for the livestock grazing program are being developed by a governor appointed committee.

For more information on the BMP program for application of nitrogen fertilizers or CAFOs, contact Henry Darwin, ADEQ, Compliance and Enforcement Section, 3033 N. Central Ave., Phoenix, Ariz. 85012. For information on the BMP program for livestock grazing, contact Karen Smith, Director of Water Quality Division at (602) 207-2306.

[The next page is Tab 800, Page 141.]

* Revised, July 1999.

¶890.4 Arkansas

State Contact(s):
Jim Floyd
(501) 682-0627
Steve Burghart
(501) 682-0621
(501) 682-0910 (fax)
Department of Environmental Quality
Water Division
8001 National Drive
P.O. Box 8913
Little Rock, Ark. 72219-8913

Program Description:*

Arkansas is a delegated NPDES state with general permitting authority.

The Arkansas Department of Environmental Quality (ADEQ) has issued two state general permits for stormwater dischargers, one to cover industrial dischargers and one to cover runoff from construction sites disturbing five or more acres. Generally speaking, Arkansas general permit requirements parallel the requirements of EPA's "baseline" general permits, except as noted below.

ADEQ does not wish to issue individual permits, except for facilities discharging stormwater that violates water quality standards. ADEQ has accepted EPA-approved group applications for stormwater permits; however, Arkansas may not cover all group applicants under EPA's proposed multi-sector model general permit, which federal regulators have developed based on group application data.

ADEQ modified the "baseline" general permit. This permit was submitted to EPA for public notice and comment.

Application Requirements:*

To seek coverage under a state general permit, dischargers must submit an Arkansas notice of intent (NOI) form and the first year's annual permit fee of $100.

NOI deadline requirements generally resemble EPA's baseline requirements. New industrial dischargers must submit NOIs at least 48 hours before commencing any stormwater discharges. Oil and gas operations that are otherwise exempt from stormwater permitting, but that discharge a "reportable quantity" of oil or hazardous substances for which notification is required under 40 CFR part 110, 117 or 302, must submit an NOI within 14 calendar days of learning of the release. Facilities may submit late NOIs, but the department may bring enforcement actions against any industrial stormwater discharges that occurred before submittal of the NOI. Copies of industrial NOIs should be sent to the operators of any municipal separate storm sewer systems (MS4s) to which industrial stormwater is discharged.

Industrial facilities that have submitted NOIs are authorized to discharge stormwater in accordance with the requirements of the general permit, unless notified otherwise by ADEQ within 48 hours of its receiving their NOIs.

NOIs should be sent to: Manager, NPDES Branch, Department of Environmental Quality, P.O. Box 8913, Little Rock, Ark. 72219-8913 (Attn: Stormwater).

Other Requirements for Construction Site NOIs: Construction sites regulated under the state construction site general permit must post copies of their NOIs or some other indication that their stormwater discharges are covered by an NPDES permit at a prominent place onsite, along with brief descriptions of their projects. Construction sites operating under approved state or local grading plans, local stormwater permits or stormwater management plans, or local sediment and erosion controls plans must submit signed copies of their NOIs to the relevant state or local agencies approving such plans or permits.

Notices of Termination: When all stormwater discharges subject to regulation under the general permit have been eliminated at a site, the operator may submit a notice of termination (NOT) to ADEQ at the address above. Construction site operators may submit NOTs once their sites have been finally stabilized and all stormwater discharges authorized by the general permit have been eliminated.

Program Notes:

General permit requirements for industrial and construction site dischargers parallel EPA's "baseline" requirements, except as noted below.

* Revised, August 1999.

*Stormwater Pollution Prevention Plans:** Stormwater pollution prevention plans (SWP3s) for industrial facilities should be developed within 60 days of submitting NOIs. SWP3s should be developed at the time of submitting an NOI for a construction site.

SWP3 requirements for both industrial and construction dischargers generally parallel those in EPA's baseline general permits.

Numeric Effluent Limitations for Coal Pile Runoff: Stormwater runoff from coal piles should not exceed the following limitations:

- 50 mg/l—maximum total suspended solids; and
- 6-9 S.U.—pH.

Fees: There is an annual fee of $100 for coverage under a state general permit. Stormwater dischargers should submit the first year's fee with the NOI form when first applying for coverage.

*Monitoring Requirements:** The state monitoring requirements are similar, but not identical to the requirements in EPA's baseline general permit. Like EPA's permit, the state permit requires all facilities to conduct annual site compliance evaluations. In addition, the state requires sampling by the same categories of facilities as those required to do so under EPA's permit. However, all facilities required to do sampling must do so only on an annual basis. The following facilities must report their results to the state and to any MS4 into which they discharge:

- Emergency Planning and Community Right-to-Know Act (EPCRA), Section 313 facilities;
- primary metal industries;
- land disposal units/incinerators/burner industrial furnaces (BIFs) that burn hazardous waste and operate under interim status or a permit under Subtitle C of the Resource Conservation and Recovery Act;
- wood treatment facilities;
- coal pile runoff; and
- battery reclaimers.

The following facilities need not submit sampling results unless requested by ADEQ:

- airports that use more than 100,000 gallons of glycol-based de-icing chemicals and/or 100 tons of urea on an annual basis;
- animal handling/meat packing facilities;
- coal-fired steam electric facilities; and
- additional facilities, including storage piles for chemical raw materials at rubber and miscellaneous plastics products facilities (SIC 30), chemicals and allied products facilities (SIC 28), large automobile junkyards, oil handling sites at oil-fired steam electric power plants, cement manufacturing facilities and cement kilns other than those facilities subject to stormwater effluent guidelines at 40 CFR Part 411, ready-mixed concrete facilities, and ship building and repair facilities.

Industrial Sampling Parameters: The parameters for which specified industrial categories in Arkansas must sample generally are the same as the parameters for these industries listed in EPA's baseline industrial general permit. The following facilities' sampling parameters differ as indicated:

- primary metal industries—also must sample for five-day biochemical oxygen demand (BOD_5);
- land disposal units/incinerators/BIFs—must also sample for ammonia (as N) and nitrate plus nitrite nitrogen; need not sample for total kjeldahl nitrogen; and
- wood treatment facilities—must also monitor for BOD_5.

*Discharge Monitoring Reports:** The facilities required to submit sampling results must prepare annual discharge monitoring reports (DMRs) for submission to ADEQ. DMR forms must be postmarked no later than the 25th day of the month following the completed reporting period. DMRs for EPCRA, Section 313 facilities, primary metal industries and land disposal units/incinerators/BIFs are due July 25 each year for the previous July-June reporting period. DMRs for wood treatment facilities, coal pile runoff and battery reclaimers are due Jan. 25 of each year for the previous January-December reporting period. Signed copies of the DMRs should be sent to the following address:

* Revised, August 1999.

* Revised, August 1999.

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Manager, NPDES Branch
Arkansas Department of Environmental Quality
8001 National Drive
P.O. Box 8913
Little Rock, Ark. 72219-8913
Attn: Permit Section

The remaining categories of facilities required to conduct sampling need not submit their DMRs to ADEQ. However, they should retain records of their sampling results until at least one year after the expiration of the state industrial general permit in September 2003. DMRs must cover reporting periods from January 1 to December 31 of each year. They must be retained on site for review by ADEQ inspectors and must be provided on request to the director of ADEQ.

Facilities required to conduct sampling that discharge stormwater to large or medium MS4s serving populations of 100,000 or greater must also submit signed copies of their DMRs to the MS4 operators.

*Recordkeeping:** Industrial permittees covered by the state general permit must retain their SWP3s, their DMRs, records of all data used to complete their NOIs, and all other monitoring information and documents required by the general permit for at least one year after the general permit terminates in September 2003. ADEQ may modify or extend this period at any time.

Construction site stormwater dischargers that obtain coverage under the state construction site general permit must keep records of their SWP3s and all other reports required by the general permit for at least three years after their construction sites have been finally stabilized. The ADEQ director may extend this period at any time. Construction site permittees also must retain copies of their SWP3s on their construction sites from the start of construction until the date of final site stabilization.

State Regulations:

- "Regulation No. 2, As Amended, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas," January 1988.
- "Regulation No. 6, Regulations for State Administration of the National Pollutant Discharge Elimination System (NPDES)," revised, Nov. 16, 1990.
- "Regulation No. 9, Regulation for the Fee System for Environmental Permits," draft, May 1991.

State Documents Available:

Contact ADEQ at the address listed above for general information on the department and its programs.

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¶890.5 California

State Contact(s):*
State Water Resources Control Board (SWRCB)
Division of Water Quality
P.O. Box 1977
Sacramento, Calif. 95812-1977
(916) 657-0687
(916) 657-1011 (fax)

For information on industrial and construction-related stormwater permits, contact:
Bruce Fujimoto or Leo Cosentini
(916) 657-1110

Stormwater Permit Information Hotlines:*

All published stormwater-related materials are available through SWRCB's Internet web site at www.swrcb.ca.gov. Materials available include California's stormwater general permits and notices of intent (NOIs), handbooks on best management practices (BMPs), and notices of termination. Individuals without Internet access can request that the materials be sent to them by faxing a request to (916) 657-1011 or leaving a telephone request at (916) 657-1110. Stormwater-related questions also can be directed to appropriate local Regional Water Quality Control Board (RWQCB) contacts.

RWQCB Stormwater Contacts:*
North Coast Region
Executive Officer: Lee A. Michlin
Stormwater Contact: Nathan Quarles
5550 Skyline Blvd., Suite A
Santa Rosa, Calif. 95403
(707) 576-2220
(707) 523-0135 (fax)

San Francisco Bay Region
Executive Officer: Loretta Kahn Barsamian
Stormwater Contact: Carmen Fewless
1515 Clay St., Suite 1400
Oakland, Calif. 94612
(510) 622-2494
(510) 622-2460 (fax)

Central Coast Region
Executive Officer: Roger W. Briggs
Stormwater Contact: Matt Fabry
81 Higuera St., Suite 200
San Luis Obispo, Calif. 93401-5427
(805) 549-3147
(805) 543-0397 (fax)

Los Angeles Region
Executive Officer: Dennis Dickerson
Stormwater Contacts:
Cathy Chang (LA County),
Mark Pumford (Ventura County)
320 W. 4th St., Suite 200
Los Angeles, Calif. 90013
(213) 576-6690 (Chang)
(213) 576-6657 (Pumford)
(213) 576-6686 (fax)

Central Valley Region—Sacramento Office
Executive Officer: Gary M. Carlton
Stormwater Contact: Kathryn Gaffney
3443 Routier Road, Suite A
Sacramento, Calif. 95827-3098
(916) 255-3072
(916) 255-3015 (fax)

Central Valley Region—Redding Branch Office
Supervising Engineer: James C. Pedri
Stormwater Contact: Carole Crowe
415 Knollcrest Drive
Redding, Calif. 96002
(530) 224-4849
(530) 224-4857 (fax)

Central Valley Region—Fresno Branch Office
Assistant Executive Officer: Loren J. Harlow
Stormwater Contacts:
Jarma Bennett (Tulare & Kern Counties)
Greg Kelly (Madera, Mariposa, Merced, Fresno and Kings counties)
3614 East Ashlan Ave.
Fresno, Calif. 93726
(559) 445-5919 (Bennett)
(559) 445-5500 (Kelly)
(209) 445-5910 (fax)

* Revised, July 1999.

Lahontan Region—South Lake Tahoe Office
Executive Officer: Chris Adair
Stormwater Contact: John Short
2501 Lake Tahoe Blvd.
South Lake Tahoe, Calif. 96150
(530) 542-5433
(530) 544-2271 (fax)

Lahontan Region—Victorville Office
Supervising Engineer: Hisam Baqai
Stormwater Contact: Jeniel Cass
15428 Civic Drive, Suite 100
Victorville, Calif. 92392
(760) 241-7377
(760) 241-7308 (fax)

Colorado River Basin Region
Executive Officer: Philip Gruenberg
Stormwater Contact: Ed Kashak
73-720 Fred Waring Drive, Suite 100
Palm Desert, Calif. 92260
(760) 776-8935
(760) 341-6820 (fax)

Santa Ana Region
Executive Officer: Gerard Thibeault
Stormwater Contact: Bob Whitaker
3737 Main St., Suite 500
Riverside, Calif. 92501-3339
(909) 782-4993
(909) 781-6288 (fax)

San Diego Region
Executive Officer: John Robertus
Stormwater Contacts:
Jane Ledford (construction permit)
Gloria Fulton (industrial permit)
9771 Clairemont Mesa Blvd., Suite A
San Diego, Calif. 92124
(619) 457-2952
(619) 571-6972 (fax)

Program Description:*

California is a NPDES-delegated state with general permitting authority. The state adopted general permits for industrial stormwater discharges and for discharges from construction sites in 1991 and 1992. In April 1997, the SWRCB adopted a new general permit for industrial stormwater discharges. A new construction permit is scheduled for adoption in the summer of 1999. EPA's multi-sector general permit is not applicable in California.

* Revised, July 1999.

Application Requirements:*

All dischargers seeking coverage under a general permit must submit an NOI prior to commencement of construction or industrial activity. NOIs must be accompanied by appropriate annual fees, which are either $250 or $500 depending on the area, and a site map. Feedlots pay a one-time fee of $2,000 for their discharge permits. The NOI must be sent to the following address:

State Water Resources Control Board
Division of Water Quality
Attn: Stormwater Permit Unit
P.O. Box 1977
Sacramento, Calif. 95812-1977

The original NOI will be forwarded to the appropriate regional water board after processing. Therefore, applicants are advised against sending the original or copies of it to their regional water board. Also, applicants should not submit a copy of their stormwater pollution prevention plans (SWP3s) with their NOI applications. The SWP3 should be kept on site and made available for review upon request.

Industrial NOI forms should be signed by the owner of the regulated activity. Construction site NOI forms should be signed by the owner of the land on which construction occurs. Construction activity that occurs on easements or on nearby property with the permission of the owner may not necessarily be required to file an additional NOI.

The state allows for "sufficiently similar" industrial facilities to request permission to form monitoring groups. A group monitoring program may be developed by either a group leader representing a group of similar facilities or by a local agency that holds a stormwater permit for a municipal separate storm sewer system for industrial facilities within its jurisdiction. If approved, all participating facilities within a monitoring group will be required to sample two storm events over the life of the general permit. Detailed information concerning group monitoring requirements can be found in the industrial general permit.

* Revised, July 1999.

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Individual Permit Applications: A facility or construction site that does not submit an NOI to be covered by a general permit must request and receive an individual permit from the applicable regional water quality board prior to commencement of operations.

Facilities With Existing NPDES Permit Conditions for Stormwater: Industrial dischargers with existing NPDES permits that cover some of their stormwater discharges, but not all such discharges, must seek coverage under a general permit or individual permit for the non-regulated discharges. Industrial dischargers whose existing NPDES permits regulate all stormwater discharges need not seek such coverage, but must continue complying with their existing permits.

Industrial General Permit:*

Facilities Eligible for Industrial General Permit Coverage: Dischargers eligible for, or requiring, industrial general permit coverage are listed by category in 40 CFR §122.26(b)(14). As noted below, facilities engaging in the listed activities as their primary activities require stormwater permits in California, even if the activity in question is considered "auxiliary" rather than "primary" to the business of the owner or operator. The following categories of facilities are covered by the industry general permit:

- facilities subject to stormwater effluent limitation guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR Subchapter N;
- manufacturing facilities (SIC codes 24 (except 241 and 2434), 26 (except 265 and 267), 28 (except 283 and 285), 29, 311, 32 (except 323), 33, 3441 and 373;
- mining and oil and gas facilities (SIC codes 10 through 14) (except for those where stormwater does not contact significant materials on site, and no reportable quantity (RQ) is discharged, as explained below);
- hazardous waste treatment, storage, or disposal facilities;
- landfills, land application sites, and open dumps receiving industrial waste;
- recycling facilities (SIC codes 5015 and 5093) such as metal scrap yards, battery reclaimers, salvage yards and automobile yards;
- steam electric generating facilities;
- transportation facilities (SIC codes 40, 41, 42 (except 4221-25), 43, 44, 45 and 5171);
- sewage or wastewater treatment works; and
- "light" industrial facilities where significant materials are exposed to stormwater (SIC codes 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39 and 4221-4225).

Inactive or closed landfills, land application sites and open dumps that have received industrial wastes may be subject to the industrial general permit unless the stormwater discharges from the sites are already regulated by an NPDES permit issued by the appropriate regional water board. Facility operators of closed landfills that are regulated by waste discharge requirements may be required to comply with the permit. In some cases, it may be appropriate for closed landfills to be covered by the permit during closure activities. New landfill construction should be covered by the construction general permit. Facility operators should contact their regional water board to determine the appropriate permit coverage.

Facilities categorized as "light industry" are not subject to the general permit if they can certify that they following minimum conditions at their facilities are met:

- All prohibited non-stormwater discharges have been eliminated or otherwise permitted.
- All areas of past exposure have been inspected and cleaned, as appropriate.
- All materials related to industrial activity (including waste materials are not exposed to stormwater or authorized non-stormwater discharges).

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- All industrial activities and industrial equipment are not exposed to stormwater or authorized non-stormwater discharges.
- There is no exposure of materials associated with industrial activity through other direct or indirect pathways such as particulates from stacks and exhaust systems.
- There is periodic re-evaluation of the facility to ensure the conditions listed here are continuously met.

Facilities that can certify that the above conditions are met are not required to notify the SWRCB or their regional water board. However, they must keep certification documentation onsite.

Some industrial stormwater dischargers may need to obtain individual permits. They include facilities that RWQCBs determine to have potential water quality impacts that are not addressed by the state general permits. Interested persons may petition a RWQCB to issue individual permits for such facilities.

*Facilities Ineligible for Industrial General Permit Coverage:** Facilities ineligible for general permit coverage under the industrial general permit include:

- stormwater dischargers from construction sites;
- facilities whose stormwater discharges already are covered by the provisions of individual NPDES permits;
- most silvicultural activities such as thinning, harvesting operations, surface drainage or road construction and maintenance are exempt from this permit (log sorting or log storage facilities that fall within SIC 2411 are required to be permitted);
- oil and gas facilities that have not released stormwater resulting in a discharge of a reportable quantity (RQ) for which notification is or was required pursuant to 40 CFR §§110, 117 and 302 any time after Nov. 19, 1987 (such facilities are exempt from stormwater permitting unless they have discharged industrial stormwater contributing to the violation of a water quality standard); and
- mining facilities whose stormwater discharges do not come in contact with any overburden, raw materials, intermediate or finished products, byproducts or waste products (such facilities are exempt from stormwater permitting unless they release new stormwater resulting in the discharge of an RQ);

Requirements for 'Auxiliary' Operations and 'Sheet Flow' Runoff: California imposes somewhat more stringent requirements than those in other states for stormwater discharges from industrial operations that are considered "auxiliary" to facilities whose primary activities do not fall within standard industrial classification (SIC) codes requiring stormwater permits. In most states these "auxiliary" operations do not require stormwater permits. In California, though, SWRCB holds that coverage under stormwater regulations should be based on the primary activity at an industrial facility, not the primary business of the facility's owner or operator. SWRCB therefore concludes that the general permit applies to all facilities that fall within certain categories of industrial activity, regardless of whether the activity is "primary" or "auxiliary" to the owner or operator. For example, although the primary function of a school district is education, a facility owned by the district that provides for the vehicle maintenance of school buses is considered a "transportation" facility and subject to coverage under the general permit.

California also may be somewhat more stringent than other states in determining whether stormwater discharges are "point source" discharges subject to the stormwater regulations or "sheet flow" for which no NPDES stormwater permit is required. Stormwater runoff from large flat, impervious surfaces such as parking lots will generally be deemed a point source and therefore will be subject to the stormwater permit requirements.

Facilities on Indian lands in California: These facilities are regulated under the EPA baseline general permit, as outlined in the Sept. 9, 1992, *Federal Register* (57 FR 41236; 57 FR 41176).

*Industrial SWP3s:** Each industrial stormwater discharger covered by the general permit must develop and implement an SWP3. Existing facilities

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must already have developed and implemented SWP3s. For new facilities, SWP3s must be developed and implemented as facility operations begin. Facilities must retain SWP3s onsite and make them available on request to permitting authorities. The plan requirements essentially follow those in EPA's baseline general permit.

*Monitoring:** Under the state general permit for industrial dischargers, all regulated industrial facilities must develop and implement monitoring programs. Existing facilities must already have developed and implemented a monitoring program. New facilities must develop and implement monitoring programs no later than the date on which industrial activity begins.

Monitoring programs must:

- ensure that stormwater discharges comply with any discharge prohibitions, effluent limitations and receiving water limitations specified in the general permit;
- ensure that stormwater management practices at the facility are evaluated and revised as necessary to meet changing conditions;
- help the permittee implement the SWP3; and
- measure the effectiveness of BMPs in removing stormwater pollutants.

The monitoring program must contain a rationale for selecting particular monitoring methods, an identification of analytical methods used to detect stormwater pollutants, a description of sampling methods, locations and the frequency of monitoring, a quality assurance/quality control program, and procedures and schedules for evaluating the monitoring program's effectiveness. Except at certain inactive monitoring operations where certification by a professional engineer is required as an alternative to monitoring, other specific monitoring program requirements include the following:

- an annual comprehensive evaluation of the facility to identify stormwater discharge areas and to evaluate whether stormwater management practices identified in the SWP3 are working and to certify that the facility is in compliance;
- four quarterly visual observations of the site for the presence of authorized and unauthorized non-stormwater discharges in all drainage areas;
- monthly visual observations during the sampling season (October through May) (Visual observations must be conducted during the first hour of at least one storm event per month that produces a "significant stormwater discharge.");
- for feedlots subject to federal effluent guidelines under 40 CFR §412, which are in compliance with the California Code of Regulations, Sections 2560 to 2565, Article 6, Chapter 15, Title 23, a monthly inspection of containment facilities to detect leaks and ensure maintenance of adequate freeboard; and
- sampling and analysis of at least two storm events producing a "significant stormwater discharge" during the sampling season (samples must be analyzed for the parameters specified below).

Sampling Requirements of Industrial General Permit:*

Unless they receive an exemption from sampling and analysis requirements under procedures listed below, regulated dischargers must sample for the following parameters:

- pH, total suspended solids, specific conductance, and total organic carbon (TOC), unless oil and grease is substituted for TOC;
- toxic chemicals and other pollutants that are likely to be present in a facility's stormwater discharge in significant quantities; and
- Additional analytical parameters listed in the permit associated with the SIC code of the facility.

A facility may eliminate a parameter (other than the minimum four parameters) from future analysis if it is not detected in significant quantities after two consecutive sampling events.

* Revised, July 1999.

* Revised, July 1999.

*Exemptions and Reductions from Sampling and Analysis:** The industrial permit contains a procedure whereby facility operators, if they meet certain minimum conditions, may certify compliance with the general permit and reduce the number of sampling events required to be sampled for the remaining term of the general permit. Sampling forms, analysis reduction forms and instructions are available on the Internet. The certification program shall be approved by the local regional water board prior to implementation.

For a facility to be eligible for sampling and analysis exemptions, it must meet the following conditions:

- no exposure certification (NEC) — this exemption is designed primarily for those facilities where all industrial activities are conducted inside buildings and where all materials stored and handled are not exposed to stormwater;
- compliance with a regional water board certification program—such programs may include conditions to exempt facilities that infrequently discharge stormwater to waters of the United States, and facilities that demonstrate compliance with the terms and conditions of the general permit; and
- compliance with a local agency certification program.

For a facility to be eligible for a sampling and analysis reduction, it must meet the following conditions:

- the facility operator has collected and analyzed samples from a minimum of six storm events from all required drainage areas;
- all prohibited non-stormwater discharges have been eliminated or otherwise permitted;
- the facility operator demonstrates compliance with the terms and conditions of the general permit for the previous two years (i.e. completed annual reports, performed visual observations, implemented appropriate BMPs, etc.);
- the facility operator demonstrates that the facility's stormwater discharges and authorized non-stormwater discharges do not contain significant quantities of pollutants; and
- all but the first condition remain in effect for a minimum of one year after filing the certification.

Unless otherwise instructed by the regional water board, facility operators must collect and analyze samples from two additional storm events during the remaining term of the general permit in accordance with the chart below:

Reduced Monitoring Sampling Schedule*

Facility operator filing sampling reduction certification by:	Samples shall be collected and analyzed in these wet seasons:	
	Sample 1	**Sample 2**
Oct. 1, 1997	Oct. 1, 1997–May 31, 1998	Oct. 1, 1999–May 31, 2000
Oct. 1, 1998	Oct. 1, 1998–May 31, 1999	Oct. 1, 2000–May 31, 2001
Oct. 1, 1999	Oct. 1, 1999–May 31, 2000	Oct. 1, 2001–May 31, 2002
Oct. 1, 2000	Oct. 1, 2000–May 31, 2001	Oct. 1, 2001–May 31, 2002
Oct. 1, 2001	Oct. 1, 2001–May 31, 2002	

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Group Monitoring Plans: Group monitoring plans may be designed and implemented either by entities representing similar stormwater dischargers or local agencies holding NPDES permits for MS4s. Participants in group monitoring plans may be stormwater dischargers within the boundaries of a single RWQCB or, alternatively, may consist of stormwater dischargers coming under the jurisdictions of multiple regional water boards. In the later case, the group monitoring plan must be approved by the SWRCB.

New and existing members of a group monitoring plan must collect and analyze two samples over the five-year period of the general permit. The group leader or local agency permittee must schedule sampling in such a way as to evenly distribute the sample collection over the five-year term of the permit and to collect the two samples at each participant's facility in different and non-consecutive wet seasons. New participants who join a group in years four or five of the permit are not subject to the latter condition. Group leaders must explain in the annual group evaluation (due Aug. 1) why any scheduled samples were not collected and reschedule the sampling so that all required samples are collected during the term of the permit.

The organizing entity requesting approval of the group monitoring plan is responsible for developing and implementing the plan, evaluating and reporting group monitoring data, recommending appropriate BMPs for group members, submitting the group monitoring plan to the appropriate RWQCBs and SWRCB each year, and revising the group monitoring plan as instructed by the SWRCB.

The group monitoring plan must be revised, as necessary, by August of each year. Group members who are not selected to perform stormwater sampling must comply with other monitoring and reporting requirements. Group members subject to federal stormwater effluent guidelines under 40 CFR Subchapter N must individually sample for and analyze stormwater pollutants listed in the appropriate federal regulations.

Facilities Subject to Federal Stormwater Effluent Guidelines: Facilities subject to federal stormwater effluent guidelines, in addition to meeting the above monitoring requirements, must collect samples of stormwater discharges during at least two storm events producing a significant stormwater discharge during the wet season and must analyze such sample(s) for any pollutant specified in the appropriate category of 40 CFR Subchapter N.

Regulated sites discharging stormwater must meet the applicable provisions of sections 301 and 402 of the Clean Water Act, requiring utilization of the best available technology economically achievable and the best conventional pollutant control technology, as well as any more stringent controls needed to meet water quality standards. The general permits state that "it is not feasible at this time" for SWRCB to establish numeric effluent limitations for dischargers from facilities not listed among the 10 industrial categories in 40 CFR subchapter N. Therefore, the general permit allows the facility operator to implement BMPS and/or pollution prevention control practices.

*Non-stormwater discharges:** Elimination or reduction of non-stormwater discharges is a major goal of the general permits. The general permits essentially prohibit non-stormwater discharges except for certain listed non-stormwater discharges that are: (1) infeasible to eliminate; (2) in compliance with BMPs described in the site's stormwater pollution prevention plans (SWP3); (3) not causing or contributing to a violation of water quality standards; and (4) not otherwise subject to permitting by the appropriate RWQCB.

Inactive Mining Operations: Inactive mining operations may be certified by a registered professional engineer if it is impracticable to perform wet season visual observations, dry season observations and sampling of pH, total suspended solids, specific conductance, and total organic carbon, as well as sampling for toxic chemicals and other pollutants likely to be present in stormwater in significant quantities. The registered professional engineer must certify once every three years that an SWP3 has been prepared for the facility in accordance with good engineering practices and that it is being implemented in accordance with the general permit's requirements.

Recordkeeping: Records of monitoring data must be kept onsite for five years, and be made available to RWQCB inspectors.

Permit Prohibitions: The general permit prohibits non-stormwater discharges (including illicit connections) and discharges containing hazardous

* Revised, July 1999.

substance in stormwater in excess of RQs established under 40 CFR §117.3 and 40 CFR §302.4.

Construction Activity General Permit:*

On Aug. 20, 1992, SWRCB adopted a general construction activity stormwater permit, including a NOI form and NOI instructions, to regulate stormwater discharges from construction activities disturbing five or more acres of land. The construction general permit applies to all areas of the state except Indian lands and the Lake Tahoe hydrologic unit. SWRCB is expected to adopt a new general permit in the summer of 1999. Regulated construction sites on Indian lands are covered by the EPA baseline general permit published Sept. 9, 1992 (57 FR 41176). Those in the Lake Tahoe hydrologic unit are regulated by a separate permit or permits adopted by the RWQCB for the Lahontan Region.

SWP3s: All construction dischargers must prepare, retain onsite, and implement SWP3s. The SWP3s must identify sources of sediment and other pollutants affecting the quality of runoff from a site and describe and ensure the implementation of practices to reduce sediments and other pollutants in the site's discharge. An SWP3 must include BMPs that address source reduction and runoff treatment if necessary. Required elements in an SWP3 include:

- site description;
- erosion and sediment controls;
- waste disposal provisions;
- implementation of approved local plans;
- proposed post-construction stormwater controls, including a description of local post-construction erosion and sediment control requirements; and
- provisions to control non-stormwater discharges.

Monitoring: All construction site dischargers covered by the general permit must inspect their sites before anticipated storm events and after such storm events to identify areas contributing to runoff and to evaluate whether their SWP3 measures for reducing pollutant loadings are adequate and properly implemented.

Certifications: Construction site permittees must certify annually that their construction activities are in compliance with the state construction activity general permit and the provisions of their SWP3s.

Recordkeeping and Reporting Requirements: Construction site permittees covered by the state construction activity general permit must retain all records and reports pertaining to the general permit for at least three years. Dischargers must report instances of noncompliance with the general permit. Otherwise records need not be submitted to permitting authorities, except upon specific request of the appropriate RWQCB.

Municipal Permits:*

The regional boards have issued stormwater permits for the following MS4s:

- Santa Clara County District;
- Los Angeles County;
- Sacramento County;
- San Bernardino County;
- the portion of Riverside County regulated by the RWQCB in Riverside, Calif.;
- the portion of Riverside County regulated by the RWQCB in San Diego;
- Orange County;
- San Diego County;
- Contra Costa County;
- San Mateo County;
- Alameda County;
- the city of Modesto;
- the city of Stockton;
- the city of Bakersfield;
- the Fresno/Clovis metropolitan area;
- Solono County; and
- the portion of Placer and El Dorado Counties draining into Lake Tahoe.

There is no MS4 permit for San Francisco, which is served by a combined sewer system and hence is not covered by the stormwater regulations.

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¶890.6 Colorado

State Contact(s):

Nathan Moore
(303) 692-3555
(303) 692-0390 (fax)
Colorado Department of Public Health and Environment
Water Quality Control Division
WQCD-PE-B2
4300 Cherry Creek Drive South
Denver, Colo. 80222-1530

Program Description:

Colorado is an NPDES delegated state with general permitting authority. (The Colorado program is referred to as the Colorado Discharge Permit System, or CDPS, instead of NPDES.) Industrial facilities that discharge industrial stormwater either directly to surface waters or indirectly, through municipal separate storm sewers, must be covered by a permit. The state covers most stormwater dischargers under six general permits, which are modeled after EPA's baseline general permit:

- permit no. COR-010000—stormwater discharges associated with light industrial activity;
- permit no. COR-020000—stormwater discharges associated with heavy industrial activity;
- permit no. COR-030000—stormwater discharges associated with construction activity;
- permit no. COR-040000—stormwater discharges associated with metal mining operations and mine-waste remediation;
- permit no. COR-060000—for the recycling industry;
- permit no. COG-500000—for sand and gravel mining and processing (and other non-metallic minerals except fuel); and
- permit no. COG-850000—for coal mining facilities.

Colorado will also accept individual permit applications and will issue individual permits. However, the general permit process is faster and more streamlined. Colorado does not plan to make immediate use of EPA's multi-sector general permit. Group applicants in Colorado are required to seek coverage under the appropriate general permit. However, the Department of Heath anticipates using the multi-sector permit as a source of information when reissuing general permits as they expire.

Application Requirements:

To apply for coverage under any of the general permits, a stormwater discharger must submit an application provided by the Water Quality Control Division. The completed discharge application must be submitted, by certified mail or hand delivery, to:

Colorado Department of Public Health and Environment
Water Quality Control Division
WQCD-Pe-B2*
4300 Cherry Creek Drive South
Denver, Colo. 80246*
Attn: Permits and Enforcement Section

Applicants applying for coverage under permit nos. COR-010000, COR-020000, COR-040000, COR-060000, COG-500000 and COG-850000 must submit an application 30 days prior to the anticipated date of discharge. Applicants applying for coverage under permit no. COR-030000 must submit an application 10 days prior to the anticipated date of discharge. Applicants for coverage under permit no. COG-500000 must submit two copies of the application.

The Division will certify facilities under applicable general permits. If the applicant does not receive a request for additional information or a notification of denial from the Division dated within 30 days (10 days for permit no. COR-030000) of the receipt of the application, authorization to discharge in accordance with the conditions of the permit will be deemed granted.

A stormwater discharger may request to be excluded from coverage under the general permits by applying for an individual CDPS permit.

Industrial facilities subject to previously existing NPDES numeric guidelines for stormwater may seek coverage under permit no. COR-020000,

* Revised, October 1999.

even though EPA does not allow such facilities to receive general permit coverage in non-NPDES delegated states.

Program Notes:

Generally, permit requirements under each of the general permits parallel those in EPA's baseline general permit, although there are certain state specific requirements. The requirements of each permit are summarized below. Generally speaking, each permit requires dischargers to develop and implement stormwater management plans (SWMPs) that employ "best management practices" (BMPs). The plans must be prepared in accordance with good engineering practices and identify potential sources of pollution that may reasonably be expected to affect the quality of stormwater discharges. Dischargers also must conduct regular facility inspections.

COR-010000—Light Industrial Activity:* This permit covers all light industries in the following SIC codes with the exceptions noted below:

- categorical industries: 22, 24 (except 2491), 26, 311, 32 (except 3241, 3274), 3441, 3471, 3479, 3691, 3692, 7384;
- transportation facilities that have vehicle maintenance, fueling, equipment cleaning or airport deicing: 40, 41, 42 (except 4221, 4222, 4225), 43, 44, 45, 5171;
- light industry not covered elsewhere: 20 (except 2011, 2015, 2077), 21, 22, 23, 2434, 25, 27, 31, 323, 3273, 34, 35, 36, 37, 38, 39, 4221, 4222, 4225, and asphalt batch plants.
- oil and gas extraction (SIC code 13);
- wastewater treatment plants; and

Facilities in underscored SIC codes above, that also are subject to reporting requirements under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) (water priority chemicals) are not covered by this general permit, but are covered by COR-020000.

Facilities with SIC codes of 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221, 4222, and 4225 are exempt from permitting if they are wholly enclosed or if their operations are entirely protected from stormwater.

*SWMP:** The permittee must develop an SWMP for the facility, which includes information similar to that required for a stormwater pollution prevention plan under EPA's baseline general permit. As a condition of the permit, the facility must certify the completion of the SWMP when applying for a permit and must implement the provisions of the SWMP when the facility begins operations or when the general permit certification is issued, whichever is later (existing facilities were required to be in compliance with their SWMPs by Nov. 1, 1993). The SWMP must be updated as appropriate.

Facility Inspections and Annual Report: Qualified personnel must make a comprehensive inspection of the facility's stormwater management system at least twice per year (in the spring and fall). These inspections must be documented and summarized in an annual report. The report must be submitted on or before Feb. 15 of each year, covering the previous Jan. 1 through Dec. 31.

Monitoring: Sampling and testing of stormwater for specific parameters is not required on a routine basis under this permit. However, the state reserves the right to require sampling and testing on a case-by-case basis.

Recordkeeping: The permittee must maintain for a minimum of three years all monitoring information, all calibration and maintenance records, copies of all reports required by the permit and records of all data used to complete the application for coverage under this permit.

*Fees:** Permit fees for this permit are $159 per year.

Permit Expiration: This permit expires on Dec. 31, 2001. A permittee desiring continued coverage under the permit must reapply by Sept. 30, 2001.

COR-020000—Heavy Industrial Activity:* This permit covers the following categories of facilities:

- steam electric power generating facilities;
- land disposal units, etc.;

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- other heavy industrial activities or categorical industries with stormwater requirements (SIC codes 2011, 2015, 2077, 2491, 28, 29 (except asphalt batch plants), 30, 3241, 3274, 33, 45 (air transportation facilities that use 1,000 gallons of de-icer or more annually and that have annual fuel sales of at least 1 million gallons per year); and
- any other facility covered by the stormwater regulations that also has coal pile runoff.

SWMP: The permittee must develop an SWMP for the facility, which includes information similar to that required for a stormwater pollution prevention plan under EPA's baseline general permit. The SWMP must be submitted with the permit application (existing facilities were required to submit their plans by June 1, 1993). The SWMP must be implemented when the facility begins operations or when the permit certification is issued, whichever is later, and updated as appropriate.

Facility Inspections and Annual Report: Qualified personnel must make a comprehensive inspection of the facility's stormwater management system at least twice per year (in the spring and fall). These inspections must be documented and summarized in an annual report. The report must be submitted on or before Nov. 28 of each year, covering the previous Oct. 1 through Sept. 30.

Numeric Effluent Limitations: The following industries are subject to numeric effluent limitations which are set forth in the permit:

- phosphate manufacturing—defluorinated phosphate rock and defluorinated phosphoric acid manufacturers only (SIC code 2874);
- fertilizer manufacturing—phosphate manufacturers only (SIC code 2874);
- petroleum refining (SIC code 2911);
- paving and roofing materials—asphalt emulsion manufacturers only (SIC code 295);
- cement manufacturing (SIC code 3241); and
- coal pile runoff.

Monitoring: During the period beginning on Jan. 1, 1997, and lasting through Dec. 31, 2001, the following dischargers are subject to monitoring requirements at each discharge point:

- primary metal industries (SIC code 33);
- land disposal units/incinerators;
- wood treatment facilities (chlorophenolic/creosote formulations or arsenic or chromium preservatives) (SIC code 2491);
- facilities with coal pile runoff;
- airports (facilities that use 1,000 gallons of deicer or more annually and that have annual fuel sales of at least one million gallons) (SIC code 45);
- animal handling/meat packing (SIC codes 2011, 2015, 2077);
- phosphate manufacturing (SIC code 2874);
- fertilizer manufacturing (SIC code 2874);
- petroleum refining (SIC code 2911);
- asphalt emulsion (SIC code 295);
- chemical and allied products, rubber and plastic products manufacturing (SIC codes 28 and 30) with storage of solid chemicals used as raw materials that are exposed to precipitation; and
- additional facilities with stormwater discharges that come into contact with lime storage piles (SIC code 3274); from oil handling sites at oil fired steam electric power generating facilities; or from cement manufacturing facilities or cement kilns (SIC code 3241).

Monitoring results must be summarized for each year (Oct. 1 through Sept. 30) and reported on Division-approved discharge monitoring report forms postmarked no later than Nov. 28 of the same year.

Recordkeeping: The permittee must maintain for a minimum of three years all monitoring information, all calibration and maintenance records, copies of all reports required by the permit and records of all data used to complete the application for coverage under the permit.

*Fees:** Permit fees for this permit are $159 per year.

* Revised, October 1999.

Permit Expiration: This permit expires on Dec. 31, 2001. A permittee desiring continued coverage under the permit must reapply by Sept. 30, 2001.

Permit No. COR-030000—Construction Activity:*** This permit covers stormwater discharges from construction activities that disturb greater than five acres of land or are part of a larger common plan of development or sale. This permit also covers discharges from areas that are dedicated to producing earthen materials, such as soils and gravel, for use at a single construction site. This permit also covers dedicated asphalt batch plants and dedicated concrete batch plants. The permit does not authorize the discharge of mine water or process water from such areas.

SWMP: An SWMP for the site must be prepared in accordance with good engineering, hydrologic and pollution control practices, which includes information similar to that required for a stormwater pollution prevention plan under EPA's baseline general permit. The SWMP must be updated as appropriate. The plan does not need to be prepared by a registered engineer.

The main objective of the plan is to identify best management practices (BMPs) that will be used to prevent or manage stormwater runoff from the construction site. The plan must include a narrative description of the BMPs that will be implemented before and during construction activities at the site or facility. The plan must clearly describe the relationship between the phases of construction and the implementation and maintenance of controls and measures. For example, the plan must detail controls that will be implemented during each of the following stages of construction: clearing and grubbing necessary for perimeter controls, initiation of perimeter controls, remaining clearing and grubbing, road grading, storm drain installation, final grading, stabilization, and removal of control measures.

Site Inspections: For active construction sites, the permittee must make a thorough inspection of the stormwater management system at least every 14 days and after any precipitation or snowmelt event that causes surface erosion. Based on the results of the inspection, the description of pollution prevention and control measures in the SWMP must be revised and modified as appropriate as soon as practicable after such inspection. Modifications to control measures must be implemented in a timely manner, but in no case more than seven calendar days after the inspection. The operator also must keep a record of inspections. If the construction activity lasts more than 12 months, a copy of the inspection record must be sent to the Division by May 1 of each year, covering the period from April 1 to March 31 of the previous year.

For sites where all construction activities are completed, but final stabilization has not been achieved due to a vegetative cover that has been planted but has not become established, the permittee must make a thorough inspection of their stormwater management system at least once every month. If site conditions make this schedule impractical, permittees may petition the state to grant an alternate inspection schedule.

Monitoring: There are no specific monitoring requirements under this permit. However, the state reserves the right to require sampling and testing, on a case-by-case basis in the event that there is reason to suspect that compliance with the SWMP is a problem or to measure the effectiveness of the BMPs. Such monitoring may include whole effluent toxicity testing.

Reporting: Regular submittal of an annual report is not required in this permit. This requirement was eliminated from the previous permit that expired June 30, 1997.

Final Stabilization: Final stabilization occurs when all soil disturbing activities at the site have been completed, and uniform vegetative cover has been established with a density of at least 70 percent of pre-disturbance levels, or equivalent permanent physical erosion reduction methods have been employed. For purposes of this permit, establishment of a vegetative cover capable of providing erosion control equivalent to pre-existing conditions at the site will be considered final stabilization.

When a site has been finally stabilized, the operator of the facility must submit an Inactivation Notice. The notice form is available from the Division and includes the permit certification number; the permittee's name, address and telephone

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number; name, location, and county for the site; and certification that the site has been finally stabilized.

Transfer of Permit: When responsibility for stormwater discharges at a site changes from one individual to another, the permittee must submit a completed Notice of Transfer and Acceptance of Terms of a Construction General Stormwater Discharge Permit Certification form, which is available from the Division.

*Fees:** Permit fees for this permit are $185 per year.

Permit Expiration: This permit expires on June 30, 2002. Accordingly, any permittee desiring continued coverage must reapply by March 31, 2002.

COR-040000—Metal Mining Operations: This permit applies to active and inactive metal mining operations, and mine waste remediation projects at inactive mine sites where stormwater runoff comes into contact with any overburden, raw material, intermediate products, byproducts, finished products or waste products, and then leaves the site. The permit has certain separate requirements for active and inactive sites, as noted below.

SWMP: SWMPs must be implemented prior to applying for coverage under the general permit. The plan includes information similar to that required for a stormwater pollution prevention plan under EPA's baseline general permit. Submittal of the SWMP is not automatically required under this permit. However, the Division may require submittal upon request, and require additional measures to prevent and control pollution.

In 1996, this permit was revised to address special considerations of mine-waste remediation projects. As a result, additional requirements apply in the event that the permittee wishes to remediate the inactive mine site and terminate permit coverage. If the site is already covered by this permit, the permittee must notify the Division as to the change in status. Notification should be made prior to implementation of the remediation work, if possible. Among other things, the SWMP for these sites must include documentation of permission for remediation of the site from the landowner; photographs documenting the condition of the inactive mine site before any remedial action occurs; a description of the remedial action and BMPs to be used during the cleanup; procedures for disposal of water stored in the mine waste; and a description of permanent BMPs, final site stabilization, and ultimate land use.

Inspections: For active mining sites, qualified personnel must make a thorough inspection of the stormwater management system at least twice per year (in the spring and fall). If semi-annual inspections are shown in the plan to be impracticable because an employee is not stationed or does not routinely visit the site, inspections must be conducted at appropriate intervals specified in the plan, but never less than once in two years. These inspections must be documented and summarized in the annual report.

For inactive mining operations, qualified personnel must make a thorough inspection of the stormwater management system at least once per year. If annual inspections are impracticable, certification is required once every three years by a registered professional engineer that the site is in compliance with the plan. These inspections must be summarized and documented in the compliance report.

Annual Report: Active mining operations must submit an annual report, covering Jan. 1 through Dec. 31, on compliance with the SWMP. The report must be submitted by Feb. 15 of each year. The exact due date for the permittee's first annual report will be listed in the permit certification. The Division reserves the right to require additional information in the report. Inactive mining sites are required to submit a report on compliance with the SWMP by Feb. 15, 1999, that covers the period of time between coverage by the permit and Dec. 31, 1998.

Monitoring: The state reserves the right to require sampling and testing on a case-by-case basis in the event that there is reason to suspect that compliance with the SWMP is a problem.

Recordkeeping: Incidents such as spills or other discharges must be included in the records. Inspections and maintenance activities must be documented and recorded. All reports and records must be maintained for a period of three years.

* Revised, October 1999.

*Fees:** Permit fees for this permit are $106 per year for active mines with less than 10 acres of disturbed surface, $317 per year for mines with more than 10 acres of disturbed surface, and $53 per year for inactive mines.

Permit Expiration: This permit expires on Sept. 30, 2001. Accordingly, any permittee desiring continued coverage must reapply by March 31, 2001.

Permit No. COR-060000—Recycling Industry: This permit covers automobile recycling facilities, including facilities that are primarily engaged in the wholesale or retail distribution of used motor vehicle parts (SIC code 5015) as well as facilities dismantling motor vehicles for the purpose of selling parts. The permit also covers scrap and waste recycling facilities, including facilities primarily engaged in assembling, breaking up, sorting and wholesale distribution of scrap and waste materials (SIC code 5093).

SWMP: The permittee must develop an SWMP for the facility, which includes information similar to that required for a stormwater pollution prevention plan under EPA's baseline general permit. A description of the facility's best management practices is mandatory. The SWMP must be submitted with the permit application and it must be implemented as a condition for the permit. For auto recycling facilities, the plan must include a description of the industrial activity taking place at the site such as vehicle dismantling, vehicle crushing, battery reclaiming, outdoor vehicle and equipment storage, and liquid storage. For scrap and waste recycling facilities, the plan must include a description of the industrial activities taking place at the site such as material shredding, material baling, wire stripping and chopping, material storage piles, liquid storage areas and waste storage areas.

SWMPs that were prepared in accordance with requirements in the CDPS Heavy Industrial General Stormwater Permit (COR-020000) are acceptable for meeting portions of the SWMP requirements of this permit. These SWMPs must be amended to include the additional requirements and mandatory BMPs required by this permit, and must be submitted to the Division by April 1, 1997.

Facility Inspections and Annual Report: Qualified personnel identified by the operator must make a comprehensive inspection of their stormwater management system at least once a year. This comprehensive inspection must be documented and summarized in the annual report. An annual report covering Oct. 1 through Sept. 30, must be submitted to the Division on or before Nov. 28 of each year.

Annual inspections may not be required for sites where such an inspection would be impractical because an employee is not stationed or does not routinely visit the site. In such cases inspections may be required at appropriate intervals, but never less than once in two years. Where an annual inspection is deemed inappropriate for an inactive site, an inspection will be conducted at appropriate intervals, but in no case less than once in three years. At least one site inspection required under this part must be conducted prior to Oct. 1, 1998, or the date two years after such site becomes inactive, whichever is earlier.

Monitoring: During the period beginning on Jan. 1, 1997, and lasting through Dec. 31, 2001, the following dischargers are subject to annual monitoring requirements at each discharge point for stormwater discharges associated with industrial activity:

- automobile recyclers (SIC code 5015);
- scrap and waste recyclers (SIC code 5093), industrial recycling facilities—those facilities that accept non-liquid materials from industrial sources. In addition, these facilities may also accept liquid recyclable materials and source segregated recyclable materials, or other recyclable materials from various sources; and
- scrap and waste recyclers (SIC code 5093), recycling facilities—those facilities that accept only source segregated, recyclable material from non-industrial and residential sources.

In addition to the routine sampling and testing of stormwater as described in the permit, the Division reserves the right to require sampling and testing beyond this, on a case-by-case basis, at

* Revised, October 1999.

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any facility covered by this permit, in the event that there is reason to suspect that compliance with the SWMP is a problem, or to measure the effectiveness of the BMPs in removing pollutants in the effluent. Such monitoring may include whole effluent toxicity testing.

Recordkeeping: The permittee must maintain for a minimum of three years all information pertaining to monitoring, inspections and maintenance activities as well as copies of all reports required by the permit and records of all data used to complete the application for coverage under the permit.

Fees: Permit fees for this program are $150 per year.

Permit Expiration: This permit expires on Dec. 31, 2001. A permittee requiring continued coverage under this permit must reapply by Sept. 30, 2001.

Permit No. COG-500000—Sand and Gravel Mining and Processing: This permit covers discharges of both stormwater and process water from facilities engaged in mining and processing of sand and gravel (including rock or stone used as aggregate), and mining and quarrying of other nonmetallic minerals (except fuels or graphite), as described by Standard Industrial Classification (SIC) code 14, and asphalt and concrete batch plants located at facilities covered under this permit.

When stormwater mixes with process water, the process water limitations apply to the discharge of that mixed water. Process waters are subject to effluent limitations and monitoring requirements, which are set forth in the permit. Process water includes product wash waters, maintenance and equipment wash waters, transport waters, scrubber waters, mine dewatering, other process water as determined by the Division, stormwater runoff from mine or processing areas, and stormwater runoff that mixes with process generated wastewater prior to sampling.

The stormwater sections of the permit are intended to cover stormwater runoff from those portions of a nonmetallic minerals production operation that are not subject to effluent limitations under 40 CFR 436.

SWMP: An SWMP must be developed for the facility prior to submitting the permit application and must be prepared in accordance with good engineering practices. Mining operations must certify the completion of their SWMP and must implement the plan prior to the start of operations. The plan must be updated as appropriate.

Site Inspections: Qualified personnel must make a comprehensive inspection of the stormwater management system at least twice per year (in the spring and fall). These comprehensive inspections must be documented and summarized in the annual report. If semi-annual site inspections are shown in the plan to be impracticable for sites where an employee is not stationed or does not routinely visit the site, inspections must be conducted at appropriate intervals specified in the plan, but never less than once in two years. If semi-annual site inspections are shown in the plan to be impracticable for inactive sites, site inspections must be conducted at appropriate intervals specified in the plan, but in no case less than once in three years.

Monitoring: Although there are monitoring requirements specified in the permit for process water discharges, sampling and testing of stormwater is not required on a routine basis. However, the Division reserves the right to require sampling and testing at any facility, in the event that there is reason to suspect that compliance with the SWMP is a problem, or to measure the effectiveness of the BMPs.

Quarterly and annual monitoring reports must be submitted for process water discharges. These reports must be submitted to:

Colorado Department of Public Health and Environment
WQCD Permits
43400 Cherry Creek Drive South
Denver, Colorado 80222-1530

Quarterly Reports: Monitoring results obtained during the previous three months must be summarized and reported on Division-approved Discharge Monitoring Report (DMR) forms and postmarked no later than the 28th day of the

month following the completed calendar quarter. For example, for the first quarter (January, February, and March), the quarterly report must be received by the Division no later than April 28. If no discharge occurs during the reporting period, "No discharge" should be reported.

Annual Reports: The permittee must submit an annual report by Feb. 15 of each year, covering Jan. 1 through Dec. 31 of the previous year, on the overall compliance with the SWMP.

Recordkeeping: All records and information resulting from monitoring activities must be maintained for a minimum of three years.

*Fees:** Fees for this permit are $53 per year for mines without process water discharges and $132 per year for mines with process water discharges.

Permit Expiration: This permit expires Sept. 30, 2002. Accordingly, any permittee desiring continuing coverage must reapply by March 31, 2002.

Permit No. COG-850000—Coal Mining Facilities: This permit covers discharges that consist entirely of precipitation-induced surface runoff from coal mining and processing operations and loadouts, during active mining or reclamation. Additional sources of runoff, such as selected mine water, preparation plant water, spoils spring water or other wastewater, may be covered under this permit at the Division's discretion providing that such wastewater would not require effluent limitations and/or monitoring requirements other than those contained in the permit.

SWMP: An SWMP must be developed and implemented for the portion of each facility covered by the permit, and must be updated as appropriate.

Facility Inspection: The permittee must make a thorough inspection of the stormwater management system, at least twice per year (in the spring and fall). These inspections must be documented and summarized in the annual report to the Division.

Effluent Limitations: The permit specifies effluent limitations for active mining and post-mining outfalls. Post-mining limitations may apply to outfalls serving surface areas that have been returned to the required contour and on which revegetation work has commenced. The permittee may request consideration for change from active mining limitations to post-mining limitations when these conditions have been met. Each facility certification shall state whether active mining or post-mining limitations apply to each authorized outfall. To obtain an indication of the probable compliance or noncompliance with the effluent limitations, the permittee must monitor all effluent parameters as specified in the permit.

Reporting Requirements: The permittee must submit by Feb. 15 of each year an annual report, covering Jan. 1 through Dec. 31 of each year, on the overall compliance with the SWMP. In addition, monitoring results must be submitted every three months on Division-approved discharge monitoring report forms. The reports must be postmarked no later than the 28th day of the month following the completed calendar quarter. The report form must be submitted to:

Colorado Department of Public Health and Environment
WQCD-PE-B2
43400 Cherry Creek Drive South
Denver, Colorado 80222-1530

EPA Region 8 no longer requires submittal of duplicate DMR forms. Therefore, the second, third and fourth copies are for permittee records.

Recordkeeping Requirements: The permittee must maintain for a minimum of three years records of all monitoring information, all calibration and maintenance records, copies of all reports required by this permit and records of all data used to complete the application for this permit.

*Fees:** Most of the state's coal mines already are permitted and the fees for the additional stormwater coverage are $245 per year for mines disturbing less than 10 acres and $317 per year for mines disturbing more than 10 acres.

Permit Expiration: This permit expires on June 30, 2002. A permittee desiring continued coverage under the general permit must reapply by Jan. 1, 2002.

* Revised, October 1999.

* Revised, October 1999.

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Federal Facilities and Indian Lands:

Federal facilities and Indian lands in Colorado are regulated through EPA Region 8 under EPA's baseline general permits for construction sites (57 FR 41176) and industrial activities (57 FR 41236). There are no state-specific requirements under either permit for Indian lands. There are some state-specific requirements for federal facilities with industrial activity (57 FR 41328) or construction activity (57 FR 41227). The major differences between EPA's baseline requirements and the state requirements concern which non-stormwater discharges are authorized under the general permit and the reporting of releases in excess of reportable quantities of certain substances. Such releases must be reported within 14 days to EPA Region 8 and to the Colorado Department of Health, Water Quality Control Division, 4300 Cherry Creek Drive South, Denver, Colo. 80222-1530, Attn: Permits and Enforcement.

Oil and Gas Industry Requirements:

Dischargers in the oil and gas industry need federal stormwater permits issued by the Water Quality Division. The Oil and Gas Conservation Commission has no statewide regulations specifically addressing stormwater but does have regulations preventing oil and gas facilities from polluting the surface or subsurface waters of the state with oil, gas, salt or brackish waters, or other oil field wastes. Oil and gas operators also must follow water quality control plans approved by the state Water Quality Control Commission. For information, contact Jim Kenney, Colorado Oil and Gas Conservation Commission, Suite 380, 1580 Logan St., Denver, Colo. 80203; (303) 894-2100.

State Mining Industry Requirements:

In addition to coverage under a stormwater permit, some dischargers in extractive industries may need to get state approvals from the Division of Mines or the Oil and Gas Conservation Commission. The mining industry in Colorado is regulated by the Division of Minerals and Geology (DMG) of the Colorado Department of Natural Resources and the energy industry by the Oil and Gas Conservation Commission (see below). There are three sections to the division: an Inactive Mined Land Section, to handle abandoned mining sites that ceased production prior to 1973; a Coal Section, to administer the coal mining provisions of the Surface Mining Control and Reclamation Act (SMCRA) in Colorado; and a Minerals Section to regulate all other mining operations, including sand and gravel pits and borrow pits used for highway construction projects.

State Regulations for Minerals Mining: Under the Colorado Mined Land Reclamation Act, 3432-101 *et seq.* of the Colorado Revised Statutes of 1973 as amended, mining operations outside the coal industry need a reclamation permit from the Mined Land Reclamation Division (MLRD). The Minerals Section of MLRD handles the permit and inspection process for the board. Permittees must post reclamation bonds and comply with state reclamation performance standards, which regulate, among other things, the grading of mining slopes to control erosion and sedimentation, the handling of acid forming and toxic materials to protect drainage areas downstream from pollution, and the minimizing of disturbances to prevailing hydrological balances in and around mine sites.

For more information, contact Bruce Humphries of the Division of Minerals and Geology, Department of Natural Resources, Room 215, 1313 Sherman St., Denver, Colo. 80203; (303) 866-3567.

State Coal Mining Requirements:

Under the provisions of the Colorado Surface Coal Mining Reclamation Act, MLRD requires coal mine operations to obtain mining and reclamation permits. Such permits must meet the requirements of the Regulations of the Colorado Mined Land Reclamation Board for Coal Mining. These govern drainage control, subsidence, acid runoff control, grading and numerous other reclamation activities at coal mining sites. Performance standards for coal mines are extensively addressed in Rule Four of the regulations.

Coal mining and reclamation permits require any drainage from coal mines to flow into treatment ponds, which are regulated as NPDES point sources of pollution by the Water Quality Control Division. MLRD inspects coal mining sites

for NPDES violations. Enforcement responsibilities are divided between the two agencies.

Applicants for new coal mining permits are encouraged to contact MLRD for an informal discussion of the lengthy permit requirements, and for a required special permit application form, the Application for a Coal Mining and Reclamation Permit. For more information, contact Steve Renner or Dan Mathews at (303) 866-3567.

Inactive Mined Land Program: For information, contact Loretta Pineda with MLRD at the address above.

Municipal Stormwater Permits:

The cities of Denver, Aurora, Lakewood and Colorado Springs are currently covered under the municipal permitting process. The unincorporated parts of Arapahoe County have applied for coverage. All other municipalities under 100,000 population are under a temporary exemption. Municipalities have a two-step application process. Part I requires an inventory of all their outfalls. It also includes a substantial amount of monitoring and the gathering of information about existing programs that control stormwater quality. Part II requires the development of a Stormwater Management Program.

Stormwater discharges associated with industrial activity (except for airports, powerplants, or uncontrolled sanitary landfills), that are owned or operated by a small municipality are not required to apply for or obtain a stormwater permit at this time. These facilities are not permanently exempted from the regulations, but are instead placed in Phase II of EPA's stormwater program. The Division and EPA are not pursuing permits for Phase II facilities, including small municipalities until further rulemaking is completed. It is possible that coverage will be required at some future date.

Documents Available:

- *Enabling Legislation, Colorado Surface Coal Mining Reclamation Act.*
- *Regulations of the Colorado Mined Land Reclamation Board for Coal Mining.* Price: $11 at Mined Land Reclamation Division Office; $14 including postage and handling.
- *Regulations of the Colorado Mined Land Reclamation Board for Mineral Mining.* Price: $2.

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State Contact:

Chris Stone
Department of Environmental Protection
Water Management Bureau
79 Elm St.
Hartford, CT 06106-5127
(860) 424-3850

Program Description:

Connecticut is an NPDES delegated state with general permitting authority.

On Oct. 1, 1997, Connecticut re-issued two state general permits for stormwater dischargers—one for industrial stormwater dischargers and one for stormwater runoff and dewatering wastewater discharges from construction sites disturbing five or more acres of land. The construction activity permit was last modified Nov. 27, 2000; the industrial activity permit was last modified Aug. 11, 1998. Both permits expire Oct. 1, 2002.

A stormwater permit for commercial activities was issued Aug. 1, 1995. Although it was set to expire Aug. 1, 2000, it was extended until a new permit could be reissued. Agency officials predict that a new permit will be issued sometime in 2001. Requirements of the commercial activities stormwater permit parallel those found in the permit for industrial activities.††

All three permits impose special requirements on persons or municipalities that discharge stormwater into coastal tidal waters for which a state permit may be required under the state Structures and Dredging Act (Section 22a-361 of the Connecticut General Statutes) or the state Tidal Wetlands Act (Section 22a-32 of the Connecticut General Statutes). Under Part VI.A of the industrial general permit, sites discharging stormwater within less than 100 feet of a nonfreshwater tidal wetland must discharge through a system designed to store the stormwater runoff volume generated by 1 inch of rainfall on the site.

Application Requirements:

Registration: To seek coverage under any of the state's general permits, facilities must submit a Bureau of Water Management (BWM) registration form. Contents of the BWM registration form are specified in Part V.C. of the general permit for industrial activity, Part IV.C. of the general permit for commercial activity and Part V.C. of the general permit for stormwater and dewatering wastewater from construction sites. Among other things, a registration must include an 8 1/2″ by 11″ copy of the applicable section of a U.S. Geological Survey Quadrangle Map showing the boundaries of the site and must be certified by an independent professional engineer licensed to practice in Connecticut and not in the regular employ of the registrant.

Registration forms should be submitted to the following address:

Central Permit Processing Unit
Department of Environmental Protection
79 Elm St.
Hartford, CT 06106-5127

Facilities discharging stormwater through municipal separate storm sewer systems also should submit copies of their registration forms to the owners of those systems.

Registration Deadlines: Registrations must be submitted no later than the date that industrial activity begins. If one person owns an industrial facility and another operates it, the operator is responsible for submitting the registration.

For construction activities, registration is due at least 30 days before construction commences. If one person owns a construction site and another operates on it, the operator is responsible for filing the registration and obtaining general permit coverage.

Fees: Individual persons, including corporations, must pay a registration fee of $250 for a permit.

Program Notes:

Eligibility for General Permit Coverage: The construction site general permit covers only discharges comprised solely of stormwater and

† Revised, May 2001.
†† Added, May 2001.

dewatering wastewater from construction activities disturbing at least five acres of land on a site. To obtain coverage, construction permittees also must meet the following conditions:

- their discharges must not be covered by an individual permit issued under Section 22a-430 of the Connecticut General Statutes;
- the discharge must not be to groundwater or to a publicly owned treatment works;
- the discharge must not be subject to effluent limitations, standards or guidelines adopted by EPA under the Clean Water Act; and
- the discharge must not cause acute or chronic toxicity to aquatic or marine life, impair the biological integrity of aquatic or marine ecosystems, or result in an unacceptable risk to human health.

The general permit for industrial sites covers only discharges that are comprised solely of stormwater, with these added conditions:

- are not covered by a permit issued under Section 22a-430 of the Connecticut General Statutes;
- are not discharged to groundwater or a publicly owned treatment works;
- are not subject to EPA effluent limitations, standards or guidelines under the Clean Water Act;
- are not from an industrial activity owned by a municipality whose population was less than 100,000 in the 1990 census, unless the discharges are from municipally-owned airports, power plants, or uncontrolled landfills (landfills not meeting the run-on and run-off control requirements of the Solid Waste Disposal Act, Subtitle D); or
- are from point sources that are directly related to manufacturing, processing or raw material storage areas at an industrial plant, as specified in the industrial general permit PART IV.A.4.

Industrial Stormwater Pollution Prevention Plans (SWP3s):

The state requirements for SWP3s parallel those in EPA's baseline general permit. Industrial facilities covered under the Oct. 1, 1997, permit must update their SWP3s accordingly. If substantial changes are made, the plan must be recertified by a professional engineer within 60 days of the change. Industrial dischargers commencing operations after Oct. 1, 1997, must prepare their SWP3s 30 days prior to commencing operations.

Plans must be made available at the request of the Department of Environmental Protection (DEP), to the operator of a municipal separate storm sewer system (MS4) if the discharge is to the MS4, or to the public water supply company if the discharge is to a water supply watershed. If the plan must be submitted to DEP, the discharger must pay a $250 plan review fee.

Containment for Chemical Storage Areas: In addition to requiring other pollution control measures, the industrial general permit specifies that the SWP3 must provide for impermeable containment measures for areas where chemicals are stored and potential spills can occur on site. In all areas in which chemicals are stored, permittees must provide impermeable containment structures that will hold at least the volume of the largest chemical container present, or 10 percent of the total volume of all containers in the area, whichever is larger, without overflow. For industrial activities beginning after Oct. 1, 1992, SWP3s must provide for the storage of all chemicals and their containers under a roof that minimizes stormwater entry. This does not apply to chemicals stored in containers of 100-gallon capacity or greater. SWP3s should ensure that all dumpsters used to store waste materials are provided with attached covers with drain plugs intact, or that dumpsters are in roofed areas that keep dumpster leakage from entering storm drains.

Salt Storage Requirements: SWP3s also should provide for the covering or enclosure of salt piles used for deicing or other commercial or industrial purposes, if such salt storage piles are

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sources of stormwater discharges to the waters of the state. Salt storage piles should be enclosed or covered by a waterproof canvas, polyethylene cover or a waterproof cover.

Road salt storage facilities must not be located within a 100-year flood plain or within 250 feet of a drinking water well.

Other SWP3 Requirements: SWP3s should provide that qualified personnel will conduct compliance evaluations, including the inspection of designated areas and pieces of equipment, at appropriate intervals, but at least once every six months. Permittees must prepare reports based on such evaluations and retain them as part of the SWP3 for at least five years. SWP3s should provide for employee training on the goals and components of a facility's plan at least once every year. SWP3s must identify roof areas that may be exposed to sources of pollution, must include an inspection program for such roofed areas, and must contain steps to eliminate rooftops as sources of pollution.

Monitoring: In addition to the twice-per-year compliance evaluation, industrial dischargers should monitor once per year for the following parameters:

- total oil and grease;
- pH;
- chemical oxygen demand;
- total suspended solids;
- total phosphorus;
- total Kjeldahl nitrogen;
- nitrate as nitrogen;
- fecal coliform;
- total copper;
- total zinc;
- total lead;
- aquatic toxicity;††
- pollutants limited or subject to monitoring requirements under a discharge permit issued to the facility for process wastewater discharges;
- any pollutants limited in an EPA effluent guideline to which the permittee is subject; and
- uncontaminated rainfall pH.††

Airports with industrial stormwater discharges from areas where aircraft or airport deicing operations occur must conduct monitoring at least once a year for the primary ingredient in the deicing material used on site (e.g., ethylene glycol, urea, etc.).

Acute toxicity biomonitoring tests must be conducted yearly if:

- discharges occur that are subject to effluent limits or acute or chronic toxicity monitoring requirements under an individual DEP discharge permit;
- monitoring for other parameters indicates the presence of a monitored pollutant at a concentration exceeding the numerical water quality criteria for freshwater acute toxicity listed in Connecticut Water Quality Standards and Criteria; and
- industrial stormwater discharges occur from deicing areas at airports.

Test procedures are specified in the industrial general permit, Part VI.C.2.c.(2).

All monitoring results must be retained on site and be available to DEP, and if discharges are to an MS4, to the MS4. All monitoring results must be submitted in a stormwater monitoring report within 90 days of sampling to:

Water Toxics Program Coordinator
Bureau of Water Management
Department of Environmental Protection
79 Elm St.
Hartford, CT 06106-5127

All monitoring results must be retained for at least five years following the permit's expiration.

Other Conditions for Industrial Dischargers: Industrial stormwater discharges should not contain distinctly visible floating scum or other visible matter, except for naturally occurring substances such as leaves and twigs. Industrial stormwater

†† Added, May 2001.

†† Added, May 2001.

discharges also should not result in acute or chronic toxicity to aquatic or marine life, impair the biological integrity of aquatic or marine ecosystems, or result in an unacceptable human health risk.

Construction Stormwater Pollution Control Plans:

Construction sites regulated under the state general permit must prepare stormwater pollution control plans (SPCPs). For construction activities authorized by the 1997 permit, permittees must prepare SPCPs at least 30 days before beginning construction. Plans must be made available upon request to DEP; any local agency approving sediment and erosion control plans, grading plans or stormwater management plans; or the municipal operator of an MS4 into which a construction site's runoff is discharged. For construction activities that cover 10 acres or more, SPCPs must be submitted to DEP at least 30 days prior to commencing construction activity. The plan must include a site description and provide for erosion and sediment controls, dewatering wastewaters, post construction stormwater management and other controls, such as waste disposal.

Sediment Basin Requirements: Among other things, the construction site general permit requires the installation of temporary or permanent sediment basins for common drainage locations that serve construction areas that disturb more than five acres at one time. Basins should provide at least 134 cubic yards of water storage capacity per acre drained and should be maintained until final site stabilization occurs. However, this requirement does not apply to flows from offsite areas or flows from sites that either are undisturbed or have undergone final stabilization, as long as such flows are diverted around the sediment basin.

Dewatering Wastewaters: A site's SPCP must describe operational and structural practices to ensure that dewatering wastewaters discharged from the site do not contain suspended solids in amounts that "could reasonably be expected" to cause pollution of state waters. Facilities must discharge dewatering wastewaters in a manner that minimizes discoloration of receiving waters.

Post Construction Management Requirements: SPCPs must describe measures that will be installed during construction to control pollutants in stormwater discharges that will occur after construction has ended. Unless otherwise specified by DEP in writing, structural measures must be placed on upland soils. The general permit addresses installation only and not the ultimate operation and maintenance of post-construction pollution control measures. Permittees should install post-construction stormwater management measures designed to remove 80 percent of the total suspended solids from the stormwater discharge. Permittees also should place velocity dissipation devices at discharge locations and along the length of any outfall channel, as needed, to maintain and protect the natural physical and biological characteristics of the water course.

Inspections: Qualified personnel provided by the permittee must inspect disturbed areas of the construction site that have not been finally stabilized at least once every seven calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater. Such personnel also must inspect structural control measures and locations where vehicles enter or leave the site. For sites that have been temporarily or finally stabilized, inspections must be conducted at least once every month for three months. Permittees must make reports summarizing the scope of each inspection and retain each report for at least three years following the inspection. Reports must be signed by permittees. For other inspection requirements, see the general permit for construction sites, Part VI.B.3.c.

Contractors: SPCPs must clearly identify each contractor and subcontractor performing actions on site with the potential to cause pollution of state waters. Each contractor and subcontractor must sign a copy of a certification included in Part VI.B.3.d of the general permit stating that he or she has read and understood the terms and conditions of the general permit and is legally bound by them.

Recordkeeping: All SPCPs and related reports required by the construction site general permit must be retained for at least three years following the end of construction. A copy of the SPCP must be retained at the construction site until construction is completed.

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MS4s and Phase II:†† Connecticut currently does not have a municipal permit program. Implementation of EPA's Phase II program is under consideration. However, phase II permits likely will be general permits that individual municipalities will be responsible for enforcing.

State Documents Available:

The following documents are available from the office listed above:

- Memorandum from the Connecticut Department of Environmental Protection on implementation of EPA's Nov. 19, 1990, stormwater regulations.
- Background information including application packages and regulatory material on the state's water pollution control permitting program.
- *Connecticut Sedimentation and Erosion Control Guidelines,* a publication outlining requirements for the construction industry.
- General Permit for the Discharge of Stormwater Associated with Industrial Activity. Oct. 1, 1997.††
- General Permit for the Discharge of Stormwater and Dewatering Wastewaters From Construction Activities. Oct. 1, 1997.††
- General Permit for the Discharge of Stormwater Associated with Commerical Activity. Aug. 1, 1995.††
- Stormwater Management Plan for the General Permit for the Discharge of Stormwater Associated with Commercial Activity. Aug. 1, 1995.††
- State of Connecticut/Department of Environmental Protection/Bureau of Water Management, Registration Under a General Permit CGS Section 22a-430b for Stormwater Discharge Associated with Industrial Activity.
- State of Connecticut/Department of Environmental Protection/Bureau of Water Management, Registration Under a General Permit CGS Section 22a-430b for Stormwater and Dewatering Wastewater From Construction Activities.

[The next page is Tab 800, Page 221.]

†† Added, May 2001.

¶890.8 Delaware

State Contact(s):

Chuck Schadel
(302) 739-5731
(302) 739-3491 (fax)
Department of Natural Resources and Environmental Control (DNREC)
Division of Water Resources
Surface Water Discharges Section
NPDES Stormwater Program
89 Kings Highway
Dover, Del. 19901

Program Description:*

Delaware is an NPDES delegated state with general permitting authority. The state has two baseline general permits: one for stormwater associated with land disturbing activities and one for industrial stormwater discharges. In 1998, Delaware's Division of Water Resources (DWR) adopted regulations that added the following 13 industrial categories to its industrial permit:

- concrete manufacturing (SIC code 3273);
- land disturbing;
- asphalt manufacturing (SIC codes 2951, 2950);
- automotive salvaging (SIC codes 5015, 5093);
- chemical manufacturing (SIC code 28);
- solid waste;
- scrap recycling;
- watercraft maintenance (SIC code 4493);
- air transportation maintenance and de-icing;
- rail transportation maintenance (SIC code 40);
- automotive transportation maintenance (motor freight transportation and warehousing maintenance activities, including U.S. Postal Service transportation maintenance) (SIC codes 41, 42, 43);
- food processing (SIC code 40); and
- metals manufacturing and associated industries (SIC codes 34, 35, 36, 37, 38).

Coverage under the baseline general permit for industrial activities has terminated for these 13 categories and permittees are required to obtain coverage under the industry-specific provisions. The effective date of the new industrial general permit was Sept. 15, 1998.

In addition, DWR is developing its own multi-sector permit program using EPA's program as a model. Officials say it is likely the multi-sector permit will be more flexible than the EPA model because it would allow industries more time to comply and it would contain less stringent monitoring requirements. The state may require monitoring to be completed three times in five years as opposed to EPA's requirement that monitoring be done two times a year.

Application Requirements:

To obtain coverage under the industrial general permit, facilities must submit state notices of intent (NOIs). NOIs must be submitted by certified mail to DNREC at the address listed above.

*Submission of NOIs Required for Existing Facilities:** Facilities in existence before the effective date of the new industrial general permit should have submitted an NOI by Dec. 15, 1998.

*180-Day Advance Submission of NOIs Required for New Facilities:** New facilities are required to submit NOIs at least 180 days, or six months, before commencing industrial activity that could potentially impact stormwater at the facility listed on the NOI.

*Special NOI Requirements for Land-Disturbing Activities:** For stormwater discharges associated with land-disturbing activities, including regulated construction sites, NOIs must be submitted to DNREC at the address below after an Appropriate Plan Approval Agency (APAA) has approved the permittees sediment and stormwater management plans.

Department of Natural Resources and Environmental Control
Division of Soil and Water Conservation
89 Kings Highway
Dover, Del. 19901

* Revised, September 1999.

* Revised, September 1999.

An APAA is defined as a state department, state conservation district, municipality or state agency that is responsible for review and approval of sediment and stormwater management plans (SSMPs) under the provisions of the Delaware Sediment and Stormwater regulations for a particular jurisdiction. Operators of land-disturbing activities must submit an NOI after their SSMPs have been approved by the APAA. The SSMPs shall be implemented in accordance with the Delaware Sediment and Stormwater Regulations and 7 Del. Code, Chap. 40. Land-disturbing activities at a regulated construction site must not commence until the site SSMP has been approved, stamped, signed and dated by the APAA in accordance with the review scheduled in Section 8 of the Delaware Sediment and Stormwater Regulations, and an appropriate NOI is on file.

For more information on the construction site requirements, contact Robert Baldwin or Randy Greer, Division of Soil and Water Conservation, at (302) 739-4411 and the appropriate state department.

Program Notes:

*Stormwater Plans (SWPs):** Industrial facilities covered by the general permit must develop stormwater plans (SWPs) designed to minimize pollutants in stormwater runoff to the maximum extent practicable. For guidance in developing an SWP, refer to EPA's September 1992 guidance manual, *Stormwater Management for Industrial Activities.* Delaware is planning to distribute a new guidance document this fall.

*Existing Facilities:** (a) Facilities that are covered by parts 3 through 14 of Delaware's stormwater regulations were required to develop SWPs by Dec. 15, 1998, and initiate implementation by March 15, 1999. (b) Facilities not covered by parts 3 through 14 of the regulations must maintain existing SWPs, unless notified of a deficiency by DNREC.

*New Facilities:** Facilities that were not in operation at the time the state's new industry-specific provisions became effective will be required to develop a plan 90 days before the start of operations at the facility. Implementation of the plan must coincide with the start of operations at the facility.

Contents of SWPs somewhat resemble the contents of stormwater pollution prevention plans required by EPA's baseline industrial general permit. However, Delaware's requirements for SWPs are somewhat simpler and shorter than the EPA requirements. At a minimum, an SWP must contain these items:

(1) The name, address and telephone number of the person responsible for developing, maintaining, implementing and revising the plan.

(2) A facility assessment for the site, including a facility map; an inventory of significant materials; and an inventory of spills and leaks that have occurred in areas exposed to, or draining into, stormwater on the site, with this inventory being updated annually.

(3) Significant material management control measures.

(a) Facilities that are not subject to parts 3 through 14 of Delaware's stormwater regulations must manage significant materials by implementing best management practices (BMPs) for handling, storage, manufacturing and/or processing. The BMPs include structural controls when needed to enclose, cover, contain, store, trap or treat stormwater containing significant materials, as well as a response plan for spills or leaks of significant materials.

(b) Facilities that are subject to parts 3 through 14 of the regulations must manage significant materials in one of three ways:

i) enclose entire area by Sept. 15, 2003;

ii) implement stormwater management treatment (buffering) and nonstructural controls by Sept. 15, 2001; or

iii) devise an alternative approach with DNREC's approval (i.e., a combination of 1 and 2 or something innovative). Facilities choosing to implement an alternative approach have until Sept. 15, 2003 to seek approval.

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(4) A maintenance program, including a schedule for inspections of management devices and equipment, the designation of qualified personnel to do the inspections, and a set of follow-up procedures for taking appropriate action in response to inspections.

(5) At least annual briefings of employees and contractors who work in areas where significant materials are located, to inform them of their responsibilities under the SWP.

(6) Compliance with other plans for controlling discharges of significant materials from a facility.

(7) Under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA), facilities handling Section 313 water priority chemicals (WPCs), provision of appropriate containment, drainage control and/or diversionary structures. These must include:

- for nonliquid storage areas, appropriate roofs, covers and other protection measures to prevent the exposure of storage piles to stormwater or wind; or
- for liquid storage areas handling water priority chemicals, secondary containment structures capable of containing 110 percent of the contents of the largest single tank present, plus an additional six inches to allow for precipitation.

Additional SWP Requirements: Facilities discharging stormwater through municipal stormwater systems should submit NOIs to the operators of such systems, include any stormwater management controls required by such systems in facility SWPs, and provide SWPs upon request to the operators of the municipal systems.

*Monitoring and Recordkeeping Requirements:** a) Sampling is required by industrial facilities that handle WPCs under Section 313 of the Emergency Planning and Community Right-to-Know Act. Only facilities that have WPCs exposed to stormwater need to monitor. Facilities that spill or leak WPCs must monitor until WPCs are no long present in runoff. Such facilities must sample and test twice annually, at times at least 180 days apart, for all WPCs.

Discharge Parameter	Units	Frequency	Sample Type
Flow	Gal/min	at each sampling	estimated[1]
Indicator #1[2]	mg/L	2/year	Grab
Indicator #2[2]	mg/L	2/year	Grab
Indicator #3[2]	mg/L	2/year	Grab

The stormwater must be analyzed for the constituents which will indicate the presence of WPCs as follows:

[1] Determine the flow of the stormwater discharge at the time the sample is taken. A reading from a rain gauge taken at the time of the sampling can be substituted for an estimate of the flow.

[2] Persons subject to this part will develop a monitoring plan choosing parameters that represent all water priority chemicals that have been released or are exposed to precipitation. Appropriate units shall be used to measure the chosen parameters.

b) In addition to requirements under subpart (a), facilities that are subject to parts 3 through 14 of Delaware's stormwater regulations must monitor industry specific parameters during the first, third and fifth years of the permit.

c) Monitoring records must be maintained for at least six years from the date of sampling, measurement, report or application. Samples must consist of grab samples taken within the first 30 minutes of a stormwater discharge.

d) All monitoring for regulated construction sites and other land-disturbing activities covered in the construction permit must be conducted in accordance with the Delaware Sediment and Stormwater Regulations. For more information, see the discussion of these regulations below.

*Fees:** The state charges fees of $150/year for coverage under a state general permit; $150/year for industry-specific permits; and $2,500/year for an individual permit.

Regulation of Federal Facilities:*

Federal facilities in Delaware are regulated separately under EPA general permits for industrial dischargers and construction sites (see 57 FR 44438, 44412, Sept. 25, 1992). In addition to meeting other conditions in the EPA permits, federal facilities in Delaware must obtain certificates of consistency with the Delaware Coastal Management Program (CZMA 1972,

* Revised, September 1999.

* Revised, September 1999.

16 U.S.C. 1451) and must submit NOIs to the following address:

Stormwater Notice of Intent (4203)
401 M St. S.W.
Washington, D.C. 20460

Additional Requirements for Federal Construction Sites: Federal facilities seeking general permit coverage for construction activity discharges also must comply with the requirements of 7 Del. Code Chap. 40 and the Delaware Sediment and Stormwater Regulations of January 1991. Pollution prevention plans developed under the EPA general permit must be signed and retained on-site at the facility generating the regulated discharge. A copy of a facility's plan and any subsequent revisions must be submitted to DNREC at the above address.

*Additional Requirements for Federal Industrial Dischargers:** Federal facilities in Delaware that seek general permit coverage for industrial stormwater discharges, in addition to meeting other EPA requirements, must submit SWP3s and discharge monitoring reports (DMRs) to the state. These federal industrial dischargers also must submit DMRs to the NPDES Programs Director, U.S. EPA Region 3, Stormwater Staff, 1650 Arch St., Mailcode: 3WP13, Philadelphia, Pa. 19103.

State Regulations:*

Delaware has separate regulations that apply to stormwater runoff caused by land-disturbing activity that requires the use of stormwater management measures in new real estate developments. In addition, construction in some parts of the state may be regulated under the state Coastal Zone Management Program, the Delaware Estuary Program, or the Delaware Inland Bays Estuary Program.

Watershed Designations: In the future, additional stormwater requirements may be imposed on a watershed basis in certain areas identified by DNREC. It is possible that some facilities that are not deemed to have stormwater discharges associated with industrial activity could be subject to stormwater requirements in these designated watersheds.

Construction Site Sedimentation and Stormwater Regulations:

Since July 1991, construction activities disturbing at least 5,000 square feet of land in Delaware have been subject to the Delaware Sediment and Stormwater Regulations, 7th Del. Code, Chap. 40. The regulations require construction sites to have sediment control plans and design reports, which must be reviewed and formally approved by the state or by delegated local governments.

Developers' plans must contain sediment and erosion control measures to be used during construction and must provide for the construction of permanent stormwater management facilities at all new real estate developments. The regulations provide that no more than 20 acres of a single development may be disturbed at one time and that sites that are cleared but unworked for more than 14 days must be stabilized to control soil erosion.

Permanent Stormwater Management Facilities: Permanent stormwater management facilities must be capable of removing 80 percent of the suspended solids from site runoff and must be adequate to store discharges from two-, 10-, and 100-year storms. Permanent stormwater management facilities may consist of retention or detention ponds or other facilities, including sand filter systems for sites lacking sufficient land area to install other controls. However, developers are encouraged to create artificial wetlands for nutrient uptake and the removal of suspended solids from stormwater.

Administration: The New Castle County Department of Public Works and the city of Wilmington implement the sediment and stormwater control regulations in New Castle County. In Sussex and Kent counties, sediment control plans and design reports for permanent stormwater management facilities must be submitted to local conservation districts.

Training Requirements: DNREC requires one employee from each construction site permitted under the state sedimentation and stormwater control law to attend a 3.5-hour course on the law and its requirements. State and local government sediment and stormwater control inspectors are

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required to attend an eight-week, 28-hour course on stormwater and the provisions of the law.

For more information about the sedimentation and stormwater control program, contact Robert Baldwin at (302) 739-4411.

Municipal Stormwater Permits:*

New Castle County must obtain an NPDES permit as a large municipal separate storm sewer system (MS4). For more information about municipal stormwater permits, contact Paul Janiga at (302) 739-5731.

Documents Available:

- Delaware Sediment and Stormwater Regulations, 7 Delaware Code, Chapter 40.
- *Sand Filter Design for Water Quality Treatment.*
- Guidance documents for industry-specific permits. See list of applicable industries above. There will be a minimal fee for requesting these documents.

[The next page is Tab 800, Page 231.]

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¶890.9 District of Columbia

State Contact(s):*

U.S. EPA, Region 3
1650 Arch St.
Mailcode: 3WP13
Philadelphia, Pa. 19103
(215) 814-2301 (fax)

For more information on the stormwater program, contact:
Mary Letzkus, EPA Region 3
(215) 814-2087

Editor's Note: Facilities in the District of Columbia may apply for coverage under the U.S. Environmental Protection Agency's (EPA) multi-sector general permit by submitting a notice of intent (NOI) to the NOI Processing Center (see below).

Program Description:*

The District of Columbia does not have NPDES permitting authority. Stormwater regulation in the District is handled by EPA Region 3 in Philadelphia.

Construction sites needing stormwater permits in the District may file for individual NPDES permits. However, most probably will be covered by the provisions of EPA's construction site general permit (63 FR 7858, Feb. 17, 1998) (see Appendix 1(d)).

Industrial stormwater dischargers may seek individual NPDES permits, or seek coverage under EPA's industrial multi-sector general permit, (60 FR 50804, Sept. 29, 1995; 63 FR 52430, Sept. 30, 1998). Because the conditions that affect the presence of pollutants in stormwater discharges varies among industries, the multi-sector permit contains industry-specific sections that describe the stormwater pollution prevention plan requirements, the numeric limitation requirements and the monitoring requirements for that industry. Industrial dischargers seeking coverage under the multi-sector permit would still be required to submit a copy of all stormwater management plans to the District of Columbia's Department of Consumer and Regulatory Affairs for review and approval.

Application Requirements:*

Facilities seeking individual NPDES permits must file an EPA Form 1 and Form 2F. For facilities seeking general permit coverage, application requirements are virtually identical to EPA's requirements. Facilities seeking coverage under the construction site general permit or the multi-sector general permit must submit federal NOI forms to EPA headquarters at the following address:

Storm Water Notices of Intent (4203)
401 M St. S.W.
Washington, D.C. 20460

Permittees that cease stormwater discharges or complete the requirements of the construction site general permit for runoff control at a given site must submit federal notice of termination (NOT) forms to the above address.

As part of the District's 401 certification program, NOIs, NOTs and monitoring reports needed for compliance with the general permits also must be submitted to the following address:

Government of the District of Columbia
Department of Consumer and Regulatory Affairs
Environmental Regulation Administration
2100 Martin Luther King Jr. Ave. S.E.
Washington, D.C. 20020

Program Notes:*

Construction site general permit requirements for the District of Columbia are virtually identical to EPA's construction general permit.

Industrial dischargers in the District are covered by EPA's multi-sector general permit with no additional requirements.

Monitoring Requirements: The District's monitoring requirements are identical to EPA's monitoring requirements.

*Reporting and Recordkeeping Requirements:** Discharge monitoring reports and other required reports also must be submitted to District of Columbia Government at the above address.

[The next page is Tab 800, Page 241.]

* Revised, August 1999.

* Revised, August 1999.

¶890.10 Florida

EPA Contact:
Jeannie McNeill
U.S. Environmental Protection Agency
Region 4
(404) 562-9345
345 Courtland St. N.E.
Mailcode: WPEB-9
Atlanta, Ga. 30365

State Contact:*
Eric H. Livingston
(850) 921-9915
(850) 921-5217 (fax)
Department of Environmental Protection
Stormwater Nonpoint Source Management Section
Twin Towers Office Building
2600 Blair Stone Road (MS 3570)
Tallahassee, Fla. 32399-2400

Program Description:

Florida is a delegated NPDES state with general and individual permitting authority. The state NPDES program is a phased program encompassing permitting for the following domestic discharges; industrial discharges, including those which also have stormwater discharges; and the pretreatment program for publicly owned treatment works (POTWs). Stormwater discharges from municipal separate storm sewer systems (MS4s), individual stormwater-only discharges, stormwater general permits, and federal facility discharges are to be phased in by the year 2000.

Until that time, EPA Region 4 will continue to issue NPDES permits for federal facilities, MS4s, stormwater general permits, and individual stormwater permits. EPA will suspend issuing permits for those categories when the state assumes permitting and enforcement authorities in the year 2000.

Until Florida assumes responsibilities for stormwater permitting, eligible stormwater dischargers in the state may seek coverage under EPA's baseline general permit for Florida (see Appendix 1(c)), as modified by the applicable state requirements discussed below. Industrial stormwater dischargers also may apply for coverage under EPA's multi-sector general permit. The baseline general permit expired on Oct. 1, 1997. The multi-sector permit expires on Oct. 1, 2000.

Application Requirements:

Industrial Dischargers: Florida's general permit requirements for industrial stormwater dischargers are identical to those in EPA's baseline general permit and multi-sector general permit. To obtain coverage under this permit, send a completed federal notice of intent (NOI) form to:

Stormwater Notices of Intent (4203)
401 M St., S.W.
Washington, D.C. 20460

Construction Site Dischargers: To obtain general permit coverage for regulated construction activities, send completed federal NOI forms to the EPA notice of intent address listed above.

Before submitting an NOI, the owner of a stormwater management system for a construction site must receive a State of Florida stormwater or environmental resource permit from the FDEP or from a Florida Water Management District (FWMD).*

Copies of construction site NOIs and site stormwater pollution prevention plans (SWP3s) must be submitted to FDEP or to the local FWMD, whichever agency has issued the state stormwater permit. Construction sites discharging stormwater to local MS4s should also submit copies of their NOIs to the MS4s if they are located in the following counties: Broward, Dade, Duval, Escambia, Hillsborough, Lee, Leon, Manatee, Orange, Palm Beach, Pasco, Pinellas, Polk, Sarasota or Seminole.

Operators of construction sites in these counties also should send copies of the NOI to the Florida Department of Transportation, local incorporated municipalities or state "Chapter 298: Special Districts" whenever discharging into MS4s owned or operated by these entities.

In addition to the information required by EPA's baseline general permit, the NOI should contain a certification that an SWP3 has been prepared for the site in accordance with Florida requirements. The applicant should submit a narrative

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statement certifying that the SWP3 ensures compliance with approved state permits, stormwater management plans and sediment and erosion control plans. Also, along with the NOI, the applicant must submit a copy of the cover page of the state permit issued by FDEP or the local FWMD.

Permit Conditions:

Industrial Dischargers: Florida's general permit requirements for industrial stormwater discharges are identical to those in EPA's baseline general permit and multi-sector general permit.

Additionally, inspection and monitoring requirements for SWP3s, are the same as EPA's baseline general permit for industrial stormwater discharges (see Appendix 1(c) of this manual).

Permit Fees: There are no permit fees at this time.

Construction Site Dischargers: Florida's general permit requirements for construction site discharges differ somewhat from EPA's baseline general permit.

SWP3s: SWP3s must be submitted to the state agency (FDEP or FWMD) issuing the stormwater or environmental resource permit for the site, and must be made available on request to FDEP, the operator of any MS4 into which the facility discharges stormwater, and the state or local agency approving sediment and erosion control plans, grading plans or stormwater management plans for the site. SWP3s must be amended whenever there is a change in design, construction, operation or maintenance that significantly affects the site's potential to discharge pollutants into U.S. waters. SWP3s also must be amended if they prove to be ineffective or if necessary to identify any new contractor or subcontractor implementing any part of a plan. Proposed amendments must be submitted to the state agency issuing the state stormwater permit for the site.*

SWP3 site descriptions must include estimates of runoff coefficients for a site before, during and after construction using option "C" from the Rational Method of calculating runoff coefficients. They also must include existing data describing the soil or quality of any discharge from the site and the estimated size of the drainage area for each outfall.

There also are state-specific requirements for SWP3 descriptions of appropriate control measures to be used at the construction site. All controls must be consistent with the requirements set forth in the State Water Policy of Florida (Chapter 62-40, F.A.C.), the applicable stormwater permitting requirements of FDEP or the appropriate FWMD, and the guidelines of the *Florida Development Manual: A Guide to Sound Land and Water Management* (FDEP, 1988) and any subsequent amendments.

The SWP3 also must describe both interim and permanent stabilization practices, and schedules for their implementation at each site. Paragraphs (a), (b) and (c) of Part IV of the federal baseline general permit, providing exemptions from site stabilization requirements for some sites, have been deleted from the Florida general permit.

The SWP3 must describe structural practices to divert flows from exposed soils, store such flows, or otherwise limit runoff from exposed areas in accordance with Section 62-40, 420, F.A.C. and with the applicable regulations of FDEP or the appropriate FWMD. Erosion/sedimentation control practices shall be placed on upland soils, unless otherwise authorized by the applicable regulations of FDEP or the FWMD and a Florida environmental or wetland resource management permit issued pursuant to Chapters 373 or 403, Florida Statutes.

SWP3s must include descriptions of erosion/sedimentation and stormwater management measures that will be installed during construction to control pollutants in stormwater discharges that will occur after construction ends. Such controls must be consistent with Florida state requirements set forth in the State Water Policy of Florida (Chapter 62-40, F.A.C), the applicable stormwater or environmental resource permitting regulations of FDEP or the local FWMD, and the publication, *Florida Development Manual: A Guide to Sound Land and Water Management.**

Post-construction runoff controls must be designed to remove at least 80 percent of the average annual pollutant loads on site that cause or contribute to violations of water quality standards. However, such controls must be designed

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to remove at least 95 percent of the average annual pollutant loads discharged to Outstanding Florida waters, pursuant to the requirements of Section 62-40, 420, F.A.C. Whenever post-development flows exceed predevelopment flows, the SWP3 must include an explanation of the technical basis used to select structural runoff control practices. Post-construction control practices may include: stormwater detention structures, retention structures, the use of vegetated swales and natural depressions for flow attenuation, infiltration of runoff on site, and the use of sequential systems combining several practices.

Permittees must place velocity dissipation devices at discharge outfalls and along the length of any outfall channel to provide a non-erosive velocity flow from the structure to a water course and to maintain and protect the natural physical and biological characteristics of receiving waters. Post-development stormwater management systems must be designed with the goal of equalizing pre-development and post-development stormwater peak discharge rates and volumes.

The construction site general permit only requires permittees to install and maintain stormwater management measures before the final stabilization of a site and does not make them responsible for maintaining structural controls afterwards. However, all stormwater management systems installed to control post-construction runoff must be operated and maintained in perpetuity in accordance with the requirements in the state stormwater or environmental permit issued for the site.*

Proper fertilizer and pesticide application methods and application rates must be addressed in SWP3s for construction sites. SWP3s must describe how such procedures will be implemented and enforced.

Effluent Limitations: Construction sites must not discharge any solid materials, including building materials, to U.S. waters except as authorized by a Clean Water Act Section 404 wetlands permit, a state of Florida wetland resource management permit issued pursuant to Chapters 373 or 403, Florida Statutes, and the applicable FDEP or FWMD regulations.

Inspections: Extensive inspections of construction sites must occur once every seven calendar days and within 24 hours of the end of any storm that is 0.25 inch or greater in magnitude at construction sites that have not been finally stabilized. For other inspection requirements, including those at vehicle access points to a site to control sediment tracking by vehicles entering and leaving the site, see 57 FR 44430 (Sept. 25, 1992).

Monitoring Requirements: These requirements are the same as in EPA's baseline general permit for construction stormwater discharges.

Permit Fees: There are no permit fees at this time.

Indian Lands in Florida:

Construction site stormwater discharges on Indian lands in Florida, if they involve construction activities disturbing five or more acres of land, are eligible for coverage under two separate EPA general permits that are identical to EPA's baseline construction site stormwater general permit (57 FR 41176, and 57 FR 41211, Sept. 9, 1992). EPA general permit number FLR 10001F covers construction site stormwater discharges on Florida lands belonging to the Miccosukee Indian Tribe. EPA general permit number FLR 10000F covers construction site discharges on Indian land in Florida belonging to the Seminole Tribe.

Industrial stormwater dischargers on Florida Indian lands are regulated under two separate EPA general permits that are essentially identical to EPA's baseline industrial general permit (57 FR 41236, Sept. 9, 1992). Industrial dischargers on Miccosukee Indian lands in Florida are covered by EPA general permit number FLR00001F; industrial stormwater dischargers on Seminole Indian lands are covered by EPA general permit number FLR00000F.

Other State Programs:*

Florida's stormwater management program is a partnership between state and local governments. At the state level, the FDEP develops and adopts statewide stormwater management standards and provides technical assistance and policy guidance to water management districts and local governments.

* Revised, October 1999.

* Revised, October 1999.

Four of the five regional water management districts administer the state stormwater program. They establish goals for stormwater pollution reduction by existing stormwater dischargers within their watersheds and coordinate programs with local government stormwater utilities.

Wetlands and Stormwater: Florida state stormwater regulations (see Section 62-25 of the state code) allow the incorporation of natural wetlands into comprehensive stormwater management systems (BMP treatment trains) to treat stormwater discharges in some circumstances. However, EPA regulations are based on the premise that natural wetlands are "waters of the United States" and prohibit the use of wetlands as treatment systems for discharges from facilities with NPDES permits. EPA's NPDES regulations require facilities with NPDES stormwater discharge permits to meet applicable state water quality standards and/or other permit conditions (such as implementation of a pollution prevention plan) before regulated stormwater discharges are released into natural wetlands or other U.S. waters.

Local Programs:

About 100 Florida communities have established local stormwater utilities to advance state and watershed stormwater management objectives.* The utilities are financed by user fees on land areas, with charges based on parcel size and the proportion of impervious to natural areas on the land.*

The state's Environmental Protection Act, together with the Local Government Comprehensive Planning and Land Development Act, provide authority for local governments to do the following:

- adopt a stormwater ordinance;
- adopt a stormwater utility ordinance;
- prepare a stormwater master plan;
- establish a user fee system;
- establish a developer contribution system; and
- establish a permit fee system (construction and operation permits).

State Construction Permits:

The FDEP issues construction permits for each "new stormwater management system." Certain systems are eligible for general permits; others must apply for individual permits. Note that these construction permits are not a substitute for stormwater permitting for construction activity that is subject to NPDES regulations.

Applications are submitted to the water management districts or, in northwestern Florida, to the Department of Environmental Protection.

State Statutes and Regulations:

Five laws provide the legal basis for stormwater management and control:

- Chapter 373, Florida Water Resources Act (1972);
- Chapter 403, Air and Water Pollution Control Act (1973);
- Chapter 163, Local Government Comprehensive Planning and Land Development Act (1986);
- Surface Water Improvement and Management Act (1987); and
- Stormwater Management Act (Ch. 373, 403) (1989).

Dischargers should note the following chapters of the Florida Administrative Code:

- 62-25, regulation of stormwater discharge;
- 62-40, state water policy;
- 40 B, C, D, E-4, 40, water management district stormwater regulations.

State Documents Available:

- *Stormwater Management: A Guide for Floridians*, Department of Environmental Regulation (now FDEP), 1992.
- Model Local Government Stormwater Program, Stormwater/Nonpoint Source Section, FDEP, 1993.

* Revised, October 1999.

* Revised, October 1999.

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- *The Use of Wetlands for Urban Stormwater Management*, by Eric H. Livingston, Environmental Administrator, Department of Environmental Regulation, published in *Design of Urban Runoff Quality Controls*. Proceedings of an Engineering Foundation Conference on Current Practice and Design Criteria for Urban Quality Control, Potosi, Mo., July 10-15, 1988, ed. Larry A. Roesner et al., published by American Society of Civil Engineers, N.Y.
- *Florida Development Manual: A Guide to Sound Land and Water Management*, Department of Environmental Regulation, 1988.

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State Contact(s):*

Department of Natural Resources
Environmental Protection Division
205 Butler St., S.E.
Floyd Towers East, Room 1070
Atlanta, Ga. 30334
(404) 656-4887
(404) 657-7379 (fax)

For more information on stormwater permits, contact:

Will Salter or Drew Zurow
Non-point Source Program
(404) 656-4887

Program Description:*

Georgia is a delegated NPDES state with general permitting authority. On June 14, 1993, DNR adopted a final stormwater general permit for discharges associated with industrial activity. In April 1998, the state reissued its industrial stormwater permit and it is effective through May 31, 2001. Georgia issued a construction permit in 1995, but it was repealed because of legal challenges. Therefore, Georgia does not have a construction permit.

Application Requirements:*

Industrial Activities: All existing industrial stormwater dischargers, whether permitted by the original baseline industrial permit or not, were required to file state notice of intent (NOI) forms for coverage under the state industrial general permit, GAR000000, by May 31, 1998. Except for operators of oil and gas facilities that must obtain general permit coverage upon releasing a "reportable quantity" of oil or a hazardous substance, as noted below, operators of new industrial facilities must file state NOIs for general permit coverage at least one week before commencing industrial activity at a site. When the operator of a permitted industrial facility changes, the old operator must file a notice of termination, and the new operator must submit an NOI for general permit coverage at least 48 hours before the change. Also, facilities discharging stormwater associated with industrial activity through "large" or "medium" municipal separate storm sewer systems (MS4s) must submit copies of their NOIs to the operators of their systems.

Application Requirements for Oil and Gas Facilities Releasing "Reportable Quantities" of Certain Materials: Operators of oil and gas exploration, production, processing or treatment operations or transmission facilities that were not required to submit a stormwater permit application before Oct. 1, 1992, but that since have discharged a "reportable quantity" of oil or a hazardous substance for which notification is required under 40 CFR 110.6, 40 CFR 117.21, 40 CFR 302.6 or Georgia's Oil or Hazardous Material Spills or Releases Act (O.C.G.A. §12-14-2), must submit NOIs for general permit coverage within 14 days of learning of any such release. Such operators also must notify EPD of their reportable quantity discharges by calling (404) 656-4300 or (800) 241-4113 and must report the releases in writing within 14 days to this address:

Georgia Emergency Response Team
Georgia Environmental Protection Division
205 Butler St., S.E.
Floyd Towers East, Room 1166
Atlanta, Ga. 30334.

Discharges of reportable quantities also must be reported to the National Response Center at (800) 424-8802.

**Existing NPDES Permit Holders:* Industrial dischargers regulated under existing NPDES wastewater permits were required to submit an NOI in accordance with the current requirements by May 31, 1998. The state encourages facilities that did not meet this deadline to submit an NOI as soon as possible.

Construction Activities: At present, there is no construction permit.

Eligibility for General Permit Coverage:*

Industrial Activity: The industrial general permit covers all discharges of stormwater associated with industrial activity from point sources to Georgia waters, with a few exceptions noted below. The general permit also may authorize stormwater discharges associated with industrial activity that are mixed with industrial discharges from construction activities, provided that the construction activity stormwater discharges are in compliance with the terms (including NOI or application requirements) of a different NPDES general permit or individual permit authorizing such discharges. Stormwater

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discharges authorized by the industrial general permit also may be combined with other sources of stormwater that are not classified as "associated with industrial activity" pursuant to the stormwater permit regulations of 40 CFR 122.26(b), so long as the discharger is in compliance with the Georgia industrial general permit for stormwater. Beginning June 1, 1999, pavement washwater from containment zones will not be authorized by this permit.

Limitations on Coverage: The following stormwater discharges are not authorized by the industrial general permit:

- industrial stormwater discharges that are mixed with non-stormwater discharges of pollutants, unless the non-stormwater discharges are in compliance with a different NPDES permit or identified by, and in compliance with, Part III.A.2 of the industrial general permit authorizing specified kinds of non-stormwater discharges;
- industrial stormwater discharges that are subject to an existing effluent limitation guideline addressing stormwater, or an existing effluent limitation guideline addressing a combination of stormwater and process water;
- industrial stormwater discharges that are subject to an existing NPDES individual permit or general permit, except for discharges subject to any individual NPDES permit which authorizes stormwater discharges under Part II.B.16 of the permit (however, stormwater discharges that are subject to existing NPDES individual permits or general permits, and therefore ineligible for the industrial general permit at this time, may be authorized after their existing permits expire, unless the existing permits have established numeric effluent guidelines for such discharges);
- stormwater discharges from construction sites, except for discharges from those portions of a construction site that can be classified as involving industrial activity under 40 CFR 122.26(b)(14)(i) through (ix) or (xi) (Stormwater discharges from construction sites that are eligible for coverage under the industrial general permit under 40 CFR 122.26(b)(14)(i) through (ix) or (xi) include those from mobile asphalt plants and mobile concrete plants, among other facilities);
- industrial stormwater discharges that EPD determines to be, or that may reasonably be expected to be, contributing to a violation of a water quality standard; and
- industrial stormwater discharges from inactive mining, inactive landfill, or inactive oil and gas operations occurring on federal lands, where an operator cannot be identified.

Exempt Facilities: There are some discharges for which stormwater permits will not be required under the state's stormwater strategy, including:

- discharges of stormwater from areas separate from a corporate facility's industrial activities, provided that the stormwater from these non-industrial areas does not commingle with runoff from manufacturing, processing or materials storage areas;
- discharges of uncontaminated stormwater runoff from mining and oil and gas operations;
- discharges of agricultural stormwater runoff and return flows from irrigated agriculture; and
- stormwater discharges from other facilities and activities specifically excluded from EPA's stormwater program under 40 CFR Part 122.

Program Notes:*

Stormwater Pollution Prevention Plans for Industrial Activities: Facilities permitted under the state industrial general permit must prepare and implement stormwater pollution prevention plans (SWP3s) in accordance with "the requirements, guidelines, and recommendations" in EPA's guidance document *Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices* (September 1992). For facilities discharging before the reissuance of the general permit, SWP3s must be

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amended no later than Sept. 1 1998. For facilities where activity commences after June 14, 1993, the operator must prepare and implement an SWP3 within 60 days of commencing industrial activity. SWP3s must be updated as appropriate. EPD may establish later SWP3 deadlines for particular facilities upon a showing of good cause.

Operators of oil and gas facilities that must obtain general permit coverage after releasing a "reportable quantity" of oil or a hazardous substance, under the provisions noted above, must prepare and comply with SWP3s within 60 days of first learning about the release of the reportable quantity.

Runoff Management Provisions of SWP3s for Industrial Dischargers: Each SWP3 must contain a narrative consideration of the appropriateness of "traditional" stormwater management practices (practices that do not involve source reduction measures to control the generation of pollutants) that may be used to divert, infiltrate, reuse, or otherwise reduce pollution in stormwater discharges from the site. SWP3s must provide for the implementation and maintenance of traditional measures determined to be "reasonable and appropriate." Such measures may include vegetative swales and practices, reuse of collected stormwater (for example, for an industrial process or irrigation source), inlet controls including oil/water separators, snow management activities, infiltration devices, and wet detention/retention devices.

Annual Site Inspections for Industrial Dischargers: Areas of a site contributing to industrial stormwater discharges must be inspected at least once annually and SWP3s must be revised as appropriate within three months, based on the results of these inspections. A report summarizing the scope of each inspection and other relevant information must be prepared and retained as part of the SWP3.

For inactive mining sites where annual inspections are impracticable, site inspections must be conducted at least once every three years.

Monitoring and Reporting Requirements for Industrial Dischargers: Certain classes of discharges covered under the industrial general permit must sample their stormwater discharges at least annually, except as otherwise specified by the permit. Permittees conducting sampling must retain their sampling records for at least three years following the date of the sample collection or until the termination of the general permit, whichever is longer. Permittees should not submit monitoring results to EPD, unless specifically requested in writing by the agency.

Toxicity Testing: The director of EPA may require a permittee to conduct whole effluent toxicity (WET) testing. Otherwise, permittees are not required to conduct WET tests by the Georgia general permit.

*Most of the other monitoring requirements, including the sampling parameters required of various industries, resemble those of EPA's baseline industrial general permit, but no industrial categories are required to conduct semi-annual sampling by the Georgia general permit. Additional differences in Georgia sampling requirements include the following:

- Facilities Subject to Section 313 of the Emergency Planning and Community Right to Know Act (EPCRA). These facilities must sample for oil and grease, Five-day Biochemical Oxygen Demand (BOD_5); Chemical Oxygen Demand (COD); total suspended solids; total Kjeldahl nitrogen; total phosphorous; pH and any Section 313 water priority chemical for which the facility is subject to reporting requirements under EPCRA Section 313.
- Primary Metal Industries. These facilities must sample for COD. Facilities also must sample for oil and grease, total suspended solids; total recoverable lead, and "total recoverable" amounts of other specified heavy metals.
- Land Disposal Units/Incinerators/Boilers and Industrial Furnaces. These facilities must sample for ammonia; for nitrate plus nitrite nitrogen rather than total Kjeldahl nitrogen; and total recoverable arsenic, barium, cadmium, chromium, cyanide, lead, selenium and silver.
- Wood Treatment Facilities. These must sample for both BOD_5 and COD. Facilities using chromium-arsenic formulations must measure total arsenic, chromium and copper, "total recoverable" arsenic, chromium and copper.

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- Coal Pile Runoff. Facilities must sample for total recoverable copper, nickel and zinc.
- Battery Reclaimers. Facilities must sample for total recoverable copper and lead.
- Coal-fired Steam Electric Facilities. Facilities must sample for total recoverable copper, nickel and zinc.
- Animal Handling/Meat Packing Facilities. These facilities must sample for COD in lieu of oil and grease; total Kjeldahl, nitrogen, total phosphorous, pH and fecal coliform.
- Airports with over 50,000 flight operations per year. Facilities must sample for oil and grease; BOD_5; COD; pH; and the primary ingredient used in the de-icing materials at the site.
- Standard Industrial Classification 28/30 Facilities. These facilities must sample for oil and grease; COD; total suspended solids; pH; and any pollutant limited in an effluent guideline to which the facility is subject.
- Automobile Recyclers. Facilities over a certain size must sample for oil and grease; COD; total suspended solids; pH; and any pollutant limited in an effluent guideline to which the facility is subject.
- Oil-fired Steam Electric Power Generating plants. These facilities must sample for oil and grease; COD; total suspended solids; pH; and any pollutant limited in an effluent guideline to which the facility is subject.
- Cement Manufacturing/ Cement Kilns. These facilities must sample for oil and grease; COD; total suspended solids; pH; and any pollutant limited in an effluent guideline to which the facility is subject.
- Ready Mix Concrete Facilities. These facilities must sample for oil and grease; COD; total suspended solids; pH; and any pollutant limited in an effluent guideline to which the facility is subject.
- Lime manufacturing Facilities. These facilities must sample for oil and grease; COD; total suspended solids; pH; and any pollutant limited in an effluent guideline to which the facility is subject.

Sampling Waivers and Representative Industrial Discharges: An operator may use representative discharges when there are two or more outfalls at a facility where a consideration of industrial activity, significant materials and management practices and activities of the areas drained by these outfalls indicates that they have substantially identical effluents. A sampling waiver is available for instances when a discharger cannot collect samples due to adverse weather conditions, but this waiver must be justified in writing and cannot be employed more than once during the 5-year term of the permit.

Sampling Exemption and Certification Procedure for Industrial Dischargers: A discharger may be exempted from sampling by making an annual certification, under penalty of law, that there are no significant materials exposed to stormwater within the drainage area of an outfall and that no significant materials within the drainage area will be exposed to stormwater for the certification period. Such a certification must be retained in a facility's SWP3 and submitted to EDP upon request.

Municipal Permits:

Municipalities are required to apply for permits. Permits for all large MS4s were issued on June 15, 1994. Permits for all medium MS4s were issued on either April 20, 1995, or May 25, 1995. Currently, applications for Phase II permits are not due until August 2001, but permits can be issued to dischargers that are contributing to water quality impairments or a significant contributor of pollutants. According to DNR officials, Georgia has 62 "large" MS4s and 15 or 20 "medium" MS4s.

***State Erosion and Sedimentation Requirement for Construction Activity:**

Many, but not all, instances of sedimentation and soil erosion from construction sites in Georgia are regulated under the Georgia Erosion and Sedimentation Act of 1975 as amended. The program is generally adminstered by delegated cities, or counties; or by the Environmental Protection Division. The act's provisions are set forth in Volume 10, Title 12 of the Official Code of

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Georgia Annotated (O.C.G.A. 12-7-1, et seq.). The Erosion and Sedimentation Act requires permits for land disturbing activities of more than 1.1 acre in extent. There are exemptions for certain activities, however, including:

- surface mining;
- granite quarrying;
- such minor land disturbing activities as home gardens and individual home landscaping, maintenance and repair work, or other related activities causing minor soil erosion;
- construction of a single-family residence under contract to the owner;
- construction of a single-family residence that is not part of a larger project, so long as construction activity meets certain minimal requirements of the Georgia Code, section 12-7-6;
- agricultural and forestry activities;
- any project under the technical supervision of the U.S. Department of Agriculture's Soil Conservation Service;
- road construction or maintenance activities by the Department of Transportation, Georgia Highway Authority or Georgia Tollway Authority and road construction or maintenance by water and sewer authorities established by the General Assembly, provided such activities meet minimum requirements under section 12-7-6 of the Georgia code;
- any land disturbing activities conducted by any airport authority, provided they conform to the minimum standards of section 12-7-6 of the Georgia Code; and
- projects undertaken by public utilities, municipal electric power systems or rural electric membership corporations under regulation by the state Public Service Commission, so long as any land disturbing activities of such projects conform to the minimum standards of section 12-7-6 of the Georgia Code.

Comprehensive Ordinances: Land disturbing activities are governed under comprehensive ordinances that must be adopted by the governing authorities of each county and municipality, except that local governing authorities may delegate all or part of their regulatory responsibilities to local planning and zoning commissions. In cases where counties or municipalities do not adopt comprehensive land-disturbance ordinances, such ordinances and implementing rules are developed by the Environmental Protection Division of the Department of Natural Resources and adopted by the Board of Natural Resources.

State Minimum Standards: All comprehensive ordinances thus adopted must require certain minimum standards under section 12-7-6 of the Georgia Code. Among these are standards governing:

- vegetation stripping and land regrading activities;
- cut and fill operations;
- the minimization of erosion through the conforming of development plans to topography and soil type;
- the retention and protection of natural vegetation;
- the minimization of the area to be disturbed and duration of its exposure to erosive elements;
- the stabilization of disturbed soil;
- temporary vegetation and mulching practices;
- permanent vegetation and structural erosion control measures;
- the trapping of sediment runoff in silt traps, sediment basins and similar devices;
- minimization of erosion damage to sloping surfaces;
- the encroachment of fill upon natural water courses and constructed channels;
- stream crossings by grading equipment;
- measures to preclude the sedimentation of adjacent streams beyond certain turbidity levels specified in section 12-7-6, paragraph 18 of the code;
- measures to prevent land disturbing activities within 100-year flood plains, unless such activities meet certain requirements of applicable local flood plain

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management ordinances and the regulations of the Federal Emergency Management Agency;

- provision of a natural vegetative buffer zone of 25 feet between each land disturbing activity and the banks of state waters, except where otherwise required;
- provision of 100-foot buffer zones between any land disturbing activity and the banks of state waters classified as trout streams under Article 2 of Chapter 5 of the Georgia Water Quality Control Act, except where the state grants a variance and except for certain roadway drainage structures for which adequate erosion control measures are provided.

Permits: Except for those exempt activities listed above, all land disturbing activity requires a permit from an appropriate municipal, county or state authority implementing a sedimentation and erosion control ordinance. To qualify for a permit, an applicant must develop an approved erosion and sediment control plan, showing that its activity will meet the minimum requirements of Georgia Code Section 12-7-6. Permits may be suspended, revoked or modified by issuing authorities upon finding that a permit holder is not in compliance with a sediment and erosion control plan or is in violation of any ordinance, resolution, rule or regulation adopted or promulgated under the act.

More information: Further information about the Georgia Erosion and Sedimentation Act may be obtained by contacting:

State Soil and Water Conservation Commission
P.O. Box 8024
Athens, Ga. 30603
Steve Hunt
(706) 542-3065

Department of Natural Resources
Environmental Protection Division
205 Butler St., S.E.
Floyd Towers East, Room 1058
Atlanta, Ga. 30334
(404) 656-4708

State Documents Available:*

Available from the Department of Natural Resources, Environmental Protection Division listed above:

- "Storm Water Permitting Strategy, State of Georgia," February 1997.
- Fact Sheet: National Pollutant Discharge Elimination System General Permit No. GAR000000, Storm Water Discharges Associated with Industrial Activities.
- General Permit No. GAR000000, Authorization to Discharge Under the National Pollutant Discharge Elimination System for Stormwater Dischargers Associated with Industrial Activity.

Available from the Department of Natural Resources, Environmental Protection Division, Water Protection Branch listed above:

- "Georgia Erosion and Sediment Control Law," a brochure.
- "Erosion and Sedimentation Control: Summary Report of Local Adoption and Program Implementation," July 1, 1989.
- "Georgia Erosion and Sedimentation Act of 1975, As Amended Through 1995," abstracted from Official Code of Georgia Annotated.
- "Rules and Regulations for Water Quality Control, Chapter 391-3-6 Revised," Sept. 19, 1995.

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State Contact(s):
State Department of Health
Clean Water Branch
P.O. Box 3378
Honolulu, Hawaii 96801
(808) 586-4309
(808) 586-4352 (fax)

*For information on stormwater permits, contact:**

Alec Wong (stormwater program), or
Randy Rush (nonpoint source program)
(808) 586-4309

Program Description:*

Hawaii is an NPDES delegated state with general permitting authority. The state Department of Health (DOH) has issued two general permits for regulated stormwater dischargers, one for industrial facilities and one for construction sites disturbing five or more acres of land. Standard general permit conditions for Hawaii are included in Chapter 11-55 of the *Hawaii Administrative Rules* (HAR) as amended on Sept. 22, 1997. The state industrial general permit is included in HAR Chapter 11-55, Appendix B. The state construction site general permit for stormwater discharges is included in HAR Chapter 11-55, Appendix C. Both of these permits expire Sept. 27, 2002.

Hawaii reserves the right to require individual NPDES stormwater permits for certain stormwater dischargers. Dischargers have the right to request individual permit coverage as an alternative to coverage under a state general permit. The state has no plans at this time to adopt EPA's multi-sector general permit.

Application Requirements:

Dischargers seeking coverage under a state stormwater general permit must submit Hawaii notice of intent (NOI) forms to DOH. For new industrial discharges or new discharges from construction sites, NOIs must be submitted no later than 30 days before the proposed starting date of the discharge or 30 days before the expiration date of the applicable notice of general permit coverage.

NOI content requirements for industrial dischargers are fairly minimal. An NOI for a construction site, however, must include:

- a description of proposed measures, including best management practices (BMPs), to control stormwater runoff pollution, sedimentation and soil erosion during construction;
- proposed measures to control pollutants in stormwater discharges that will occur after construction has been completed at the site;
- a "site characterization report" that includes a history of land use at the site and the potential for pollution at the site existing because of this history and because of the nature of the proposed operations; and
- a brief description of the project, including an estimated timetable for major activities, a site-specific erosion control plan prepared for the project, and a brief description of applicable county-level erosion and sediment control requirements.

DOH also may require applicants to submit other information in NOIs if necessary.

NOIs should be submitted to:

Director of Health
State Department of Health
Environmental Management Division
Clean Water Branch
P.O. Box 3378
Honolulu, Hawaii 96801-3378.

There is a $500 filing fee for stormwater dischargers submitting NOIs.*

Program Notes:

All general permittees in Hawaii must comply with the state's basic water quality criteria (HAR Section 11-54-04(a)). Discharges to all waters should be free of:

- materials that will form objectionable sludge or bottom deposits;
- floating debris, oil, grease, scum and other floating materials;

* Revised, September 1999.

* Revised, September 1999.

- substances released in amounts sufficient to affect the taste or odor of receiving waters or a "detectable off flavor" in fish, or sufficient to produce "objectionable color, turbidity or other conditions" in receiving waters;
- pathogenic organisms, biocides, high temperatures, or toxic, radioactive, corrosive or other deleterious substances at levels or in combinations that are sufficient to harm human, animal, plant or aquatic life or interfere with "any beneficial use" of the receiving water;
- substances or conditions or combinations thereof that will produce "undesirable aquatic life;" or
- soil particles resulting from erosion on land involved in "earthwork," including the construction of public works, the cultivation and management of agricultural lands, or the construction of highways, subdivisions, or recreational, commercial or industrial developments.

Discharges released by general permittees also must meet the basic requirements of HAR Section 11-54-04(b)(4). Such discharges cannot contain: (1) pollutants in 24-hour average concentrations greater than the values obtained by multiplying the minimum dilution by the standards in HAR Section 11-54-04(b)(3) for the prevention of chronic toxicity; (2) noncarcinogenic pollutants in 30-day average concentrations greater than the values obtained by multiplying the minimum dilution by the standards in HAR Section 11-54-04(b)(3) for fish consumption; and (3) carcinogenic pollutants in 12-month average concentrations greater than the values obtained by multiplying the average dilution by the standards in HAR 11-54-04(b)(3) for fish consumption.

General Permit Requirements for Construction Sites:

For regulated construction sites covered by the state general permit, permittees must prepare BMP plans and submit them to DOH along with their NOIs. A construction site BMP plan must be designed, operated and implemented in a manner to ensure that stormwater discharges from the site will not cause violations of applicable state water quality standards.

BMP plans must include identification of all nonstormwater discharge sources that connect with the site's stormwater drainage system as well as a written, site-specific plan to minimize soil erosion and the discharge of other pollutants to state waters. Other provisions of the BMP plans somewhat resemble EPA's "baseline" requirements for stormwater pollution prevention plans at construction sites. In addition to the BMP plan requirements, the construction general permit specifies that:

- construction site runoff control measures must be checked weekly during dry periods and within 24 hours after any rainfall event of 0.5 inches or greater and must be repaired as necessary;
- preconstruction vegetative ground cover at a site may not be destroyed or removed more than 20 calendar days before land-disturbing activities begin;
- temporary soil stabilization measures, using appropriate vegetation, must be applied to areas where construction will remain unfinished for more than 30 calendar days;
- runoff discharged from regulated construction sites must be discharged through a pipe or lined channel, so that the discharge does not cause erosion;
- operators must divert "all surface water" flowing toward a construction area by using berms, channels, sediment traps and "other appropriate control measures, as practical"; and
- operators that pump muddy water from excavation areas or work areas must hold it in settling basins, treat it by filtration, or use "other appropriate measures" before discharging it to state waters. It may be subject to separate NPDES construction dewatering permit requirements.*

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General Permit Requirements for Industrial Activities:

*Pollution Control Plans:** Facilities covered by the industrial stormwater general permit must develop and implement stormwater pollution control plans (SWPCPs) that more or less resemble EPA's baseline stormwater pollution prevention plans. A copy of a facility's SWPCP must be submitted to DOH within 120 days of the facility obtaining general permit coverage. Facilities must implement their SWPCPs within 180 days of submitting them to DOH. Operators must inspect their facilities at least twice a year to determine whether SWPCPs are being implemented and whether they need revision.

Special secondary containment requirements and other pollution control requirements are provided for facilities handling water priority chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA). SWPCPs for these facilities must be reviewed by registered professional engineers. Each SWPCP for an EPCRA Section 313 facility also must be recertified by a registered professional engineer every three years after its preparation.

Monitoring and Reporting Requirements: For industrial stormwater dischargers covered by the state general permit, there are annual minimum monitoring requirements that affect all industrial dischargers.The results of industrial stormwater monitoring must be recorded on a stormwater discharge monitoring report (DMR)(EPA No. 3320-1). DMRs should be submitted to DOH at least annually, and not later than 60 days following the end of each monitoring year. The monitoring year starts at the effective date of the general permit or other date specified by the director in written correspondence to the permittee. If there is no discharge during the monitoring period, the DMR should indicate that. DMRs on which monitoring results exceed any state effluent limitation must be reported to DOH as soon as the results are available, but no later than 30 days after sampling.

All industrial dischargers must monitor for:

- stormwater flow;
- five-day biochemical oxygen demand;
- chemical oxygen demand;
- total suspended solids;
- total phosphorous;
- total nitrogen;
- nitrate plus nitrite nitrogen;
- oil and grease (discharge limitation of 15 mg/l);
- pH (HAR Chapter 11-54 establishes pH limits for various classes of receiving waters);
- any water priority pollutant identified in the facility's SWPCP (effluent limitations for priority pollutants are established in HAR Section 11-54-04 for fresh and saline waters. For priority pollutants with no established acute water quality standards, detected concentrations of greater than 0.01 mg/l should be reported);
- pollutants limited under an individual NPDES permit issued to the facility for process water; and
- pollutants limited in an effluent guideline to which the industry is subject.

Recordkeeping Requirements: These resemble EPA baseline requirements. Generally, records of NOIs, DMRs and other documents must be retained for at least three years.

Permit Fees: Currently, Hawaii charges a filing fee of $100 for an individual NPDES permit. A $100 filing fee also is charged for the submission of an NOI for coverage under a state general permit.

State Construction Site Sedimentation and Soil Erosion Controls:

Erosion and Sediment Control Guide: NRCS and the Hawaii Association of Conservation Districts have published an *Erosion and Sediment Control Guide for Hawaii* describing runoff volume estimation techniques and best management practices for controlling sedimentation, including revegetation using native or non-native plants. Copies are free from the USDA Soil Conservation Service, P.O. Box 50004, Honolulu, Hawaii 96850.

* Revised, September 1999.

*Polluted Runoff Control Program:** Hawaii recently modified its polluted runoff control (PRC) program. The new PRC program, which is based on guidance from EPA and the U.S. Department of Commerce's National Oceanic and Atmospheric Administration (NOAA), addresses polluted runoff problems from agriculture, urban development, forestry, recreational boating and marinas, hydromodification and wetland activities. The PRC program includes management measures contained in EPA's guidance, though several alternative measures were substituted.

The program's management plan–Hawaii's Coastal Nonpoint Pollution Control Program–received a "conditional approval" from NOAA and EPA. DOH and the Department of Business Economic Development and Tourism (DBEDT) are revising the management plan to include recommendations by NOAA and EPA.

The plan is available by writing to the Hawaii State Department of Health, Polluted Runoff Control Program, 919 Ala Moana Blvd., Room 301, Honolulu, Hawaii 96814; or calling (808) 586-4309.

State Flood Control Regulations:

The Department of Land and Natural Resources administers the Federal Emergency Management Agency flood-control regulations for the state of Hawaii. For more information, call (808) 587-0109.

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* Revised, September 1999.

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¶890.13 Idaho

EPA Contacts:*
Joe Wallace
(206) 553-8399
Fax: (206) 553-1280
U.S. EPA, Region 10
1200 Sixth Ave.
Mailcode: OW-130
Seattle, Wash. 98101

Nickie Arnold
(208) 334-9489
Fax: (208) 334-1231
U.S. EPA
Idaho Operations Office
1435 N. Orchard
Boise, Idaho 83706

State Contact:*
Todd Macguire
(208) 373-0115
Fax: (208) 373-0576
Idaho Department of Health and Welfare
Division of Environmental Quality
1410 North Hilton
Statehouse Mail
Boise, Idaho 83706

Program Description:

Idaho does not have NPDES permitting authority. The stormwater program is administered by the U.S. Environmental Protection Agency (EPA), Region 10 in Seattle, although the EPA field office in Boise has significant responsibility for the program.

Provisions from EPA's Sept. 9, 1992, baseline general permit for industrial stormwater dischargers (57 FR 41236) and baseline general permit for stormwater discharges from construction activities disturbing five or more acres (57 FR 41176) are applicable to Idaho. Both of these permits expire Sept. 9, 1997. Region 10 officials will reissue the construction permit for discharges from construction activities disturbing five or more acres. Rather than reissue a general permit for industrial stormwater discharges, EPA will offer coverage under its multi-sector general permit (60 FR 50804, Sept. 29, 1995) (see Appendix 1(e)). This permit expires Oct. 1, 2000.**

Dischargers whose permits expire in September should submit a new Notice of Intent (NOI) between Aug. 1 and Sept. 7 to make sure there is no lapse in coverage.**

Application Requirements:

To apply for coverage under an EPA baseline general permit for construction activity or to apply for coverage under EPA's multi-sector general permit for industrial activities, applicants must submit a federal notice of intent (NOI) form to:

Stormwater Notice of Intent (4203)*
P.O. Box 1215
401 M St. SW
Washington, D.C. 20460

Stormwater notice of termination (NOT) forms should be sent to:

Stormwater Notice of Termination*
P.O. Box 1185
401 M St. SW
Washington, D.C. 20460

Other communications about stormwater permitting in Idaho should be directed to Joe Wallace, U.S. EPA, Region 10, see address above.

Communications about stormwater permitting for facilities on the Duck Valley Indian Reservation in Idaho should be directed to:

Eugene Bromley
U.S. EPA, Region 9
Water Management Division
Stormwater Staff
75 Hawthorne St.
Mailcode: W-5-1
San Francisco, Calif. 94105

Permit Conditions:*

SWP3s: These requirements are specified in EPA's baseline general permits for industrial and construction site stormwater discharges and in EPA's multi-sector general permit for industrial activities (see Appendix 1(c), Appendix 1(d)) and Appendix 1(e)).

Monitoring Requirements: These requirements are specified in EPA's baseline general permits for industrial and construction site stormwater dis-

* Revised, May 1997.
** Added, May 1997.

* Revised, May 1997.
** Added, May 1997.

charges and in EPA's multi-sector general permit for industrial activities (see Appendix 1(c), Appendix 1(c) and Appendix 1(e)).

Reporting Requirements: These requirements are specified in EPA's baseline general permits for industrial and construction site stormwater discharges and in EPA's multi-sector general permit for industrial activities (see Appendix 1(c), Appendix 1(c) and Appendix 1(e)).

Permit Fees: There are no permit fees at this time. EPA is developing a proposed fee structure to cover the cost of writing NPDES permits in nondelegated states.

State Groundwater Standards: The state added a qualification to its general permits that requires permittees to treat and dispose of stormwater in a manner that assures that discharges do not violate Idaho groundwater standards. State groundwater standards are specified in Section 1.02299 of the Idaho Water Quality Standards and Wastewater Treatment Requirements (57 FR 41330).

State Nonpoint Source and Sediment Control Programs:

Idaho has a voluntary program for controlling agricultural nonpoint source pollution that is jointly administered by DEQ and the state Soil Conservation Service. The agricultural nonpoint source program includes an education/information program targeted at farmers and ranchers, a technical assistance program, and cost-sharing incentives for participating landowners paid for through the state Water Pollution Control Fund.

Sedimentation and stormwater runoff contamination from mining sites and silvicultural (forestry-related) activities also are subject to some state controls. For information on mining and silviculture industry controls, contact Todd Macguire,* DEQ, at the address above.

State Water Quality Standards: The state water quality standards and wastewater treatment requirements are located at IDAPA, 16.01.2000, Chapter 2, Title I.

Indian Lands in Idaho:

Stormwater discharges on Duck Valley Reservation lands in Idaho or in neighboring Nevada are regulated by EPA's baseline general permits, but the program is administered by EPA Region 9 in San Francisco. No special added conditions apply to stormwater permittees within the Duck Valley Reservation, beyond the baseline requirements of EPA's general permits.

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¶890.14 Illinois

State Contact:*

Marilyn Davenport
(217) 782-0610
(217) 782-9891 (fax)
Illinois Environmental Protection Agency
Division of Water Pollution Control
Permit Section
1021 N. Grand East
P.O. Box 19276
Springfield, Ill. 62794-9276

Program Description:*

Illinois is an NPDES delegated state with general permitting authority. The state's general permits cover industrial stormwater discharges and stormwater discharges from construction sites disturbing five or more acres of land. Both permits expire in May 2003, but will be reissued by the state. Permittees who wish for coverage under their current permits to continue must submit a new notice of intent (NOI) form to the address listed above before the end of November 2002. Group applicants are covered under the state general permit. The Illinois Environmental Protection Agency (IEPA) has decided not to issue a state multi-sector general permit based on U.S. EPA's multi-sector general permit for industrial activities.

Application Requirements:

*Industrial Dischargers:** Industrial dischargers may apply for general permit coverage by submitting to IEPA, at the above address, the following information:

- a completed IEPA NOI form;
- where sampling data is required, a completed U.S. EPA Form 1, including Form 2F; and
- a completed U.S. EPA NOI form.

Illinois considers facilities that are members of EPA-approved group applications to have submitted the equivalent of a state NOI to seek coverage under the state general permit.

New facilities must submit an NOI and required information 180 days prior to the commencement of the discharge. Mobile facilities must apply for coverage at least 30 days prior to the commencement of the discharge.

Group members, as well as other industrial facilities that have submitted NOIs, do not have to begin work on their stormwater pollution prevention plans until after being notified by IEPA that they are covered. Authorization to be covered by the state industrial general permit, if granted, will be by letter and will include a copy of the general permit.

Existing facilities with NPDES permits covering industrial stormwater discharges, as well as facilities that have previously submitted NPDES application forms for individual stormwater permits but have not yet obtained individual permits, may elect to seek coverage under the IEPA industrial general permit instead. Such facilities must submit the required application information.

*Quantitative Data Requirements:** Except for facilities in EPA-approved group applications, the following categories of industrial stormwater dischargers seeking permit coverage must submit quantitative sampling data:

- facilities subject to reporting requirements under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) that use water priority chemicals;
- facilities classified as SIC 33 (primary metal industries);
- active or inactive landfills, land application sites, or open dumps without a stabilized cover that have received industrial waste;
- wood treatment facilities;
- coal pile runoff at industrial facilities other than coal mines;
- battery reclaiming facilities;
- de-icing areas at airports with more than 50,000 flight operations per year;
- meat packing plants, poultry packing plants and facilities that manufacture animal and marine fats and oils;

* Revised, August 1999.

* Revised, August 1999.

- facilities classified as SIC 28 (chemicals and allied products) and SIC 30 (rubber and miscellaneous plastic products) (only if stormwater discharges come in contact with solid chemical storage piles);
- automobile junkyards;
- lime manufacturing facilities (only if stormwater discharges come in contact with solid chemical storage piles);
- cement manufacturing and cement kilns;
- ready-mix concrete facilities; and
- ship building and repair facilities.

Industrial Facilities Whose Permit Determinations Are Late: In any case where a facility has applied for an NPDES stormwater permit in a timely manner, but IEPA has not made a final administrative determination on the application, the applicant is not in violation of the state Environmental Protection Act prohibiting unpermitted discharges. However, an application is in violation of the act if a complainant can prove that a final administrative disposition has not been made on the application because of the applicant's failure to furnish information required to process the application.

Discharges to MS4s: Industrial facilities that discharge stormwater to municipal separate storm sewer systems (MS4s) must notify the municipalities operating the MS4s and must provide the MS4s with copies of their applications on request.

*Construction Sites:** Construction site owners or operators must complete their stormwater pollution prevention plans (SWP3s) before submitting their NOIs to seek coverage under the state construction site general permit. A construction site NOI should be signed by either the owner or the operator of a site, depending on which has control over the construction operations. Construction site NOIs should be submitted at least 30 days before land-disturbing activities start at a site unless the project had established compliance with Illinois historic preservation and endangered species requirements prior to submitting the NOI. Certain other requirements must be met prior to submitting the NOI. There are check boxes on the new NOI form to indicate compliance with these requirements.

A copy of the letter of notification or other indication that the stormwater discharges from the site are covered under an NPDES permit must be posted at the site in a prominent place for public viewing. A facility operating under an approved local sediment and erosion plan, grading plan or stormwater management plan also must submit copies of the NOI to the local agency approving the plan.

Permit Conditions:

Generally speaking, Illinois' general permit requirements parallel EPA's requirements in its baseline general permits for stormwater dischargers.

The state general permits for industrial dischargers and construction sites are not applicable to stormwater discharges from the following facilities:

- discharges subject to stormwater effluent guidelines in the following categories:
  - — cement manufacturing,
  - — feedlots,
  - — fertilizer manufacturing,
  - — petroleum refining,
  - — phosphate manufacturing,
  - — steam electric,
  - — coal mining,
  - — mineral mining and processing,
  - — ore mining and dressing, and
  - — asphalt emulsion;
- hazardous waste treatment, storage or disposal facilities;
- steam electric power generating facilities;
- stormwater discharges associated with industrial activity from facilities with an existing NPDES individual or general permit for the stormwater discharge;
- stormwater discharges associated with industrial activity that are identified by

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the IEPA as possibly causing or contributing to a violation of water quality standards;

- stormwater discharges associated with inactive mining or inactive oil and gas operations on federal lands where an operator cannot be identified; and
- stormwater discharges that IEPA determines are not appropriately covered by the general permit.

Industrial Dischargers: Permit conditions under the state general permit for industrial dischargers resemble those in EPA's baseline general permits, but in some cases are less onerous. For example, Illinois does not require annual or semiannual stormwater sampling for any industrial categories.

SWP3 Requirements: SWP3 requirements under the state industrial general permit are similar to those in EPA's baseline general permit. Plans must be completed within 180 days of notification of permit coverage. Plans must be implemented within one year of notification. For new facilities, plans must be completed and implemented before the NOI is submitted.

Monitoring: Permittees are required to conduct annual inspections of their facilities to verify that all elements of their SWP3s are accurate. Records documenting "significant observations made during the site inspection" should be submitted to IEPA. The annual inspection reports also should include documentation of any spill, treatment unit malfunction or other event that would require an inspection, and the results of the inspection and any subsequent corrective maintenance measures. The first report must contain information gathered during the first year of coverage under the general permit, beginning with the effective date of coverage under the permit. The first report should be submitted no later than 60 days after the first year of coverage has passed. Each subsequent report must contain the previous year's information and must be submitted no later than one year after the previous year's report was due. Unlike EPA, Illinois does not require annual or semiannual sampling. However, the state requires certain facilities to submit sampling data when applying for permit coverage.

Annual inspection reports should be mailed to Illinois Environmental Protection Agency, Division of Water Pollution Control, Compliance Assurance Section, Annual Inspection Report, 1021 N. Grand East, P.O. Box 19276, Springfield, Ill. 62794-9276.*

Recordkeeping: Records of all monitoring information and records of all data used to complete the permit application must be kept for at least three years from the date of the permit, measurement report or application.

Termination of Coverage: If a facility eliminates all stormwater discharges associated with industrial activity that are authorized by the general permit, the operator may submit a termination request to: Illinois Environmental Protection Agency, Division of Water Pollution Control, Permit Section, P.O. 19276, Springfield, Ill. 62794-9276. The termination request should include the facility's name, address, telephone number and location and a description of the actions that have been taken to eliminate the discharge, or another justification for the request. IEPA must act on the termination request before coverage is terminated, and inspection reports are required until such termination occurs.

Construction Sites: Permit conditions, including SWP3 requirements, under the state general permit for construction sites are similar to those in EPA's baseline general permit. For more information, contact the permit section of IEPA at the address listed above.

In addition to facilities listed above that are not covered by the Illinois stormwater general permit, the construction permit also excludes facilities classified under SIC codes 10 through 14 (mineral industry), including active or inactive mining operations and oil and gas exploration, production, processing, treatment operations or transmission facilities.

If a construction site has been finally stabilized and all stormwater discharges are eliminated, the permittee may submit a notice of termination to IEPA.

* Revised, August 1999.

Inspections: Qualified personnel (provided by the permittee) must inspect disturbed areas of the construction site that have not been finally stabilized, structural control measures, and locations where vehicles enter or exit the site at least once every seven calendar days and within 24 hours of the end of a storm that is 0.5 inches or greater, or equivalent snowfall.

Fees: Illinois does not require stormwater permit fees at this time.

Municipal Separate Storm Sewer Systems (MS4s):

For more information on Illinois MS4s, contact Chuck Fellman of IEPA at (217) 782-0610.

Local Programs:

Many Illinois municipalities regulate erosion and sedimentation from construction sites through their building codes. For information on local municipality sedimentation and erosion control regulations, check with the appropriate local authority.

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¶890.15 Indiana

State Contact(s):

Indiana Department of Environmental Management
Office of Water Management
100 N. Senate Ave.
P.O. Box 6015
Indianapolis, Ind. 46206-6015
(317) 232-8760
(317) 232-8406 (fax)

For more information on stormwater permits, contact:

Laura Bieberich
(317) 233-6725, or
Gretchen Miller
(317) 233-0468

Program Description:*

Indiana is an NPDES delegated state with general permitting authority. The state has issued two general stormwater permits, one for industrial dischargers and one for construction activity disturbing five or more acres of land. Unlike other NPDES-delegated states, Indiana's permits do not have an expiration date and so the state's permits will not come up for renewal. During the past year, however, state officials initiated a rulemaking to look at that issue, and may in the future issue permits with expiration dates.

Application Requirements:

IDEM has prepared a state general permit for construction site runoff and a second general permit for other industrial stormwater dischargers as a permit by rule under state law. These rules, 327 Indiana Administrative Code (IAC) 15-5 and 327 IAC 15-6, became effective on Sept. 30, 1992, and were published in the Oct. 1, 1992, *Indiana Register*. Notices of intent (NOIs) for existing dischargers were due Dec. 29, 1992. To get a permit application for industrial and construction permits, contact Laura Bieberich at (317) 233-6725.

Program Notes:

In addition to EPA's stormwater program, IDEM regulates stormwater runoff from a number of facilities in certain industries, particularly the steel industry and the coal mining industry, through the existing NPDES wastewater permit system.

Industrial Stormwater Pollution Prevention Plans (SWP3s): Under the terms of the NPDES general permit rule for stormwater discharges associated with industrial activity, a facility is required to develop and implement an SWP3 within 365 days after submittal of its NOI. The SWP3 should not be submitted to IDEM, but retained onsite at the facility.

Construction Site Requirements: For stormwater runoff from construction activity, no monitoring is required. Each construction site regulated under the permit by rule must prepare and implement a soil erosion control plan.

Monitoring: Prior to implementation of the industrial SWP3, a permittee should initially sample one storm event. After SWP3 implementation, the permittee must sample two additional storm events. Samples must be taken at least three months apart. Thereafter, permittees are required only to perform semiannual visual inspections, unless IDEM determines that further sampling is necessary. Samples must be analyzed for EPA's eight baseline parameters; any parameter in an individual NPDES permit issued for the facility; any parameter issued under an applicable federal categorical standard; and any other parameters that can reasonably be expected to be present.

Recordkeeping: Until such time as its SWP3 is implemented, a regulated industrial site must submit quarterly progress reports concerning the status of the SWP3. The plan must be kept at the facility and should be available for inspection on request. Permittees should submit annual reports to IDEM by Jan. 28 of each year. Among other data, the reports should include the results of any stormwater sampling performed during the previous year.

Fees: For general permit coverage, stormwater fees for industrial dischargers are $100 annually plus a $50 application fee with the NOI. Regulated construction sites must pay one-time fees of $100 for coverage under the construction site general permit.

* Revised, December 1997.

Construction Site Sedimentation and Soil Erosion Controls:

A model sedimentation and soil erosion ordinance for local governments has been drawn up by the Highway Extension and Research Project for Indiana Cities and Counties (HERPICC), a task force consisting of officials from the Division of Soil Conservation of the Indiana Department of Natural Resources (IDNR), the Indiana office of the U.S. Soil Conservation Service and some other state agencies. A few Indiana cities and counties have begun efforts to adopt erosion control ordinances based on the HERPICC model. The model ordinance also is the basis for the state general permit on construction site runoff.

In 1992, Indiana adopted rules to meet the requirements of the federal NPDES regulations. These rules were administered by IDEM's Office of Water Management. One rule specifically addresses erosion and sedimentation associated with stormwater runoff. In this rule, Soil and Water Conservation Districts (SWCDs) have been given the responsibility to receive and review all erosion control plans. The Division of Soil Conservation and the Natural Resources Conservation Service (NRCS) provide technical assistance to SWCDs to help them carry out their responsibilities under this rule. In addition, the Division of Soil Conservation through its urban conservation program helps coordinate activities related to the rule on the regional and state level.

Technical assistance and stormwater information materials for developers are available from certain units of Indiana state government. The Division of Soil Conservation in IDNR employs seven urban conservation specialists who work on a regional basis. These specialists help local soil conservation districts work with municipalities, developers, contractors and realtors to adopt appropriate erosion control measures. The Division of Soil Conservation in cooperation with SWCDs has conducted seminars and demonstration projects to educate the public and construction industry on the importance of controlling erosion and sedimentation.

In October 1992, the Division published an erosion control handbook for developers called *Indiana Handbook for Erosion Control in Developing Areas: Guidelines for Protecting Water Quality Through the Control of Soil Erosion and Sedimentation on Construction Sites.* In September 1995, the Division of Soil Conservation published a brochure for builders that addressed erosion concerns on individual building lots.

For more information, contact your local SWCD or federal NRCS office, or contact Randy Braun, Chief, Urban Conservation Program, Division of Soil Conservation, IDNR, Government Center South, 402 West Washington St., Room W-265, Indianapolis, Ind. 46204; (317) 233-1486.

Maumee River Basin, Northeastern Indiana Area Programs: The Maumee River Basin Commission is working on sedimentation and soil erosion problems as well as flooding mitigation in northeastern Indiana and may have information on recommended stormwater management practices. For information, contact Rodney Renkenberger, Executive Director, Maumee River Basin Commission, Room B80, City-County Bldg., Ft. Wayne, Ind. 46802; (219) 449-7226.

Information on construction site erosion control measures recommended for the Indianapolis metropolitan area is available in the Urban Development Planning Guide produced by the Hoosier Heartland Resource Conservation and Development Council (RC&D). For information contact Rebecca Fletcher, RC&D Coordinator, Hoosier Heartland RC&D, 5995 Lakeside Blvd., Suite B, Indianapolis, Ind. 46278; (317) 290-3250.

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¶890.16 Iowa

State Contact(s):*

Joe Griffin
(515) 281-7017
Department of Natural Resources
Water Quality Bureau
Wallace State Office Building
502 E. 9th St.
Des Moines, Iowa 50319-0034

Program Description:*

Iowa is an NPDES delegated state with general permitting authority for stormwater discharges. Iowa has issued three general permits for regulated stormwater discharges, one for industrial facilities, one for construction activities, and one for discharges associated with industrial activity from asphalt plants, concrete batch plants and rock crushing plants.

Both the construction general permit and the industrial general permit (for industries other than asphalt plants, concrete batch plants and rock crushing plants) are revised versions of the original permits issued in 1992. These two permits expired on Oct. 1, 1997. The third permit recently was finalized. All three permits were adopted Oct. 1, 1997, and will expire Oct. 1, 2002.

Application Requirements:

General Permits and Notices of Intent (NOIs): To obtain general permit coverage under any of the state general permits, a discharger must submit a state NOI form, or Form 542-1415, to the state Department of Natural Resources (DNR). NOIs for construction sites should include certifications that the facility's stormwater pollution prevention plan (SWP3) provides for compliance with Section 467A.64 of the Code of Iowa and local sediment and erosion control plans, among other requirements.

NOIs must be submitted at least 24 hours before the start of industrial operations or construction activities. The deadline for NOI submittal for discharges owned or operated by municipalities with populations of less than 100,000 (except for power plants, airports or uncontrolled sanitary landfills owned or operated by such municipalities) is waived until EPA establishes requirements for such facilities.

Facilities seeking general permits should submit proof that they have published public notices of their applications at least one day in at least two newspapers (see discussion below). General permit applicants also must submit application fees along with their NOIs. Fees are specified in the Iowa Administrative Code 567—64.16(455B). NOI forms or their equivalent should be sent to:

Storm Water Coordinator*
DNR-EPD
502 E. 9th St.
Des Moines, Iowa 50319-0034.

Individual and Group Applications: DNR may require, or an applicant may request, an individual NPDES permit as an alternative to general permit coverage. In such a case, an individual industrial applicant opting out of the general permit for discharges associated with industrial activities or the general permit for industrial discharges associated with asphalt plants, concrete batch plants and rock crushing plants must submit a complete Form 1 and Form 2F and all applicable fees to DNR in accordance with subrule 567-64.3(4) of the Iowa Administrative Code. Construction site applicants seeking individual permits must submit individual applications using DNR Form 1 and EPA Form 2F and must submit all applicable fees identified in subrule 567-64.16 of the Iowa Administrative Code.

Individual Permits for Group Applicants: Although DNR anticipates making use of EPA's multi-sector general permit, it will not adopt the permit for use in Iowa and does not anticipate issuing its own version of the permit. Instead, industrial stormwater dischargers in Iowa that have participated in EPA-approved group applications will be issued individual Iowa stormwater permits based on EPA's multi-sector permit. For each group applicant, DNR will draft an individual NPDES stormwater permit using industry-specific technical limitations and monitoring requirements included in the multi-sector permit.

* Revised, September 1999.

* Revised, September 1999.

The draft individual permit also will include instructions on publishing and posting a required public notice about the impending issuance of the permit, which the applicant will be responsible for publishing in a newspaper for one day. A 30-day public comment period will be provided on each draft permit. During the public notice period, an applicant may request changes in the draft permit's terms and conditions, which are negotiable. The final individual permit will include terms and conditions, as well as monitoring and reporting requirements appropriate to the applicant and the applicant's industrial sector. Facilities in sensitive watersheds and facilities that are believed to be contributing to water quality problems may be subjected to more stringent terms and conditions than EPA's final multisector permit requirements might otherwise indicate.

Draft NPDES permits have been issued for the following:*

- landfills and land application sites (multisector permit sector 12);
- chemicals and allied products manufacturing facilities (sector 3);
- motor freight, passenger and rail transportation facilities and U.S. Postal Service transportation facilities (sectors 16 and 17);
- asphalt paving and roofing materials and lubricant manufacturers (sector 4);
- hazardous waste treatment, storage or disposal dacilities (sector 11);
- scrap and waste material processing and recycling facilities (sector 14);
- automobile salvage yards (sector 13);
- mineral mining and processing facilities (sector 10);
- glass, clay, cement, concrete and gypsum product manufacturing facilities (sector 5);
- primary metal facilities (sector 6);
- leather tanning and finishing facilities (sector 28);
- vehicle maintenance areas, equipment cleaning areas or docking areas located at air transportation facilities (sector 20);
- timber products facilities (sector 1);
- printing and publishing facilities (sector 26);
- treatment works (sector 22);
- paper and allied products manufacturing facilities (sector 2);
- rubber, misc. plastic products and misc. mfg. industries (sector 27);
- fabricated metal products industry (sector 29);
- facilities that manufacture transportation equipment, industrial or commercial machinery (sector 30);
- food and kindred products facilities (sector 23);
- wood and metal furniture and fixture manufacturing facilities (sector 25); and
- facilities that manufacture electronic and electrical equipment and components; photographic and optical goods (sector 31).

Proof of Public Notification Requirement: A discharger seeking NPDES general permit coverage must publish a public notice for at least one day in at least two newspapers having the largest circulations in the area where the permitted activity will occur. DNR specifies the minimum wording of the public notice by rule and has a state "Public Notice of Storm Water Discharge" form that dischargers may use for submitting their notices to newspapers.

Information on the circulation of Iowa newspapers is available from the Iowa Newspaper Association (INA), 319 E. Fifth Street, Des Moines, Iowa 50309; (515) 244-2145. Dischargers also may place their public notices through the INA. NOIs submitted to DNR should include a clipping of each public notice published along with the names of the newspapers and the date published, or an affidavit from each newspaper, as proof of public notification.

* Revised, September 1999.

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Notices of Discontinuation: Within 30 days of discontinuing a regulated industrial stormwater discharge, or within 30 days following the stabilization of a construction site subject to the construction site stormwater general permit, an applicant must submit a Notice of Discontinuation (NOD) to DNR. The state general permits specify NOD contents.

Renotification Requirement: Facilities covered by either the state industrial general permit or the state construction site general permit must resubmit NOIs to DNR within 180 days of the expiration of the general permits.

Signatory Requirements for Construction Sites: Either the owner of the site or the general contractor may sign NOIs and other required reports, certifications and documents under the state construction site stormwater general permit. However, all contractors and subcontractors must sign the certification statement requirement in Part IV.D.7.B of the general permit. Upon signing the certification, the contractor or subcontractor is considered a copermittee with the site owner and other copermittee contractors.

Program Notes:

Generally, Iowa's general permit requirements are similar to those in EPA's baseline general permits. As noted below, however, Iowa's monitoring requirements differ somewhat from EPA's baseline requirements.

Stormwater Pollution Prevention Plans: Requirements for stormwater pollution prevention plans (SWP3s) for discharges covered by Iowa's construction site general permit and its two general permits for industrial dischargers parallel those in EPA's baseline general permits.

In general, SWP3s must be completed before the NOI is submitted to DNR and compliance must occur before industrial or construction activity begins.

Releases In Excess of Reportable Quantities: With respect to releases in excess of reportable quantities, the discharger must notify DNR and the local sheriff's office as soon as possible, but not sooner than six hours after the onset of a "hazardous condition." In addition, the SWP3 must be modified within seven calendar days of knowledge of the release to provide a description of the release and the circumstances leading to the release and to identify and provide for the implementation of steps to prevent the reoccurrence of such releases and to respond to such releases.

Permit Fees: There will be no permit application fee for the two revised permits or for the new industrial general permit. However, an annual permit fee of $150 will be required for all permittees. This fee may be paid annually or may be paid according to a schedule for permits covering three, four or five years. Those fees will be $300, $450 and $600, respectively. (The current permits that expire Oct. 1, 1997, require an application fee of $100, as well as an annual permit fee of $150 per year.)

Monitoring and Reporting Requirements: Construction site monitoring requirements for facilities under the state general permit are similar to EPA "baseline" monitoring requirements. The monitoring requirements for the two industrial general permits differ from EPA baseline requirements in several respects:

- Frequency of Visual Inspections. Industrial dischargers under the general permits must conduct visual inspections by qualified personnel at least once a year, but there are exceptions to this requirement. Where an annual visual inspection is shown in the SWP3 to be "impractical" for "sites where an employee is not stationed or does not routinely visit the site," visual inspections must occur at "appropriate intervals," but at least once every three years. For inactive sites, where industrial activity is no longer occurring, visual site inspections can occur as infrequently as once every five years if annual inspections are "impractical."
- Annual Monitoring for Section 313 of the Emergency Planning and Community Right-to-Know Act facilities. Although EPA's baseline general permit requires semiannual monitoring for such facilities, Iowa requires monitoring only once per year. Moreover, Iowa's general permit does not require acute whole effluent toxicity (WET) testing.

- Annual Monitoring for Primary Metal Facilities. Other Iowa-specific monitoring requirements for primary metal facilities include monitoring for five-day biochemical oxygen demand, nitrate plus nitrite nitrogen and total phosphorous. There is no acute WET testing requirement for these facilities.
- Annual Monitoring for Land Disposal Units and Incinerators. Iowa does not require such facilities to monitor for acute WET or selenium. Operators must test for nitrate rather than total Kjedahl nitrogen and must test for several parameters absent from EPA's baseline requirements: ammonia, bicarbonate, calcium, chloride, total iron, potassium, sodium and sulfate.
- Annual Monitoring for Wood Treatment Facilities (Creosote or Chlorophenolic Formulations). These facilities need not test for acute WET, but must test for several parameters absent from the EPA baseline requirements: five-day biochemical oxygen demand, total phosphorus, total Kjeldahl nitrogen, and nitrate plus nitrite nitrogen.
- Annual Monitoring for Wood Treatment Facilities (Arsenic or Chromium Preservatives). These facilities need not sample for acute WET. Extra monitoring parameters include five-day biochemical oxygen demand, total phosphorous, total Kjeldahl nitrogen and nitrate plus nitrite oxygen.
- Annual Monitoring for Airports. Requirements resemble EPA baseline requirements, but operators must also sample for total Kjeldahl nitrogen, total phosphorous and ethylene glycol.
- Annual Monitoring for Battery Reclaimers. Additional parameters include five-day biochemical oxygen demand, total Kjeldahl nitrogen and total phosphorous.
- Annual Monitoring for Animal Handling/ Meat Packing. Parameters to be measured include five-day biochemical oxygen demand, total Kjeldahl nitrogen and total phosphorous.
- Annual Monitoring for Coal-fired Steam Electric Facilities. Parameters to be measured include total suspended solids, copper, nickel, zinc and pH.
- Annual Monitoring for Asphalt Plants and Rock Crushing Plants. Parameters to be measured include any pollutant limited to an effluent guideline to which the facility is subject.
- Annual Monitoring for Concrete Batch Plants. Parameters to be measured include total recoverable irons and any pollutant limited in an effluent guideline to which the facility is subject.
- Annual Sampling for "Additional Facilities" (including rubber and miscellaneous plastic products, chemicals and allied products, automobile junkyards (over 250 units), sludge handling facilities at POTWs, lime storage piles at lime manufacturing facilities, oil handling sites at oil-fired electric generating plants, cement manufacturing facilities and cement kilns, ready-mix concrete facilities and ship building and repair facilities). In addition to EPA baseline monitoring parameters, these facilities must monitor for five-day biochemical oxygen demand, total Kjeldahl nitrogen and total phosphorous.

Recordkeeping Requirements: Iowa recordkeeping requirements resemble EPA baseline requirements. Generally, records of NOIs, monitoring reports and other data must be retained for at least three years.

County and Municipal Regulations: Polk County has its own sedimentation and soil erosion ordinance for construction sites. In addition, Cedar Rapids currently is developing controls for construction activities.

For more information about the state sediment and soil erosion law, contact Jim Gulliford, Department of Agriculture and Land Stewardship, Division of Soil Conservation, Wallace State Office Building, 502 E. 9th St., Des Moines, Iowa 50319; (515) 281-6146.

State Nonpoint Source Program:

Iowa has prepared a revised Nonpoint Source Management Program pursuant to Section 319 of the Clean Water Act to address all sources of

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nonpoint-source pollution, including urban runoff, and has submitted this program to EPA for approval.

For more information about the state nonpoint source program, contact:

Ubbo Agena
Iowa DNR
Environmental Protection Division
Water Quality Planning Section
Wallace State Office Building
502 E. 9th St.
Des Moines, Iowa 50319
(515) 281-6402

Documents Available: *

- *Memorandum SCD-SLR-l, Processing Complaints and Enforcing the Iowa Erosion Control Law,* a manual for soil and water conservation districts concerning implementation of the state erosion control law. Available from the Department of Agriculture and Land Stewardship, Division of Soil Conservation, Wallace State Office Building, 900 E. Grand Ave., Des Moines, Iowa 50319.
- Stormwater General Permit Application Package, a collection of documents available from DNR. Includes General Permit No. 1, *Storm Water Discharge Associated with Industrial Activity;* General Permit No. 2, *Storm Water Discharge Associated with Industrial Activity for Construction Activities;* Notice of Intent Form 1415; *How to File a Complete Notice of Intent ; How to Complete the Public Notice* and public notice form, and *Understanding Storm Water NPDES Permitting Requirements* (information sheet). For copies of the application package, contact state stormwater coordinator Ruth Rosdail at (515) 281-6782 or call (515) 281-8690 and ask for stormwater general permit assistance.

[The next page is Tab 800, Page 311.]

* Revised, September 1999.

¶890.17 Kansas

State Contacts:*

Donald Carlson
(785) 296-5547
(785) 296-0086 (fax)
Kansas Department of Health and Environment
Bureau of Water
Forbes Airfield, Bldg. 283
Topeka, Kan. 66620-0001

Program Description:

Kansas is an NPDES delegated state. In November 1993, the Kansas Department of Health and Environment (KDHE) received general permitting authority from EPA. KDHE received individual permitting authority in 1974. Applications from construction projects and industries with stormwater discharges subject to the NPDES program were due Oct. 1, 1992, or 90 days prior to the anticipated beginning of operations/construction. KDHE will accept applications submitted after these deadlines. Kansas issued an NPDES general permit for stormwater runoff from construction activity on Sept. 27, 1996. The permit will expire Sept. 27, 2001.*

Kansas has yet to issue a general permit for stormwater runoff for industrial activity. In the absence of an industrial general permit, KDHE is advising industrial stormwater dischargers to follow conditions in EPA's baseline general permits for industrial activities. KDHE does not require industrial stormwater discharges to develop a stormwater pollution prevention plan (SWP3) at this time.

Application Requirements:

Industrial Activities: Kansas will accept individual stormwater permit applications, general permit coverage applications and group applications approved by EPA. Facilities that have submitted individual applications will be offered general permit coverage when Kansas completes its NPDES general permit for stormwater runoff from industrial activity. Facilities applying now for coverage under the state's general permit when it becomes available must submit an EPA notice of intent (NOI) to KDHE at the above address.

Construction Sites: Kansas construction sites that need stormwater permits should apply for coverage by completing the Kansas NOI form for the NPDES general permit for stormwater runoff from construction activity. The instructions for the Kansas NOI describe additional information that must be included with the NOI.

Permit Conditions:

Regulated construction sites must prepare SWP3s resembling those described in EPA's baseline general permit and EPA's stormwater management guidance document for construction activities.

Until development of a Kansas industrial general permit, industrial dischargers may want to comply with the requirements of EPA's baseline general permit for industrial dischargers, though there is no Kansas requirement to do so.

Stormwater permits, like other NPDES permits issued by the state, must state water quality standards, which are contained in Section 28-16-28 of the Kansas Annotated Regulations (K.A.R.), as amended. All NPDES permits issued in the state are subject to water quality certification review. Authority for the state NPDES system for general permits is located at K.A.R. Sections 28-16-56c to 63 and K.A.R. 28-16-150 through 154. The state's authority to regulate stormwater comes from Kansas Statutes Annotated (K.S.A.) 65-164(a), K.S.A. 65-164(b) and K.S.A. 65-165(b).

Fees: The cost for coverage under a general NPDES permit developed by Kansas is $60 per year. NPDES permits issued on an individual basis for industrial activity or construction site stormwater discharges are $320 per year.

Monitoring: State monitoring requirements will be based primarily on the monitoring requirements adopted by EPA in its multi-sector general permit when monitoring is required.

Recordkeeping: State recordkeeping requirements will be based on recordkeeping requirements adopted by EPA in its general permits for stormwater discharges.

* Revised, September 1999.

Municipal Separate Storm Sewer Systems:

The city of Wichita must submit an application as a "large" municipal separate storm sewer system (MS4). Topeka and Kansas City must submit applications as "medium" MS4s. Kansas has issued permits for Wichita and Topeka and is drafting a permit for Kansas City. For more information about permitting of MS4s, contact Rance Walker at (785) 296-5537. *

State Nonpoint Source Pollution Program:

The state nonpoint source pollution control program is administered by KDHE's Bureau of Environmental Quality. Currently, the nonpoint source program is mostly voluntary in nature. The Department of Agriculture, however, has statutory authority to develop pesticide management areas and has established a pesticide management area for the drainage area above the Delaware River. A task force that was looking into the problem of atrazine runoff has developed some special atrazine applications and conditions. For more information on this project, contact Dale Lambley at (785) 296-0912.*

The Bureau of Environmental Quality offers a guidance document for achieving nonpoint source pollution control — *Kansas Catalog of Nonpoint Source Pollution Control Practices, Agricultural Lands.*

For additional information about the state nonpoint source pollution program, contact Don Snethen at (785) 296-5567. *

Kansas Industrial/Construction Stormwater Hotline:*

Industrial and construction site stormwater dischargers may call (785) 296-5547 with stormwater discharge questions.

Industrial/Construction Stormwater Documents Available:

The following documents are available by calling KDHE at the state stormwater hotline listed above:

- *Notice of Requirements for Industrial Stormwater Discharges*, April 1991;
- *Stormwater Industrial Permit Fact Sheet No. 1*, May 1996;
- *Stormwater Industrial Permit Fact Sheet No. 2*, August 1995.
- *Fact Sheet No. 3, Erosion Control for Home Builders and Their Contractors;*
- *Stormwater Industrial Permits Fact Sheet No. 4, Light Industry, Category 11, or Exposure Industries*, May 1996; and
- *NPDES general permit for Stormwater Runoff from Construction Activity Information Packet*, April 1996.

[The next page is Tab 800, Page 321.]

* Revised, September 1999.

* Revised, September 1999.

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¶890.18 Kentucky

State Contact(s):*

KPDES Branch, Division of Water
Department of Environmental Protection
14 Reilly Road
Frankfort, Ky. 40601
(502) 564-2225
(502) 564-4245 (fax)

For more information on stormwater permits, contact:

Doug Allgeier
Supervisor of Industrial Section
(502) 564-2225, ext. 448; or
Ronnie Thompson
(502) 564-3410, ext. 423

Program Description:*

Kentucky is an NPDES delegated state with general permitting authority. The state Division of Water (DOW) has issued eight general permits for stormwater dischargers in different industrial categories. The eight general permits cover:

- construction sites disturbing five or more acres of land;
- primary metal industries;
- active and inactive landfills, land application sites and open dumps that receive industrial wastes;
- wood treatment facilities using chlorophenolic formulations and/or creosote;
- wood treatment facilities using inorganic preservatives containing arsenic or chromium;
- facilities with coal pile runoff;
- oil and gas exploration and/or production facilities; and
- industrial facilities not subject to any other category.

These eight general permits expired Sept. 30, 1997. New permits were adopted Oct. 1, and will expire Sept. 30, 2002. The new permits are identical to the ones originally issued in 1992. The state has no plans to adopt EPA's multi-sector general permit.

The director of DOW may choose to require particular dischargers to obtain individual NPDES permits for stormwater as an alternative to general permit coverage. Kentucky officials anticipate that most new facilities covered under the state general permits will be small facilities. On August 26, 1994, DOW wrote to organizers of group applications stating that group members in Kentucky must file for coverage under one of the eight state industrial general permits within 90 days. Numerous existing individual NPDES permits issued by the Kentucky DOW already contain stormwater permitting provisions.

Application Requirements:

Facilities seeking general permit coverage for a new stormwater discharge must submit a notice of intent (NOI) form to DOW at least 48 hours before beginning operations. Operators of oil and gas facilities that were not required to obtain stormwater permits by Oct. 1, 1992, but that subsequently have a discharge of a reportable quantity of oil or a hazardous substance for which notification is required pursuant to 40 CFR 110.6, 40 CFR 117.21 or 40 CFR 302.6, must submit NOIs to DOW within 14 calendar days of learning about such releases. NOIs for industrial facilities require a minimal amount of information about a site. NOIs for a construction site must include the following information:

- a brief description of the project;
- an estimated timetable for major activities;
- estimates of the number of acres of soil that will be disturbed; and
- a certification that the stormwater best management practice (BMP) plan for the site provides for compliance with state or locally approved sediment and erosion control plans, state or locally controlled stormwater management plans, state or local sewer use ordinances, and state or local septic system requirements.

* Revised, December 1997.

NOIs should be submitted to:

Section Supervisor
Inventory and Data Management Section,
KPDES Branch
Kentucky Division of Water
14 Reilly Road
Frankfort Office Park
Frankfort, Ky. 40601

Notices of Termination: Facilities covered by state stormwater general permits may submit a notice of termination (NOT) form to DOW when all stormwater discharges associated with industrial activity at a site have been eliminated. NOT content requirements are specified in the state general permits. NOTs should be submitted to DOW at the address for NOIs cited above.

Program Notes:

Best Management Practice Plans: Industrial dischargers subject to the state general permits must prepare and implement stormwater BMP plans that are somewhat similar to the stormwater pollution prevention plans required by EPA in its baseline industrial general permit. However, Kentucky does not require special secondary containment controls by facilities discharging water priority chemicals subject to reporting under Title III, Section 313 of the Superfund Amendments and Reauthorization Act of 1986 (SARA).

Industrial stormwater BMP plans must be prepared within 180 days of the date of a facility's coverage under a state industrial general permit. The plans must be implemented within 365 days of such coverage.

A stormwater BMP plan for a construction site must include the procedures and requirements that are specified in applicable state or local site permits, stormwater management site plans, or sediment and erosion plans for the site. Construction site stormwater BMP plans have other requirements as well, including descriptions of stabilization practices and other erosion and sediment controls that will be used to control stormwater runoff pollution from a site. Stormwater BMP plans for new construction activities must be prepared and implemented by the date construction begins at a site.

Monitoring Requirements: Kentucky does not require whole effluent toxicity (WET) testing and does not require additional monitoring by SARA Title III, Section 313 facilities. Industrial dischargers generally have to sample for total flow (in MGD) and hardness (measured as mg/L of $CaCO_3$) as well as other specified parameters. General permit-specific monitoring requirements include the following:

- No monitoring is required at construction sites.
- Primary metal facilities added parameters include flow, hardness, total recoverable nickel, and total recoverable zinc. Other requirements are the same as EPA's baseline monitoring requirements for primary metal industries.
- Monitoring paramaters for active and inactive landfills, land application sites, and open dumps resemble EPA's baseline parameters for active landfills, incinerators and burner industrial facilities. However, Kentucky also requires monitoring for flow, hexavalent chromium, total recoverable iron, total recoverable mercury, amenable cyanide, chloride, sulfate, ammonia, total recoverable zinc, total recoverable nickel, hardness, and temperature in Centigrade.
- Wood treatment facilities' (chlorophenolic formulations and/or creosote formulations) monitoring parameters resemble EPA's baseline parameters, but without WET testing and with additional monitoring for flow.
- Wood treatment facilities' (arsenic or chromium formulations) parameters resemble EPA's baseline monitoring parameters, but facilities must sample for flow and hardness.
- Coal pile runoff monitoring parameters resemble EPA's baseline monitoring parameters plus flow, hardness, total suspended solids, total recoverable arsenic, total recoverable selenium, total recoverable iron, total recoverable manganese and sulfate.
- Oil and gas exploration or production operations must sample for flow, chemical oxygen demand, oil and grease, total suspended solids, chlorides, sulfate and pH.

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Facilities may be able to avoid sampling by having a registered professional engineer certify that the facility has prepared and implemented a stormwater pollution prevention plan.

- Sampling parameters for industrial facilities not subject to other general permit categories include flow, chemical oxygen demand, oil and grease, total suspended solids, and any pollutant limited in an effluent limitations guideline to which the facility is subject under federal categorical standards (40 CFR Subchapter N).

Recordkeeping Requirements: Generally speaking, Kentucky dischargers covered by general permits must retain records for at least three years. Monitoring data must be submitted to DOW upon request.

Fees: At present, no fee structure for the state general permits has been established. Industrial dischargers with individual NPDES permits for stormwater, however, must pay $1,000 for a five-year permit, $200 of which must be included with the initial permit application. The balance must be paid when the permit is issued.

Construction Site Sedimentation and Erosion Controls:

As part of the statewide Nonpoint Source Pollution Control Program, Kentucky has published a list of recommended BMPs for controlling construction site runoff. At present, most of the best management practices included in the program are voluntary. Some municipalities, however, have adopted mandatory controls on sedimentation and soil erosion at construction sites. For information on the BMPs recommended by the state, contact Corrine Wells at (502) 564-3410.

Municipal Separate Storm Sewer System Permits:

Under EPA's Nov. 16, 1990, final stormwater rule, the city of Louisville must submit a permit application as a large municipal separate storm sewer system (MS4) and the city of Lexington must submit a permit application as a medium MS4.

State Statutes and Regulations:

Environmental regulatory programs in Kentucky are authorized by Chapter 224 of the Kentucky Revised Statutes (KRS). The Kentucky NPDES program is authorized by KRS, chapter 224.034. State water quality standards are located in 401 Kentucky Administrative Regulations, Chapter 3.

Documents Available:

- *Guidance Manual for the Preparation of NPDES Permit Applications for Storm Water Discharges Associated With Industrial Activity*, U.S. Environmental Protection Agency, April 1991. Available from Doug Allgeier or Ronnie Thompson at above address.
- *Storm Water Permitting for Construction Sites*, a two page fact sheet. Available from Doug Allgeier or Ronnie Thompson at the above address.

¶890.19 Louisiana†

State Contacts:

Cheryl Nolan
Department of Environmental Quality (DEQ)
Office of Water Resources
Water Pollution Control Division
P.O. Box 82215
Baton Rouge, LA 70884-2215
(225) 765-0592
(225) 765-2725 fax
Internet: www.deq.state.la.us††

DEQ Permits Division
Level 2, Group 2
P.O. Box 82135
Baton Rouge, LA 70884-2135
(225) 765-0508
(225) 765-0222 fax
Internet: www.deq.state.la.us/permits††

Program Description:

Louisiana became an NPDES delegated state with general permitting authority on Aug. 26, 1996. Louisiana's stormwater program closely follows that of the federal government. Stormwater dischargers in Louisiana are regulated by a DEQ general permit for industrial dischargers effective Oct. 1, 1999, and a general permit for construction sites effective May 1, 2001. Both permits are in effect for five years.

Application Requirements:

The state encourages those dischargers who are eligible for general permit coverage to seek such coverage. Officials say that they may request or require that some industrial facilities seeking individual permits accept coverage under a general permit instead. Facilities must submit NOI forms 48 hours before beginning activities at the site.

Fees: Fees for coverage under the stormwater general permits are $200 per year for construction permits, and $75 per year for multi-sector general permits.

Fees for individual permits are assessed in accordance with a point system that takes into consideration a number of factors, including the complexity of the discharging facility, its status as a major or minor discharger, the type of receiving water into which contaminants are released, the average pollutant loading of the discharge, potential health hazards and the temperature of the discharge water. Dischargers must pay approximately $170 for each point assigned, up to a specified limit.

Program Notes:

If there is the potential for water contamination or the discharge of excessive volumes of stormwater, stormwater dischargers in areas where solid or liquid industrial materials are stored may have to obtain Louisiana Water Pollution Discharge System (LWPDS) permits under Title 33, Vol. 14, Part IX, Ch. 3 of the Louisiana Administrative Code. Permit determinations are made on a case-by-case basis and generally reflect regulators' concerns about dissolved oxygen and oxygen demand, total suspended solids, pH, toxic pollutants and other contaminants of concern, and oil and grease. Permitted facilities generally are not required to install stormwater treatment measures. In cases where there is a water quality problem, however, such facilities may be required to implement the more stringent of best available technology controls or water quality-based controls.

Permits for Altering Waterways and Stream Bottoms: Permits are required for many activities that alter state waterways and stream bottoms. Examples of such permitted activities include the construction of docks and the sinking of pilings for construction projects. For information, contact Larry Wiesepape at (225) 765-0664.

Numeric Effluent Limitations: Effective Oct. 1, 1995, all industrial stormwater discharges in Louisiana must meet effluent limitations for:

- Total Organic Carbon (not to exceed daily maximum of 50 mg/liter); and
- Oil & Grease (not to exceed daily maximum of 15 mg/l).

Effective Oct. 1, 1995, oil and gas exploration and production facilities in the state must meet stormwater effluent limitations for:

- Chemical Oxygen Demand (daily maximum 100 mg/ l);

† Revised, October 2001.
†† Added, October 2001.

- Total Organic Carbon (daily maximum 50 mg/l);
- Oil and Grease (daily maximum 15 mg/l); and
- Chlorides (For "brackish marsh areas," maximum chloride concentrations of discharges must not exceed twice the ambient concentration of the receiving waters. For "freshwater swamps and marshes," "intermediate marsh areas" and "upland areas," maximum chloride concentration in stormwater runoff from industrial sites shall not exceed 500 mg/l (57 FR 41321, also see 57 FR 41323 for definitions of terms)).

Stormwater Pollution Prevention Plans: Each facility covered by the industrial general permit must develop a pollution prevention plan that provides for achievement of the numeric effluent limitations, identifies potential pollution sources likely to affect water quality in the stormwater discharge and describes and ensures the implementation of practices to reduce pollutants and to assure compliance with permit terms and conditions.

Stormwater Controls for Oil and Gas Production Facilities:

Oil and gas production facilities are regulated under Louisiana Annotated Code Title 33, Part IX. The regulations deal with a number of environmental contamination issues, of which stormwater is only one. Much more important in the eyes of state regulators is the control of sanitary waste, produced waters, and drilling muds from oil and gas production barges in coastal wetland areas. Operators of oil production facilities must report any visible sheen in their stormwater discharges. Operators of natural gas production sites and natural gas compressor stations must meet state limits for several stormwater parameters, including oil and grease, total organic carbon, chemical oxygen demand, pH and visible sheen. Depending on the size of the facility, sampling and data reporting may be required on a quarterly or monthly basis. For more information, contact Doug Hale, DEQ, 7290 Bluebonnet, P.O. Box 82135, Baton Rouge, LA 70884-2135; telephone (225) 765-0219.

State Nonpoint Source Pollution Program:

Louisiana has a nonregulatory program to control nonpoint source pollution. For information, contact Jan Boydstun at (225) 765-0246. Information on the state's nonpoint source management plan may be found at http://nonpoint.deq.state.la.us.††

Municipal Stormwater Permits:††

MS4 permits have been issued by EPA to Baton Rouge and Shreveport. DEQ is currently handling the renewal of Shreveport's permit. In the future, all MS4 permits for small, medium and large municipalities will be handled by DEQ. Implementation of Phase II is being handled by the state, which expects to meet the 2002 deadline.

Coastal Zone Management Program:

Some 5.3 million acres of southern Louisiana lie within the state's coastal zone and are regulated by the Louisiana Coastal Zone Management Program. Stormwater runoff is a relatively minor consideration for the Coastal Zone Management Program, which primarily focuses on activities impacting coastal wetlands or altering the course of surface water bodies. However, some stormwater discharges may fall under program guidelines calling for the control of certain environmental impacts within the coastal zone "to the maximum extent practicable."

Guideline 1.7: Under Guideline 1.7, projects within the coastal zone must be designed, constructed and operated so as to avoid, to the maximum extent practicable, the discharge of nutrients into coastal waters; the alteration of the natural oxygen concentration in such waters; the destruction or adverse alteration of streams, wetlands, tidal passes, inshore bays and other natural features of the landscape; the detrimental discharge of suspended solids into coastal waters; the discharge of pathogens or toxic substances; and the reduction of the long-term biological productivity of such coastal waters.

Guideline 6: Under the program's Guideline 6, surface alteration activities should be designed so as to avoid, to the maximum extent practicable, the creation of low dissolved oxygen

†† Added, October 2001.

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conditions or the creation of traps for heavy metals in coastal areas. Such activities must also be constructed, designed and operated using the best practicable techniques to prevent the release of pollutants or toxic substances into coastal waters.

Guideline 9: Under Guideline 9, concerning activities that alter upstream waters which drain into coastal waters, upland and upstream water management programs affecting coastal areas must be designed and constructed so as to preserve or enhance existing water quality, water volume and rate of flow in coastal waters, to the maximum extent practicable. Stormwater runoff from upstream areas must be managed to simulate natural water patterns, quantity, quality and rate of flow in coastal areas, to the maximum extent practicable. Runoff and soil erosion from agricultural lands shall be minimized through the use of the best practicable techniques.

Definition of "To the Maximum Extent Practicable": Guideline 1.8 of the state coastal zone management guidelines provides guidance on how to interpret the "maximum extent practicable" provision of the regulations. The guideline is employed by program analysts when reviewing applications for coastal use permits. For more information on the program, ask for copies of the "Excerpts" section of the Louisiana Resources Program Final Environmental Impact Statement, available from Greg Ducote, Coastal Management Division, Department of Natural Resources, Stop Code CMD-25102, P.O. Box 44487, Baton Rouge, LA 70804-4487; telephone (225) 219-4968; e-mail gregdu@dnr.state.la.us.

Barataria/Terrebone National Estuary Project: Several coastal wetland areas of Louisiana are under consideration for special protection, either as Special Management Areas under a program administered by the National Oceanic and Atmospheric Administration or as national estuary areas under the EPA's National Estuary Program. Under the latter program, EPA and various state and local agencies are developing a National Estuary Plan for the Barataria Basin/Terrebone Complex in southern Louisiana. The plan could eventually result in more stringent discharge restrictions or controls on certain land uses in the area. For more information, contact Kerry St. Pe at (985) 447-8092.

[The next page is Tab 800, Page 341.]

¶890.20 Maine†

EPA Contact:
Thelma Murphy
U.S. EPA Region 1
1 Congress St.
Suite 1100
Boston, MA 02114-2023
(617) 565-3569
(617) 565-4940 (fax)

State Contact(s):
Department of Environmental Protection
Bureau of Land and Water Quality
State House Station #17
Augusta, ME 04333
(207) 287-3901
(207) 287-7191 (fax)

Program Description:

Maine obtained national pollutant discharge elimination system (NPDES) permitting authority on Jan. 12, 2001, for all areas within the state except Indian country. As of May 2001, EPA had not made a decision about the applicability of state law to Indian lands. EPA Region 1 will continue to oversee and enforce all permits still in effect until the state Department of Environmental Protection (DEP) issues a Maine pollutant discharge elimination system (MEPDES) permit.

Since 1997, Maine has regulated some aspects of stormwater management on construction sites under the Maine Stormwater Management Law. With the MEPDES permit, the state hopes to build on the existing program where possible and remove any duplication. Until the state develops its MEPDES stormwater program, however, permittees should continue to work with EPA Region 1 to file notices of intent (NOIs), monitoring reports and notices of termination (NOTs).

Application Requirements:

Maine stormwater dischargers should file NOIs with:

Stormwater Notice of Intent (4203M)
401 M St., S.W.
Washington, DC 20460

Operators of facilities previously covered, but no longer discharging stormwater associated with industrial activity as defined at 40 CFR Section 122.26(b)(14), or former operators who cease being the operators of regulated facilities, should submit federal NOT forms. Construction permittees may submit NOT forms when the specific activities in their pollution prevention plans have ended and when: (a) the construction area has been stabilized; (b) the construction site operator has changed; or (c) a different operator has responsibility for the next steps in the plan. All NOT forms should be sent to:

Stormwater Notice of Termination (4203)
401 M St., S.W.
Washington, DC 20460

Program Notes:

Most industrial dischargers in Maine are eligible for coverage under EPA's industrial or multisector general permits. The state permit requirements generally follow EPA's requirements for stormwater dischargers, but Maine specifies that discharges must not reduce the quality of receiving waters below the minimum requirements of their water quality classifications. Industrial general permit requirements for Indian lands in Maine are identical to EPA's requirements.

Monitoring Requirements: Monitoring requirements for Maine stormwater discharges closely follow the requirements in EPA's general permits for stormwater. However, industrial facilities that must conduct whole effluent toxicity (WET) testing, except for those facilities located on Indian lands, must base half of their freshwater vertebrate testing on the test organism *salvelinus fontinalis*, or brook trout, and half using EPA Region 1's testing protocols for the fathead minnow.

Reporting Requirements: Reporting requirements for stormwater discharges follow those in EPA's general permits.

Fees: No fees are charged for federal NPDES permits for stormwater. No fees have been decided for the MEPDES. However, fees may be charged for construction sites subject to the Stormwater Management Law (see below).

†Revised, June 2001.

Regulation of Construction Sites:

Stormwater Management Law:†† The Stormwater Management Law (38 Maine Revised Statutes (M.R.S.) Section 420-D), which was enacted by the state legislature and took effect Sept. 19, 1997, applies to construction projects located in areas that are not subject to the jurisdiction of the Land Use Regulation Commission. A permit from DEP must be obtained prior to construction of an area that includes 20,000 square feet or more of impervious surface or 5 acres or more of disturbed area (filled, grubbed, excavated, etc.) that is located in the direct watershed of a "waterbody most at risk from new development." A list of these waterbodies is in Chapter 502 of the DEP Stormwater Rules. In any other watershed, a proposed construction project that includes 1 acre or more of impervious area or 5 acres or more of disturbed area requires a permit as well.

Forest management activities, normal farming activities, certain construction projects at industrial facilities regulated under a federal stormwater permitting program, construction or expansion of a single family detached residence, and waste facilities regulated by DEP are exempt from the stormwater management law.

The rules contain two types of standards—stormwater quantity and stormwater quality.

The quantity standard limits the amount of stormwater that runs off a site. After the project is complete, peak flow must not exceed what it was before activity took place. Runoff also must not increase peak flow of receiving waters. All project sites must meet the quantity standard.

The quality standard regulates the amount of phosphorus and total suspended solids (TSS), and includes a basic stabilization requirement. The phosphorus standard requires that a project incorporate best management practices (BMPs) so as not to exceed the allowable per-acre phosphorus allocation for the specified lake, determined by DEP. The TSS standard requires that stormwater from impervious and disturbed areas be treated to remove TSS. The percentage of TSS that must be removed depends on what percentage of the site will be converted to impervious surface and whether the site is in a lake watershed. If the site is in a lake watershed but includes less than 3 acres of impervious area, the permittee may elect to meet the phosphorus standard instead of an 80 percent TSS removal standard.

The basic stabilization standard requires that the design, construction and maintenance of ditches, swales, gravel roads and other alterations be in accordance with erosion and sedimentation control BMPs.

If a permittee cannot meet the stormwater quality standards, he or she may be able to offset the pollution contributions by eliminating or reducing other pollution sources.

More information on the stormwater law and rules is available at the DEP regional offices listed below:

Central Maine Regional Office (Headquarters)
State House Station #17
Augusta, ME 04333
(207) 287-2111
(207) 287-7191 (fax)

Eastern Maine Regional Office
106 Hogan Road
Bangor, ME 04401
(207) 941-4570
(207) 941-4584 (fax)

Northern Maine Regional Office
1235 Central Drive
Presque Isle, ME 04769
(207) 764-0477
(207) 764-1507 (fax)

Southern Maine Regional Office
312 Canco Road
Portland, ME 04103
(207) 822-6300
(207) 822-6303 (fax)

Exemption:†† The Stormwater Management Law provides an exemption for municipalities with an ordinance that meets or exceeds certain provisions of the law, and the municipality has the resources to enforce that ordinance. DEP maintains a list of municipalities that meet these criteria and updates it every two years. Currently, Freeport, Lewiston, Portland and Saco meet the exemption. If a municipality no longer meets the criteria, it is removed from the list.

††Added, June 2001.

††Added, June 2001.

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Fees: Fees depend on the amount of impervious area and the amount of disturbed area at a site. A permit fee generally begins at $250 if vegetative means of stormwater controls are used and $500 if structural means of control are used. Fees increase with the size of the site.

Erosion and Sedimentation Control Law:†† Enacted in 1997, the Erosion Control Law (38 M.R.S. Section 420-C) requires all sizes of construction projects to take measures against erosion. Builders must take measures to prevent unreasonable erosion of soil or sediment beyond the construction site or into a protected natural resource, such as a stream, river, brook, lake, pond or wetland. Erosion control measures must be installed before commencing construction activity and be maintained and kept in place until the site is permanently stabilized.

For property with a chronic erosion problem that is the result of human activity that occurred before July 1, 1997, the property must be stabilized to prevent further erosion by July 1, 2005, if it is located within a watershed listed as at risk in Chapter 502 of the DEP rules. All other property subject to such erosion must be stabilized by July 1, 2010.

A permit is not required under the Erosion Control Law. More information is available at the regional offices listed above.

Other Construction Site Regulations: Stormwater discharges from many construction projects in the state are regulated under the Natural Resources Protection Act, 38 M.R.S., Section 480 A-Q; the Site Location of Development Act, 38 M.R.S., Sections 481-490; or local shoreland zoning ordinances developed under the Mandatory Shoreland Zoning Act, 38 M.R.S., Section 435.

Natural Resources Protection Act: This Act, administered by DEP's Bureau of Land Quality Control, regulates activities affecting protected natural resources in the state, including:

- great ponds or freshwater bodies of greater than 10 acres;
- manmade ponds larger than 30 acres;
- rivers, brooks or streams with mineral bottoms, which include virtually all defined channels in the state;
- coastal wetlands, which can include rocky coastal areas;
- sand dunes;
- fragile mountain areas;
- significant wildlife habitats; and
- freshwater wetlands of 10 or more contiguous acres.

Permits are required for activities that alter such protected natural resources, disturb the soils adjacent to such resources, or threaten to discharge soil or fill into them. The state allows permits-by-rule for certain minor land-altering activities affecting such resources, including culverts that cross roads or streams, intake and outlet pipes, utility rights-of-way that cross streams, the replacement of parts of permanent docks, and the placement of fill within 25 feet of a great pond. Applicants for permits-by-rule receive permits automatically within 14 days of submitting an application, unless otherwise notified by the state.

To obtain full permits for activities affecting protected natural resources, an individual must complete an application and pay a fee, the amount of which depends on the kind and location of the permitted activity. Permits for developing high-value wetlands generally will not be granted except where necessary for public safety, and wetland mitigation at an 8:1 ratio will be required. Permits for developing Class 2 wetlands will be granted only for water-dependent activities and a 1:1 mitigation ratio will be required.

Site Location of Development Law: This law imposes regulations on subdivisions and other large-scale developments affecting:

- 20 acres or more of land and/or water;
- more than 60,000 cubic feet of dirt, in the case of a mining activity;
- 60,000 or more square feet of floor space, for a one-story building; or
- 100,000 or more square feet of floor space, for a two-story building.

††Added, June 2001.

The Site Location law also imposes regulations on:

- the construction of "structures" affecting three acres or more of unrestricted land, including parking lots, but not grassy landing strips for airplanes;
- the conversion of "structures" as defined in the statute;
- subdivisions of five or more lots and 20 or more acres; or
- multi-unit housing developments located wholly or partly within a shoreland zone.

Developers must seek DEP review of such projects, including stormwater runoff, groundwater discharges, effects on wildlife and noise impacts. However, larger subdivisions may avoid DEP review if state stormwater control and phosphorous control guidelines are followed and one-half of the developable land at the site is placed into a land trust.

For more information, contact the Bureau of Land Quality Control at (207) 287-3901.

Mandatory Shoreland Zoning Act: Under this Act, municipalities are required to adopt local shoreland zoning ordinances modeled after a state model ordinance. The ordinances must zone land within 250 feet of the ocean shoreland, rivers or great ponds into the following six zoning categories: resource protection, limited residential, stream protection, limited commercial, general development, and commercial fisheries/maritime activities. There is special stream protection zoning for streams that requires a 75 foot setback for all construction activities at any stream or brook flowing from a great pond or at the confluence of any two perennial streams as depicted on a 7.5-minute topographic map.

Other setbacks may be required for various activities in the different zones, with the exception of commercial fisheries and maritime activities within the last zone. The shoreland zoning ordinances are enforced locally by code enforcement officers, but permits for some activities may be required from town planning boards. The towns administer the law and adopt the ordinances under the oversight of the Bureau of Land Quality Control. For more information, contact the local code enforcement officer, the town planning board, or the Bureau of Land Quality Control.

State Documents:††

The following documents are available from DEP regional offices at the address listed above or via the Internet at www.state.me.us/dep under the "Land and Water" option:

- A Developer's Guide to the Stormwater Management Law.
- The Erosion and Sedimentation Control Law.
- Overview of the Requirements of the Stormwater Management Law and Rules.
- Stormwater Program Maps.

[The next page is Tab 800, Page 351.]

††Added, June 2001.

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¶890.21 Maryland

State Contact(s):

Maryland Department of the Environment (MDE)
Water Management Administration
2500 Broening Highway
Baltimore, MD 21224
(410) 631-3000
(410) 631-4894 (fax)

For information on industrial-related stormwater permits, contact:

Ed Stone, supervisor
or Ed Gertler
Wastewater Discharge Permit Program
(410) 631-3323

For information on construction-related stormwater permits, contact:

Lois McNamara
Compliance Program
(410) 631-3510

For information on municipal permitting, contact:

Brian Clevenger (municipal permitting)
Nonpoint Source Permits Program
(410) 631-3543

Program Description:†

Maryland is an NPDES delegated state with general permitting authority. The Maryland Department of Environment's (MDE) Water Management Administration (WMA) Wastewater Permits Program administers stormwater permits for all industrial dischargers. WMA's Compliance Program administers the stormwater permits for construction activities disturbing five or more acres. WMA's Nonpoint Source Permits Program administers the program for municipal separate storm sewer systems (MS4s). Additionally, MDE's Oil Control Program issues stormwater permits for discharges from small oil terminals. Under the Oil Control Program, small terminals without a hook-up for fuel transfers are eligible for coverage under a general permit. Terminals with 5 million gallons or more of storage capacity and with a marine hook-up for fuel transfers are required to obtain an individual stormwater permit. For information on oil-related stormwater permits, contact Al Simkins at (410) 631-3386.

The MDE has no plans at this time to adopt EPA's multi-sector general permit.

The industrial general permit was reissued on Dec. 1, 1997, and the construction general permit was reissued Oct. 1, 1997. Both will expire in 2002. The industrial general permit resembles EPA's baseline general permit, with a few significant exceptions, as noted below. The permit includes few changes from the previous permit; however, it does cover the construction phase of an industrial facility. The construction activity general permit essentially incorporates previously existing Maryland regulations on the management of stormwater at construction sites. In addition to its baseline general permit for industry, MDE has issued six industry-specific general permits that include stormwater coverage and process wastewater for certain classes of NPDES permittees. The industries affected include:

- surface coal mines and related facilities in Maryland (expires Feb. 23, 2005);
- surface mineral mines, including quarries and sand and gravel operations (expires Oct. 16, 2005);
- seafood processing facilities (expires Aug. 27, 2005);
- facilities other than oil terminals that contain or convey liquids (for discharges from tanks, pipes, and other containment structures; expires Aug. 27, 2005);
- marinas (includes discharges from boat washing and cooling water discharges; expires Dec. 17, 2001); and
- animal feedlots (expires Dec. 17, 2001).

MDE officials intend to issue several additional industry-specific permits within the next few months. These permits will regulate discharges from swimming pools, car washes, well development for activities involved in providing drinking water or performing groundwater monitoring, and groundwater remediation. A permit for cooling water and boiling blowdowns,

†Revised, March 2001.

which would include stormwater conditions, is being considered as well.

Application Requirements:†

Industrial Stormwater General Permit Notices of Intent (NOIs): To obtain coverage under the industrial stormwater general permit, applicants must submit a state NOI form or equivalent information, along with a $550 flat fee. Alternatively, permittees may pay an annual installment fee of $120 per Maryland fiscal year, starting July 1. New facilities that have commenced operations since Dec. 1, 1997, can pay a prorated lump fee by multiplying $9 per month times the number of months left on the permit since the facility start-up date. NOIs should be submitted to WMA at the following address:

Maryland Department of the Environment
P.O. Box 2057
Baltimore, MD 21203-2057

The fee applies only to private individuals and the federal government. The state and local municipalities do not have to pay a fee. Dischargers who are not required to pay a fee should send their NOIs to WMA at the following address:

Industrial Discharge Permits Division
Maryland Department of the Environment
2500 Broening Highway
Baltimore, MD 21224

Added Requirements for Construction Activity NOIs: To obtain coverage under the general permit for construction activity, applicants must submit MDE's NOI form for the construction activity general permit. MDE encourages developers to submit only one NOI at the start of a project, for the entire duration of the project, regardless of how many stages or phases there will be in the project over time. For projects disturbing 5,000 square feet of earth or more, developers must prepare state erosion and sediment control and stormwater management plans. Such plans must be approved by the appropriate authorities before construction begins. However, MDE does not require approval of the plans before the submission of a project's NOI. Requirements governing erosion and sediment control plans are established under Title 4, Subtitle 1 of the Environment Article, Annotated Code of Maryland (Sediment Control); and COMAR 26.09.01 (Erosion and Sediment Control). Construction site applicants also must comply with the requirements to submit for approval a stormwater management plan established by Title 4, Subtitle 2 of the Environment Article, Annotated Code of Maryland (Stormwater Management) and with COMAR 26.09.02 (Stormwater Management).

NOIs must be submitted at least 48 hours before beginning any land-disturbing activities to:

Maryland Department of the Environment
Compliance Program
P.O. Box 1417
Baltimore, MD 21203-1417

Facilities that discharge industrial stormwater to MS4s of "large" and "medium" municipalities also must file copies of their NOIs with the operators of these MS4s. Large and medium MS4s in Maryland include Anne Arundel County, Baltimore City, Baltimore County, Carroll County, Charles County, Frederick County, Harford County, Howard County, Montgomery County and Prince George's County. (See "Municipal Permits Section" below for further discussion).

The Maryland permitting authorities reserve the right to require persons seeking coverage under either of the two stormwater general permits to obtain an individual NPDES stormwater permit or an alternative NPDES general permit. Industrial dischargers and construction site dischargers also may request to be excluded from general permit coverage and may seek alternative coverage. To obtain alternative coverage, such dischargers must provide adequate reasons to state permitting authorities.

Program Notes:†

State Water Pollution Abatement Statutes: Stormwater discharges must comply at all times with the provisions of the Environment Article, Title 7, Subtitle 2, and Title 9, Subtitle 3, Annotated Code of Maryland and the provisions of the federal Clean Water Act, 33 U.S.C. Section 1251 *et seq.* Dischargers also must comply with the effluent limits on toxic pollution contained in the Clean Water Act, 33 U.S.C. §1317 *et seq.* and in Section 9-314 of the Environment Article, Annotated Code of Maryland.

†Revised, March 2001.

†Revised, March 2001.

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Releases in Excess of Reportable Quantities (RQs): Stormwater dischargers must prevent or minimize discharges of oil or hazardous substances in an RQ as established under 40 CFR 117 or 40 CFR 302. Where a release of an RQ occurs:

- the discharger must notify the National Response Center at (800) 424-8802 and MDE at (410) 974-3551 upon obtaining knowledge of the discharge; dischargers in the metropolitan Washington, D.C. area must notify the National Response Center by calling (202) 426-2675;
- within 10 working days of learning of the release, the permittee must submit to MDE a written description of the release, the date the release occurred, the circumstances leading to it, and the steps to be taken to prevent a recurrence of such releases and to respond to such releases; and
- the permittee must modify the facility's stormwater pollution prevention plan (SWP3) within 14 calendar days to describe the release, the circumstances leading to it, the date of the release, and measures to prevent a recurrence of such releases and to respond to such releases in the future.

Facilities that have more than one anticipated discharge of a given hazardous substance per year in excess of an RQ—if such anticipated discharges are caused by events within the control of these facilities — must notify MDE within 10 working days of becoming aware of the first such release and must review their SWP3s and modify them where necessary to prevent or minimize such releases in the future.

SWP3s: Maryland requirements for SWP3s for industrial facilities resemble the requirements in EPA's baseline industrial general permit. New industrial facilities must prepare and implement SWP3s before submitting their NOIs for general permit coverage. For facilities in existence before the date of issuance of the revised baseline industrial permit, SWP3s must be prepared and implemented within one year of registering for coverage under the revised permit.

In preparing industrial SWP3s, the state suggests that permittees use EPA's guidance manual *Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices* or EPA's summary document on the same subject.

SWP3 Requirements for SARA Title III, Section 313 Facilities: Maryland's requirements for facilities with water priority chemicals subject to reporting under Section 313 of the Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III resemble those in EPA's baseline general permit. However, Maryland's permit, unlike EPA's, does not impose on Section 313 facilities special plan requirements for preventive maintenance, housekeeping, employee training or engineering certification.

Construction Activity General Permit Requirements: As indicated above, the construction general permit essentially incorporates previously existing Maryland regulations on the management of stormwater at construction sites. Regulations on the release of oil or hazardous substances in reportable quantities (see 40 CFR 110, 40 CFR 117, or 40 CFR 302) resemble those for industrial facilities. There are no specific effluent limits for stormwater discharges associated with construction activity. The general permit establishes effluent limitations as performance standards associated with the use of best available technology for erosion and sediment control and stormwater management as required under state law.

Fees: State regulations call for industrial stormwater permittees (individual and federal government permittees only) to pay a fee of $550 for the life of their permit, or they may pay annual installments of $120 per Maryland fiscal year. State regulations also require permittees to pay a one-time application fee for coverage under the construction activity general permit. However, fees for the construction permit are based on the size of the area disturbed by a construction project, as noted below:

Size of Disturbance	Fee
Less than 5 acres	exempt
5 acres to less than 10 acres	$100
10 to less than 15 acres	$500
15 to less than 20 acres	$1,500
20 acres and larger	$2,500

Monitoring Requirements: Maryland's two stormwater general permits do not require effluent monitoring by industrial stormwater dischargers. However, qualified plant personnel must inspect designated equipment and plant areas to see if stormwater pollutants are being discharged, or have the potential to be discharged, into the facility's drainage system. Under the conditions of the construction general permit, weekly inspections of controls are required.

Industrial permittees also must conduct a comprehensive site compliance evaluation at least annually to determine if the SWP3 is accurate, if the drainage map has been updated as necessary, and if stormwater control measures have been implemented and are adequate. Records of significant observations during the comprehensive site compliance evaluation must be retained as part of the SWP3 for three years.

Construction sites coming under the construction general permit must conduct weekly inspections on implemented erosion and sediment controls, inspect such controls the next business day following any rainfall event resulting in runoff, and maintain written reports of all inspections and submit them to MDE, upon request.

Recordkeeping Requirements: Generally speaking, records under either of the state stormwater general permits must be retained for at least three years.

Municipal Permits:†

WMA's Nonpoint Source Permits Program assists municipalities in assembling their NPDES stormwater permit applications. "Large" MS4s include:

- Baltimore County—Permit reissued June 15, 2000;
- Baltimore City—Permit reissued Feb. 8, 1999;
- Anne Arundel County—Permit reissued March 1, 1999;
- Prince George's County—Permit reissued Jan. 12, 1999; and
- Montgomery County—Permit issued Nov. 30, 1995.

†Revised, March 2001.

Of six "medium" municipalities in the state, only Harford and Howard counties were required to meet EPA's regulatory deadline. The remaining four were designated by WMA and were expected to comply when unincorporated populations reached 100,000. "Medium" MS4s include:

- Frederick County—Permit issued November 1996;
- Howard County—Permit reissued June 15, 2000;
- Harford County—Permit reissued Aug. 13, 1999;
- Charles County—Permit issued May 1997; and
- Carroll County—Permit reissued July 14, 2000.

In addition, a municipal stormwater permit was issued to Maryland's State Highway Administration (SHA) on Jan. 8, 1999. This permit not only requires various management programs to be developed for SHA but also establishes time frames for cooperation with the above permitted localities regarding watershed restoration activities.††

WMA/Nonpoint Source Permits Program:†

Maryland has regulated sediment and soil erosion at construction sites since 1970. The state has required stormwater runoff controls at significant development projects since 1984. The WMA/Nonpoint Source Permits Program administers a separate, non-NPDES program regulating sediment and stormwater runoff from most construction sites in Maryland. The regulatory requirements of the program exceed those in EPA's Nov. 16, 1990, NPDES final stormwater rule concerning sediment and erosion at construction sites.

Sediment Control Plans: Each construction project disturbing 5,000 square feet or more of surface area or 100 cubic yards or more of earth must develop a sediment control plan. Generally, these plans are overseen at the local level by soil conservation districts, of which there are 24 in Maryland: one in each county except for Frederick County, where there are two. Because there is no

†Revised, March 2001.
††Added, March 2001.

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soil conservation district in Baltimore City, sediment control plans are reviewed and approved by the Environmental Services Division, Department of Public Works, Room 208, Abel Wolman Municipal Building, 200 N. Holliday St., Baltimore, MD 21202.

Enforcement of sediment control plans is the responsibility of MDE, which may delegate its enforcement powers to local governments. Currently the administration has delegated its inspection and enforcement authority to 13 counties, 11 municipalities and the Washington Suburban Sanitary Commission, which serves the suburban Washington, D.C., area.

Stormwater Management: Stormwater management at significant development sites is required both during and after construction. Significant sites include all projects of 5,000 square feet or more. Counties and local governments have responsibility for administering the state's stormwater management program. Counties cannot issue building or grading permits to developers without the applicants receiving approval for both their sediment control and stormwater management plans. Developers proceeding without such plans can be subject to stop work orders, violation notices, civil penalties of up to $2,000 per day and, in rare instances, criminal prosecution.

Standards: Maryland recently modified its existing program to address 15 years of experience in administering a statewide stormwater management program. By adopting the "2000 Maryland Stormwater Design Manual, Volumes I and II," a program conceived during an era of flood control (1980s) was modified to be more cognizant of water quality. The state's previous two-year/ten-year management design standard was dropped in favor of design volumes that must be addressed. This suite includes volumes for recharge, water quality, channel protection, overbank flood and extreme flood protection. The design standards can be met using six types of practices that include: ponds, wetlands, infiltration, filtration, open channel or various nonstructural practices that promote environmental site design.††

State and Federal Facility Permits: WMA reviews stormwater management and sediment control plans for state and federal construction sites.

Review of County Programs: WMA reviews delegated local sediment control programs once every two years and local administration of stormwater management plans once every three years.

Chesapeake Bay Critical Areas Act:

Maryland has a Chesapeake Bay Critical Areas Commission to regulate growth and development in a buffer strip of land immediately surrounding the Chesapeake Bay. Rules and regulations developed by the Critical Areas Commission primarily address nonpoint source pollution caused by residential development, new construction and agricultural runoff. In some instances the commission's regulations may affect point source discharges of stormwater as well.

State Documents Available:

The Nonpoint Source Permits Program publishes 29 publications on stormwater management and nine on sediment control. The Nonpoint Source Permits Program also distributes a quarterly newsletter, *Downstream,* that deals with developments in stormwater permitting and regulatory and policy developments. For a publications list, contact the program at the Water Management Administration, 2500 Broening Highway, Baltimore, MD 21224.

[The next page is Tab 800, Page 361.]

††Added, March 2001.

¶890.22 Massachusetts

EPA Contact(s):

U.S. Environmental Protection Agency (EPA) Region 1
Office of Ecosystem Protection
Municipal Assistance Unit
JFK Federal Building - CMU
Boston, Mass. 02203

For more information on stormwater permits, contact:
Thelma Hamilton
(617) 565-3569 or (617) 565-4940 (fax)

State Contact(s):

For information about the state certification of NPDES permits, contact:
Department of Environmental Protection (DEP)
Office of Watershed Management
40 Institute Road
North Grafton, Mass. 01536
(508) 792-7470

For information on stormwater permitting, contact: *
Bryant Firman
Stormwater Permit Coordinator
Department of Environmental Protection
Office of Watershed Management
627 Main St.
Worcester, Mass. 01608
(508) 792-7470

For information on local regulatory and enforcement decisions, contact the appropriate regional office of DEP:

Department of Environmental Protection
Western Regional Office
435 Dwight St., Fourth Floor
State House West
Springfield, Mass. 01103
(413) 784-1100

Department of Environmental Protection
Central Regional Office
75 Grove St.
Worcester, Mass. 01605
(508) 792-7650

Department of Environmental Protection
Northeast Regional Office
10 Commerce Way
Woburn, Mass. 01801
(617) 935-2160

Department of Environmental Protection
Southeast Regional Office
20 Riverside Dr.
Lakeville, Mass. 02347
(508) 946-2759

Program Description:

Massachusetts does not have NPDES permitting authority. Region 1 of EPA handles the stormwater permitting for the state. However, the state DEP reviews EPA's stormwater general permits for water quality certification under Section 401 of the Clean Water Act and has added state-specific conditions to EPA's general permits, to ensure that they do not violate state water quality standards.

Application Requirements:

Massachusetts stormwater dischargers may seek coverage under EPA's industrial, construction or multi-sector general permits.

To obtain coverage under EPA general permits, send completed notice of intent (NOI) forms to:

Stormwater Notice of Intent (4203)
401 M St., S.W.
Washington, D.C. 20460

To obtain copies of documents, contact Thelma Hamilton at the number listed above or Beverly Guertin at (617) 565-3600.

Fees: Region 1 has not established fees for stormwater permit applicants.

* Revised, July 1998.

Monitoring and Recordkeeping Requirements: These are the same as those listed in EPA's general permits.

Added State-Specific Conditions: Massachusetts has added the following state-specific requirements to EPA's general permits for stormwater dischargers:

- *Eligibility Limitations for Discharges to State Areas of Critical Concern (ACECs).* New or increased stormwater discharges to coastal water segments designated as ACECs are ineligible for coverage. For more information on ACECs, contact Leslie Luchonik in the Executive Office of Environmental Affairs at (617) 727-3160, ext. 564.
- *Eligibility Limits for Discharges to Outstanding Resource Waters (ORWs).* New or increased discharges to ORWs are ineligible for general permit coverage if they have not met the provisions of 314 CMR 4.04(3) and the provisions of Part II.C.2 of the industrial general permit for Massachusetts (57 FR 44459) concerning setbacks and BMPs.
- *Added ORW Requirements Concerning NOIs.* Dischargers to ORWs must submit copies of their NOIs to the Massachusetts Department of Environmental Protection, Storm Water Notice of Intent, BRP-WM08, P.O. Box 4062, Boston, Mass. 02211. Such dischargers, like other dischargers seeking general permit coverage, also must submit NOIs to EPA at the address listed above.
- *Setback and BMP Requirements for ORWs.* Outfall pipes for stormwater discharges to ORWs, including those used as public water supplies, must be set back from receiving waters whenever discharges are increased or whenever stormwater drainage systems at a site are changed. All new outfall pipes must be set back from receiving waters. Dischargers should aim at generally minimizing erosion while maximizing the infiltration of stormwater into the ground prior to discharge, and should employ BMPs such as infiltration trenches and filter media dikes for this purpose. For more information on BMPs, see *Protecting Water Quality in Urban Areas* published by the Minnesota Pollution Control Agency, Division of Water Quality.
- *BMPs for Non-ORW Waters.* For stormwater discharges other than to ORW waters, operators should design outfall pipes to be set back from receiving waters "where site conditions allow." Outfalls from existing discharge areas should be set back when a site's stormwater drainage system is being changed. BMPs should be employed to minimize erosion, maximize infiltration and/or "otherwise improve" water quality of stormwater prior to its discharge.
- *Added ORW Requirements.* All discharges to ORWs authorized by the general permit must be provided with the best practical method of treatment to maintain designated uses of the ORWs.

For more information on filing for permits in Massachusetts, see 310 CMR 4.00, Timely Action Schedule and Fee Provisions; call DEP's Information Services Section at (617) 338-2255; or call the Office of Watershed Management at (508) 792-7470.

State Program Requirements:

Construction projects and industrial stormwater dischargers may be subject to additional requirements under the state Wetlands and Waterways Protection Act and the state Ocean Sanctuaries Act. Certain areas of the state are affected by the National Estuary Program, a joint project of EPA, the Commonwealth of Massachusetts and local communities.

The state Coastal Zone Management Program is administered by the Executive Office of Environmental Affairs. The program lacks significant regulatory powers of its own and is largely administered through the regulatory programs of other state agencies. Pursuant to the state Nonpoint Source Pollution Control Program, the state is compiling a list of best management practices for controlling stormwater runoff and other forms of nonpoint source pollution. Currently, the Nonpoint Source Pollution Control Program lacks regulations and relies on regulations administered under other water pollution control programs.

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State Nonpoint Source Pollution Control Program:

Pursuant to the state Nonpoint Source Program, Massachusetts has developed a draft Stormwater Management Manual, which will contain best management practices and minimum performance standards for the control of stormwater. Program staffers expect the manual to be published in the future. For additional information, contact Jan Smith with the Coastal Zone Management Program at (617) 727-9530, ext. 419.

Massachusetts municipalities and industries interested in obtaining technical assistance concerning the control of nonpoint source pollution are encouraged to contact Renee DeShazo with DEP's Nonpoint Source Program at (617) 556-5929.

Massachusetts updated its statewide nonpoint source management plan under Section 319 of the Clean Water Act in 1995. For an update of the Massachusetts Section 319 management plan, contact Eben Cheseborough at (508) 792-7470.

State and Local Regulations of Construction Sites:

Although there is no state law governing sedimentation and soil erosion at construction sites, some municipalities may regulate construction site runoff. In many rural towns, local earth removal bylaws may have some bearing on the sedimentation and soil erosion allowable at construction sites. In other towns, sedimentation and soil erosion may fall within the purview of acquifer protection districts, watershed protection districts, or local zoning or board of health regulations. Developers are advised to check with their town clerks to determine what regulations apply in their areas.

In addition, three state laws regulate construction near wetlands and inland waterways: the Wetlands Protection Act (Massachusetts General Laws (MGL), Ch. 131, § 40 and regulations at 310 Code of Massachusetts Regulations (CMR) 10.00); the Inland Restriction Act (MGL Ch. 131, §40A and regulations at 310 CMR 10.00); and the Coastal Wetlands Restriction Act (MGL Ch. 130, § 105 and regulations at 310 CMR 10.00). For additional information, contact Robert Golege or Michael Stroman, DEP, Division of Wetlands and Waterways Regulation, 1 Winter St., Boston, Mass. 02108, (617) 292-5695.

State Water Quality Standards/Critical Area Designations:

The Massachusetts Clean Water Act of 1970 (MGL, Chapter 21, § 27(4) and regulations at 314 CMR 4.00) established a six-category scheme for classifying state waters. Under the Act, bodies of water are classified into specific categories. Minimal water quality standards apply to each category.

State Coastal Zone Management Program:

The state Coastal Zone Management Program performs consistency reviews of permits issued by the federal government and other federal actions affecting the Massachusetts coastline. The reviews require at least a 21-day public comment period and may include an additional review period of up to six months. New discharges that release fecal coliform, an indicator parameter used by the state in determining the need for shellfish bed closures, are particularly likely to receive an extensive review. Under Section 6217 of the Coastal Zone Amendments and Reauthorization Act of 1990 (CZARA), Massachusetts is currently in the process of preparing enforceable "management measures" to reduce or eliminate nonpoint pollution from a number of different economic activities in the state's coastal zone, as defined by CZARA. In practice, this probably will mean that enforceable management measures for the control of nonpoint source pollution must be adopted for the entire state.

However, facilities subject to the stormwater permitting provisions of Section 402 of the 1987 Water Quality Act specifically are exempted from the coastal nonpoint source pollution control provisions of CZARA. Thus, EPA is excluding from CZARA "any discharge from a municipal separate storm sewer system serving a population of 100,000 or more; any discharge of stormwater associated with industrial activity; any discharge that has already been permitted; and any discharge for which EPA or the state makes a determination that the stormwater discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States." (EPA, Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters, EPA-840-B-92-002, page 4-3.)

The provisions of CZARA specifying what states must do in developing coastal nonpoint pollution control programs, in order to comply with the law, are explained in a joint guidance document prepared by EPA and the National Oceanographic and Atmospheric Administration called Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance. Activities that must be addressed by the CZARA nonpoint source pollution control management measures include the following:

- Forestry and Silvicultural Activities. For more information, contact Warren Archey, Department of Environmental Management, Division of Forest and Parks, (617) 727-3180, ext. 685.
- Urban Runoff. According to state CZARA officials, urban runoff provisions of the program primarily will address highway runoff, discharges from septic systems, and watershed-based approaches to land use planning, which could affect state implementation of zoning and subdivision control laws.
- New Construction Sites and Existing Developments. Management measures must address erosion and sedimentation from construction sites of 5,000 square feet in size and larger.
- Household Hazardous Waste Disposal.
- Nonpoint Source Runoff From Boats and Marinas.
- Hydromodification Activities, including channeling and dredging of waterways.
- Wetlands Preservation. According to Massachusetts coastal zone management officials, the state's approach to wetlands preservation and nonpoint source pollution management may involve easing some Massachusetts wetland requirements in order to facilitate the management of artificially created wetlands for pollution control purposes.

For more information about the Coastal Zone Management Program, contact Jan Smith, Coastal Zone Management Office, Executive Office of Environmental Affairs, 100 Cambridge St., 20th Floor, Boston, Mass. 02202, (617) 727-9530, ext. 419.

National Estuary Programs: The Coastal Zone Management Program also coordinates two National Estuary Programs authorized by EPA under the estuary protection provisions of the Water Quality Act of 1987.

A comprehensive planning process for the Massachusetts Bay estuary was begun in September 1991. For information about the Massachusetts Bay estuary management planning process, contact Diane Gould, Coastal Zone Management Office, Executive Office of Environmental Affairs, 100 Cambridge St., 20th Floor, Boston, Mass. 02202, (617) 727-9530.

In September 1991, the Buzzards Bay Comprehensive Conservation and Management Plan was signed by the governor. The Plan is a non-regulatory document proposing a variety of actions by state and local government agencies to improve the water quality in Buzzards Bay, primarily by limiting nitrogen and other nutrient discharges to the estuary. Stormwater management is included in one of the Plan's action plans. For more information about the program, contact Joe Costa or Dave Jennick, Buzzards Bay Project, National Estuary Program, 2 Spring St., Marion, Mass. 02738, (508) 748-3600.

State Ocean Sanctuaries Act Requirements:

Facilities proposing new pollutant discharges or increased volumes of existing discharges into the ocean, except those located within a narrow strip of coastline surrounding metropolitan Boston, are regulated under the Massachusetts Ocean Sanctuaries Act of 1970 (MGL, Ch. 132A, §§13-16 and 18, as amended by Chapter 728 of the Acts of 1989) and accompanying regulations (302 CMR 5.00). The Act authorizes the state Department of Environmental Management to regulate activities that would change drainage patterns, drainage flow characteristics, sedimentation or siltation patterns, temperature, or biological oxygen demand in the affected areas. It forbids activity that would significantly increase the development of previously developed areas or initiate development in previously undeveloped areas. In practice, the law bans new ocean discharges by municipalities in the affected area. Although the

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law primarily is directed at municipalities, it forbids industries with existing ocean discharges from causing new ocean discharges. Such industries must make provisions for their new discharges through a municipal system. For more information about the Act, contact Mike Guildesgame, Chief Planner for the Office of Water Resources, Department of Environmental Management, Ocean Sanctuaries Program, 100 Cambridge St., Boston, Mass. 02202, (617) 727-3267, ext. 585.

Documents Available:

- Massachusetts Nonpoint Source Management Plan.
- Massachusetts Nonpoint Source Assessment Report.
- Massachusetts Nonpoint Source Management Plan.

To obtain copies of the documents listed above, contact Eben Cheseborough with DEP's Division of Water Pollution Control at (508) 792-7470. To obtain publications on specific nonpoint source pollution problems, contact Laura Kursman with DEP's Nonpoint Source Program at (617) 292-5547.

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Mark Fife
State Stormwater Coordinator
(517) 335-4188
(517) 241-8133 (fax)
Dave Drullinger
(517) 335-4117
Michigan Department of Environmental Quality (MDEQ)
Surface Water Quality Division (SWQD)
P.O. Box 30028
Lansing, Mich. 48909

Program Description:*

Michigan is an NPDES-delegated state with general permitting authority. In 1998, MDEQ reissued the general permit for stormwater associated with industrial activity. The agency's nine district offices, under the authority of MDEQ district supervisors, administer the implementation of the industrial general permit.

Construction sites subject to stormwater permitting in Michigan are regulated separately under a state "permit by rule" (R 323.2190 of the Michigan Administrative Code). The permit by rule for construction sites became effective in November 1992.

Application Requirements:

*For construction sites:** The construction permit by rule requires regulated construction sites to obtain soil erosion and sedimentation control (SESC) permits from local government bodies under existing state law, and to meet additional requirements. See related paragraph below on "Construction Site Soil Erosion and Sedimentation Control."

Construction projects seeking coverage under the construction site permit by rule must pay one-time fees of $125 per project to MDEQ. The fee for a construction project should be submitted with a state Notice of Coverage (NOC) form to the address below:

Michigan Department of Environmental Quality
Stormwater Permits—SWQD
Construction Fees
P.O. Box 30439
Lansing, Mich. 48909-7939

*For Industrial Facilities:** For coverage under the state industrial general permit, dischargers must submit state notice of intent (NOI) forms to MDEQ. The annual permit fee for industrial stormwater permits is $200.

Industrial NOI forms must be submitted to the appropriate MDEQ district office (see list below). Industrial facilities are covered under the permit upon receiving official certificates of coverage from the appropriate district office.

There are limitations to coverage under the Michigan industrial general permit. The following stormwater dischargers are *not* covered by the permit:

- stormwater dischargers associated with construction activities as identified under 40 CFR 122.26(b)(14)(x);
- industrial stormwater dischargers that MDEQ determines are contributing to unlawful water pollution that cannot be adequately guarded against by the terms of the general permit, or contributing to water quality degradation that will violate the Michigan Act unless additional requirements are imposed on the facility;
- discharges from inactive mines, inactive landfills or inactive oil and gas operations on federal lands where an operator cannot be identified;
- stormwater discharges covered by federal effluent limitation guidelines, including discharges from cement manufacturing facilities (40 CFR 411), feedlots (40 CFR 412), fertilizer manufacturing (40 CFR 418), petroleum refining (40 CFR 419), phosphate manufacturing (40 CFR 422), steam electric facilities (40 CFR 423), coal mining (40 CFR 434), mineral mining and processing (40 CFR 436), ore mining and dressing (40 CFR 440) and asphalt emulsion facilities (40 CFR 443 Subpart A); and
- stormwater discharged to groundwater.

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Each permitted construction and industrial site is required to have a stormwater operator who has been certified by MDEQ. MDEQ offers training and certification programs on video for such operators. For more information on the requirements, as well as how to get copies of training manuals and video programs and to schedule an appointment for taking the certification exam, contact the appropriate MDEQ district office (see list below).

Individual Permits and General Permits: Facilities with existing individual NPDES permits may submit NOIs seeking coverage under the industrial general permit for stormwater discharges that are not already covered by their individual NPDES permits. When MDEQ reissues individual NPDES permits for these facilities, it may choose to include stormwater provisions in the reissued individual NPDES permits, in which case coverage of these facilities under the general permit will be terminated.

Facilities whose stormwater discharges already are covered under individual NPDES permits, if they do not face numeric effluent limits on their stormwater discharges, may request to be regulated under the industrial stormwater general permit and may request MDEQ to terminate the stormwater provisions of their existing individual NPDES permits.

*MDNR District Offices:** New industrial facilities applying for stormwater general permit coverage should send their NOI forms, along with written certification that their stormwater pollution prevention plan (SWP3) has been implemented and signed by a certified operator, to the appropriate MDEQ district office at one of the addresses listed below. The district office must send a state certificate of coverage to the facility before coverage under the general permit begins.

Cadillac District Office
120 West Chapin Street
Cadillac, Mich. 49601
(616) 775-3960

Southeast Michigan District Office
38980 Seven Mile Road
Livonia, Mich. 48152
(734) 953-1451

Grand Rapids District Office
6th Floor–N. Grand Rapids State Office Building
350 Ottawa St. N.W.
Grand Rapids, Mich. 49503
(616) 356-0500

Jackson District Office
301 East Louis Glick Highway
Jackson, Mich. 49201
(517) 780-7900

Shiawassee District Office
DNR—SWQD
10650 S. Bennett
Morrice, Mich. 48857
(517) 625-4600

Marquette District Office
Marquette Regional Headquarters
1990 U.S. 41, S.
Marquette, Mich. 49855-9131
(906) 228-6561

Plainwell District Office
1342 SR 89 W., Suite B
Plainwell, Mich. 49080
(616) 692-6966

Saginaw Bay District Office
503 North Euclid Ave.
Bay City, Mich. 48706
(517) 686-8025

Program Notes:

*Certification of Stormwater Operators:** One unusual feature of the Michigan stormwater program is that the general permit requires each regulated industrial facility to have its stormwater treatment and control measures under the direct supervision of a stormwater operator certified by MDEQ. For information on certification requirements, contact your local district office.

*Stormwater Pollution Prevention Plans:** The stormwater pollution prevention plan (SWP3) is a written procedure intended to maximize the control of significant materials and reduce contamination in stormwater runoff. Written certification that the SWP3 has been implemented is due with the NOI. The SWP3 shall identify potential sources of contamination and describe the controls necessary to reduce harmful impacts.

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The following objectives will aid in achieving the goal of the SWP3:

- Appoint a stormwater operator who is certified by MDEQ to supervise the inspection and management of stormwater controls.
- Identify sources of significant materials that could mix with stormwater and be discharged from the facility.
- Identify nonstructural controls to be used at the source to prevent significant materials from entering stormwater.
- Provide structural controls, if needed, to prevent significant materials from entering stormwater and to provide additional control or treatment to stormwater that has become contaminated by significant materials.
- Ensure that the SWP3 is regularly evaluated and updated.

*Water Quality Standards:** State water quality standards are established by Michigan Act 451, Public Act of 1994, as amended Part 31.

Fees: Construction site stormwater dischargers must pay a one-time fee of $125 for each permit. Industrial stormwater dischargers must pay yearly permit fees of $200.

*Monitoring:** Unlike EPA's baseline industrial general permit, Michigan's baseline general permit for industrial stormwater dischargers imposes no monitoring or sampling requirements on regulated facilities.

Michigan has a second general permit for industrial activities that requires monitoring of stormwater discharges from state or federally required secondary containment areas or other areas of special contamination concern.

Municipal Stormwater Permits:*

Five Michigan cities listed as "medium" municipal separate storm sewer systems (MS4s)—Ann Arbor, Flint, Grand Rapids, Sterling Heights and Warren—received permits in 1995. MS4 permits also have been issued to the University of Michigan (Ann Arbor campus) and the Michigan Department of Transportation for the MS4s they operate within the regulated cities.

Although EPA listed Detroit as a "large" MS4, the city successfully petitioned to be exempted from MS4 permitting on the grounds that less than 100,000 of its residents are served by an MS4. Lansing and Livonia, listed by EPA as "medium" MS4s, also have received exemptions from permitting on the same grounds; however, in 1999 Livonia began the process of seeking coverage. Livonia is one of several municipalities in the Rouge River watershed that is seeking coverage under a MS4 general permit. The general permit is offered to cities statewide on a voluntary basis to aid watershed-based stormwater control.

Construction Site Soil Erosion and Sediment Control:*

Under Part 31 of the Michigan Public Act 451, there are state sedimentation and erosion control requirements for construction sites greater than one acre in size. Training and supervision programs concerning the statute are administered by the Land and Water Management Division of MDEQ. Sedimentation and erosion control permits may be written and enforced in Michigan's 83 counties by county SESC authorities. The SESC authorities may consist of county road commissions, county drainage commissions, county health departments or similar agencies.

At the municipal level, more than 200 Local Enforcing Agencies (LEAs), primarily city or township governments, also administer the program. In addition, public agencies may be granted self-regulating status for soil erosion and sedimentation control under a plan submitted to the Land and Water Management Division and are referred to as Authorized Public Agencies (APAs).

Permit by Rule for Construction:

The state permit by rule for construction activities provides that construction activities disturbing five or more acres will be deemed to have NPDES stormwater permits if they operate as an APA or receive soil erosion and sedimentation permits from appropriate county agencies or LEAs and also meet certain additional criteria. Among these is a state requirement that a stormwater operator who has been trained and certified by MDEQ must be on-site to inspect stormwater controls on each permitted site at least weekly, and also within 24 hours of any

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storm event that results in a discharge from the site.

*Coverage Under Permit by Rule:** Unless the state requires an individual stormwater permit for a particular construction site, MDEQ will deem the site to have a nationally valid permit for point-source stormwater discharges if: (a) the permittee files an administratively complete notice of coverage under the permit by rule before beginning construction activity, along with a check for $125; and (b) the notice of coverage is properly signed in accordance with state regulation R 323.2114 covering NPDES permit signatures.

Notice of Coverage: To obtain coverage for construction activities under the state permit-by-rule, construction site landowners must submit state NOC forms to MDEQ, as noted above.

Permit Compliance: Facilities covered under the permit by rule must:

- avoid direct or indirect discharges of substances into state waters in violation of Part 31 of Michigan Public Act 451 of 1994;
- comply with the applicable SESC permits or approved control plans for their sites;
- properly maintain and operate erosion controls;
- have certified stormwater operators supervise the implementation of erosion controls;
- have certified stormwater operators inspect construction sites once every week and within 24 hours of every storm event causing runoff from a site, and maintain a log of such inspection for three years following the inspections;
- provide for the containment of oil spills or other polluting materials from the construction site, and comply with applicable reporting procedures;
- properly dispose of waste materials resulting from the treatment or control of stormwater; and
- meet other requirements specified in the permit by rule.

*Individual Permits:**MDEQ may require individual permits for regulated construction sites if it determines that this is necessary to prevent pollution that would violate the requirements of Part 31 of Michigan Public Act 451, or if it determines that an SESC permitting authority is not carrying out its responsibility to enforce the law.

Surface Water/Groundwater Impact Mitigation: Construction permittees must take all "reasonable" steps to minimize adverse impacts on surface waters or groundwater resulting from noncompliance with any permit by rule conditions.

*Notice of Termination:** Upon expiration of its authorization to discharge stormwater under the permit by rule, a permittee must file a notice of termination with SWQD. The notice of termination must include the name and address of the permittee, the construction site location and mailing address (if available), and a certification that the soil has been stabilized at the site following construction. If such certification is impossible, the notice of termination must specify why the permittee's authorization to discharge has expired.

State Documents Available:* The following state documents are available from MDEQ or via the Internet at www.deq.state.mi.us/swq:

- *MDEQ Industrial General Stormwater Permit*—permit numbers vary depending on which watershed the discharger is located;
- *MDEQ General Permit for Stormwater Discharges with Required Monitoring*—various permit numbers based on watershed location;
- *MDEQ General Permit for Stormwater Discharges from Separate Stormwater Drainage Systems*—permit number MIG61000;
- State NOI Form for coverage under *MDEQ Industrial General Stormwater Permit;*
- *Michigan Permit By Rule for Construction Activities*, effective Nov. 13, 1992;
- *Permit By Rule for Stormwater From Construction Activities: Program Updates;*
- Training manuals for the industrial and construction stormwater programs; and
- Sample pollution prevention plans.

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State Contact(s):

Gene Soderbreck
General and Industrial
(612) 296-7203
Fax: (612) 282-6247

David Sahli
Municipal Discharges
(612) 296-8722

Dan Sullivan
Construction Activity
(612) 296-7219

Minnesota Pollution Control Agency
Water Quality Division
520 Lafayette Road
St. Paul, Minn. 55155

Program Description:

Minnesota is an NPDES delegated state with general permitting authority for industrial stormwater discharges and stormwater discharges from construction sites. State officials are in the process of revising the general permit for industrial activities, which expires Sept. 30, 1997. When the permit is finalized, it will be effective for a period of five years.* In October 1996 the state added a new "multi-media" general permit for sand and gravel industries. The new permit covers air and water regulations.

Application Requirements:

The Minnesota Pollution Control Agency (MPCA) covers most stormwater dischargers under the industrial and construction general permits. However, MPCA may require a given industrial facility or regulated construction site to be covered by an individual permit if the facility is contributing to a water quality violation or if MPCA decides the facility's discharge would be "more appropriately" controlled by an individual permit. Permit applicants and permittees also may request individual permit coverage. MPCA is not accepting federal group applicants and instead requires group members to apply for coverage under the industrial general permit. MPCA has decided not to issue a state multi-sector general permit based on the Environmental Protection Agency's (EPA's) multi-sector general permit for industrial activities.

Application Forms: Industrial stormwater dischargers are required to submit state application forms for general permit coverage to this address:

MPCA, Water Quality Division
Nonpoint Source Compliance Section
Stormwater Permit Program
520 Lafayette Road North
St. Paul, Minn. 55155-4194

Appendix 1 of the instruction document for filling out an industrial application form lists industrial categories for which general permit coverage is mandatory and other industrial categories for which it is discretionary. Both types of industrial facilities, including those that do not need a permit, must submit application forms, which include a process for determining whether a given facility requires a permit. For any facility requiring a permit, the application form must be accompanied by an $85 application fee.

Construction Site Application Requirements: Owners of regulated construction sites requesting general permit coverage must submit application forms to MPCA. Before submitting an application, the owner of a site must develop a temporary erosion and sediment control plan (TESCP) in accordance with Appendix A of the construction site general permit and a permanent erosion and sediment control plan (PESCP) in accordance with Appendix B of the general permit. The owner should not submit these plans to MPCA, however, but should retain them on site.

Coverage under the construction site general permit will become effective 48 hours after the postmarked date of the facility's application if it contains "yes" responses to questions 6, 7 and 8 on the application form. Those facilities with applications containing "no" responses to questions 6, 7 and 8 will have their applications returned and will not receive permit coverage authorizing construction activities.

Permittees receiving construction site general permit coverage will receive "Notice of Stormwater Permit Coverage" (NSPC) cards acknowledging coverage within 30 days of the postmarked dates of their applications. These permittees must provide photocopies of the NSPC cards to local permitting authorities, where applicable, within 14 days of receiving the cards.

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Program Notes:

Industrial dischargers covered by the state general permit must prepare and implement stormwater pollution prevention plans (SWP3s) that provide for the installation of best management practices (BMPs) to control stormwater pollution from their sites. Permittees covered by the construction site general permit must prepare and implement TESCPs and PESCPs.

Generally speaking, there are no stormwater monitoring requirements in the state general permits. However, the industrial SWP3s must provide for site inspections of structural and nonstructural BMPs at least once every two months during nonfrozen periods. At least one inspection must be made at a time when stormwater is being discharged from the site.*

For construction permittees, erosion and sedimentation control BMPs must be inspected once every seven days and within 24 hours after every significant rain event which results in runoff leaving a construction site or entering Minnesota waters. This inspection requirement may be waived where work has been suspended because of frozen ground conditions.

Industrial Site SWP3 Requirements: Permittees under the industrial general permit must complete SWP3s within 12 months of the issuance date of the permit and must certify the completion of their SWP3s, unless notified in writing by MPCA that a later deadline is applicable. Permittees must review SWP3s at least once every year.

For each year of permit coverage, MPCA will provide an annual report form to permittees. The reports are due no later than March 31 and may be sent as early as Jan. 1 of each year. The first annual report must cover the time period since the facility received coverage under the permit until Dec. 31 of the reporting year.*

Subsequently, industrial permittees must implement non-structural BMPs within 12 months after the permit issuance date and must implement structural BMPs within 28 months, unless MPCA determines in writing that later deadlines are applicable. Industrial permittees must certify within 24 months of permit issuance that both structural and nonstructural BMPs have been implemented, unless MPCA determines in writing that later deadlines are applicable.

Construction Site Erosion Controls: Construction site permittees must use, where possible, horizontal slope grading and other construction practices that minimize erosion. Unless precluded by snow cover, permittees must have temporary protection or permanent cover in place for exposed soil areas with a continuous positive slope within 100 feet from a water of the state or within 100 feet from a stormwater conveyance system connected to a water of the state. The deadlines for installing such temporary or permanent protection measures are:

For slopes steeper than 3:1—within 7 days

For slopes with grades of 10:1 to 3:1—within 14 days

For slopes flatter than 10:1—within 21 days

The bottoms of temporary or permanent drainage ditches constructed to drain construction sites must be stabilized within 100 linear feet from the waters of the state. Such stabilization must be initiated within 24 hours of the drainage ditch being connected to a water of the state and must be completed within five calendar days. Before any pipe is connected to a drainage ditch or a water of the state, the construction site operator must provide the pipe's outlet with temporary or permanent energy dissipation devices.

Construction Site Sedimentation Controls: Permittees must install sedimentation BMPs on the down-gradient perimeters of their sites before beginning any up-gradient land disturbing activities. Permittees also must minimize vehicle tracking of sediment and soil from the site to paved surfaces and must provide temporary sedimentation basins to catch runoff leaving sites of 10 or more contiguous acres. Basins must provide 1800 cubic feet of hydraulic storage below the outlet pipe per acre drained and must be designed to prevent short circuiting or the discharge of floating debris. For roadways, adjacent drainage ditches with riser pipes may be used as sedimentation basins. Basins are not required for work on existing roadways where existing storm sewers serve as drainage areas, where proximity

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to bedrock or vertical relief precludes their use, or where sites will be finally stabilized within 30 days of the commencement of construction.

Inspections of Erosion and Sedimentation Controls: The construction site general permit requires inspections of construction sites once every seven days and within 24 hours of every rain event resulting in runoff from a site entering state waters. Permittees are required to correct various conditions turned up in the inspections.

Construction Site TESCPs and PESCPs: In addition to meeting the requirements described above, construction site permittees must prepare and implement TESCPs and PESCPs. The purpose of TESCPs, described in Appendix A of the construction site general permit, is to prevent sediment from entering state waters during construction. Owners of sites must incorporate BMPs into TESCP final plans and specifications, which should be designed to meet this goal.

The purpose of PESCPs, which are described in Appendix B of the construction site general permit, is to protect Minnesota's water resources from sedimentation generated by changes in land use, changes in ground cover, and the ultimate development of impervious surfaces connected with the completion of a construction project. For non-roadway construction projects and for many roadway projects as well, implementation of a PESCP will entail the construction of wet sedimentation basins to catch runoff before it enters state waters.

PESCPs also must provide for permanent erosion control at permitted sites through the stabilization of all drainage ditches from the sites and the provision of permanent energy dissipation measures where a drainage pipe's outlet velocity would otherwise exceed the erosive velocity of the site's permanent cover. Owners of construction projects also must provide for stormwater "treatment" through the use of BMPs such as grass swales, constructed wetlands and the planting or development of emergent vegetation around wet sedimentation basins. See Appendix B of the construction site general permit for details.

Construction Sand and Gravel Mining Facilities: This permit applies to industries in Standard Industrial Classification (SIC) Code 1442 that discharge stormwater and/or discharge mine pit dewatering water, and do not discharge washing or other process wastewater to waters of the state. The permit also applies to dimension stone, crushed and broken limestone, crushed and broken granite, crushed and broken stone mining and quarrying areas (SIC codes 1411, 1422, 1423 and 1429) that discharge stormwater and do not discharge pit dewatering water or washing or other process wastewater to waters of the state. Hot mix asphalt production areas (SIC code 2951) are also covered under this permit if they discharge stormwater and/or install, construct and operate wet scrubbers at hot mix asphalt production plants, but do not discharge scrubber water to waters of the state.

Permittees must prepare and implement an SWP3 for each site covered under this permit. The plan must describe appropriate site-specific BMPs and must be implemented before coverage is granted. The permittee must make a copy of the site plan and related permit records available to MPCA within 24 hours of request.

At least one designated employee must inspect the site at least monthly during active operations to ensure that the SWP3 is followed. The permittee is required to keep a written record of the inspections.

Permittees are required to submit an annual report to MPCA at the address listed above. The report must be postmarked before Jan. 30 for the previous calendar reporting year.

Fees: MPCA is requiring all industrial stormwater general permittees to submit an $85 application fee and an annual fee of $210. The general permit application instructions provide applicants with the appropriate criteria for determining whether they require a permit. Permittees receiving coverage under the state general permit for construction activities must pay an application fee of $240, but do not pay annual fees. Annual fees for individual stormwater permits start at $1,200, and the permits require monitoring and periodic

submittal of data reports. MPCA requires an application fee of $85 and an annual fee of $260 for facilities seeking a sand and gravel multi-media permit.

Monitoring, Reporting and Recordkeeping Requirements: MPCA requires that stormwater dischargers covered by general permits implement best management practices for stormwater control, rather than subjecting general permittees to sampling, testing and reporting requirements. However, permittees must retain various reports and plans required in the state general permits for the time periods specified in the permits.

Construction Site Sedimentation and Erosion Control:

Some municipalities in Minnesota currently have sedimentation and soil erosion programs. In watersheds adjoining high-quality state waters, however, developers may be required to install detention ponds or other stormwater management measures to mitigate the effects of runoff.

State Nonpoint Source Program:

Minnesota has a state Nonpoint Source Pollution Control program that is a non-regulatory program. Under the Clean Water Partnership Program, which is administered pursuant to the Nonpoint Source Pollution Control program, the state provides assistance to county governments to develop and adopt local water management plans, which may include stormwater management components. Approximately 50 of Minnesota's 87 counties have approved water management plans.

Officials of the Nonpoint Source Control program also implement EPA's Clean Lakes Program in Minnesota. For more information on PCA's coordination of the nonpoint source program, contact PCA at (612) 296-8856.

Documents Available:

- general permit application
- application instructions
- industrial general permit
- construction site general permit
- sand and gravel multi-media general permit
- construction activity NOI
- eight stormwater program fact sheets
- industrial General Permit fact sheet
- Application Packet for General Stormwater Permit: Construction Activity. Fall 1993. Includes application instructions, copies of the general permit for site owner and general contractor, *MPCA Inspector's Compliance Guide for Erosion and Sediment Control,* and a list of MPCA regional offices.

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State Contact(s):*

Office of Pollution Control
Environmental Permits Division
Mississippi Department of Environmental Quality
2380 Highway 80 W.
Jackson, Miss. 39289-0385
(601) 961-5674 (fax)

*For information on stormwater permits, contact:**

Jim Morris
(601) 961-5151;
Adam Smith
(601) 961-5029; or
Kenneth LaFleur
(601) 961-5192

Program Description:*

Mississippi is an NPDES delegated state with general permitting authority. The state has issued nine stormwater general permits, each with its own notice of intent (NOI) form. The nine general permits are for the following categories: 1) baseline; 2) mining; 3) coal pile; 4) construction; 5) land disposal; 6) oil and gas; 7) primary metal; 8) Emergency Planning and Community Right-to-Know Act Section 313 facilities; and 9) wood treaters. With the exception of the general permit for mining activity, all of these general permits expired July 13, 1997. The mining permit expired Nov. 9, 1997. State officials are in the process of drafting new general permits. As a result, the existing permits will continue to be in effect until the general permits are reissued. Companies previously granted general stormwater permit coverage do not have to begin obtaining recoverage until notified by the state's Department of Environmental Quality (DEQ). DEQ anticipates that the baseline, mining and construction general permits will be reissued in 2002. Officials are not sure when the remaining new permits will be issued. Current permittees will be notified regarding any changes. DEQ officials do not plan to adopt EPA's multi-sector general permit.

Application Requirements:

Mississippi accepts individual permit applications and NOIs for coverage under any of the state's stormwater general permits. Generally, DEQ encourages facilities to apply for coverage under one of the state's general permits. For new construction activities seeking general permit coverage and for new mining operations seeking general permit coverage, NOIs must be filed with the state at least 30 days before activity commences. For all other industrial categories eligible for state general permit coverage, NOIs must be filed at least 60 days before activity commences.

NOIs are available from and should be submitted to:

Chief, General Permits,
Office of Pollution Control, Department of Environmental Quality
P.O. Box 10385
Jackson, Miss. 39289-0385

Program Notes:

According to the Office of Pollution Control, approximately 50 percent of all NPDES permits in the state already contain provisions addressing stormwater contamination. Such permits must meet state water quality standards under a provision of state law forbidding regulated facilities from causing the pollution of state waters.

State Water Quality Standards: Minimum conditions, which apply to all waters of the state, regulate contaminants attributable to "municipal, industrial, agricultural or other discharges." Contaminants of regulatory concern include the following:

- substances contributing to putrescent or otherwise objectionable sludge deposits;
- floating debris, oil, scum and other floating materials in amounts sufficient to be unsightly or deleterious;
- materials producing color, odor, taste, total suspended solids or other conditions in such degree as to create a nuisance, injure public health, aquatic life or wildlife, adversely affect aesthetic quality of the water or the palatability of fish, or impair the water for particular designated uses;
- toxic substances;

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- substances causing violations of dissolved oxygen standards;
- substances causing violations of pH standards; and
- contaminants causing thermal pollution.

Special criteria for chlorides, sulfates and total dissolved solids apply to discharges into the Mississippi River. In addition, the state water quality standards include various numerical criteria for particular contaminants. The standards also specify varying levels of protection for various designated uses. The state water quality commission may allow exceptions to contamination limits under certain limited circumstances.

For details about the state water quality standards, consult "State of Mississippi Water Quality Criteria for Intrastate, Interstate and Coastal Waters," adopted April 25, 1991, and amended Feb. 24, 1994. The document is available from the Mississippi Department of Environmental Quality, Office of Pollution Control, Jackson, Miss. 39289-0385.

The state water quality standards are established pursuant to the Mississippi Air and Water Pollution Control Law, as amended, section 49-17-1 et seq. of the Mississippi Code.

General Permit Requirements: Stormwater dischargers seeking coverage under one of the state's industrial general permits must meet requirements that vary somewhat from category to category.

*Baseline Stormwater General NPDES Permit:** This general permit is for regulated stormwater dischargers that are not eligible for coverage under any of the other general permits, and that are not subject to previously existing effluent guideline limitations for stormwater or other individual or general permits pertaining to stormwater. Facilities that may contribute to a state water quality standard violation, and inactive mining or oil and gas operations on federal lands whose operators cannot be identified are not eligible for this permit.

Permittees must prepare stormwater pollution prevention plans (SWP3s). New dischargers must submit SWP3s with their NOIs. For facilities that come online after the revised permits are issued, compliance will be required simultaneously with obtaining permit coverage. SWP3 requirements generally resemble those in EPA's baseline industrial general permit. Non-numeric limitations for permittees state that stormwater discharges must be free of:

- debris, oil, scum and other floating materials except in trace amounts;
- eroded soils and other materials that will settle to form objectionable deposits in receiving waters;
- suspended solids, turbidity and color at levels inconsistent with the receiving waters; and
- chemicals in concentrations sufficient to cause violations of state water quality criteria in receiving waters.

Permittees covered by the baseline general permit, like those covered by other state industrial general permits, must report all existing laboratory data on their stormwater discharges.

Construction Stormwater NPDES General Permit: This general permit requires erosion controls and certain other stormwater control measures at regulated construction sites. Permittees also may require permit coverage for borrow pits (small surface mine) and topping pits. Such controls should:

- divert upslope water around disturbed areas of a site;
- limit exposure of disturbed areas to the shortest time period possible;
- minimize the surface area that must be disturbed;
- implement best management practices (BMPs) to mitigate adverse effects of runoff; and
- remove sediment from stormwater before it leaves the site.

At a minimum, controls must be in accordance with the standards set forth in "Planning and Design Manual for the Control of Erosion, Sediment and Stormwater," Mississippi DEQ, Mississippi Soil and Water Conservation Commission, U.S. Department of Agriculture, Soil

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Conservation Service, Jackson, Miss. (1994), or some "other recognized manual of design." The description of stormwater controls to be included in the SWP3 for a construction site also must address:

- vegetative practices to preserve existing vegetation where possible and revegetation of disturbed areas as soon as possible after grading or construction;
- structural practices to divert flows from exposed soils, store flows or otherwise limit runoff from exposed areas;
- post-construction control measures; and
- measures to minimize offsite vehicle tracking of sediments.

Inspection of such controls must occur at least once every seven calendar days, within 24 hours after the beginning of a rainfall event greater than or equal to a two-year, 24-hour storm event. On the Gulf Coast, this means within 24 hours after the beginning of a six-inch rainfall; at the Tennessee Border, it means 24 hours after the beginning of a four-inch rainfall. Inspections also must occur "as often as is necessary to ensure that appropriate erosion and sediment controls have been properly constructed and maintained."

A construction site SWP3 must provide for compliance with applicable state or local waste disposal, sanitary sewer and septic system regulations.

Primary Metal General NPDES Permit: Provisions of this general permit resemble those of the state baseline general permit.

*EPCRA Section 313 Facilities General NPDES Permit:** The EPCRA Section 313 general permit contains additional SWP3 requirements for the containment of "water priority chemicals." SWP3s for EPCRA Section 313 facilities must provide drainage controls for liquid storage areas and ensure the compatibility of storage tanks with the substances stored in such tanks. SWP3s must be certified by professional engineers registered in Mississippi. If an EPCRA Section 313 facility has had a spill or leak requiring reporting on the "Form R," the facility must conduct monitoring for any pollutant involved in the leak as well as pH and total suspended solids.

Mining Stormwater NPDES General Permit: Most requirements resemble those of the state baseline general permit, but SWP3 erosion and sedimentation control requirements resemble those of the state construction general permit. In addition, the owner or operator of the site must describe controls "appropriate for the mining activities," including removing, stockpiling and restoring overburden; removing, processing, storing and shipping mined material; storing and disposing of waste materials; and establishing procedures for implementing such controls. Controls must be in accordance with the standards of "Planning and Design Manual for the Control of Erosion, Sediment and Stormwater," or other recognized manual of design, as noted above; or they must be of a design certified by a professional engineer registered in Mississippi. Control measures for use after mining ceases onsite resemble those required for the construction industry for post-construction implementation.

SWP3s for mining sites regulated by the state general permit also must describe safeguards to prevent oil and fuel spills. Inspection requirements for stormwater controls resemble those specified in the state construction stormwater general permit.

Wood Treaters General NPDES Permit: Most permit requirements resemble those in the baseline general permit, but there are special monitoring requirements. For details, see section on monitoring requirements below.

Coal Pile Stormwater General NPDES Permit: There are special monitoring requirements for coal pile runoff. For details, see section on monitoring requirements below. Such coverage must be applied for separately.

Oil and Gas Stormwater General NPDES Permit: Provisions of this general permit resemble those of the state baseline general permit.

Land Disposal Stormwater General NPDES Permit: Provisions of this general permit resemble those of Mississippi's state baseline general permit.

* Revised, September 1999.

Monitoring and Recordkeeping Requirements: For construction sites covered by the construction general permit, site inspections as well as reviews of SWP3 implementation must be done weekly and reported monthly to: Chief, Industrial Wastewater Branch, Office of Pollution Control, Department of Environmental Quality, P.O. Box 10385, Jackson, Miss. 39289-0385.

For mining sites covered by the mining general permit, similar site inspections and SWP3 reviews must be done monthly and reported semi-annually.

All of the state general stormwater permits, except for the mining general permit and the construction site general permit, require an annual site inspection and review of the SWP3 and its implementation. Results of the inspection must be submitted to the state by Jan. 28 of each year. In addition, there are annual monitoring and reporting requirements for coal piles, wood treaters, and EPCRA Section 313 facilities discharging "water priority" chemicals.

Monitoring requirements for wood treaters covered by the wood treater general permit include sampling for pH and total suspended solids. Wood treaters using creosote also must sample for oil and grease and total phenols. Those using pentachlorophenol also must sample for oil and grease, total phenols and pentachlorophenol. Those using cadmium, chromium or arsenic formulations also must sample for total arsenic, total chromium and total copper. Wood treaters may discontinue sampling for given parameters if two consecutive annual samples show concentrations below the following values (or within the stated range, for pH):

- pH—between 6.0 and 8.5 S.U.
- total suspended solids—50.0 mg/l
- total arsenic—0.19 mg/l
- total chromium—0.12 mg/l
- total copper—0.01 mg/l
- oil and grease—5.0 mg/l
- pentachlorophenol—0.02 mg/l
- total phenols—0.10 mg/l

Coal Pile monitoring requirements include sampling at least annually for pH, total suspended solids, total copper and total zinc. Monitoring for the appropriate parameters may be discontinued if two consecutive yearly samplings show concentrations below the following values (or within the stated range for pH):

- pH—between 6.0 and 8.5 S.U.
- total suspended solids—50.0 mg/l
- total copper—0.01 mg/l
- total zinc—0.06 mg/l.

EPCRA Section 313 facilities only need to conduct sampling and testing of stormwater discharges in any given year if, during the year, they have had spills or leaks of Section 313 water priority chemicals into stormwater requiring reporting on the "Form R." Such facilities must sample stormwater for pH, total suspended solids and any pollutant involved in the Form R releases.

Dischargers covered by other state general permits are not required to conduct sampling.

Municipal Separate Storm Sewer System Permits:

Jackson is the only municipality in Mississippi identified by EPA as a "large" or "medium" municipal separate storm sewer system. A permit for Jackson has been issued by the Stormwater Section of the Office of Pollution Control.

State Nonpoint Source Program:

The Office of Pollution Control currently is developing a state nonpoint source program. For information about this program, contact Robert Seyfarth or Zoffee Damash at (601) 961-5171.

Oil and Gas Production and Exploration:

The Office of Pollution Control handles all NPDES permits in the state, including those for the oil and gas industry. However, some oil and gas facilities may face additional state stormwater requirements under regulations administered by the state Oil and Gas Board. For information, contact Fred Hille at (601) 354-7142.

[The next page is Tab 800, Page 401.]

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¶890.26 Missouri

State Contact(s):

Department of Natural Resources
Division of Environmental Quality
Water Pollution Control Program
P.O. Box 176
Jefferson City, Mo. 65102
(573) 751-9396 (fax)

*For more information on stormwater permits, contact:**

Evangeline Bays
(573) 526-2928

Program Description:*

Missouri is an NPDES delegated state with general permitting authority. State officials published final stormwater regulations in October 1992.

When Missouri first implemented its stormwater permit program, it issued 51 industrial general permits all of which were issued between 1992 and 1994. Many of these permits are now coming up for renewal, and several have already been renewed. During this renewal process officials are considering combining some of the current permits and/or not reissuing others. By the time the renewal process is complete, the number of industrial permits likely will be reduced to 45.

State officials have no plans to adopt EPA's multisector permit, but they are considering incorporating some of EPA's guidance into their industrial permits. Specifically, some of the permits will include new sampling parameters and threshold levels. Also, the state is looking into incorporating individual best management practices (BMPs) into some of their permits.

Missouri has issued stormwater general permits for the following industries:

- abandoned mine land reclamation activities;
- airports;
- concentrated animal feeding operations;
- chemical manufacturing facilities;
- concrete, glass, clay and asphalt manufacturing facilities;
- structural metal fabrication facilities;
- light industrial metal fabrication facilities;
- food and kindred products manufacturers;
- foundries;
- discharges associated with fuel spill cleanup activities;
- discharges from groundwater heat pumps;
- discharges associated with land disturbance activities;
- lubricant manufacturing facilities;
- lumber and wood products facilities;
- missile launch facilities;
- motor freight transportation facilities (truck terminals);
- motor vehicle salvagers;
- paper and allied products facilities;
- passenger transportation facilities;
- plastics and rubber manufacturing facilities;
- discharges from soil treatment cells;
- discharges from soil washing tanks;
- discharges from underground storage tank removal activities;
- waste tire facilities;
- water transportation facilities (marinas);
- wood treaters;
- discharges associated with car wash activities;
- discharges associated with clay mining operations;
- discharges associated with lake and river harbor dredging activities;
- discharges associated with hydrostatic testing of tanks and pipelines;
- discharges associated with limestone and rock quarrying activities;

* Revised, December 1997.

- discharges from oil/water separators;
- discharges from petroleum storage containments;
- private trout farm and hatchery activities;
- sand and gravel washing activities;
- solid waste transfer stations;
- discharges associated with nonresidential swimming pools;
- discharges associated with water treatment plant settling basins and zeolite softeners; and
- yard waste compost sites.

Missouri issues land disturbance permits, which are similar to EPA's construction general permit. During the last year the state renewed all of its land disturbance permits (four in all) for a period of five years.

In addition, the following permits have been reissued:

- Motor Freight Transportation (reissued Oct. 24, 1997; expires Oct. 24, 2002);
- U.S. Postal Service facilities; this permit was folded into the above permit;
- Hydro-Static Testing (reissued Oct. 24, 1997; expires Oct. 24, 2002); and
- Airports (reissued Oct. 23, 1997; expires Oct. 23, 2002).

Industrial permits for lumber and wood products; waste tires; wood treaters; and water treatment settling basins currently are up for renewal. Officials may discontinue the waste tires and wood treaters permits, but won't make that decision for several months.

Application Requirements:

DNR's permits cover most, but not all, industrial dischargers of stormwater. Some industrial stormwater dischargers not covered by the permits listed above will be required to file site-specific permit applications. Group applications approved by EPA will not fulfill the application requirements under Missouri law.

Program Notes:

Permitting System: The Missouri Clean Water Law of 1972, as amended (Chapter 644 of the Revised Statutes of Missouri), duplicates most features of the federal Clean Water Act, and state clean water regulations largely reflect federal regulations. Missouri assumed delegation of federal permitting authority in 1974. The permits issued by Missouri serve as both state operating permits and NPDES permits.

In addition, Missouri requires state permits for pollutant discharges to groundwater that are not regulated under the federal NPDES system.

State General Permit Application Forms: Dischargers applying for coverage under a state general permit must file Clean Water Commission Form E for industrial discharges and Forms E and G for land disturbance discharges.

Requirements for Site-Specific Permits: Missouri requires individual stormwater permit applications for landfills, reflecting the provisions of existing state law. The state also requires individual permit applications for two airports: Kansas City International Airport and Lambert Field Airport, located near St. Louis.

*Fees:** Fees are required both for site-specific permits and for coverage under state general permits, including land disturbance permits. Coverage under a general permit requires a fee of $150, which covers the life of a five-year permit. Site-specific permit fees for industrial dischargers range from $1,500 to $2,500 annually depending on flow.

Monitoring and Recordkeeping Requirements: Different industrial activities covered by different state general permits may have differing monitoring and recordkeeping requirements. Missouri does not currently require whole effluent toxicity (WET) testing of stormwater discharges in its general permits, but may consider such requirements in the future.

Effluent Limitations: Some Missouri general permits place limitations on stormwater discharges regarding oil and grease, total suspended solids, pH and other pollutant parameters.

* Revised, December 1997.

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Stormwater Pollution Prevention Plans: General permit requirements for stormwater pollution prevention plans (SWP3s) in Missouri vary on an industry-by-industry basis. Some of the state stormwater general permits require permittees to develop SWP3s. However, other general permits only require permittees to develop portions of SWP3s.

Municipal Permits:

Kansas City and Independence each have draft permits that have yet to be opened for public comments. Springfield has been deemed by the state and EPA to require permitting as a medium municipal separate storm sewer system (MS4), but the permit has not yet been drafted.

Sedimentation and Soil Erosion Controls: There are no state sedimentation and soil erosion design standards. Many localities and agencies, including the Missouri Highway Department, Greene County, St. Charles County and the City of Columbia have DNR-approved erosion control programs.

State Documents Available:

Several documents explaining different aspects of the state's water quality regulations are available from DNR. State documents include:

- Sample copies of the state stormwater general permits. Generally these are 3-4 pages in length. Individual general permits are available from DNR, but with the understanding that a copying fee of 20 cents/page may be charged for orders of more than 10 pages.
- Technical bulletins, covering many, although not all, of the industries covered by stormwater general permits. As noted above, there may be a copying fee for orders of more than 10 pages.
- "The Stormwater Issue," a four-page DNR bulletin explaining Missouri's policy on stormwater permitting and the state's permit fee structure. Individual copies are free from DNR.

¶890.27 Montana

State Contact(s):*

Department of Environmental Quality
Permitting and Compliance Division
Metcalf Building
P.O. Box 200901
1521 E. Sixth Ave.
Helena, Mont. 59620-0901

For information on stormwater permits, contact:

Nicholas Bogush (general industry and mining and gas)
(406) 444-3927

Vicki Sullivan (construction)
(406) 444-5338

Program Description:*

Montana is an NPDES delegated state with general permitting authority. Montana has developed three state general stormwater permits—one for general industry, one for construction activity, and one for oil, gas and mining activities. The oil, gas and mining general permit also has provisions for some construction activities associated with mineral extraction. Montana has not, and does not plan to adopt EPA's multisector permit.

However, DEQ did adopt EPA's benchmark values for 41 separate parameters for stormwater in 1996. The benchmark concentrations are not intended to be effluent limitations, but instead represent a "target concentration for a facility to achieve through implementation of pollution prevention measures." EPA has said that if a facility's discharge falls below the benchmark concentrations the discharge "represents little potential for water quality concern." DEQ has decided to use these concentration levels to evaluate stormwater general permit compliance and has requested to suspend the sampling requirement. For a list of parameter benchmark values, see Figure 565-1 in Tab 500.

Application Requirements:

To obtain coverage under a state general permit, a discharger must file a state application form as required by Montana law. The state application forms are available from the Permitting Division at the above address.

The deadline for submitting an application form for a new industrial discharge is at least 30 days before the anticipated date of the discharge. State application forms require much the same information as EPA's notice of intent (NOI) forms, but must include information on stormwater best management practices (BMPs) or stormwater treatment measures already in use at the site, as well as a certification that the facility has been tested for non-stormwater discharges. Coverage under the general permit begins only when DEQ issues an authorization to discharge after reviewing the application.

To obtain coverage under the construction general permit, dischargers must submit with the state application form a stormwater erosion control plan (SWECP) that resembles EPA's construction site stormwater pollution prevention plan. The form and SWECP must be submitted by the owner or contractor at least 30 days before construction is scheduled to begin. Permit coverage begins only when DEQ reviews and approves the SWECP and issues an authorization to the discharger under the general permit. Applications must be signed by a responsible party such as the owner or operator of a construction company or an elected official in a municipality. DEQ will not accept applications signed by a consultant.

Signed application forms should be sent to:

Montana Department of Environmental Quality
Permitting and Compliance Division
P.O. Box 200901
Helena, Mont. 59620-0901

Program Notes:*

Stormwater Pollution Prevention Plans: Existing industrial dischargers covered by the state industrial general permit must prepare stormwater pollution prevention plans (SWP3s) within 180 days of receiving coverage and must implement and comply with those plans within 365 days of receiving coverage. New facilities must complete, implement and comply with the SWP3 before beginning operations. Plans must be developed according to the outline provided by DEQ in the permit. This is a change made to the plan content when the permit was renewed in 1994. (The industrial permit expires Nov. 30, 1999.)

* Revised, August 1998.

* Revised, August 1998.

SWP3 requirements resemble EPA's baseline industrial general permit requirements, but with some differences. For example, the state permit does not impose special plan requirements on facilities with water priority chemicals subject to reporting under Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA).

Construction and mining and gas operations facilities must prepare an SWECP, which resembles EPA's construction site SWP3. As with the plan for industrial discharges, the SWECP must be prepared according to the outline provided by DEQ in the permit. SWECPs must be implemented when construction begins. In addition, the general permit also requires the installation of final stabilization measures at the site. If erosion causes sediment to leave a site, the owner or operator must bring the sediment back on site or otherwise dispose of it within 24 hours.

Effluent Limitations: Montana, like EPA in its baseline requirements, imposes effluent limitations on pH values and total suspended solids in coal pile runoffs. EPA baseline limits apply.

Fees: Montana imposes permit application review fees and annual fees for the stormwater program. For details on fees, see the table below.

As noted in the table below, Montana defines "discharge points" for fee purposes as discharges into different waters of the state. Thus, an industrial facility with five outfalls all discharging into the Yellowstone River would be considered to have only one "discharge point" and would be assessed a permit application fee of $400 and a separate annual fee of $400. An industrial facility with five outfalls discharging into five separate creeks, however, would be deemed to have five discharge points and would be assessed a permit application fee of $2,000 and a separate annual fee of $2,000.

Individual permits have a combined application and annual fee of $1,000.

Discounts on the Annual Fee as an Incentive for Permit Compliance: To give stormwater permittees an incentive for complying with the terms of the general permits, Montana will reduce the annual fee by 25 percent, after the first year of permitting, for facilities that comply with all of their permit conditions. An industrial facility with one discharge point that complies with all of the terms and conditions of its general permit, for example, must pay an annual fee of $400 for the first year, but only a $300 annual fee for subsequent years of permit coverage.

Monitoring Requirements: As under EPA's baseline general permit, all industrial facilities must conduct an annual site evaluation. However, unlike EPA, Montana requires the permittee to submit a certification of compliance by Dec. 31 of each year.

Montana's industrial general permit requires all industrial stormwater dischargers to monitor for several conventional pollutants:

- oil and grease (visual test);

Permit application fees	
Industrial facilities, construction sites and mining or oil and gas facilities covered by a general permit.	$400 per discharge point, up to a maximum of five discharge points.†
Annual fees	
Industrial sites and oil and gas facilities covered by a general permit.	$400 per discharge point, up to a maximum of five discharge points.†
Construction activities covered by a general permit.	$250 per discharge point, up to a maximum of five discharge points.†

† Definition: For the purposes of the fee system, the definition of "discharge points" differs from that which applies for monitoring purposes. Generally, different outfalls at a single facility that discharge stormwater into a single body of water are assumed to be approximately equivalent and are considered to constitute a single "discharge point" for fee purposes. Outfalls that discharge into different state waters, however, are considered to be separate discharge points for fee purposes.

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- five day biochemical oxygen demand (BOD5);
- chemical oxygen demand (COD);
- total suspended solids (TSS);
- total Kjeldahl nitrogen (TKN);
- total phosphorous; and
- pH.

There also are specific additional monitoring requirements for particular industrial categories, as noted below. Generally, most industries subject to added monitoring requirements must provide state stormwater officials with runoff coefficients for the drainage areas for their facilities. Industrial categories facing special additional monitoring requirements include:

- SARA Title III, Section 313 facilities with water priority chemicals—semiannual monitoring required; parameters are the same as EPA baseline parameters for these facilities;
- primary metal industries—semiannual monitoring required; same requirements as in EPA's baseline general permit except that there is no whole effluent toxicity (WET) test requirement;
- land disposal units—semiannual monitoring required; same parameters as in EPA's baseline general permit except there is no sampling requirement for WET, barium or cyanide, and there are sampling requirements for ammonia, total iron, and nitrate plus nitrite nitrogen;
- wood treatment facilities (chlorophenolic and creosote formulations)—semiannual monitoring required; parameters resemble EPA's baseline requirements, except that chlorophenolic and creosote-using facilities are treated the same and no WET testing is required;
- wood treatment facilities (arsenic or chromium preservatives)—semiannual monitoring required; parameters follow those in EPA's baseline general permit;
- coal pile runoff—semiannual monitoring required; parameters are similar to EPA baseline monitoring requirements, except sampling for BOD5, COD, TKN and total phosphorous is not required;
- battery reclaimers—semiannual monitoring required; parameters are similar to EPA baseline monitoring requirements, except sampling for BOD5, TKN and total phosphorous is not required;
- airports—annual monitoring required; sampling requirements are similar to EPA's baseline requirements, except sampling for TKN and total phosphorous is not required; and
- animal handling/meat packing facilities—annual monitoring required; parameters are identical to EPA baseline requirements.

Under the construction general permit, visual inspections of the SWECP must be conducted once a week and within 24 hours of a major storm event.

Reporting Requirements: Industrial dischargers must submit state discharge monitoring reports (DMRs) containing monitoring information to the Montana DEQ, Permitting and Compliance Division, P.O. Box 200901, Helena, Mont. 59620-0901. DMR submission dates are Jan. 28 and July 28; reporting periods run from January to July and from July to January.

"Significant" erosion at a site caused by the failure of erosion control facilities must be reported to DEQ within one working day. Industrial facilities with significant amounts of sediment leaving their sites must clean up the sediment within 24 hours and place it back on site or otherwise dispose of it.

Recordkeeping Requirements: Permittees must retain records of all monitoring data, reports and inspections, and records of all data used to complete the permit application for the industrial general permit, for a minimum of five years.

Termination: Termination of coverage under the construction general permit is granted at the discretion of DEQ professional staff. A contractor may terminate coverage once he has been released from a construction contract by the owner. The owner is responsible for permit cov-

erage and final stabilization once the contractor has been relieved of the contract requirements for a construction project.

State General Permit for Oil, Gas and Mining Operations:

Eligibility: The Montana stormwater general permit for oil and gas and mining activities (State Permit No. MT-R300000) applies to all areas of the state excluding Indian reservations. It covers point source discharges of stormwater from all mining and milling activities in standard industrial classification (SIC) codes 10, 12 and 14, including active, inactive and abandoned mine and mill sites. However, it does not cover discharges subject to effluent limitation guidelines for mining activities.

The general permit also covers oil and gas activities in SIC code 13, including oil and gas exploration, production, processing, treatment and transmission facilities. However, it does not cover refineries.

Mining facilities must obtain general permit coverage only if stormwater would come in contact with significant materials, including sediment, as defined under 40 CFR Part 122, and discharge at a point source to state surface waters. Oil and gas facilities must obtain general permit coverage only if they:

- have had a discharge of stormwater since Nov. 16, 1987, resulting in the discharge of a "reportable quantity" of a hazardous substance for which notification is, or was, required pursuant to 40 CFR §117.21 or 40 CFR §302.6; or
- have had stormwater discharge since Nov. 16, 1987, resulting in the release of "a reportable quantity" of oil for which notification is, or was, required pursuant to 40 CFR §110.6; or
- contribute to a violation of a state water quality standard.

Application Requirements: Mining facilities must apply for the general permit using state Application Form A, which includes information about the nature of a facility's mining operations. Oil and gas facilities must apply for coverage using state Application Form B, which requires information on the nature of oil and gas activity at a facility and the nature of the "reportable quantity" of oil or other hazardous substance that the facility has released.

Facilities beginning operations after Oct. 1, 1992 must seek coverage 30 days before beginning activities. A facility receives general permit coverage only upon receiving a letter of authorization from DEQ. Mining facilities covered by the general permit must prepare SWP3s within 180 days of receiving an authorization notice and must submit the SWP3s to DEQ. Within 365 days of receiving an authorization notice, a mining facility must implement its SWP3.

For oil and gas facilities not originally subject to the state general permit that have discharges of a "reportable quantity" of oil or another hazardous substance after Oct. 1, 1992, a notice of intent seeking coverage must be submitted to DEQ within 14 days of the release. An SWP3 must be submitted to DEQ within 60 days of the release, and the operator must implement the SWP3 within 90 days of the release.

Monitoring, Recordkeeping and Reporting Requirements: Generally, monitoring data must be submitted to the state using DMRs. Records must be kept for at least five years, or longer if requested by the department. Signed copies of DMRs and other reports required under this general permit should be postmarked no later than the 28th day of the month following the reporting period and submitted to the address below:

Montana Department of Environmental Quality
Permitting and Compliance Division
P.O. Box 200901
Helena, Mont. 59620-0901

As a minimum monitoring requirement, operators of regulated facilities must conduct annual site inspections to verify that their SWP3s are accurate and up to date, see if stormwater controls are being implemented, and determine if additional control measures are needed.

DEQ may require additional sampling on a case-by-case basis. When sampling is required, it shall be on at least an annual basis and shall include

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the following parameters for mining and oil and gas sectors specified:

- *Metal Mining Facilities (SIC Code 10).* Minimum sampling parameters for metal mining facilities for which sampling is determined to be necessary include oil and grease (visual sheen), chemical oxygen demand, total suspended solids, nitrate plus nitrite nitrogen, total ammonia, total phosphorus, and pH.

  Metal mining facilities also must sample for these parameters, if they are expected to be present: total lead, total arsenic, total cadmium, total copper, total chromium, total cyanide, total manganese, total zinc.

- *Coal Pile Runoff.* Active coal mines and coal processing plants are subject to stormwater effluent guidelines and cannot be regulated under the general permit. Inactive coal mining sites, however, may be covered by the permit. Inactive sites for which sampling is determined to be necessary must sample for total copper, total nickel, total zinc, oil and grease (visual sheen), total suspended solids, and pH.

- *Oil and Gas Extraction (SIC Code 13).* Facilities for which sampling is determined to be necessary must sample for total petroleum hydrocarbons, total suspended solids, total Kjeldahl nitrogen, and pH.

- *Placer Mining Operations.* Facilities for which sampling is determined to be necessary must sample for total mercury, total suspended solids, oil and grease (visual sheen) and turbidity (NTU).

- *Sand and Gravel Operations.* Facilities for which sampling is determined to be necessary must sample for total suspended solids, oil and grease (visual sheen) and NTU.

Alternative Monitoring Plans: For sites subject to the monitoring requirements of another regulatory agency, the owner/operator may request DEQ to allow the submission of this data to meet the stormwater monitoring requirements. Facilities located in remote locations where employees are not normally available to conduct monitoring may request permission to have a qualified person conduct an annual site inspection and may request to implement best management practices as an alternative to monitoring. Sampling waivers also may be granted when dischargers cannot collect samples because of adverse climatic or safety conditions, including blizzards, high winds, electrical storms, etc., or if conditions make sampling impracticable (e.g., Forest Service road closures). Operators may request permission to sample representative discharges in cases where a facility has two or more discharge points likely to have substantially identical effluents.

Facilities covered by this proposed general permit only need to obtain grab samples of specified pollutants. The owner or operator also has the option of obtaining flow-weighted or time-weighted composite samples, which generally should show lower pollutant loading values than grab samples.

Regulation of the Timber Industry:

Timber operations may be subject to runoff and other regulations administered by the Forestry Division of the Department of State Lands. For information, call (406) 444-3633.

Water Rights and Water Appropriations:

For information about the rights and responsibilities of individuals who appropriate water from Montana rivers, contact the Department of Natural Resources and Conservation, Water Rights Bureau, at (406) 444-6610.

State Documents Available:*

DEQ has available the *Montana Sediment and Erosion Control Guidance Manual* for coverage under the stormwater construction general permit. Contact DEQ at the above address for more information.

* Revised, August 1998.

¶890.28 Nebraska

State Contact(s):
David Ihrie or Jim Yeggy
Nebraska Department of Environmental Quality
Permits and Compliance Section
1200 N St., The Atrium, Suite 400
P.O. Box 98922
Lincoln, Neb. 68509-8922
(402) 471-4239
(402) 471-2909 (fax)

Program Description:*

Nebraska is an NPDES delegated state with general permitting authority. NDEQ manages all aspects of the state's NPDES program. The NPDES regulations are contained in NDEQ Title 119 Rules and Regulations Pertaining to the Issuance of Permits Under the National Pollutant Discharge Elimination System. Two general permits covering stormwater discharges have been issued under the program: one for industrial stormwater dischargers, and one for construction sites disturbing five acres or more. The state recently revised and reissued both of these permits. The new construction permit (NER 100000) took effect on Aug. 1, 1997, and expires July 31, 2002. The new industrial stormwater permit (NER 000000) took effect Sept. 18, 1997, and expires on Sept. 17, 2002. The state has no plans at this time to adopt EPA 's multi-sector general permit.

Construction sites authorized to discharge under the previous permit, which expired on May 26, 1997, will be considered in compliance with the new permit until March 1, 1998, provided the permittee complies with all the terms and conditions of the previous general permit. If the project cannot be completed and/or the site cannot be stabilized within this timeframe, the permittee must file an NOI for coverage under the new permit, and ensure that their stormwater pollution prevention plan is in compliance with the new plan.

Industrial facilities authorized to discharge under the previous permit, which expired on Sept. 17, 1997, will be considered in compliance with the new permit until Dec. 31, 1997, provided the permittee complies with all of the terms and conditions of the previous general permit. Facilities that want to extend coverage beyond that date, must submit the ISW-NOI form on or before Nov. 30, 1997.

Applicability:

The following sources are required to apply for and obtain NPDES stormwater permits:

- stormwater discharges associated with industrial activity;
- stormwater discharges from large municipal separate stormwater sewer systems (MS4s);
- stormwater discharges from medium MS4s;
- stormwater discharges which the NDEQ director determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the state; and
- stormwater discharges from construction sites disturbing five or more acres of land, including disposal areas for construction and demolition (C&D) wastes. (C&D disposal areas require an NPDES stormwater permit if their operations involve grading or excavation on five or more acres.)**

The federal definitions for the first three subcategories identified above were adopted into NDEQ Title 119. Lincoln and Omaha are the only cities in Nebraska large enough to be covered under the stormwater program.

DEQ may require any person authorized to discharge under either of the two permits to apply for and obtain either a facility/site-specific NPDES permit or an alternative NPDES general permit. A written notice that an alternative permit application is required will be provided by DEQ in such cases. DEQ may request an alternative permit if any one of the following conditions are met:

- the discharge is a significant contributor of pollution;
- the facility/site is not in compliance with the terms and conditions of the permit;

* Revised, November 1997.

* Added, November 1997.

- additional pollution control or prevention technology have become available;
- the promulgation of new effluent limitations that apply to the source;
- the approval of a water quality management plan containing requirements applicable to the source;
- the identification of conditions or pollutant sources not previously recognized; and
- the issuance of an alternative general permit that applies to the discharge.**

Permit Application Requirements:*

The state's new general permits require that discharges submit an NOI similar to the one used in EPA's baseline industrial general permit when seeking coverage. Written discharge authorization from DEQ is required for discharges to state resource waters and public drinking water supplies (these are identified in the permits). With few exceptions, industrial facilities are granted authorization to discharge 30 days after DEQ receives a complete NOI. For construction sites, authorization is granted 7 days after DEQ receives a complete NOI.

Facilities that participated in the EPA group application process will be provided an opportunity to request coverage under the revised industrial stormwater general permit and/or to apply for coverage under an individual permit. Most facilities that participated in the EPA group application process will ultimately be covered by the revised industrial stormwater general permit. However, the state may require an individual permit to be obtained.

General Permit Requirements:*

The key element in the state's stormwater general permits is the requirement that permittees develop, maintain and implement a stormwater pollution prevention plan (SWP3) to minimize the discharge of pollutants in stormwater runoff. NDEQ can request a facility SWP3 for review and can require changes. Routine monitoring is not required, but NDEQ can require monitoring to be conducted on a case-by-case basis.

Related Programs:

The city of Omaha has a grading and erosion control program that applies to construction sites of five acres or more. Developers are required to submit an SWP3 and obtain a grading permit prior to commencing work. The city has developed a soil erosion and sediment control manual that provides design standards for the development of SWP3s. The city reviews each SWP3 for compliance with the design standards prior to issuing a grading permit. NDEQ and Omaha have a memorandum of understanding to facilitate coordination of the state 's NPDES program and the city's grading permit program. For more information about the grading permit program, contact: Geoffrey Goodwin, Omaha Public Works Department, Douglas County Civic Center, 1819 Farnum St., Omaha, Neb. 68183; (402) 444-5105; fax (402) 444-5248.

The city of Lincoln has a stormwater program governing the construction of stormwater conduits and detention basins in new developments. Some erosion control requirements are included in these regulations. For more information, contact: Dennis Bartels, general services engineer, Lincoln Public Works Department, 555 South 10th St., Lincoln, Neb. 68508; (402) 441-7595; fax (402) 441-8609.

* Revised, November 1997.
** Added, November 1997.

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¶890.29 Nevada

State Contact(s):†

Rob Saunders
(702) 687-4670, ext. 3149
Fax: (702) 687-4684
Division of Environmental Protection
Bureau of Water Pollution Control
333 W. Nye Lane
Carson City, NV 89706-0866

Program Description:†

Nevada is an NPDES delegated state with general permitting authority. The state has three stormwater general permits running for five years that have expired but are still in effect. The permits cover three categories of stormwater dischargers: construction sites disturbing five or more acres of land; industrial facilities other than those covered in the mining permit; and mining sites in the copper, lead, zinc, gold, silver and molybdenum mining industries and their associated construction activities.

Nevada regulators do not intend to adopt EPA's multi-sector permit.

Nevada's NPDES rules, which are administered by the Division of Environmental Protection (DEP), are located at §445 of the Nevada Revised Statutes and at §445 of the Nevada Administrative Code. State water quality standards also are located at §445 of the Nevada Administrative Code.

Application Requirements:†

DEP hopes to limit the use of individual permit applications and permits. Most discharges will be covered by general permits.

Fees: There is an application fee of $200 for facilities seeking stormwater permit coverage under a state general permit, as well as an annual renewal fee of $200 for each subsequent year of coverage.

Unless otherwise determined by DEP, a notice of intent (NOI) and filing fee must be submitted by each separate facility, regardless of ownership.

Notification of MS4 Authorities: For any facility discharging into a municipal separate storm sewer system (MS4) within the Las Vegas Valley basin, Washoe County, or the cities of Reno and Sparks in the Truckee River basin, a copy of the NOI must be submitted to the appropriate agency (listed in the permit) with jurisdiction over the MS4.

Industrial Dischargers and Mining Facilities: For industrial and mining facilities covered by the state general permits, permit applicants must submit state NOI forms and application fees no later than two days before the commencement of activity at a facility. Such facilities must ultimately prepare stormwater pollution prevention plans (SWP3s), but the SWP3s are not due until seven months after the facility has been permitted.

Industrial facilities that have existing NPDES permits for wastewater must apply for coverage under the stormwater permitting program. However, instead of issuing separate stormwater permits for such facilities, DEP may attach additional requirements to the existing permits or amend such permits when they are reissued.

Authorization Letters: Coverage under a state general permit begins when DEP receives an NOI and an application fee. Facilities covered under state general permits will receive authorization letters acknowledging that the state has received the proper application materials and stating that coverage under a state general permit is authorized. In the case of some applicants, DEP may require an individual permit pursuant to NRS 445.2233, but will continue to cover the applicant under the general permit until an individual permit is issued.

Construction Sites: For construction sites subject to general permit coverage, permit applicants must submit NOI forms, application fees and SWP3s no later than two days before the start of construction.

Construction at mine sites can be authorized under the mining permit by submitting an SWP3 that includes information about construction activities. No permit is required for exploration activities unless five or more acres of land are disturbed. If that is the case, then a construction permit — not a mining permit — is required.

† Revised, October 2000.

Authorization Letters: For construction sites, coverage under a state general permit begins with DEP's receipt of an NOI, an application fee and the facility's SWP3. Facilities covered under state general permits will receive authorization letters acknowledging that the state has received the proper application materials and stating that coverage under a state general permit is authorized. In the case of some applicants, DEP may require an individual permit pursuant to NRS 445.2233, but will continue to cover the applicant under the general permit until an individual permit is issued.

Permit Conditions:

Generally, state permit conditions parallel EPA's general permit.

SWP3s: All facilities covered by state stormwater general permits must prepare, submit and implement SWP3s.†

SWP3s for industrial and mining sites must be completed within six months of a facility's authorization date, submitted to DEP's stormwater coordinator at the address above within seven months of the authorization date, and implemented within one year of the authorization date.

Fees: In addition to the $200 application fee for facilities seeking stormwater permit coverage under a state general permit, there is an annual renewal fee of $200 for each subsequent year of coverage.

Annual Inspections: For all mining and industrial facilities except inactive mine sites, permittees must conduct evaluations of their facilities and their stormwater controls at least once annually and must certify to DEP that their facilities are in compliance with the SWP3s, or that they are in compliance except for incidents of noncompliance that have been reported pursuant to permit conditions. Certifications are due annually on the anniversary of a facility's authorization date.

Monitoring and Reporting Requirements: The general permits do not impose sampling requirements. However, DEP may require sampling to assess effectiveness of best management practices.

† Revised, October 2000.

Inactive Mining Sites: For inactive mining sites, periodic evaluations must be conducted at least once every three years, beginning with the first anniversary of a facility's authorization date. Once every three years, inactive mining sites must obtain from professional engineers who are registered in the state of Nevada, certifications that they are in compliance with their SWP3s, except for specified instances of noncompliance that have been reported pursuant to permit conditions.

Subchapter N Facilities:† For facilities with discharges subject to 40 CFR Subchapter N, monitoring plans must be completed within six months of a facility's authorization date, and before stormwater sampling begins at the site.

Stormwater dischargers are also required to comply with any applicable subchapter N effluent guidelines.

State Water Quality Standards:

State water quality standards may vary significantly according to elevation, the region of the state in which receiving waters are located and local rainfall conditions. Special stormwater and wastewater discharge requirements apply to the Lake Tahoe area (see below).

State Construction Site Sedimentation and Soil Erosion Control:

Construction site sedimentation and soil erosion is regulated by several agencies at the regional, county and municipal level. In addition to state programs, developers should contact their local planning agencies to determine the applicable sedimentation and soil erosion requirements.

Special Requirements for the Lake Tahoe Basin:

For many years, there have been fairly stringent controls on stormwater runoff from construction sites, industrial sites, commercial facilities and residential sites in the Lake Tahoe Basin. In addition to state program regulation, these stormwater discharges are regulated by the Tahoe Regional Planning Agency. For more information on stormwater controls in the Lake Tahoe area, contact the Tahoe Regional Planning Agency at (702) 588-4547.

† Revised, October 2000.

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¶890.30 New Hampshire†

EPA Contact:
Thelma Murphy
U.S. EPA Region 1
1 Congress St.
Suite 1100
Boston, MA 02114-2023
(617) 565-3569
(617) 565-4940 (fax)

State Contact:
Sharon Ducharme
NPDES Compliance Program
Department of Environmental Services
Water Division
Wastewater Engineering Bureau
6 Hazen Drive
Concord, NH 03301
(603) 271-3307

Program Description:

New Hampshire does not have NPDES permitting authority. Region 1 of the U.S. Environmental Protection Agency (EPA) handles most of the stormwater permitting program for the state. Before EPA can issue a permit, the Department of Environmental Services (DES) must certify that the limitations and conditions in the permit will ensure that the proposed discharge will not violate any state law. New Hampshire issues permits for construction projects that disturb more than 100,000 square feet of land or 50,000 square feet of land if adjacent to surface waters, under the state's Shoreline Protection Act of 1991.

Application Requirements:

Most New Hampshire stormwater dischargers may seek coverage under EPA's industrial, construction or multi-sector general permit. Construction projects that disturb more than 100,000 square feet of land or 50,000 square feet of land if it is adjacent to surface waters of the state must obtain site-specific permits from New Hampshire. After an NPDES permit is issued, DES conducts inspections, usually on an annual basis, of the permitted facilities to ensure that they remain in compliance. DES also is responsible for enforcement.

To obtain coverage under EPA general permits, send completed notice of intent forms to:

Stormwater Notice of Intent (4203)
401 M St., S.W.
Washington, DC 20460

New Hampshire also requires NPDES permittees to supply DES with additional information as described in state regulations ENV-WS-403.

Program Notes:

New Hampshire did not add any state specific conditions to EPA's industrial or multi-sector general permits through the state certification process under the Clean Water Act. Facilities on Indian Lands within the state also are covered by the federal general permits. Construction projects that disturb 100,000 square feet of land, or 50,000 square feet of land if adjacent to surface waters of the state, must obtain site-specific permits under New Hampshire Revised Statutes Annotated (RSA), Section 485-A:17.

Under ENV-WS-415.11, each site subject to a site-specific permit must have a source control program that includes the following:

- a source control plan which must include the name of a coordinator responsible for its implementation, a site evaluation, best management practices (BMPs) designed to prevent or minimize stormwater pollution, and an annual site compliance evaluation. BMPs must be designed to control runoff from a 10-year storm event. The plan may incorporate other plans such as spill prevention, control and countermeasures plans;
- signature of a responsible corporate official;
- a review by a facility owner or operator every three years.

State water quality is regulated under RSA, Section 485-A. The state water quality standards are located at Sections ENV-WS-430 through 438 of the New Hampshire Administrative Code. Procedures for applying for NPDES permits in the state are located at Sections ENV-WS-400 through 403.

†Revised, June 2001.

Monitoring Requirements: Monitoring requirements for stormwater discharges in the state parallel those in EPA's general permits. Monitoring requirements for a state site-specific permit vary depending on the scope of the construction project. Most construction projects that fall into this category do not have monitoring requirements, according to DES.

The state also has developed state-specific BMPs to comply with the chemical handling and storage rules found at Section ENV-WS-421. These include requirements for storage and handling, release response information, and floor drains and sinks. The rules apply to any facility that stores greater than household quantities of chemicals listed under Title III of the Superfund Amendments and Reauthorization Act of 1986. Also, if a company wants to infiltrate groundwater, it must put in place an adequate source control program that is equivalent to a stormwater management plan associated with NPDES permitting. The state also requires setbacks from public wells.

Reporting Requirements: Reporting requirements for stormwater in the state parallel those in EPA's general permits. Reporting requirements for a state site-specific permit vary depending on the scope of the construction project. Most construction sites that fall into this category do not have reporting requirements, according to DES.

Fees: There are no state fees for most stormwater discharge permits. Construction projects required to obtain a state permit that disturb up to 199,000 square feet of land must pay a $100 fee to the state. The fee increases by $100 for every 100,000 square feet increment, so a construction project that disturbs between 200,000 square feet and 299,000 square feet of land must pay a $200 fee to the state.

Combined Sewer Overflow (CSO) Program:†† DES developed a CSO control strategy in 1989 to determine the volume and strength of CSO discharges and their impact on the water quality of a community's receiving waters. If DES determines that the CSOs violate state law, the community is required to abate the CSO pollution in the most cost-effective manner.

Nonpoint Source Management:†† DES developed the Nonpoint Source Management Plan in October 1999 to address the state's nonpoint source pollution, including urban stormwater runoff. The plan includes several ways in which DES plans to control runoff and maintain water quality over the long term. These include:

- encouraging planning boards to adopt stormwater regulations, quality assurance programs, ordinances and inspection programs at appropriate times during the construction process;
- encouraging planning boards to require ongoing maintenance of stormwater controls as part of the local approval process for construction sites;
- initiating and supporting local projects that promote the use and maintenance of structural and nonstructural BMPs for new and existing construction projects; and encouraging urban rehabilitation to minimize the increase of impervious surfaces;
- encouraging communities to address existing stormwater runoff problems by installing or retrofitting stormwater treatment systems, and to coordinate storm and sewer system maintenance with street repairs, sweeping, catch basin cleaning, etc;
- exploring funding sources to support retrofitting projects;
- amending DES terrain alteration regulations to require runoff control from a two-year storm event in addition to the 10-year storm event; and
- updating stormwater management and BMP guides, and providing more training for planning boards.

Coastal Zone Management Plan:

Consistency reviews for New Hampshire's Coastal Zone Management Program are performed by the Office of State Planning. For more information, contact the Office of State Planning, at (603) 271-2155.

††Added, June 2001.

††Added, June 2001.

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State Documents:††

The following are available from DES:

- Stormwater Management and Erosion and Sediment Control for Urban and Developing Areas.
- Best Management Practices for Urban Stormwater Runoff.

[The next page is Tab 800, Page 451.]

††Added, June 2001.

¶890.31 New Jersey

State Contact:†

Barry Cholofsky
Department of Environmental Protection
Division of Water Quality
Bureau of Nonpoint Pollution Control
P.O. Box 029
Trenton, NJ 08625-0029
(609) 633-7021
(609) 984-2147 (fax)
Internet: www.state.nj.us/dep/dwq/nonpoint.htm††

Program Description:†

New Jersey is a delegated NPDES state with general and individual permitting authority. DEP covers most, but not all, stormwater dischargers under two general New Jersey Pollutant Discharge Elimination System (NJPDES) permits. To be eligible for coverage under the basic industrial general stormwater permit (NJ0088315), a facility must ensure that there is no contact between stormwater and industrial activities or materials. The other general permit, the construction activity general stormwater permit (NJ0088323), covers construction activities that disturb five or more acres of land. Other industrial stormwater dischargers may need to obtain individual or industry-specific general permits. Both the industrial and construction general stormwater permits expired in January 2002. At that time the permits were automatically renewed. Discharges to groundwater also will be authorized under the basic industrial general permit. The construction activity general permit will be modified to reflect EPA's phase II rule regulating construction sites of one to five acres.

In addition to the two stormwater general permits described above, two industry-specific general permits have been adopted by DEP. One is available for scrap metal recyclers and auto dismantling facilities in standard industrial classification (SIC) codes 5015 and 5093. The second industry-specific general permit is available to concrete manufacturing facilities (SIC code 3271, 3272 and 3273 facilities). These permits are designed to provide an alternative to regulated facilities that cannot eliminate exposure of industrial materials, activities or source materials to stormwater (rainfall and snowmelt waters), and thus, are ineligible for authorization under the basic industrial general stormwater permit. New Jersey has adopted one site-specific general permit for the Newark Airport complex. All operators of industrial activity at the airport are eligible for authorization. Under the permit they must develop and implement general and specific best management practices (BMPs) for their operations while the Port Authority of New York and New Jersey is responsible for developing and implementing general and specific BMPs for the overall site. The Port Authority incorporates all general and specific BMPs into a comprehensive facility-wide stormwater pollution prevention plan (SWP3).

New Jersey is in the process of developing and adopting additional industry-specific general permits for concentrated animal feeding operations, the asphalt product production industry, and quarries. The quarry general permit, when available, will authorize sand and gravel quarries which were previously eligible for authorization under the Construction Activity Stormwater General Permit.

Application Requirements:

New Jersey's permit application requirements differ somewhat from EPA's permit application requirements, including the permit fee requirements.

Requests for Authorization:† Existing stormwater dischargers that are eligible for authorization under the state's basic industrial general stormwater permit or either industry-specific general permit must submit the appropriate request for authorization (RFA) to DEP. There are no sampling requirements for RFA submittal.

New industrial facilities eligible for authorization under any of the above general permits must submit RFAs at least 30 days prior to the date on which they expect stormwater discharges.

Construction sites and certain other facilities eligible for coverage under the state's construction activity general stormwater permit also must submit RFAs. For new construction sites, an RFA must be filed 30 days prior to land disturbance.

† Revised, January 2002.
†† Added, January 2002.

† Revised, January 2002.

RFAs must be submitted to local soil conservation districts administering the construction site permitting program. For more information on construction site requirements, see discussion below.

Individual Permits: Industrial facilities subject to stormwater permitting requirements that are ineligible for coverage under any general permit must apply for an individual stormwater permit. Each individual permittee must submit state forms NJPDES-1 and Form RF to DEP. Stormwater sampling data is required for individual applications.

For RFA forms and individual permit applications, contact DEP's stormwater program at (609) 633-7021.†

Program Notes:

Basic Industrial General Stormwater Permit (NJ0088315):† New Jersey essentially provides general permit coverage for industrial stormwater discharges from facilities with no contact between stormwater and industrial activities and materials; or facilities that can eliminate such contact within 18 months.

Facilities eligible for coverage under the general permit must prepare and implement SWP3s. The operators of such facilities must certify that they have examined all information submitted in their RFAs. Permittees also are required to conduct annual inspections of the implementation of their SWP3s and to submit annual recertifications to DEP. Annual fees are charged for coverage under the basic industrial general stormwater permit.

The following industrial facilities are *not* eligible for basic general permit coverage:

- facilities with stormwater discharges subject to the stormwater effluent guidelines applicable to cement manufacturing material storage piles, feedlots, fertilizer manufacturing, petroleum refining, phosphate manufacturing, steam electric facilities with coal pile runoff, mineral mining and processing, ore mining and dressing or asphalt manufacturing;
- facilities with any stormwater discharges authorized under another NJPDES discharge to surface water (DSW) permit, including an expired permit;
- facilities with discharges that may be authorized under the construction activity general stormwater permit, covering construction, mining and quarrying sites;
- facilities with sanitary landfills or hazardous waste landfills as defined at N.J.A.C. 7:26-2A-1.4, unless such landfills have been closed in compliance with N.J.A.C. 7:26-2A.9 or 7:26-9.8 and certified in compliance with N.J.A.C. 7:26 and the landfills are not disrupted (such closed landfills are eligible for general permit coverage); and
- facilities in the petroleum refining and related industries (SIC 29) and facilities defined as "major facilities" by N.J.S.A. 58:10-23.11b.1 and N.J.A.C. 7:1E-1.6, that have stormwater that has contacted petroleum-based oil and grease in raw materials, intermediate products, finished products, byproducts or waste products located on the facility site and that also have a combined storage capacity for petroleum products of 200,000 gallons or more.

Nonstormwater discharges are not authorized under this general permit, even if they are combined with stormwater discharges eligible for general permit coverage.

At this time, DEP is not regulating rooftop stormwater runoff unless a facility has regulated industrial activity occurring on the roof.

Construction Activity General Stormwater Permit (NJ0088323):† DEP, with the assistance of the New Jersey Department of Agriculture, administers a construction activity general stormwater permit to authorize construction sites. RFAs are submitted to the local soil conservation district. The permit covers:

- construction sites disturbing five or more acres of land (soon to be changed to one acre or more);

† Revised, January 2002.

† Revised, January 2002.

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- sanitary or hazardous waste landfill construction sites before the sites receive wastes or those sites at which construction does not disrupt a properly closed landfill.

The following construction sites require individual permits, which must be obtained from DEP, *not* the local soil conservation districts:

- facilities with stormwater subject to EPA effluent guidelines for cement manufacturing, fertilizer manufacturing, steam electric, coal pile runoff, mineral mining and processing, ore mining and dressing, and asphalt emulsion;
- petroleum refining facilities and facilities that store 200,000 or more gallons of petroleum or petroleum products where stormwater from the construction would likely come into contact with industrial petroleum products; and
- construction activities at landfills except where construction will not disturb a properly closed landfill.

Fees:† There are no application fees for industrial general or individual stormwater permits. Facilities seeking authorization under the construction activity general stormwater permit must submit a one-time fee of $200 with their RFA in addition to any fees they already are charged by the local soil conservation district under the state soil erosion and sediment control program.

Stormwater Pollution Prevention Plans (SWP3s):† Facilities authorized under the general and individual stormwater permits must prepare and implement an SWP3 to ensure that stormwater is not exposed to industrial activities or materials at the site. Once the SWP3 has been implemented, the permittee must conduct an annual inspection of the site to evaluate compliance with the SWP3. The SWP3 and annual inspection reports must be certified by the appropriate corporate officials.

SWP3s must be prepared and Certification "C" Stormwater Pollution Prevention Plan Preparation Certification must be submitted within six months of authorization under the general permit. SWP3s must be implemented and Certification "D" Stormwater Pollution Prevention Plan Implementation Certification must be submitted within 18 months of authorization. New dischargers submitting RFAs must prepare and implement SWP3s before submitting the RFAs.

Facilities authorized under either the scrap metal or concrete manufacturing general permits must prepare, implement and certify SWP3s for those portions of their facility where exposure to industrial activities and materials can be eliminated. For those portions of the facility where this cannot be attained, specific BMPs tailored to the industry must be instituted to eliminate or minimize pollutants in stormwater discharges. In addition, standardized monitoring with no numeric effluent limitations is required. Group monitoring is available to reduce technical and administrative costs.

Facilities with individual permits are required to prepare and implement an SWP3 in addition to implementing site-specific BMPs. These facilities also generally have monitoring requirements that may have effluent limitations.

Permit and Monitoring Requirements: Permit requirements for construction sites under the construction activity general stormwater permit are virtually identical to those of the state's soil erosion and sediment control program. For more information, contact the appropriate soil conservation district (see addresses below).

Under the basic industrial general stormwater permit, dischargers are subject to annual inspections to determine whether the facility is complying with its SWP3 and whether the SWP3 complies with Part III.B of the general permit. Annual reports summarizing the results of the annual inspection must be included in the facility's SWP3. A certification that the facility is in compliance with the SWP3, and the permit, also must be submitted to DEP. Incidents of noncompliance must be included in the report along with steps being taken to remedy the noncompliance and to prevent such incidents from recurring.

Both industry-specific general permits have similar SWP3 requirements, including BMP implementation, in addition to quarterly monitoring. Individual permits are site-specific and generally include: SWP3 preparation and implementation; BMP selection and implementation; and monitoring, which may include effluent limitations.

† Revised, January 2002.

Recordkeeping: Recordkeeping requirements for construction activities authorized under the construction activity general stormwater permit parallel those in the state's Soil Erosion and Sediment Control Act. For more information, contact the appropriate soil conservation district (see addresses below).

For industrial activities authorized under any general stormwater permit or an individual permit, annual reports must be maintained on site for a period of five years. DEP may extend this period by written request at any time.

Municipal Permits:

Four New Jersey municipalities—Elizabeth, Patterson, Newark and Jersey City—were identified in EPA's Nov. 16, 1990, final rule as requiring permits for "large" or "medium" municipal separate storm sewer systems. However, DEP has documented that all four are primarily served by combined sewer systems and therefore do not require stormwater permits. Such municipal systems are regulated under a separate NJPDES program for combined sewer systems. For more information on the combined sewer systems program, call (609) 633-7020.

Phase II:†† EPA anticipates proposing modifications to the NJPDES Rules to incorporate Phase II regulations by March 2003. Municipalities not requiring a permit will need to register with DEP.

Soil Erosion and Sediment Control Programs:

Under state law, sedimentation and soil erosion controls are required for all construction projects disturbing 5,000 square feet or more of land, except for construction of single family homes not part of larger developments. The program is administered by local soil conservation districts and the New Jersey Department of Agriculture. Developers must submit sediment and erosion control plans for approval by the appropriate district, which reviews them for compliance with state standards for soil erosion and sedimentation control. Control plans must be approved by the appropriate district before construction may begin. Compliance monitoring on projects is conducted by the appropriate local district during the construction phase, and a developer needs a report of compliance by the relevant district before a finished project can be occupied.

Fees: Each of New Jersey's 16 soil conservation districts has set up a separate fee schedule. Fees vary somewhat but consist of two parts: plan review and certification fees—which may range between a few hundred and a few thousand dollars depending on project size—and inspection fees, which also may range between a few hundred and a few thousand dollars. Construction sites requiring authorization under the construction activity general stormwater permit also must pay a one-time fee of $200.

For more information on the state sediment and erosion control program, contact the New Jersey Soil Conservation Committee, New Jersey Department of Agriculture, CN 330, Trenton, NJ 08625-0330; (609) 292-5540.

Soil Conservation Districts:

Atlantic and Cape May Counties:
Atlantic County Office Building
6260 Old Harding Highway
Mays Landing, NJ 08330
(609) 625-3144 or 625-9400

Bergen County:
327 Ridgewood Ave.
Paramus, NJ 07652
(201) 261-4407 or 538-1552

Burlington County:
Tiffany Square, Suite 100
2615 Route 38
Mount Holly, NJ 08060
(609) 267-7410 or 267-0811

Camden County:
403 Commerce Lane, Suite 1
West Berlin, NJ 08091
(856) 767-6299 or 767-3977†

Cumberland County:
P.O. Box 144, Route 77
Deerfield, NJ 08313
(856) 451-2422 or 451-2144†

†† Added, January 2002.

† Revised, January 2002.

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Essex, Hudson and Passaic Counties:†
15 Bloomfield Ave.
Verona, NJ 07006
(973) 364-0786 or (973) 538-1552

Gloucester County†:
301 Hollydell Drive
Sewell, NJ 08080
(856) 589-5250

Hunterdon County:
Community Services Annex
8 Gauntt Place
Flemington, NJ 08822
(908) 788-1397 or 782-3915

Mercer County:
508 Hughes Drive
Hamilton Square, NJ 08690
(609) 586-9603 or 584-8337

Middlesex and Monmouth Counties:
211 Freehold Road
Manalapan, NJ 07726
(732) 446-2300 or 462-1079†

Morris County:
Morris County Courthouse
P.O. Box 900
Morristown, NJ 07960
(973) 285-2953 or 538-1552

Ocean County:
714 Lacey Road
Forked River, NJ 08731
(609) 971-7002 or 267-0811

Salem County:
P.O. Box 168
Deerfield, NJ 08313
(856) 769-1124 or 582-9027†

Somerset and Union Counties:
Somerset County 4-H Center
308 Milltown Road
Bridgewater, NJ 08807
(908) 526-2701 or 725-3848

Sussex County:†
186 Halsey Road, Suite 2
Newton, NJ 07860
(973) 579-5074 or (908) 852-5450

Warren County:
224 Stiger St.
Hackettstown, NJ 07840
(908) 852-2579 or 852-5450

Other State Programs:

Groundwater Discharge Permits: Stormwater dischargers should be aware that they may need additional state permits if they release stormwater to the groundwaters of the state. Discharges to groundwater (DGW) occur if a facility employs any of the following stormwater control devices: permeable detention or retention basins, dry wells, seepage pits, leaching fields or underground trenches. For more information on DGW permits, contact the state Bureau of Nonpoint Pollution Control at (609) 292-0407.

Model State Stormwater Management Regulations: Under a previously existing state stormwater management program, New Jersey has developed a model stormwater management ordinance and a stormwater guidance document for municipalities to develop their own stormwater management programs. Currently, the program focuses on detention methods for quantity and quality control, but will expand its scope to include source control and site-planning techniques. For more information, call (609) 633-1179.

State Documents Available:

The following documents are available from DEP at the above address, and are free unless otherwise noted:

Fact Sheets:

- "Industrial Stormwater Permit Program."
- "Regulated Discharges and Regulated Facilities."
- "Basic Industrial General Stormwater Permit."
- "Statewide Stormwater Permitting Program for Construction Activities."

† Revised, January 2002.

† Revised, January 2002.

- "Scrap Metal Processing and Automotive Dismantling Facilities General Permit."
- "Concrete Stormwater General Permit."†
- "Individual Stormwater Permits."
- "Phase II – Stormwater Regulation Program."

The following guidance documents include step-by-step instructions for the preparation of SWP3s, information about BMP selection and monitoring requirements. *Cost: $4.00, make check payable to Treasurer, State of New Jersey:*

- "Guidance Document for the Scrap Metal Facilities Stormwater General Permit (NJ0107671)."
- "Guidance Document for the Concrete Products Stormwater General Permit (NJ0108456)."
- "Guidance Document for Individual Stormwater Permits and Interim Individual Stormwater Permits."
- "Industrial Stormwater Pollution Prevention Plan Guidance," a step-by-step preparation of SWP3s under the basic industrial general stormwater permit.

Request for authorization packages for the three general permits and individual permit application packages also are available from the state free of charge.

Available from the DEP's Maps and Publications Sales Office, Bureau of Revenue, P.O. Box 417, Trenton, NJ 08625-0417:

- "Technical Manual for Stormwater Permitting," includes program information, information on who is regulated, permit options and permit requirements.

Available from the State Soil Conservation Committee, Department of Agriculture, P.O. Box 330, Trenton, NJ 08625-0330:

- "Standards for Soil Erosion and Sediment Control in New Jersey," a technical guide to the sedimentation and erosion control program. *Cost: $18, make check payable to New Jersey Association of Conservation Districts.*
- "Fact Sheet on the Stormwater Discharge Permit Program/Construction and Mining Activities General Permit."

[The next page is Tab 800, Page 461.]

† Revised, January 2002.

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¶890.32 New Mexico†

EPA Contacts:
U.S. Environmental Protection Agency, Region 6
1445 Ross Ave.
Dallas, TX 75202
(214) 665-2191 (fax)
Internet: www.epa.gov/earth1r6/6wq/npdes/sw/index.htm††

For permitting information:
Brent Larsen
Mailcode: 6WQ-PM
(214) 665-7523

For enforcement and compliance information:††
Everett Spencer
EPA Region 6
(214) 665-8060
E-mail: spencer.everett@epa.gov

To obtain copies of stormwater permits:
Office of Water Resource Center
(202) 260-7756
Internet: www.epa.gov/earth1r6/6en/w/forms.htm

State Contact:
Richard Powell
Surface Water Quality Bureau (SWQB)
New Mexico Environment Department (NMED)
P.O. Box 26110
1190 St. Francis Drive
Harold Runnels Building
Santa Fe, NM 87502
(505) 827-2798
(505) 827-0160 (fax)
Internet: www.nmenv.state.nm.us/swqb/swqb.html††

Program Description:
New Mexico does not have NPDES permitting authority. Stormwater permitting is handled by EPA Region 6. New Mexico does not intend to seek NPDES permitting authority, according to NMED officials.

There are state-specific monitoring requirements for stormwater dischargers on certain New Mexico stream segments that exceed the monitoring requirements in EPA's industrial and multi-sector general permits. Generally, the state-specific monitoring requirements reflect New Mexico's state water quality standards.

Application Requirements:
Most regulated stormwater dischargers in New Mexico may seek coverage under EPA's construction or industrial multi-sector general permit.

Program Notes:
There are no state-specific regulatory conditions for construction sites covered by the federal general permit. However, New Mexico has set state-specific permit requirements for regulated industrial dischargers that are in addition to, or different from, EPA's industrial multi-sector permit requirements (see Appendix 1(e), p. 879). In addition, several facilities in New Mexico have individual NPDES permits that contain a stormwater component. The state also established a nonpoint source pollution control program in the mid-1980s.

Permit Fees: There currently are no permit fees for NPDES stormwater permits in New Mexico.

Monitoring and Recordkeeping Requirements: Monitoring and recordkeeping requirements in the state generally parallel EPA requirements.

In addition, New Mexico requires discharges to impaired waters to be sampled. Sample results should be submitted to SWQB. For more information on 303(d) and total maximum daily loads contact Richard Powell.

Reporting Requirements: New Mexico industrial dischargers are required to conduct bi-annual sampling and must provide copies of discharge monitoring reports (DMRs) and other reports required by the general permit to EPA Region 6 at the above address and NMED, Point Source Regulation Section at the above address. Annual reports are not required to be submitted to the state.

† Revised, November 2001.
†† Added, November 2001.

Effluent Testing: Test organisms used for whole effluent toxicity testing (WET) must include *Daphnia pulex* and *Pimephales promelas*, the fathead minnow.

Industrial MSGP Requirements:

State-specific requirements concerning water quality were adopted by the Oct. 30, 2000, industrial multi-sector general permit (MSGP). All new and existing stormwater dischargers to impaired waters, where there is a potential for the discharge to contain the pollutants for which the water is impaired, must provide an estimate of pollutant loads in the discharge to SWQB. The estimate must be submitted before the NOI and include documentation, such as sampling data, modeling, etc. Additional analytical monitoring for each outfall must be conducted at least annually for any discharged pollutant believed to be contributing to the impaired water quality. Monitoring results must be submitted within 45 days of collection to SWQB.

New Discharges: The discharges must be consistent with any developed total maximum daily load (TMDL) for the receiving impaired water. SWQB will notify operators who submit estimated pollutant load reports whether the discharges are consistent with the TMDL or not. Dischargers to impaired waters without a developed TMDL must seek coverage under another permit.

Existing Discharges: SWQB will confirm continued eligibility for existing discharges where a TMDL has been established. For those waters where a TMDL is developed after the permit has been authorized, discharges will no longer be authorized unless:

- the operator revises the stormwater pollution prevention plan to include additional or modified best management practices (BMPs) designed to comply with any applicable waste load allocation within 14 days of notification by SWQB;
- the additional or modified BMPs must be implemented before the next discharge; and
- a report detailing actions taken to comply with the TMDL is submitted to SWQB within 30 days.

Indian Lands Requirements:

Dischargers to river segments designated for use as a domestic water supply on Indian lands must collect samples. If the sample exceeds the RQ action level for a listed constituent, the permittee must submit the test results within 24 hours to EPA Region 6, Water Management Division (6W-EA), Stormwater Staff at the address above. A copy of the RQ action level report also should be provided to the governing body of the Indian Nation on whose land the discharge occurred.

DMRs for industrial and construction site stormwater discharges on most Indian land must submit signed copies to EPA Region 6, Water Management Division (6W-EA), Stormwater Staff at the address listed above. Facilities on the Navajo Reservation should submit DMRs to:

U.S. EPA, Region 9
Water Management Division (W-5-1)
Stormwater Staff
75 Hawthorne St.
San Francisco, CA 94105

Specific requirements adopted in the industrial multi-sector general permit for Indian country lands include requirements for Pueblo of Isleta, Pueblo of Pojoaque, Pueblo of San Juan and Pueblo of Sandia (see Appendix 1(e), pp. 880-881). NOIs for discharges on White Mountain Apache Tribe lands must be sent to: Tribal Environmental Planning Office, Attn: Brenda Pusher-Begay, P.O. Box 1000, Whiteriver, AZ 85941.

State Water Quality Standards:

New Mexico has adopted state water quality standards that impose varying requirements on streams, lakes and stream segments with different designated uses. The highest water quality standards are required for state water bodies designated as high-quality cold water fisheries. These standards impose limitations for dissolved oxygen, pH, phosporus (P), total organic carbon, total turbidity, conductivity, total ammonia and acute and chronic criteria. Other New Mexico

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waters may face less restrictive requirements. For more information on state water quality standards, which include standards for both surface water and groundwater discharges, consult the New Mexico Water Quality Commission Regulations or request a copy of the Standards for Interstate and Intrastate Surface Waters (20.6.4 NMAC, effective Feb. 23, 2000) from NMED at the above address.

Water Quality Requirements for Indian Nations:

Industrial and construction stormwater discharges on Navajo Indian lands in the state are eligible for coverage under EPA general permits and are regulated by EPA Region 9 in San Francisco. There are no state-specific requirements for such discharges.

Industrial and construction stormwater discharges on other Indian lands in the state are regulated by EPA Region 6 and are eligible for EPA general permits. There are no state-specific conditions for construction sites on such lands. Industrial dischargers on non-Navajo Indian lands must meet the state-specific conditions for other New Mexico industrial dischargers as noted above.

Several Native American and Indian nations are attempting to establish independent water quality standards for their reservations, generating some confusion for dischargers in New Mexico. For more information, contact the San Indefonso Pueblo at (505) 455-2273; EPA Region 6 at the above address; or Eugene Bromley, EPA Region 9 in San Francisco at (415) 744-1906 for regulatory requirements affecting Navajo Nation lands. For information on NMED's relationship with Native American and Indian communities, contact Cathy Tyson, Communications Director, at (505) 827-2883.

Mining Industry Requirements:

In addition to NPDES requirements, water discharges by the mining industry are regulated by the Water Quality Control Commission. In addition, mining operations face additional environmental requirements imposed by the state Department of Energy, Minerals and Natural Resources. For more information, contact the department at (505) 476-3400.

[The next page is Tab 800, Page 471.]

¶890.33 New York

State Contact(s):*
New York State Department of Environmental Conservation
Division of Water
Bureau of Water Permits
50 Wolf Road
Albany, N.Y. 12233-3505
Web address: http://www.crisny.org/government/ny/nysdow/storm/mainpage.htm

For more information on the state's stormwater permits, contact:
Ken Stevens
(518) 457-0624

State Nonpoint Source Pollution Contact(s):*
Department of Environmental Conservation
Bureau of Watershed Management
50 Wolf Road
Albany, N.Y. 12233-3508

For more information on the state's nonpoint source pollution program or the state's coastal zone management program, contact:
Phil Vegatano*
(518) 457-0633

Program Description:*

New York is an NPDES state with general permitting authority. Two state stormwater general permits—one for industrial dischargers and the other for regulated construction sites—are authorized under the State Pollutant Discharge Elimination System (SPDES), New York's version of the National Pollutant Discharge Elimination System (NPDES). They are issued pursuant to Article 17, Titles 7 and 8 and Article 70 of the state Environmental Conservation Law. Both state general permits became effective Aug. 1, 1993, and expired Aug. 1, 1998.

State officials are in the process of renewing both permits. Officials anticipate issuing the industrial permit first, followed by the construction permit. Neither will include any significant changes. In the interim, officials have proposed a 90-day extension for the industrial permit. If approved, the permit will remain in effect for 90 days. The state has no plans to adopt EPA's multi-sector permit at this time.

Restrictions on Coverage: Coverage under the state industrial general permit is open to existing industrial stormwater dischargers, except the following:

- dischargers of stormwater that is mixed with nonstormwater discharges, other than those expressly authorized by the state;
- dischargers that are subject to existing effluent limitation guidelines addressing stormwater or mixtures of stormwater and process wastewater;
- industrial dischargers that are subject to existing SPDES individual or general permits, or that are located at facilities where SPDES permits have been terminated or denied, or that are issued alternative permits by the state;
- dischargers of stormwater from inactive mining sites, inactive landfills or inactive oil and gas operations occurring on federal lands where an operator cannot be identified; and
- dischargers of stormwater whose discharges are likely to adversely affect a listed threatened or endangered species or its critical habitat, or a species proposed to be so listed or its critical habitat.

New industrial stormwater discharges that do not require other permits from DEC also may seek coverage under the state industrial general permit. However, facilities proposing new stormwater discharges that require SPDES permits or any other DEC permits must file individual permit applications in accordance with DEC's Uniform Procedures regulations (ECL Article 70, Regulation 6 NYCRR, part 621).

In some cases, a waiver may be obtained from the prohibition on general permit coverage for industrial facilities requiring other permits under the Uniform Procedures Act. To apply for such a waiver, a facility operator must submit the information outlined in the industrial general permit's "Appendix D: Additional Information

* Revised, October 1998.

for New Stormwater Discharges." Upon reviewing this information, DEC may authorize the applicant to submit a notice of intent (NOI) for coverage under the industrial general permit or, alternatively, require an individual stormwater permit application from the facility.

For more information about the Uniform Procedures Act, contact DEC's Regional Permit Administrator in your area. For other questions about state requirements, contact DEC at (518) 457-0624.

Stormwater dischargers located on Indian lands in New York should seek coverage under EPA's baseline industrial general permit or EPA's baseline construction site general permit.

Application Requirements:

To obtain coverage under the industrial or construction site general permit, stormwater dischargers must submit the appropriate SPDES NOI forms to the following federal EPA address:

Stormwater Notice of Intent (4203)
401 M St., S.W.
Washington, D.C. 20460

For most industrial facilities, NOIs must be submitted at least two days before the commencement of industrial activity at a facility. When the operator of a permitted industrial facility changes, the new operator also must submit an NOI at least two days before the change occurs. Operators who submit NOIs in accordance with the permit are authorized to discharge stormwater two days after the date the NOI is postmarked.

However, different NOI deadlines apply to some industrial facilities. Operators of oil and gas facilities that previously have not been required to obtain stormwater permits, but that subsequently experience a discharge of a "reportable quantity" (RQ) of oil or a hazardous substance for which reporting is required under 40 CFR §110.6, 40 CFR §117.21 or 40 CFR §302.6, must submit NOIs for general permit coverage within 14 days of learning of the release.

NOIs for construction sites must be submitted by the operators of such sites. "Operator" is defined as a person, persons or legal entity which owns or leases the property on which construction activity is occurring. Contractors and subcontractors do not have to submit separate NOIs or sign the operator's NOI, but must certify that they have read and understood the construction site general permit.

Stormwater dischargers on Indian lands in New York also should submit NOIs to the above address.

Notices of Termination: Operators wishing to cancel coverage under a general permit, including those who transfer ownership of a permitted facility to a new permittee, must submit state notice of termination (NOT) forms to EPA at the following address:

Stormwater Notice of Termination (4203)
401 M St., S.W.
Washington, D.C. 20460

Stormwater dischargers on Indian lands in New York also should submit NOTs to the above address.

New industrial dischargers that are subject to SPDES permitting or other DEC regulations may submit individual applications by filling out EPA Forms 1 and 2F and submitting them to DEC.

Program Notes:

The state industrial general permit has somewhat similar provisions to those in EPA's baseline general permit. The state general permit for stormwater discharges by regulated construction sites, however, has a number of state-specific features that make it potentially more stringent than EPA's baseline construction site general permit.

Stormwater Pollution Prevention Plans: Most industrial dischargers covered by the state stormwater general permit must prepare and implement stormwater pollution prevention plans (SWP3s). For facilities commencing industrial activity, SWP3s must be prepared and implemented before the date the facility submits an NOI for permit coverage.

Somewhat different deadlines apply to certain specific categories of industrial dischargers. Oil and gas facilities that are not now permitted but that subsequently discharge an RQ of oil or a regulated hazardous substance, for example, must prepare and implement SWP3s within 60 days of learning of their RQ releases. Municipally-owned industrial facilities that were denied participation in group stormwater permit applications, or that were denied approval of

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their groups, were to have prepared SWP3s within 365 days of this occurrence.

SARA Title III, Section 313 Facilities: Facilities subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) must comply with sections III.D.6 and III.D.7 of the industrial general permit, concerning special requirements for chemical handling and spill containment by such facilities. Generally, the requirements for Section 313 facilities parallel those in EPA's industrial general permit.

Salt Storage Piles: Salt storage facilities must comply with the terms of paragraph III.D.8 of the industrial general permit. Essentially, paragraph III.D.8 requires that salt storage piles be covered or enclosed to prevent exposure to precipitation, except for exposure resulting from adding or removing materials from the pile. However, the enclosure requirement does not apply to salt piles that do not discharge stormwater to waters of the United States.

Provisions of Construction Site General Permit: For operators commencing construction activities, all elements of the SWP3s must be prepared and submitted before submitting NOIs requesting general permit coverage.

Each permittee covered by the state general permit for construction sites must submit copies of his or her SWP3 and any amendments to this plan to "the local governing body and any other authorized agency having jurisdiction or regulatory control over the construction activity." SWP3s must include applicable elements from locally adopted or approved sediment and erosion control site plans, site permits, stormwater management site plans and other local regulations. SWP3s also must be amended to reflect changes in local permits, ordinances and regulations. For more details on compliance with local or regional control plans, see the construction general permit, part III.D.2.e.

Among the other special requirements in the state stormwater general permit for construction sites is a requirement for construction operators to implement "structural practices" to divert and expose stormwater flows from exposed soils and otherwise limit runoff from exposed areas "to the degree attainable." Such practices may include the installation of small sediment traps and sediment basins at construction sites disturbing fewer than 10 acres at one time. For common drainage locations serving at least 10 disturbed acres or more, temporary or permanent sediment basins providing at least 3,600 cubic feet of storage per acre drained should be provided "where attainable," until final site stabilization.

Construction site stormwater management controls included in the SWP3 must conform to the technical provisions of the state stormwater management guidelines for new development. The controls should include measures that will be installed during construction to control stormwater dischargers that will occur after construction has ended. SWP3s should include descriptions of the post-construction operation and maintenance needs arising from installation of post-construction controls.

State erosion and sediment control guidelines mandate that stream reaches downstream from construction areas should not suffer from "substantial visible contrast" with upstream reaches in terms of "color, taste, odor, turbidity or sediment deposition." Violations of this standard constitute a violation of state water quality standards and "may be subject to enforcement actions."

The construction site general permit indicates that operators should describe "proposed structural and vegetative stormwater measures" to ensure that the "quantity, temporal distribution and quality" of stormwater runoff, both during and after development, is not substantially altered from predevelopment conditions.

Fees: There is an annual stormwater general permit regulation fee of $50. Note: fees are billed annually by DEC and no fees should be submitted either with the NOI or in the absence of a bill from DEC.

Monitoring Requirements: Monitoring requirements under the New York industrial stormwater general permit are virtually identical to those in EPA's baseline industrial general permit, except that wood treatment facilities also must sample for five-day biochemical oxygen demand (BOD_5).

Recordkeeping Requirements: Unless DEC provides otherwise, permittees covered by the industrial

general permit must retain all records of monitoring information, reports and data used to complete their NOI forms, as well as their SWP3s, until at least one year after coverage under the general permit terminates. Permittees subject to annual or semiannual sampling requirements must retain records of all monitoring information for at least six years after the date of sample collection or for the term of the general permit, whichever is greater.

Permittees covered by New York's construction site general permit for stormwater dischargers must retain copies of SWP3s and of all reports required by the general permit and all data used to complete NOI forms for at least three years after the date of final site stabilization for their construction projects. DEC may extend this period at any time by notifying a permittee in writing. Construction site operators must retain copies of their SWP3s at their construction sites from the beginning of construction to the date of final site stabilization.

State Programs:

At the state level, New York already regulates stormwater discharges from some industrial sources under its SPDES program and its section 319 nonpoint source pollution program (see below). All industrial stormwater discharges must comply with state water quality standards under Article 17 of the Environmental Conservation Law of the State of New York. Water quality standards for New York State waters vary based on designated uses. New York also regulates certain discharges to groundwater under the SPDES system.

The state is encouraging municipal- and county-level regulation of construction site sedimentation and soil erosion problems under the State Environmental Quality Review Act. DEC is developing stormwater guidelines designed to meet existing state water quality standards.

State Nonpoint Source Pollution Program:

Using grant money available under EPA's state nonpoint source program, as authorized by section 319 of the Water Quality Act of 1987, New York has developed an extensive voluntary nonpoint source pollution control program. The program seeks to coordinate the activities of several dozen state agencies relating to nonpoint source pollution. The program incorporates and coordinates nonpoint source controls and guidelines from existing DEC regulatory programs. Program development is still underway concerning nonpoint source controls for agricultural runoff, sedimentation and soil erosion from construction sites and stormwater runoff from other industrial sources.

The nonpoint source pollution provisions of New York's coastal zone management program and the National Estuary Program affecting Long Island Sound are among those administered under the state nonpoint source pollution program. For more information on the program, contact Phil Vegatano of the Bureau of Watershed Management at (518) 457-0633.*

State, Local Construction Sites Programs:

New York has developed stormwater management guidelines and erosion and sedimentation control guidelines for construction sites. The guidelines are designed to ensure that discharges into state waters will meet the state water quality standards administered by DEC's Division of Water. The state is encouraging the use of the guidelines by local units of government and their incorporation into local zoning regulations.

State Documents Available:

The following documents are available from DEC at the address listed above:

- *Nonpoint Source Management Program*, January 1990.
- *Nonpoint Source Assessment Report*, February 1989.
- Copies of New York's final general permits, state NOI forms, and state NOT forms are available by calling (518) 457-0624. These documents also may be obtained from any DEC regional office.
- *Reducing the Impacts of Stormwater Runoff From New Development*, 1992. Manual describing stormwater runoff problems associated with construction activities, the opportunities that local governments in New York have to deal with such problems, management practices

* Revised, October 1998.

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that can be used to address construction site runoff problems, and performance standards for those management practices. Approximately 150-200 pages. Available for $15 from Empire State Chapter, Soil and Water Conservation Society, P.O. Box 7172, Syracuse, N.Y. 13261.

- "SPDES General Permits for Stormwater—Commonly Asked Questions." This booklet contains answers to the 181 most commonly asked questions and includes a subject index, a list of activities subject to the NPDES stormwater regulations, addresses of DEC's regional offices, a glossary and photocopies of DEC's NOI and NOT forms.

¶890.34 North Carolina

State Contact(s):*

Aisha Lau
Bill Mills, P.E.
Steve Ulmer
Tony Evans
(919) 733-5083
Department of Environment, Health and Natural Resources
Division of Pollution Prevention and Environmental Assistance
Water Quality Section
Stormwater Group
P.O. Box 29535
Raleigh, N.C. 27626-0535

Program Description:*

North Carolina is a delegated NPDES state with general and individual permitting authority.

The state's Department of Environment Health and Natural Resources currently has 18 general permits for stormwater dischargers in specified industries. In addition, a stormwater general permit for general aviation airports has been drafted and may be issued in final form sometime in 1997.

Dischargers are covered under either individual permits or state-issued general permits. Group applicants that do not qualify for coverage under one of the state's general permits or the proposed permit for general aviation airports will be advised in writing that they must submit individual applications and application fees to the state.

Application Requirements:*

Stormwater dischargers in North Carolina may file notices of intent (NOIs) to seek coverage under general permits adopted by the state. North Carolina also has accepted individual stormwater applications, but reserves the right to respond to individual applications either by issuing the applicant an individual permit, or permitting the applicant under one of the state's 18 existing stormwater general permits.

*Fees:** The cost of the NPDES individual permit is $400, regardless of the number of point sources. There is also a standard annual fee of $450 that is increased to $600 if the permittee has not been in compliance. NPDES general permits also require an application processing fee of $400 but no annual fees. The permit application fee for an individual state stormwater permit varies from $225 to $385, with a $50 application fee for coverage under a general permit.

*Expiration of Permits:** State permits for projects with engineered structures are effective for 10 years. State permits issued for low-density projects, which do not have engineered structures, do not require renewal. General and individual NPDES permits are issued for five years.

Coverage becomes effective when the discharger receives a certificate of coverage issued by the state. Generally, this will be within 90 to 180 days after the facility has filed its NOI.

Program Notes:*

In 1992, North Carolina adopted the following general permits:

- Permit No. NCG010000 for stormwater discharges associated with construction activities, including clearing, grading and excavation activities resulting in the disturbance of five or more acres of land.
- Permit No. NCG020000 for stormwater discharges associated with activities classified as Standard Industrial Classification (SIC) code 14 (mineral mining industry), including active or inactive mining operations (including burrow pits) that discharge stormwater contaminated with or that come in contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; stormwater from vehicle maintenance activities at mining operations; overflow from facilities that recycle process wastewater; and/or mine dewatering. The following activities are excluded from coverage under this permit: peat mining, coal mining, metal mining, stormwater discharges that are intermixed on site with stormwater discharges from asphalt operations, and oil and gas extraction operations.

* Revised, March 1997.

* Revised, March 1997.

- Permit No. NCG030000 for stormwater discharges associated with industrial activity classified as fabricated metal products (SIC 34), industrial and commercial machinery (SIC 35), electronic equipment (SIC 36), transportation equipment (SIC 37), measuring and analyzing equipment (SIC 38), and establishments primarily engaged in the wholesale trade of metal waste, iron and steel scrap, and nonferrous metal scrap and scrap (metal waste recycling industry). The following activities and their associated discharges are excluded from coverage under this permit: rolling, drawing and extruding of nonferrous metals (SIC 335), ship building and repair facilities (SIC 373), structural fabricated metal (SIC 3441), and wholesale trading dealing in metal waste recycling (a portion of SIC 5093) where the stormwater discharge associated with the industrial activity is covered regardless of material or material handling equipment exposure. Also, included in this general permit are discharges from those areas at the facilities described above that are used for vehicle maintenance activities.*

- Permit No. NCG040000 for stormwater discharges associated with industrial activities classified as timber products (SIC 24), except wood kitchen cabinets (SIC 2434), wood preserving (SIC 2492) and logging (SIC 241).

- Permit No. NCG050000 for stormwater discharges associated with industrial activities classified as apparel and other finished products made from fabrics and similar materials (SIC 23), printing, publishing and other allied industries (SIC 27), converted paper and paperboard products (SIC 267), paperboard containers and boxes (SIC 265), miscellaneous manufacturing industries (SIC 39), leather and leather products (SIC 31) and rubber and miscellaneous products (SIC 30). This permit does not cover leather tanning and finishing (SIC 311) and tires and inner tubes (SIC 301).

- Permit No. NCG060000 for stormwater dischargers associated with industrial activities classified as food and kindred products (SIC 20), tobacco products (SIC 21), soaps, detergents and cleaning preparations; perfumes, cosmetics and other toilet preparations (SIC 284), drugs (SIC 283), and public warehousing and storage (SIC 4221-4225).

- Permit No. NCG070000 for stormwater discharges from industrial activities classified as stone, clay, glass and concrete products (SIC 32), except stormwater discharges associated with industrial activities classified as ready-mixed concrete (SIC 3273).

- Permit No. NCG080000 for stormwater discharges from vehicle maintenance areas associated with industrial activities classified as local and suburban transit and interurban highway passenger transportation (SIC 41), motor freight transportation and warehousing (SIC 42) (except public warehousing and storage (SIC 4221-4225)), postal service (SIC 43), and petroleum bulk stations and terminals (SIC 5171) with total petroleum site storage capacity of less than 1 million gallons, except as specified below.

  Also included in this permit are stormwater discharges from oil water separators associated with petroleum storage facilities with less than 1 million gallons total petroleum site storage capacity and associated with vehicle maintenance operations and activities that are otherwise designated on a case-by-case basis as being required to be permitted, except as excluded below:

  —vehicle maintenance area associated with industrial activities classified as railroad transportation (SIC 40), water transportation (SIC 44), and transportation by air (SIC 45), and dischargers from oil water separators associated with petroleum bulk stations and terminals (SIC 5191) with a total petroleum site storage capacity of greater than or equal to 1 million gallons.

  — discharges of wash water from steam cleaning operations or other equipment cleaning operations.

- Permit No. NCG090000 for discharges associated with industrial activities classified as paints, varnishes, lacquers, enamel, and allied products (SIC 285).

- Permit No. NCG100000 for stormwater discharges associated with industrial activi-

* Revised, March 1997.

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ties classified as used motor vehicle parts (SIC 5015) and automobile wrecking for scrap (a portion of SIC 5093), except establishments primarily engaged in the metal waste recycling industry or in the wholesale trade of nonmetal waste and scrap.*

- Permit No. NCG110000 for stormwater discharges associated with industrial activities classified as treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, with a design flow of 1 million gallons per day or more, or required to have an approved pretreatment program under 40 CFR, Part 403, including land dedicated to the disposal of sewage sludge that is located within the confines of the facility.
- Permit No. NCG120000 for stormwater discharges associated with industrial activity classified as landfills that have a permit issued by the North Carolina Division of Solid Waste Management under provisions and requirements of North Carolina General Statute Chapter 130A-294. The following activities are excluded from coverage under this permit: stormwater discharges from open dumps or hazardous waste disposal sites and discharges of wastes (including leachate) to the waters of the state.*
- Permit No. NCG130000 for stormwater discharges associated with industrial activities classified as establishments primarily engaged in the wholesale trade of nonmetal waste and scrap (nonmetal waste recycling industry) (a portion of SIC 5093), except establishments primarily engaged in the wholesale trade of metal waste and scrap, iron and steel scrap, and nonferrous metal scrap, and establishments primarily engaged in automobile wrecking for scrap.
- Permit No. NCG140000 for stormwater point source discharges and rinse waters associated with industrial activities classified as ready mixed concrete (SIC 3273).*
- Permit No. NCG150000 (currently in draft form, but expected to be finalized in 1997) for stormwater and wash water point source discharges associated with industrial activities classified as establishments primarily engaged general aviation air transportation (SIC 45). This general permit is applicable to stormwater discharges from areas where vehicle maintenance, including rehabilitation, mechanical repairs, painting, fueling and lubrication; equipment cleaning operations or deicing operations are occurring at general aviation facilities. Specifically excluded from coverage under this permit are hub airports.**
- Permit No. NCG160000 for stormwater point source discharges associated with activities classified as asphalt paving mixtures and blocks (SIC 2951).*
- Permit No. NCG170000 for stormwater point source discharges associated with activities classified as textile mill products (SIC 22). This general permit covers discharges from exposed material handling equipment or activities, raw materials, intermediate products, final products, waste materials, byproducts and industrial machinery at SIC 22 facilities, as will as areas at SIC 22 facilities used for vehicle maintenance.
- Permit No. NCG180000 for stormwater point source discharges associated with activities classified as furniture and fixtures (SIC 25) and wood kitchen cabinets (SIC 2434). The general permit covers stormwater discharges from industrial activities at those facilities where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, byproducts or industrial machinery are exposed to stormwater.*
- Permit No. NCG190000 for stormwater point source discharges associated with activities classified as ship and boat building and repairing (SIC 373) and marinas (SIC 4493). This permit covers industrial activities at SIC 373 and SIC 4493 facilities where vehicle maintenance, including rehabilita-

* Revised, March 1997.

* Revised, March 1997.
** Added, March 1997.

tion, mechanical repairs, painting, fueling and lubrication, occurs. At ship and boat building and repairing facilities (SIC 373), the permit also covers stormwater discharges from industrial activities where boat and equipment cleaning operations occur.

All of the state's general permits cover areas and activities associated with vehicle maintenance.

Stormwater Pollution Prevention Plans (SWP3s): Except as indicated below, each of the general permits requires an SWP3, which must be developed and implemented one year after notification of coverage has been received. Generally, the basic elements of the plan include:

- site plan;
- stormwater management plan;
- spill prevention and response plan;
- preventive maintenance and good housekeeping program; and
- training schedules.

The plan must be reviewed and updated on an annual basis.

For specific plan requirements, see the applicable general permit.

*Monitoring:** Each of the general permits requires inspections of the facility and all stormwater systems on at least a semi-annual basis, once in the fall (Sept.-Nov.) and once during the spring (April-June). Specific monitoring and sampling requirements can be found in the permits, which are summarized below.

Common Monitoring Requirements for Specified Vehicle Maintenance Areas: Except where otherwise indicated, the general permits have identical monitoring requirements for stormwater discharges from any vehicle maintenance activity occurring on site that uses more than 55 gallons of new motor oil per month when averaged over the calendar year. Generally, such areas must be monitored three times during the five-year term of the permit, at intervals specified in the permit, for the following parameters:

- total flow;
- oil and grease;
- lead, total recoverable;
- detergents (MBAS);
- pH;
- new motor oil usage; and
- total suspended solids (if specified on the permit).

"Cut Off" Concentrations for Monitoring Exemptions for Vehicle Maintenance Areas: Unless specified otherwise, the general permits for ready mixed concrete; asphalt paving mixtures and blocks; textile mill products; furniture and fixtures and wood kitchen cabinets; and ship and boat building and repairing, and marinas* give permittees the chance to be exempted for monitoring for a given parameter at a given outfall, if the calculated arithmetic mean of parameter sampling results at that outfall meets certain "cut-off" concentrations. For vehicle maintenance areas covered by these general permits, the common cut-off concentrations are as follows:

Cut-Off Concentrations for Vehicle Maintenance Activities:

pH	Within 6.0-9.0 standard units
Oil and grease	less than 30 mg/l
Lead, total recov.	less than 0.025 mg/l
Total suspended solids	less than 100 mg/l
Detergents	less than 0.50 mg/l

Reporting and Recordkeeping Requirements: Generally, sampling results must be submitted to the state no later than Jan. 31 for the previous year in which sampling was required to be performed. Duplicate signed copies of all reports required by the general permits must be submitted to:

Division of Environmental Management
Water Quality Section
Attention: Central Files
P.O. Box 29535
Raleigh, North Carolina 27626-0535

* Revised, March 1997.

* Revised, March 1997.

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All records, including SWP3 implementation documentation, inspections reports, monitoring information, and reports required by the permits, must be retained for a period of at least 5 years.

Permit No. NCG020000: The NOI for coverage under this general permit must contain a copy of the valid mining permit issued by the Land Quality Section for the mining activity.

Instead of preparing an SWP3, a permittee under this permit must implement best management practices (BMPs) to ensure that contaminants do not enter surface waters via stormwater and must prepare a BMP plan. The permittee also must implement management practices and the Erosion and Sedimentation Control Plan that are included in the mining permit approved by the Division of Land Resources. The approved permit, and compliance with it, is considered a requirement of the general permit. Equipment used during mining activity must be operated and maintained in such a manner so as to prevent the potential or actual pollution of the surface or ground waters of the state. Aboveground bulk storage of Section 313 water priority chemicals must have secondary containment within the first 12 months of permit coverage for existing discharges and prior to beginning operations for new discharges.

Under this permit, mine dewatering and/or overflow from facilities that recycle process wastewater must be limited and monitored monthly for the following parameters:

- total flow;
- settleable solids;
- turbidity; and
- total suspended solids (TSS).

Stormwater discharges from any disturbed areas during land grading operations (except for sand and gravel mining operations) must be monitored once a year for the following parameters:

- TSS;
- settleable solids;
- turbidity; and
- pH.

Permit No. NCG030000: All stormwater discharges covered by this general permit must be monitored three times during the term of the permit (at the intervals specified in the permit) for the following parameters:

- total flow;
- pH;
- oil and grease;
- TSS;
- cyanide;
- fluoride;
- cadmium, total;
- chromium, total;
- copper, total;
- lead, total;
- iron, total;
- nickel, total;
- silver, total;
- zinc, total; and
- total toxic organics.

Permit No. NCG060000: Under this general permit, stormwater discharges must be monitored three times during the term of the permit (at the intervals specified in the permit) for the following parameters:

- total flow;
- pH;
- oil and grease;
- TSS;
- biochemical oxygen demand (BOD);
- chemical oxygen demand (COD);
- fecal coliform;
- ammonia nitrogen;
- detergents (MBAS);
- cyanide; and
- chlorides.

Permit No. NCG080000: Under this permit, stormwater discharges from any vehicle maintenance activity occurring on-site that uses more than 55 gallons of new motor oil per month when averaged over the calendar year must be monitored once a year (at the intervals specified in the permit) for the following parameters:

- total flow;
- oil and grease;
- lead, total recoverable;
- ethylene glycol;
- detergents (MBAS);
- pH; and
- new motor oil usage.

There are different monitoring requirements under this permit for stormwater discharges from secondary containment structures associated with petroleum bulk storage stations and terminals and for stormwater discharges from oil-water separators. Such discharges must be monitored for:

- total flow;
- oil and grease;
- total suspended solids;
- turbidity;
- phenols; and
- pH.

Permit No. NCG090000: All discharges covered by this general permit must be monitored once a year (at the intervals specified in the permit) for the following parameters:

- total flow;
- pH;
- BOD;
- COD;
- cadmium, total;
- chromium, total;
- copper, total;
- lead, total;
- mercury, total;
- nickel, total;
- zinc, total;
- benzene;
- carbon tetrachloride;
- 1,1,1 trichloroethane;
- 1-1 dichloroethylene;
- ethylbenzene;
- methylene chloride;
- naphthalene;
- pentachlorophenol;
- bis(2-ethylhexyl) phthalate;
- di-N-butyl phthalate;
- tetrachloroethylene;
- toluene; and
- trichloroethylene.

Permit No. NCG120000: Instead of an SWP3, this general permit imposes special stormwater controls. Prior to commencement of land disturbing activities, the permittee must submit for approval a Sedimentation and Erosion Control Plan to the Division of Land Resources, Land Quality Section (or an approved local program) pursuant to the requirements of N.C. G.S. 133A-54.1 and in conformity with the rules adopted by the Sedimentation and Erosion Control Commission. An approved, implemented plan is considered a requirement of the general permit. Deviation from the plan constitutes a violation of the permit. In addition, prior to constructing or operating a landfill, the permittee must obtain a permit for a sanitary landfill from the Division of Solid Waste Management. The landfill permit is a requirement of the general permit, and a violation of it constitutes a violation of the general permit. The general permit also requires equipment used during land disturbing or landfill operational activities to be operated and maintained so as to prevent potential or actual pollution of the surface or ground waters of the state.

With respect to monitoring, all sedimentation and erosion control facilities must be inspected at least once every seven days and within 24 hours after any storm event of greater than 0.5 inches of rain. During stormy periods or periods of snow melt, these facilities must be inspected daily. The operator of the landfill must keep records of all inspections.

All dischargers cover by this permit must monitor once a year (at the intervals specified in the permit) for the following requirements:

- total flow;
- pH;
- oil and grease;
- TSS;
- arsenic, total;
- cadmium, total;
- chromium, total;
- copper, total;
- cyanide, total;
- lead, total;
- mercury, total;
- nickel, total;
- zinc, total;
- pesticides;
- BOD;
- COD;
- total organic carbon;
- fecal coliform;
- conductivity;
- ammonia;
- total kjeldahl nitrogen;
- nitrate plus nitrite;
- acid extractables; and
- base neutrals.

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Permit No. NCG140000: This permit requires development of an SWP3, semi-annual visual monitoring of stormwater outfalls, and monitoring once per year for the following parameters:

- pH;
- total suspended solids;
- total rainfall;
- event duration; and
- total flow.

Permittees must perform analytical sampling in the first and last years of the permit term, regardless of the concentrations of pollutants discovered through the analytical sampling. However, a facility may discontinue monitoring at an individual outfall if the calculated arithmetic mean of parameter sampling for the given parameter at that outfall meets the "cut-off" concentration condition specified below:

Cut-Off Concentration:

pH	Within the range 6.0-9.0 standard units
Total suspended solids	less than 100 mg/l

Permit No. NCG160000: This permit requires development of an SWP3, semi-annual visual monitoring of stormwater outfalls, and monitoring once per year for the following parameters:

- COD;
- pH;
- oil and grease;
- total suspended solids;
- total rainfall;
- event duration; and
- total flow.

Permit No. NCG170000: This permit requires development of an SWP3, semi-annual visual monitoring of stormwater outfalls, and monitoring once per year for discharges from motor vehicle maintenance areas only.

Permit No. NCG180000: This permit requires development of an SWP3, semi-annual visual monitoring of stormwater outfalls, and monitoring once per year for the following parameters:

- COD;
- total suspended solids;
- total rainfall;
- event duration; and
- total flow.

Cut-off concentrations for monitoring exemptions for facilities covered by this permit are as follows:

Cut-Off Concentration:

COD	less than 120 mg/l
Total suspended solids	less than 100 mg/l

Permit No. NCG190000: This permit requires development of an SWP3, semi-annual visual monitoring of stormwater outfalls, and monitoring once per year for the following parameters:

- pH;
- total suspended solids;
- oil and grease;
- total lead;
- new motor oil usage;
- detergents (MBAS);
- total rainfall;
- event duration; and
- total flow.

Cut off concentrations for monitoring exemptions under this permit are as follows:

pH	Within 6.0-9.0 standard units
Total suspended solids	less than 100 mg/l
Oil and grease	less than 30 mg/l
Total lead	less than 0.033 mg/l
Detergents (MBAS)	less than 0.50 mg/l

Construction Industry Permits:

The construction industry general permit, Permit No. NCG010000, reflects the state's Sedimentation and Erosion Control Program (see section below). Construction projects covered under this general permit are required to have an approved sediment control program. They also are subject to additional provisions concerning onsite maintenance, fertilizer and pesticide use, and hazardous materials storage.

Notices of Intent: NOIs under the construction general permit consist of the developer receiving an NOI form from the state accompanying approval of the site sedimentation and control plan. Signing the NOI and returning it will complete the application for coverage.

Municipal Separate Storm Sewer Systems (MS4):*

MS4 designation applies to the following North Carolina municipalities: Charlotte, Durham, Greensboro, Raleigh, Winston-Salem and Cumberland County. In addition to these urban areas, Fayetteville, due to its proximity to Cumberland County and the poor water quality of waters within the urban areas, has been designated by the state as subject to the permitting requirements. Future designations of municipalities subject to the permitting requirements will be made based on the water quality of receiving streams within the specific urban areas. Additional municipalities with populations under 100,000 may also be designated by EPA.

State Programs:

North Carolina has stormwater standards and regulations for several types of receiving waters:

- receiving waters in coastal counties;
- outstanding resource waters;
- high quality waters; and
- water supply waters used for public drinking water.

Pursuant to the Stormwater Runoff Rules and programs, NCGS 143-214.7, and the state Stormwater Runoff Disposal Rules, 15A North Carolina Administrative Code 2H.1000, land development activities disturbing one or more acres of land are required to comply with the standards set forth in the Stormwater Runoff Disposal Rules. Depending on the density of the development, the developer may be required to implement structural stormwater controls. Developers in the coastal zone of the state may face special controls under North Carolina's Coastal Area Management Act.

For a copy of the Stormwater Runoff Disposal Rules, contact Bradley Bennett at (919) 733-5083.

For information on the state Coastal Area Management Act and associated permitting rules, contact the Division of Coastal Management at (319) 733-2293.

Solid Waste Landfills and Mining: For more information about state regulation of solid waste landfills, active and inactive, contact Gary Alberg, Department of Environmental Health and Natural Resources, Division of Land Resources, Land Quality Section, 512 N. Salisbury St., Raleigh, N.C. 27604. The telephone number is (919) 733-0692. For information about existing stormwater controls over runoff from the mining industry, contact Tracy Davis at the same address (919) 733-4574.

Water Basin Permit Strategy: The Division of Environmental Health and Natural Resources is moving toward a water basin approach to water quality permitting. Wastewater permits now being issued are written so that all in the same watershed will expire simultaneously, to allow the state to impose new requirements if needed to protect receiving waters in the watershed.

Estuary Protection in Albermarle-Pamlico Sound: Industrial stormwater dischargers in the Albermarle-Pamlico Sound estuary may face additional requirements under the National Estuary Program established by the 1987 Water Quality Act amendments to the federal Clean Water Act. For more information contact Trever Clemens, Department of Environmental Health and Natural Resources, Division of Environmental Management, Water Quality Planning, P.O. Box 29535, Raleigh, N.C. 27626-0535.

Construction Industry Sedimentation and Erosion Control:

Under the Sedimentation Pollution Control Act (SPCA) of 1973, North Carolina has a sedimentation and erosion control program for construction sites. The North Carolina Sedimentation Control Commission and its seven regional offices are responsible for administering the program where local governmental units do not assume this responsibility. There are also 40 sedimentation and erosion control programs for which local governments have assumed administrative responsibility. The state sets mandatory local program standards. For more information on SPCA, contact Francis M. Nevils, Department of Environmental Health and Natural Resources, North Carolina Sedimentation

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Control Commission, Land Quality Section, P.O. Box 27687, Raleigh, N.C. 27611.

State Documents Available:*

The following documents are available from the Department of Environmental Health and Natural Resources at the state contract address listed above:

- "Summary Federal NPDES Stormwater Regulations," revised February 1992.
- Information sheets on state implementation of the NPDES stormwater program.
- "Stormwater Pollution Prevention Plans for Stormwater Runoff at Industrial Activities," February 1994.
- *Stormwater Management Guidance Manual.*
- Fact sheets for all state general permits.

The following are available from North Carolina Sedimentation Control Commission at the address listed above:

- A copy of the SPCA and its implementing rules.
- *North Carolina Erosion and Sediment Control Design Manual.* $30 residents; $50 others. Primarily a technical manual for engineers.
- *North Carolina Erosion and Sediment Control Field Manual.* $20. Primarily for builders implementing stormwater controls.
- "How to Construct Erosion and Sediment Control Measures," a two-part video on how to implement 12 different erosion and control measures.

Also, the Department of Environment, Health and Natural Resources offers information about its permitting programs and other activities on its internet web site. The address is: http://www.owr.ehnr.state.nc.us/

* Revised, March 1997.

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State Contacts:
North Dakota Department of Health
Division of Water Quality
1200 Missouri Ave.
P.O. Box 5520
Bismarck, N.D. 58506-5520
(701) 328-5210
(701) 328-5200 (fax)

For general industry and construction-related stormwater permits, contact:†
Bryan Fuchs
(701) 328-5242

For mining and extraction-related stormwater permits, contact:
Randy Kowalski
(701) 328-5244

Editor's Note: North Dakota does not intend to adopt EPA's multi-sector model general permit in the foreseeable future because of a lack of staff and financial resources, according to the North Dakota Department of Health (NDDH).

Program Description:

North Dakota is an NPDES delegated state with general permitting authority.

Application Requirements:

NDDH has developed three general permits for different classes of stormwater discharges: (1) discharges associated with mining activities; (2) discharges associated with general industry; and (3) discharges associated with construction sites disturbing five acres or more of land. The state accepts group applications approved by EPA, and is now covering group members under the state general permit for general industry. NDDH also accepts individual applications.

Program Notes:

Monitoring Requirements: Baseline monitoring requirements have been established for the mining and general industry permits. The construction general permit establishes required inspections of stormwater pollution prevention controls.

Reporting Requirements:† For the mining and general industry permits, reporting is either conducted annually or biannually depending on the industry.

The Department also requests that stormwater pollution prevention plans (SWP3) be submitted to the state. Those for mining should be submitted 60 days after permit coverage begins. Those for general industry are due 90 days after coverage begins, and those for construction should be submitted with the notice of intent (NOI), 30 days prior to the start of construction. Permittees must submit their SWP3s to: NDDH, Division of Water Quality, 1200 Missouri Ave., Bismark N.D. 58506-5520.

Fees: North Dakota has regulatory authority to charge permit fees, but currently does not charge fees for NPDES permits.

General Permit For Mining, Oil and Gas Facilities:† NDDH's general permit associated with mining and extraction activities was reissued June 30, 1999. The new permit took effect July 1, 1999, and expires June 30, 2004. The permit covers all new and existing stormwater discharges associated with these sectors and includes facilities subject to effluent guidelines and standards in the coal mining, oil and gas, mineral mining, and ore mining industries under 40 CFR Parts 434, 435, 436 or 440, respectively, for any process-related discharges.

Facilities covered under the previous version of this permit are retained under the permit provided a satisfactory request was made under the renotification provision of the previous permit. Operators of new facilities with stormwater discharges must submit an NOI at least 30 days prior to the start of construction. Stormwater discharges associated with industrial activity from discharge points subject to existing effluent limitations guidelines, or facilities that have been shown by NDDH to be contributing to a violation of a water quality standard are not covered by the general permit.

Operators of new or existing facilities in oil or gas exploration, production, processing, treatment operations or transmission industries

† Revised, November 2000.

† Revised, November 2000.

(SIC code 13) are exempt from submitting a permit application under stormwater regulations as provided by 40 CFR 122.26(c)(1)(iii), unless the facility:

- has had a discharge of stormwater resulting in a spill or release of a reportable quantity of oil and grease for which notification is or was required under 40 CFR 110.6, 40 CFR 117.21 or 40 CFR 302.6 at any time since Nov. 16, 1987; or
- contributes to a violation of a water quality standard.

Operators of oil or gas extraction facilities that experience a stormwater release with a reportable quantity release of oil or hazardous substances—a release that requires notification under 40 CFR 110.6, 40 CFR 117.21 or 40 CFR 302.6—must submit an NOI within 15 days of becoming aware of the release. Facilities required to submit an NOI also must submit an SWP3 and provide for compliance within 60 days of the operator becoming aware of the release.

Also exempt from submitting a permit application under stormwater regulations are inactive mining sites that have been released from reclamation bonding under the federal Surface Mining Control and Reclamation Act (for coal mining sites) or an alternative state or federal reclamation program (for noncoal mining sites) under 40 CFR 434.11, paragraph L.

Under the general permit, mining and oil and gas facilities are required to sample stormwater discharges only if they are notified by NDDH. Those facilities required to perform sampling under these conditions would need to sample for these parameters:

- oil and grease (visual monitoring);
- pH (S.U.);
- total suspended solids (mg/l);
- total phosphorous (mg/l);
- total Kjeldahl nitrogen (mg/l);
- total nitrates (mg/l); and
- any pollutant that is limited in an effluent guideline to which the facility is or may be subject.

SWP3s approved and implemented under the previous version of this permit remain in effect under the new permit. Facilities operating under an existing SWP3 must certify that the plan and nonstormwater certifications are accurate following a midterm comprehensive site evaluation. New facilities with proposed stormwater discharges must submit an SWP3 along with the NOI to obtain coverage under the general permit. SWP3s must be implemented immediately at the start of operation. It is the responsibility of the facility to ensure that the SWP3 plan complies with any state or local sediment and erosion control or other stormwater-related management plans and regulations. However, an SWP3 is not a substitute for stormwater management plans that may be required under other regulatory programs. Permittees also must amend the SWP3 whenever there is a change in design, construction, operation or maintenance that significantly effects the potential for the discharges of pollutants to the waters of the state or if the plan proves to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges.

General Permit for General Industry:† NDDH's general permit associated with industrial activities took effect April 1, 2000, and expires March 31, 2005. The permit covers all new and existing stormwater discharges associated with this sector, but does not include facilities involved in mining or extracting activities (SIC codes 10 through 14); facilities associated with construction activities except stormwater discharges from asphalt and concrete plants; and facilities involved in industrial activities from discharge points subject to existing effluent limitations guidelines.

Facilities covered under the previous version of this permit are retained under the permit provided a satisfactory request was made under the renotification provision of the previous permit. Operators of new facilities with stormwater discharges must submit an NOI at least 30 days prior to the start of construction. Stormwater discharges associated with industrial activity from discharge points subject to existing effluent limitations guidelines, or facilities that have been shown by NDDH to be contributing to a violation of a water quality standard are not covered by the general permit.

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Permittees, as required, must comply with the reporting requirements of 40 CFR 110, 40 CFR 117 and 40 CFR 302 for the spill or release of oil or hazardous substances equal to or in excess of reportable quantities. Permittees with salt storage piles also must implement methods to prevent salt piles from being exposed to precipitation events by Oct. 1, 1996, and must implement appropriate safeguards to prevent salt from the piles from reaching waters of the state.

Under the general permit, facilities must inspect their operations either annually or biannually to ensure that all SWP3 controls are in good condition and are operating properly. The collection and transportation of samples must conform with EPA preservation techniques and holding times. The facilities required to monitor their stormwater discharges annually and biannually for the facility-specific and baseline parameters conform generally with the list of facilities and baseline parameters under EPA's general permit. One key difference between EPA's general permit and North Dakota's general permit is that coal pile runoff facilities and battery reclaimers are required to report annually instead of biannually.

SWP3s approved and implemented under the previous version of this permit remain in effect under the new permit. Facilities operating under an existing SWP3 must submit the plan to NDDH within 90 days after coverage begins. If NDDH finds that the plan is deficient, the permittee has 30 days after receiving such notification to make changes. All SWP3 plans must be implemented within 90 days of submittal but no later than 180 days after coverage begins. New facilities with proposed stormwater discharges must submit an SWP3 at least 30 days before the start of operation. These plans must be implemented immediately at the start of operation.

General Permit For Construction:† NDDH's general permit associated with construction activities took effect Oct. 1, 1999, and expires Sept. 30, 2004. The permit covers all new and existing stormwater discharges associated with this sector, including construction activities (clearing, grading and excavation) and areas that are dedicated to producing earthen materials (soils, sand and gravel) for use in construction sites as approved by NDDH. This permit does not cover: (1) discharges not associated with construction activities; (2) discharges associated with mining activities; (3) discharges associated with construction activity that NDDH has shown to be or may be reasonably expected to be contributing to a violation of a water quality standard; and (4) discharges from discharge points subject to existing effluent limitations guidelines.

Facilities covered under the previous version of this permit are retained under the permit provided a satisfactory request was made under the renotification provision of the previous permit. Individuals who intend to obtain coverage for stormwater discharges from a construction site where disturbances could result in another stormwater discharge associated with the construction project, must submit an NOI at least 30 days prior to the start of construction. Coverage of the permit begins upon receipt of the NOI and SWP3 by NDDH.

Permittees, as required, must comply with the reporting requirements of 40 CFR 110, 40 CFR 117 and 40 CFR 302 for the spill or release of oil or hazardous substances equal to or in excess of reportable quantities.

Under the general permit, facilities must inspect their operations as required under EPA's general permit. In addition, inspection records must include the time inspected, the date and duration (in hours) of the storm event, rainfall measurements or estimates (in inches) of the storm event, the duration of time between this event, and the end of the most recent storm event which was 0.50 inches or greater in precipitation. Any measurable quantities of sediment released off the site also must be recorded with a brief explanation as to the measures taken to prevent future releases as well as any measures taken to clean up the sediment that has left the site. Inspection results must be summarized and recorded on an inspection report form, which must be maintained on site and be available upon request of NDDH.

SWP3s approved and implemented under the previous version of this permit remain in effect under the new permit. Facilities operating under an existing SWP3 must submit the plan to NDDH within 90 days after coverage begins. If NDDH

† Revised, November 2000.

finds that the plan is deficient, the permittee has seven days after receiving such notification to make changes. New facilities with proposed stormwater discharges must submit an SWP3 with the NOI at least 30 days before the start of construction. These plans must be implemented immediately at the start of construction.

Construction Site Erosion and Sedimentation Controls:†

Numerous local water management boards and districts exist throughout North Dakota. Construction projects in many areas of the state may fall under the jurisdiction of these boards and districts. Developers should contact the local board or district to determine whether their projects must have approved erosion control plans before construction may proceed. Even if the locality does not require a permit or erosion control plans, developers should check with NDDH. NDDH does require a permit and an SWP3 if stormwater discharges associated with the construction site could disturb more than five acres or more of land or is adjacent to surface water of the state.

State Nonpoint Source Program:

For information about the state nonpoint source program, contact Greg Sandness at (701) 328-5232 or fax requests to (701) 328-5200.

Regulation of Alteration of Stream Beds, Appropriation of Water from Streams:

Alteration of stream beds and appropriation of water from streams is regulated by the North Dakota State Water Commission. For information, contact the commission at (701) 328-2750 or fax requests to (701) 328-3696.

Coal Mining Activities:

Coal mining activities are regulated by the North Dakota Public Service Commission and the state Attorney General's Office. For information, contact the Public Service Commission at (701) 328-2400 or (701) 328-2410 by fax, or the Attorney General's Office at (701) 328-2210 or (701) 328-2226 by fax.

† Revised, November 2000.

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¶890.36 Ohio

State Contact:†

Bob Phelps, Manager
Storm Water Section
Division of Surface Water
Ohio Environmental Protection Agency
(Ohio EPA)
P.O. Box 1049
Lazarus Government Center
Columbus, OH 43216-1049
(614) 644-2034
(614) 644-2745 (fax)
E-mail: robert.phelps@epa.state.oh.us††
Internet: www.epa.state.oh.us/dsw/storm/
index.html††

Dedicated Stormwater Update Telephone Lines:
(614) 644-2053

Program Description:†

Ohio is a delegated NPDES state with general permit authority. The state has issued three general stormwater permits as follows:

- OHR000003—Industrial Activity General Permit issued Aug. 1, 2000, expires July 31, 2005;
- OHR100000—Construction Activity General Permit;
- OHM000001—Coal Strip Mine General Permit issued June 3, 1994, expires May 31, 1999.

The state construction activity general permit expired on April 26, 1994. However, the permit will remain in effect until it is renewed. Ohio plans to renew the construction general permit in 2002 when the Phase II construction general permit for small sites is prepared. Dischargers also may submit individual applications.

Application Requirements:†

To obtain general permit coverage, industrial facilities must submit a one-page NOI form developed by Ohio EPA.

Construction sites seeking general permit coverage in Ohio must submit NOIs to Ohio EPA at least 45 days before construction begins. The owner or developer of a construction site must submit the NOI, not the operator or contractor. Owners or developers must receive notice from the state that the NOI has been approved before beginning construction. The NOI requirements in Ohio EPA's construction site general permit were modified, effective Feb. 2, 1994, for small sites that are part of a larger common development plan. Copies of the modified language affecting such sites, NOI forms for small individual lots and other permit information is available on the Web site listed above or by contacting the Stormwater Telephone Line above.

Ohio issued a general permit for industrial group applicants in 1995 that expired on Oct. 31, 1999. Ohio EPA did not renew this general permit. The facilities covered under the expired permit were transferred to coverage under the industrial general permit that was renewed on Aug. 1, 2000.

Notices of Termination: Generally, facilities covered under an Ohio general permit are required to submit notices of termination (NOT) forms to Ohio EPA to terminate coverage under the permit. Once all stormwater discharges covered by the permit at a facility are eliminated, the permittee must submit an NOT.

Program Notes:

Ohio's industrial general permit follows U.S. EPA guidelines closely in terms and conditions. The construction general permit departs significantly from U.S. EPA's baseline general permit for construction sites.

Generally, Ohio's construction general permit follows the provisions of the state's model standards and regulations for sedimentation and erosion control, "Rainwater and Land Development," which are available from the Ohio Department of Natural Resources (see "State Documents Available" below).†

Major differences between Ohio requirements and federal requirements for construction site runoff control concern: (1) timing requirements as to when vegetative practices and reseeding efforts must begin at a site; (2) state regulations for protecting surface waters of the state that may

† Revised, December 2001.
†† Added, December 2001.

† Revised, December 2001.

run through or near a site; and (3) whether sediment-catching ponds are required for larger construction projects. Ohio does not specifically require sediment ponds for larger construction sites, but does call for their use when perimeter-control measures, such as silt fences, are inadequate to control site runoff. Where sediment ponds are required, they must be designed to hold 67 cubic yards of runoff per acre of drainage area.

SWP3s: Industrial permittees must prepare and implement SWP3s.

Monitoring Requirements:† The general permit retains annual monitoring requirements for the following industrial activities:

A. Primary metal industries;

B. Land disposal units/incinerators/burner industrial furnaces;

C. Wood treatment facilities using chlorophenolic formulations;

D. Wood treatment facilities using creosote formulations;

E. Wood treatment facilities using chromium-arsenic formulations;

F. Coal pile runoff;

G. Battery reclaimers;

H. Airports;

I. Coal fired steam electric facilities;

J. Animal handling/meat packing facilities; and

K. Additional facilities, including

- facilities classified as SIC 30 (rubber and miscellaneous plastics products) or SIC 28 (chemicals and allied products) where stormwater comes in contact with storage piles for solid chemicals used as raw materials;
- automobile junkyards with more than 250 auto or truck bodies with drivelines, or with 250 drivelines, in whole or in parts, or with any combination thereof, exposed to stormwater; or with more than 500 auto or truck bodies with or without drivelines, in whole or in parts, exposed to stormwater; or where more than 100 units per year are dismantled and the drainage or storage of automotive fluids occurs in areas exposed to stormwater;
- lime manufacturing facilities where stormwater contacts lime storage piles;
- oil handling sites at oil-fired steam electric power generating facilities;
- cement manufacturing facilities or cement kilns, except for stormwater discharges at such facilities from material storage piles subject to the stormwater effluent guidelines at 40 CFR 411, which are not eligible for general permit coverage;
- ready-mixed concrete facilities; and
- ship building and repairing facilities.

Fees:† Ohio requires fees for NPDES permits. Currently, the application fee for filing an NOI is $200. Effective July 1, 2001, fees for construction and industrial activity general permits increased. The industrial NOI fee increased from $200 to $350. The construction NOI fee remains $200, but applicants must pay an additional $20 per acre for construction sites from six to 20 acres.

The current fee structure for individual permits has two parts: a flat permit application fee of $200 per facility and a separate permit issuance fee based on the design flow of the facility. Permit issuance fees based on the design flow for each outfall permitted can range from zero to $750 per outfall. For large industrial plants or municipalities with several outfalls total permit issuance fees can amount to thousands of dollars.

Individual NPDES permittees must also pay an annual discharge fee based either on their discharge flows or on their industry type.

† Revised, December 2001.

† Revised, December 2001.

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Municipal Permits:†

U.S. EPA's Nov. 16, 1990, Phase I rule listed seven Ohio municipalities as large or medium MS4s. Of these seven municipalities, Akron, Columbus, Dayton and Toledo currently are permitted with individual municipal stormwater NPDES permits.

Cincinnati and Cleveland received exemptions due to their reliance on combined sewer systems; the cities will be included in the Phase II program.

Phase II:†† Ohio EPA is developing the Phase II municipal stormwater permit program and plans to issue a general permit for the designated Phase II cities, unincorporated urbanized areas and other MS4s by December 2002 with NOIs due in March 2003.

Mining Industry Permits:†

NPDES permits for the coal mining industry are administered by Ohio EPA, but certain other mining industry regulations are administered by the Division of Mineral Resources Management (DMRM), Department of Natural Resources (DNR). On June 3, 1994, Ohio EPA issued a final general permit that regulates the discharge of wastewater, including stormwater, associated with coal mining. Dischargers requiring coverage under this general permit must submit an NOI form 45 days before initiating ground disturbing activities. In the event of a transfer, sale or assignment of the rights to an existing coal strip mining permit, the new coal mining permittee must submit an NOI form and letter requesting a transfer of responsibility in accordance with the requirements of this part at least 60 days prior to the effective date of the transfer, sale or assignment. For information on DMRM's regulation of Ohio mines, contact Russ Gibson, Department of Natural Resources, Division of Mineral Resources Management, 1855 Fountain Square Court, Building H2, H3, Columbus, OH 43224; (614) 265-6663.

Sedimentation and Erosion Control Programs:

Under Chapter 1511 of the Ohio Revised Code, DNR's Soil & Water Conservation Division has developed a set of model regulations and model standards that cities, counties, townships and local soil and water conservation districts may choose to adopt for the regulation of sedimentation and erosion control from construction sites.

Limitations on Regulations: Under state law, counties may not require sedimentation and erosion control management plans for sites of less than five acres. It is recommended that cities and townships require plans and permits only of projects disturbing one acre or more of land. The model standards may be applied to projects of any size at the option of local authorities. The older model standards, which are still in force in some localities, require projects to meet maximum soil loss ceilings; the revised state model standards that have been adopted by other localities require best management practices.

Local Adoption of Programs: Local cooperation with the model program has been mixed. The city of Columbus has adopted construction site erosion and sedimentation control regulations. Warren County, Greene County, Geuaga County and Delaware County have adopted strong standards fashioned after the state model. Hamilton County has recently strengthened its program for assuring hillside stability during construction activity. Implementation varies elsewhere in the state.

Coastal Zone Management Program:

As a Great Lakes state bordering on Lake Erie, Ohio is developing a coastal management plan under existing state law and is seeking federal approval for its coastal management program under the Coastal Zone Management Act program of the National Oceanic and Atmospheric Administration of the U.S. Department of Commerce. For additional information contact Mike Colvin at (614) 265-6413 or Chris Kasselmann at (614) 265-6391.

State Documents Available:†

The following documents are available from the Department of Natural Resources, Division of Soil & Water Conservation, 4383 Fountain Square Drive, Building B3, Columbus, OH 43224; (614) 265-6610:

- Keeping Soil on Construction Sites, $20; a videotape training program for developers.
- Rainwater and Land Development, 1996.

† Revised, December 2001.
†† Added, December 2001.

† Revised, December 2001.

Available from Ohio EPA at the above address:

- Ohio Administrative Code Section 3745-38, Procedural Rules for General Permit Issuance.
- State NOI and NOT Forms.

[The next page is Tab 800, Page 511.]

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¶890.37 Oklahoma

State Contact(s):

Norma Aldridge
Department of Environmental Quality
Water Quality Division
1000 N.E. Tenth St.
Oklahoma City, Okla. 73117-1212
(405) 271-5205
(405) 271-7339 (fax)

For more information on state activities, contact:
Dave Farrington
(405) 271-7440, ext. 118

Program Description*

Oklahoma was granted authority by EPA in November 1996 to administer its own NPDES program, called the Oklahoma Pollutant Discharge Elimination System (OPDES). On Sept. 11, 1997 the state issued a general permit for stormwater discharges from construction sites disturbing five or more acres of land. The new permit is identical to EPA's construction permit. The permit will expire Aug. 31, 2002. The state intends to adopt EPA's multi-sector permit for industrial facilities as soon as the permit is finalized and issued by EPA.

Application Requirements:

Notice of Intent: To seek coverage under the state's construction site general permit, stormwater dischargers should submit notice of intent forms to the DEQ at the address listed on this page.

Stormwater Notice of Intent (4203)
401 M St., S.W.
Washington, D.C. 20460

Program Notes:

Currently, industrial dischargers in Oklahoma must comply with the provisions discussed below until the state adopts EPA's multi-sector permit.

Under the state certification process outlined by section 401 of the Clean Water Act (CWA), Oklahoma added some state-specific provisions to EPA's industrial and multi-sector general permits. These provisions primarily restrict the discharge of pollutants to state-designated scenic rivers and outstanding resource waters.

Industrial Sites—Limitations on Eligibility: In Oklahoma, "new" industrial stormwater discharges, defined as commencing after June 25, 1992, are not authorized by the industrial general permit if they are released into any of the following waters:

- water bodies designated as "Outstanding Resource Waters" and/or "Scenic Rivers" in Appendix A of the Oklahoma Water Quality Standards;
- water bodies located within the watersheds of state-designated "Scenic Rivers" designated in Appendix A of the state water quality standards; and
- water bodies located within recreationally or ecologically significant areas designated by Appendix B of the Oklahoma Water Quality Standards, which also are specifically designated as "Outstanding Resource Waters" in Appendix A.

The Oklahoma Water Quality Standards were revised effective June 25, 1992. The new requirements are set forth in the Oklahoma Annotated Code, Title 785, Chapter 45 (OAC 785:45-5-25). In addition to requiring the above limitations on general permit coverage, OAC 785:45-5-25 prohibits any NPDES discharge permit for new point source discharges to state scenic rivers or outstanding resource waters commencing after June 25, 1992, with the exception of stormwater runoff from temporary construction activity.

Outstanding resource waters and scenic rivers are located in the following river basins:

- Basin 1—Middle Arkansas River; Barren Fork and certain listed tributaries; Upper Illinois River above Barren Fork and certain listed tributaries;
- Basin 2—Lower Arkansas River, Lee Creek, and certain listed tributaries; and
- Basin 4—Upper Mountain Fork River and certain listed tributaries.

Whole Effluent Toxicity Testing: Oklahoma adds some state-specific provisions for those industrial

* Revised, January 1998.

dischargers required to conduct whole effluent toxicity (WET) testing. WET tests must be conducted twice annually on grab samples of the discharge at 100 percent strength. Test organisms are Daphnia pulex and Pimephales promelas, the fathead minnow. Facilities required to conduct WET tests must report whether mean survival is greater than 50 percent at full discharge strength. Facilities must also report whether there is a statistically significant difference in survival rates between the discharge at 100 percent strength and a control of synthetic dilution water.

Monitoring and Recordkeeping Requirements: Generally these are similar to those in the federal NPDES program.

Fees: The state requires an application fee of $240 for coverage under the new construction permit. The fee will be dropped to $150 starting in fiscal year 1999.

State Waste Disposal Program:

DEQ administers a state waste disposal permit program for industrial and commercial facilities under Oklahoma Statutes, Title 82, Section 926. The program covers direct discharges to state waters, surface impoundments, land applications of wastewater and some industrial septic tank operations. Stormwater discharge permits have historically been issued on a case-by-case basis.

Fees: The state does not impose stormwater permit fees. Annual fees for state waste disposal permits are determined through a point system that reflects such factors as annual pollutant loadings, complexity of the discharging industry, quality of the receiving stream, whether the facility is a major or minor waste discharger, etc. Annual fees range from approximately $300 to $10,000. For more information, contact Dave Farrington at the above address.

Application Forms: There is a standard Waste Disposal Permit Application Form for coverage under the state permit system.

Municipal Permits:

Under EPA's national NPDES program for stormwater dischargers, both Oklahoma City and Tulsa are required to obtain municipal separate storm sewer system permits. For more information on permits for these municipalities, contact EPA Region 6 at the address and telephone number listed above.

Oilfield Wastes:

Oilfield wastes are regulated by the Oklahoma Corporation Commission (OCC). For more information about requirements, please contact the OCC Oil and Gas Conservation Division at (405) 521-2201.

State Nonpoint Source Programs:

Nonpoint source runoff programs in Oklahoma are coordinated by the Oklahoma Conservation Commission. The state nonpoint source program is a voluntary, nonregulatory program and offers educational materials, technical assistance, and in some cases cost-sharing agreements to cooperating landowners to address nonpoint source water pollution problems. To qualify for cost-sharing assistance, landowners must be in watersheds that have been identified as problem watersheds in one of the state's two-year nonpoint source program reports under Section 319 of CWA. Individuals who have identified nonpoint source pollution problems in a particular watershed may contact the Oklahoma Conservation Commission at the address below to inform the agency of problems in that watershed.

OCC also administers nonpoint source programs for watersheds affecting lakes in the Clean Lakes Program. Funding for watershed programs affecting these lakes is available under Section 314 of CWA. OCC is responsible for four lakes under the Clean Lakes Program: Skipout Lake, Claremore Lake, Eucha Lake, and Taylor Lake.

For more information about nonpoint source programs, contact:

Jim Leach
Oklahoma Conservation Commission
2800 N. Lincoln Blvd.
Oklahoma City, Okla. 73105
(405) 521-2384

Oil and Gas, Mining Runoff: OCC coordinates its nonpoint source programs affecting the oil and gas industry and the mining industry with the state agencies responsible for administering these

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industries. For more information on nonpoint source issues relating to the oil and gas industry, contact:

Oklahoma Corporation Commission
Jim Thorpe Bldg.
1900 North Lincoln Blvd.
Oklahoma City, Okla. 73105
(405) 521-2201

For more information on the mining industry, contact:

Oklahoma Department of Mines
4040 Lincoln Blvd.
Oklahoma City, Okla. 73105
(405) 521-3859

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State Contact(s):

Department of Environmental Quality
Water Quality Division
811 S.W. Sixth Ave.
Portland, OR 97204
(503) 229-5937
(503) 229-6957 (fax)
†http://waterquality.deq.state.or.us/wq

Program Description:†

Oregon is a delegated NPDES state with general permitting authority. Previously, DEQ had 12 general permits that covered all industrial stormwater dischargers regulated under EPA's baseline industrial general permit, with the exception of stormwater dischargers in the wood treatment industry. However, those permits expired in September 1996, and rather than reissuing all 12 permits, the state consolidated them into four permits, as well as a new watershed-based permit for the Columbia Slough, that cover the following activities and facilities:

- Permit No. 1200-C for construction, including clearing, grading, excavation and stockpiling activities that will disturb five or more acres of land. (This also includes activities that disturb a total of five or more acres as a phased project or as part of a common plan.) (Permit adopted Oct. 23, 1996);
- Permit No. 1200-Z for facilities identified in 40 CFR 122 with stormwater discharges, excluding construction activities, asphalt mix batch plants, concrete batch plants and SIC code 14 - mining and quarrying of nonmetallic minerals. (Adopted July 22, 1997);
- Permit No. 1000 for sand, gravel and other nonmetallic mineral quarrying and mining operations that dispose of all process wastewater and stormwater by recirculation, evaporation, and/or controlled seepage with no discharge to surface water. Asphalt mix batch plants, concrete batch plants, and other related activities located on site are also covered. (Adopted Aug. 6, 1997);
- Permit No. 1200-A for facilities with primary SIC code 14 - mineral and quarrying of nonmetallic minerals, except fuels. Also covered are asphalt mix batch plants and concrete batch plants, including mobile operations of this type. This permit can cover multiple nonmetallic mining and quarrying sites under single ownership, each of less than 10 disturbed acres where only mining activities are conducted. This permit does not cover multiple asphalt mix batch plants and concrete batch plants. (Adopted Aug. 6, 1997); and
- Permit No. 1200-COLS, a watershed-based permit for industrial stormwater discharges for the Columbia Slough. As Oregon establishes TMDLs elsewhere, the state will consider the need for additional watershed-based industrial stormwater discharge permits.†

Application Requirements:†

Oregon has two registration application forms. One form is designed for those seeking coverage by General Permit 1200-C for construction activities disturbing five acres or more. There is a separate registration application form for all other industrial general permits. Wood treaters must file individual permit applications using EPA Forms 1 and 2F. There is no group application process.

The construction general permit requires the preparation and implementation of an Erosion and Sediment Control Plan (ESCP). The ESCP must be submitted to DEQ at least 30 days before construction starts or to the local planning agency according to that agency's timeframe. For construction activities disturbing 20 or more acres, the ESCP must be prepared and stamped by an Oregon Registered Professional Engineer, Oregon Registered Landscape Architect, or Certified Professional in Erosion and Sediment Control (Soil and Water Conservation Society). The overall application for general permit 1200-C should be submitted to DEQ at least 90 days before construction begins. If a local planning agency is acting as DEQ's agent, the application should be submitted according to the local agency's timeframe.

† Revised, October 2000.

† Revised, October 2000.

Applicants for all general permits must submit Oregon Land Use Compatibility Statements (LUCS) if their facilities do not already have LUCS on file with DEQ.

Program Notes:

Industries covered under the general permits are required to develop stormwater pollution control plans (SWPCPs) within 180 days of receiving the permit from the state. Depending on the size of the facility, the SWPCP may be required to be prepared by a registered engineer or architect. The plan requirements generally are similar to those in EPA's baseline industrial general permit. The plans also must include procedures for meeting any Oregon administrative rules for stormwater control specific to the applicable river basin.

Discharge Benchmarks: The permits also specify discharge benchmarks for certain parameters.†

Fees: DEQ charges an initial fee of $560 for including an industrial facility under a general permit, and an annual compliance determination fee of $275, which is billed each May during the five-year term of the permit.†

Monitoring: Monitoring requirements under Oregon's general permits vary according to industrial category. In addition to the monitoring required for the different industry sectors under EPA's baseline industrial general permit, Oregon has added other monitoring parameters for some industry sectors. All industrial dischargers must monitor their stormwater runoff for any parameters listed as limited parameters in their existing NPDES permits. Additionally, dischargers to a given water body also must monitor for any parameters that are specified for that water body. General permits for all industries except the construction industry mandate monitoring for parameters listed in the permits at least twice a year, at intervals at least 60 days apart. Note that the construction general permit, Permit 1200-C, does not have sampling requirements.

Recordkeeping: Monitoring records must be kept on site for at least three years and must be submitted annually by July 15 to the address listed above.†

† Revised, October 2000.

DEQ Regional Offices:

Stormwater dischargers in Oregon may wish to discuss some permitting questions with their regional DEQ offices. Locations and telephone numbers for DEQ regional offices are as follows:

- Central Region: For Baker, Crook, Deschutes, Gilliam, Grant, Harney, Hood River, Jefferson, Klamath, Lake, Malheur, Morrow, Sherman, Umatilla, Union, Wallowa, Wasco and Wheeler counties: 2146 N.E. Fourth, Suite 104, Bend, OR 97701; (541) 388-6146.†
- Northwest Region: For Clackamas, Clatsop, Columbia, Multnomah, Tillamook and Washington Counties: 2020 S.W. Fourth Ave., 4th Floor, Portland, OR 97201-4987; (503) 229-5263.
- Western Region: For Benton, For Coos, Curry, Douglas, Jackson, Josephine, Lane, Lincoln, Marion, Polk and Yamhill counties: 750 Front St., N.E., Suite 120, Salem, OR 97310; (503) 378-8240.†

State Documents Available:†

Copies of applications and permits are available for review at each DEQ regional office or online at: http://waterquality.deq.state.or.us/wq.

- *Recommended Best Management Practices for Stormwater Discharges*, DEQ, August 1993.
- *NPDES Stormwater Regulations for Construction Projects*, DEQ, July 1993. Includes guidance on submitting applications, preparing erosion control plans.
- *Stormwater Regulations Fact Sheet*, DEQ, July 1993.
- Erosion Control Plans Technical Guidance Handbook, Unified Sewerage Agency, telephone (503) 648-8621.
- Erosion Control Plans Technical Guidance Handbook, City of Portland Building Bureau, telephone (503) 796-7303.

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- Erosion Control Plans Technical Guidance Handbook, Unified Sewerage Agency, telephone (503) 648-8621.
- Erosion Control Plans Technical Guidance Handbook, City of Portland Building Bureau, telephone (503) 796-7303.

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State Contacts:

Mr. Cuong Vu (industrial permits)
(717) 787-8184
Fax: (717) 772-5156
Department of Environmental Protection
Water Quality Management Bureau
Division of Permits and Compliance
MSSOB-10th Floor
P.O. Box 8465
Harrisburg, Pa. 17105-8465

Ken Murin (construction permits)*
(717) 787-6827
Fax: (717) 772-5986
Department of Environmental Protection
Bureau of Land and Water Conservation
Division of Stormwater Management and Sediment Control
400 Market Street, 11th floor
Rachel Carson State Office Building
P.O. Box 8555
Harrisburg, Pa. 17105-8555

Program Description:

Pennsylvania is an NPDES delegated state with general permitting authority.

The Department of Environmental Protection (DEP) has issued a state general permit for industrial stormwater dischargers and a second general permit for construction site stormwater dischargers. Pennsylvania requires some stormwater dischargers to obtain individual NPDES stormwater permits. In 1995, DEP incorporated some of the requirements from the Environmental Protection Agency's (EPA) multi-sector permit into its industrial general permit allowing for group applicants under certain conditions. As a result, the state does not offer a multi-sector permit option for industries.

Pennsylvania also regulates stormwater at the state level under the Storm Water Management Act (see below).

Industrial Discharges: Regulation of industrial stormwater discharges in Pennsylvania is administered by DEP's Division of Permits and Compliance, Water Quality Management Bureau.

DEP originally issued its General Permit for Discharges of Stormwater from Industrial Activities in November 1992 as a five-year permit due to expire in November 1997. However, DEP officials revised the permit in November 1995 to incorporate into the permit some of the requirements for EPA's multi-sector permit. At the same time, DEP extended the industrial permit for an additional five years. The revised permit expires Nov. 3, 2000. DEP officials emphasize, however, that this expiration date only indicates when DEP must reissue or revise the permit. The expiration date for a discharger currently holding an industrial general permit is five years from the date the permit was issued to the discharger. Additionally, permittees should make sure that they are in compliance with the requirements of the permit under which they are covered. Those who are covered by the original 1992 permit must comply with its requirements and those who are covered by the revised 1995 permit must follow its requirements until such time as the permit expires.

The discussion that follows addresses both versions of the permit. Any differences between the two are noted.

DEP may require dischargers to obtain individual permits if monitoring data indicate that toxic pollutants are, or are expected to be, discharged by a facility. Facilities also may be required to obtain individual NPDES stormwater permits if there is evidence indicating "potential or realized impacts on water quality" from the permitted discharge.

The following discharges are not covered by the state general permit. Facilities with such discharges may be required to obtain individual permits:

- discharges containing hazardous pollutants, toxics, or any other substance that may cause or contribute to an increase in the mortality or morbidity of an individual or the total population, or pose a substantial present or future hazard to human health or the environment;
- discharges that "individually or cumulatively" have the potential to cause significant adverse environmental impact;

* Revised, August 1997.

- discharges to waters classified as "special protection" under Chapter 93 of DEP regulations;
- discharges that are not, or will not be, in compliance with the general permit terms and conditions;
- discharges from persons with "a significant history of noncompliance" with other DEP permits;
- discharges subject to EPA's categorical point source effluent limitations (1992 permit);
- discharges that do not, or will not, result in compliance with applicable effluent limitations or water quality standards;
- discharges from facilities that DEP determines require individual NPDES permits to ensure compliance with the federal Clean Water Act or the Pennsylvania Clean Streams Law, or the rules and regulations thereto; or where pollution control practices and technologies have "demonstrably" changed;
- discharges of mixed storm and non-storm water, unless the non-stormwater discharges are either in compliance with a different NPDES permit or authorized by Part C.1.a. (authorized non-stormwater discharges) of the general permit;
- discharges associated with industrial activity that are subject to existing effluent limitation guidelines addressing stormwater or combinations of stormwater and process water;
- discharges subject to an existing NPDES individual permit or general permit, or from a facility where such a permit has been terminated or denied (such discharges may be authorized under the general permit after an existing permit expires, providing that the old permit did not establish numeric effluent limitations);
- discharges associated with industrial activity from construction sites;
- discharges adversely affecting a listed endangered or threatened species or its critical habitat; and
- discharges from inactive mining sites, inactive landfills, or inactive oil and gas operations where the operator cannot be identified.

*Construction Activities:** State officials are in the process of renewing the general permit for construction activities, which expires Oct. 9, 1997. Officials published a draft renewal in October 1996 with some changes to the original permit. These changes are noted below. Regulation of construction site stormwater discharges is administered by DEP's Bureau of Land and Water Conservation, Division of Stormwater Management and Sediment Control. The Bureau of Land and Water Conservation delegates some stormwater regulation functions to Pennsylvania's 66 county conservation districts, which process and acknowledge notices of intent (NOIs) from construction sites seeking general permit coverage. The county conservation districts also review the Erosion and Sedimentation Control Plans that dischargers must submit with their NOIs for 30-day review.

Owners or operators of construction sites disturbing at least five acres of land are required to obtain stormwater permits. Construction projects of five to 25 acres are eligible for coverage under the state construction site general permit, unless these projects discharge to "special protection" waters of the state as defined by DEP regulations, Chapter 93. Such projects probably require individual NPDES permits for stormwater. Construction projects disturbing 25 acres or more, except for those that occur in phases and thus are "parceled" pursuant to 25 Pa. Code §102.3(a)(4), require an individual NPDES construction site permit for stormwater runoff. However, DEP officials seeking to reissue the general permit have proposed eliminating the maximum acreage limitation of 25 acres to make the permit more consistent with other states. The following discharges are not covered by the current construction permit and would not be covered under the draft permit:

- discharges that contain hazardous pollutants, toxics, or any other substance that may cause or contribute to an increase in mortality or morbidity in either an individual or the total population, or pose a

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substantial present or future hazard to human health or the environment when discharged into navigable waters;

- discharges that individually or cumulatively have the potential to cause significant adverse environmental impact;
- discharges to waters classified as "special protection" (high quality or exceptional value) under Chapter 93;
- discharges that are not, or will not, be in compliance with any of the terms or conditions of the general permit;
- discharges from persons with a significant history of noncompliance with prior permits issued by DEP;
- discharges subject to categorical point source effluent limitations issued by EPA;
- discharges that do not, or will not, result in compliance with applicable effluent limitations or water quality standards;
- discharges from construction activities where DEP requires an individual NPDES permit to ensure compliance with the Clean Water Act, the Clean Streams Law, or where a change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source; and
- discharges from construction activities where excavation will proceed deeper than 25 feet below ground level.

The two following categories are not eligible for coverage under the general permit and do not require NPDES permit coverage, but must comply with the requirements set forth in 25 Pa. Code Chapter 102:

- discharges from construction activity where the activity disturbs less than five acres of total land area which is not part of a larger common plan of development or sale; and
- non-point source discharges from silvicultural activities.*

Application Requirements:

Industrial Dischargers: Industrial dischargers seeking coverage under the state general permit must submit NOI forms provided by DEP. An NOI must be submitted to the appropriate regional office of DEP listed below, not the central office in Harrisburg.

Southeast Region
James Newbold
(610) 832-6130
Permits Section
Lee Park, Suite 6010
555 North Lane
Conshohocken, Pa. 19428

Northeast Region
Paul Swerdon
(717) 826-2553
Permits Section
2 Public Square
Wilkes-Barre, Pa. 18711-0790

Southcentral Region
Roger Musselman
(717) 657-4590
Permits Section
One Ararat Blvd., Room 147
P.O. Box 2357
Harrisburg, Pa. 17110

Northcentral Region
Rich Adams
(717) 327-3669
Permits Section
208 W. 3rd St., Suite 101
Williamsport, Pa. 17701

Southwest Region
Ron Schwartz
(412) 442-4000
Permits Section
400 Waterfront Dr.
Pittsburgh, Pa. 15222-4745

Northwest Region
Patrick G. Williams
(814) 332-6942
Permits Section
230 Chestnut St.
Meadville, Pa. 16335-3481

* Revised, August 1997.

Industrial facilities were required to submit NOIs by Oct. 1, 1992. For newly proposed discharges of industrial stormwater, facilities must submit NOIs 180 days before commencing any discharge. To renew coverage under the state general permit, industrial dischargers must submit NOIs to the appropriate authorities at least 180 days before their expiration dates.

Construction Activities: Construction project owners or operators seeking general permit coverage must submit state NOI forms and associated documents, including erosion control plans, to the appropriate county conservation district. NOIs for new projects must be submitted at least 30 days before construction begins. Applicants are allowed to discharge stormwater under the construction general permit within 30 days of filing an NOI unless notified otherwise by DEP or the local conservation district.

To obtain general permit coverage, the operator of a construction project should file: (1) an NOI form with appropriate signatures; (2) a U.S. Geological Survey map locating the project; (3) proof of notification of appropriate municipal and county government under Act 14, as explained in the instructions for the construction site NOI form; (4) an NOI fee of $100 payable to the reviewing entity (depending on the county, this is either the local conservation district's Clean Water Fund or the Commonwealth of Pennsylvania's Clean Water Fund; officials have proposed increasing this fee to $250 under the new permit); (5) documentation of compliance with water quality standards and effluent limits, including a completed erosion and sediment plan; and (6) documentation of the project's eligibility under the general permit. The revised permit is also likely to require both an administrative and technical review of the permit application by DEP officials or a delegated county conservation district prior to the acknowledgment of the NOI.*

Coverage under the construction site general permit is considered terminated if construction activity has been completed before the permit's expiration date, and if the operator achieves permanent stabilization of the site under Chapter 102 of DEP's rules and regulations.

Construction site NOIs or individual permit applications should be signed by the operator of the construction activity, or by the landowner if there is no separate operator. DEP encourages owners and operators to file as co-permittees. The proposed permit would require owners and operators to file as co-permittees. When ownership or control of the permitted facility changes, the permittee must notify DEP and the local County Conservation District using Form ER-BWQ-44.1, "Application for Transfer of Permit."

In addition to the NOI fee (currently $100, proposed increase to $250), county conservation districts may assess additional fees for reviewing erosion and sediment plans.

Permit Conditions:

Pennsylvania is working to consolidate a number of planning and pollution control documents required of regulated entities in the state into a single document called the Preparedness, Prevention and Contingency (PPC) Plan. Facilities covered by the industrial general permit and some construction operators regulated under the state construction general permit must develop and implement PPC plans for stormwater.

Industrial General Permit: Permit requirements under the Pennsylvania industrial general permit for stormwater largely resemble those in EPA's baseline industrial general permit. However, the Pennsylvania industrial general permit establishes an effluent limitation of 7 mg/L for dissolved iron and a pH limit of 6-9 for all permittees. Like EPA's permit, Pennsylvania's general permit also establishes a specific numeric limit of 50 mg/L total suspended solids for coal pile runoff, unless a more stringent limit is established for the facility pursuant to 25 Pa. Code Chapters 86-90.

Pennsylvania may require water-quality-based effluent limitations for any discharger covered by the industrial general permit to ensure the attainment of water quality standards in the receiving water body.

PPC Plans: Industrial dischargers regulated under the state general permit must develop PPC plans. Plans must be developed in accordance with:

* Revised, August 1997.

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- 25 Pa. Code §101.3;
- DEP'S "Guidelines for the Development and Implementation of Environmental Emergency Response Plans"; and
- DEP's "Supplemental Guidance for the Development and Implementation of Preparedness, Prevention and Contingency Plans Under the National Pollutant Discharge Elimination System Storm Water Permitting Program."

Minimum requirements of a PPC plan include:

- description of stormwater management practices;
- identification of areas with a high potential for sedimentation and soil erosion, and identification of measures to limit erosion in accordance with Chapter 102 of DEP's rules and the Bureau of Land and Water Conservation's "Erosion and Sediment Pollution Control Program Manual";
- a certification that the discharge has been evaluated for the presence of non-stormwater discharges, or an indication of why such a certification was not feasible;
- certain special requirements for SARA Title III, Section 313 facilities; and
- review and certification by a registered professional engineer of PPC plans for facilities subject to SARA Title III, Section 313 requirements for "water priority chemicals."

PPC Deadlines: All industrial facilities required to obtain NPDES permit coverage for stormwater discharges must develop and implement their PPC plans prior to submitting their NOI forms seeking coverage.

Monitoring Requirements: For the industrial general permit, monitoring requirements generally resemble those in EPA's baseline general permit. However, differences between the EPA baseline monitoring requirements and the Pennsylvania requirements include the following.

- For industrial dischargers where the EPA baseline general permit requires acute whole effluent toxicity (WET) testing, Pennsylvania requires acute WET testing only upon DEP's specific request.
- Pennsylvania industrial dischargers required to do annual or semiannual sampling must sample for dissolved iron, and must meet an effluent limit for dissolved iron of no more than 7 mg/L.
- Pennsylvania allows those facilities required to do sampling to waive the sampling requirement, but only if bad weather or other adverse conditions prevent sampling. When this occurs, reasons for the sampling waiver must be reported on the state form titled, "Additional Information for the Reporting of Stormwater Discharge Monitoring." This waiver cannot be used more than once during a two-year period.
- Facilities required to sample for oil and grease must meet an effluent limit of 15 mg/L of oil or 30 mg/L of grease.
- Facilities must meet a pH limit of 6-9.
- Primary metal facilities must sample for 5-day biochemical oxygen demand (BOD5).
- Land disposal units, incinerators and BIFs must sample for nitrate plus nitrite nitrogen, rather than total kjeldahl nitrogen.
- All wood treatment facilities must sample for BOD_5 and nitrate plus nitrite nitrogen, in addition to dissolved iron and the "baseline" EPA parameters, and facilities using chlorophenolic formulations or creosote formulations need to sample for acute WET only upon DEP request.
- All airports that use 100,000 gallons or more of concentrated glycol-based deicing chemicals and/or 100 tons or more of urea on an average annual basis must conduct sampling, not just those with 50,000 flight operations or more annually.*
- Facilities listed in EPA's baseline general permit as "additional facilities," including chemical and allied products and rubber manufacturing facilities, automobile junkyards, lime manufacturing facilities, oil-fired steam electric generating facilities, cement manufacturing facilities and cement kilns, ready-mix concrete facilities, and ship building and repair facilities must sample for BOD_5, total kjeldahl nitrogen and total phosphorous in addition to the baseline

* Revised, August 1997.

parameters listed by EPA. However, according to the 1995 revised permit, these facilities are not required to conduct monitoring. Instead, these facilities may conduct an annual inspection of the facility. If these facilities do conduct annual monitoring they are not required to submit those monitoring results unless requested in writing by DEP.

For those facilities that conduct an inspection, the inspection must include a visual inspection of sediment present in the outfalls associated with the facility subject to the permit, and where possible, an identification of substances present in the sediment. The annual inspection must identify area(s) contributing pollutants to stormwater discharges and evaluate whether measures to reduce pollutant loadings identified in a PPC plan are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are necessary. Any deficiencies found during an inspection must be corrected.

Reporting Requirements: Monitoring results for the industrial general permit must be summarized on a federal DMR form and DEP's "Additional Information for the Reporting of Storm Water Monitoring Form." Permittees required to do sampling semiannually must report either by July 31 and Jan. 31 of each year or by April 30 and Oct. 31 of each year, depending on the industrial category. Such semiannual reporters must submit discharge monitoring reports (DMRs) and state reporting forms to the operator of any medium or large municipal separate storm sewer system (MS4) to which they discharge, as well as to regulatory authorities. Facilities that conduct annual monitoring, but are not required to do so, generally do not have to submit monitoring results, except by DEP request.

Permit Fees: The one-time fee for coverage under the state industrial general permit is $100. The fee for coverage under an individual NPDES permit is $500.

Construction General Permit: Construction operators covered by the state construction general permit must develop erosion and sedimentation control plans in accordance with Chapter 102 of DEP's Rules and Regulations and the Bureau of Land and Water Conservation's "Erosion and Sediment Pollution Control Manual." Each plan must be submitted to the appropriate conservation district. Erosion and sedimentation control plans are available to the public under Section 607 of the state Clean Streams Law and Section 92.63 of the DEP regulations. Plans also must be made available at the construction site. Construction permittees must include in the plans the procedures and requirements that are specified in approved watershed stormwater management plans, including local stormwater management ordinances developed pursuant to the Pennsylvania Stormwater Management Act (P.L. 864; No. 167, Oct. 4, 1978). Applicable requirements of watershed stormwater management plans approved by state or local officials are incorporated by reference in a facility's Erosion and Sedimentation Control Plan.

PPC Plans: Facilities regulated under the construction general permit must prepare and implement PPC plans if any material with the potential for causing accidental pollution of air, land or water is stored or used onsite, including chemicals, solvents or hazardous wastes. (See description under Industrial General Permit, above, for guidelines on and minimum requirements for PPC plans.) Plans must identify areas that have the potential to cause non-compliance with permit terms because of the storage, handling or disposal of toxic or hazardous substances including oil, gasoline, pesticides, herbicides and solvents.

Monitoring and Reporting Requirements: For construction projects regulated under the Pennsylvania construction site general permit, there are no specific monitoring requirements. However, DEP and the local county conservation districts reserve the right to require monitoring or to conduct monitoring where necessary. Where monitoring is required, monitoring results must be summarized on a discharge monitoring report (DMR) form and submitted to DEP on an annual basis, postmarked no later than Jan. 31 of each year, or upon termination of the construction activity if construction activity does not continue past Jan. 31 for that year. DMR forms may be obtained from DEP regional offices.

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Non-compliance reporting is required of construction projects regulated under the state construction general permit. Non-compliance reporting usually will consist of:

- 24-hour oral reporting;
- follow-up written reporting;
- immediate notification of DEP of incidents causing or threatening to cause pollution pursuant to 25 Pa. Code §101.2(a); and
- at least annual reporting of other instances of non-compliance not reported under 24-hour oral reporting or follow-up written reporting.

Recordkeeping Requirements: Records of information compiled pursuant to the state construction general permit must be retained by the permittee for at least three years from the date of the sample measurement, report or application for which the information is used.

Documents Available:

- "Erosion and Sediment Pollution Control Program Manual," available free of charge from county conservation offices.
- "Guidelines for the Development and Implementation of Environmental Emergency Response Plans," available from DEP at the address above.
- "Supplemental Guidance for the Development and Implementation of Preparedness, Prevention and Contingency Plans Under the National Pollutant Discharge Elimination System Storm Water Permitting Program," available from DEP at the address above.

¶890.40 Rhode Island

State Contact(s):

Angelo Liberti
(401) 277-6820 ext. 7225
Tristyne Jones
(401) 277-6820 ext. 4413
Department of Environmental Management
Office of Water Resources
291 Promenade St.
Providence, R.I. 02908

Program Description:

Rhode Island is an NPDES-delegated state with general permitting authority. The state has generated permits for industrial stormwater discharges and for discharges from construction sites disturbing five or more acres of land. Both of these permits expire in March 1998. The state Department of Environmental Management (RIDEM) plans to reissue both permits at that time with little to no changes in either. Department officials may also decide at that time to adopt parts of EPA's multi-sector general permit. At the moment, RIDEM does accept EPA-approved group applications for coverage under the state's industrial general permit.

Application Requirements:*

RIDEM will accept individual applications for stormwater permits. Regardless of whether a facility submits an individual application or a notice of intent (NOI) for general permit coverage, though, RIDEM will make the determination as to whether an individual permit or general permit coverage is more appropriate.

Construction sites that need other permits from the state Division of Freshwater Wetlands, the Coastal Resources Management Council or one of Rhode Island's three local conservation districts should submit copies of their permit letters from the applicable agencies along with their NOIs to the department. Authorization to discharge stormwater under the general permit will be granted automatically to such applicants within 30 days of receiving a completed NOI, if not sooner. In the case of an applicant who has obtained a permit from the Coastal Resources Management Council or a local conservation district, approved site plans also should be submitted along with the NOI and the agency permit letter.

Program Notes:

Stormwater Pollution Prevention Plans: Rhode Island's two stormwater general permits have requirements for the development of stormwater pollution prevention plans (SWP3s) that are very similar to those in EPA's baseline general permit.

RIDEM has developed a *Stormwater Design and Installation Standards Manual* reference for use by stormwater dischargers in preparing SWP3s. The manual is available for $10 from RIDEM's Division of Freshwater Wetlands at 291 Promenade St., Providence, R.I. 02908; (401) 277-6820.

Monitoring and Reporting Requirements: Monitoring and reporting requirements resemble those in EPA's baseline industrial general permit, but with some significant differences.

- No whole effluent toxicity (WET) testing is required under the state permit. Instead, facilities for which WET testing would be required under the EPA general permit must sample for any pollutants listed in Tables II and III of Appendix D of 40 CFR 122, if the discharger knows or has reason to believe they are present at the facility.
- Facilities that would be required to sample for chemical oxygen demand (COD) by the EPA baseline general permit generally must sample instead for five-day biochemical oxygen demand (BOD5).
- SARA Title III, Section 313 facilities are required to sample on a semi-annual basis, but only if they release Section 313 "water priority" chemicals into the environment.
- Landfills, land application sites and open dumps face sampling provisions similar to those required of land disposal units, incinerators and burners and industrial furnaces under the EPA baseline permit. However, these facilities have the WET test substitute requirement noted above and must sample for BOD5 in lieu of COD.
- Hazardous waste treatment, storage and disposal facilities face the same monitoring requirements as landfills, land application sites and open dumps.
- Chemicals and allied products and rubber and miscellaneous plastic products facili-

* Revised, June 1997.

ties must sample annually for the same parameters required of such facilities in the EPA baseline permit. However, such facilities need to sample only where solid chemicals used as raw materials are exposed to precipitation. As noted above, facilities also must sample for BOD5, not COD.

- As part of a model watershed-permitting effort being conducted by the state (see below), all industrial dischargers in the Pawtuxet River Watershed have been subjected to a one-time requirement to sample their stormwater discharges for lead, copper, silver, zinc, cadmium, chromium, nickel, total suspended solids, and any other applicable parameters otherwise required by the state industrial general permit. Pawtuxet River dischargers were required to report their sampling results by June 17, 1993. New permittees in the watershed also must submit sampling results, unless notified otherwise.

Permit Fees: The fee for coverage under a stormwater general permit is $462, which is also the fee for obtaining a minor industrial permit under the Rhode Island Pollutant Discharge Elimination System (RIPDES), the state program implementing EPA's NPDES permit program. Permit fees may be waived for construction projects consisting of subdivisions of no more than four house lots, which have undergone review by a state conservation district.

Construction Site Sedimentation and Soil Erosion Control:

Under the Rhode Island Soil Erosion and Sediment Control Act, Rhode Island General Laws 46-45, as amended, local governments may adopt local soil erosion and sedimentation control ordinances. Approximately 15 of the state's 39 towns, primarily those located in rural areas, have adopted such local ordinances. The ordinances must be at least as stringent as the act's model ordinance and must mandate the installation of erosion-control measures at non-exempt, land disturbing projects.

Permits for Land-Disturbing Activities. Individuals proposing to commence land-disturbing activities in municipalities with soil erosion and sedimentation control ordinances must submit applications to a designated public official, generally the town building official, and must draw up soil erosion and sediment control plans. Municipalities are allowed to charge a permit fee for plan review and permit issuance. Generally, control plans must include both temporary and permanent measures to control soil erosion and sedimentation. Such measures may include nonstructural best management practices, such as mulching, and permanent structural measures, such as the installation of grass waterways, detention basins or rip rap.

State Assistance: DEM, SCS, and the state Conservation Committee publish a guidance document for construction sites titled "Rhode Island Soil Erosion and Sediment Control Handbook." Also available from the Office of Environmental Coordination is the state *Guide to Environmental Permitting*. For copies, contact RIDEM, Office of Environmental Coordination, 83 Park St., Providence, R.I. 02903; (401) 277-2776.

State Nonpoint Source Program:

Rhode Island's Nonpoint Source Program does not have regulatory powers. However, as one component of the program, the state has developed design and installation standards for best management practices to control stormwater runoff. The Office of Water Resources has included the *Stormwater Design and Installation Standards Manual* (Sept. 1, 1993) by reference in the general stormwater permits issued by the state under the NPDES program. For a copy of the manual, contact RIDEM, Division of Freshwater Wetlands, 291 Promenade St., Providence, R.I. 02908; (401) 277-6820. There is a charge of $10 for each copy of the manual.

Manuals also may be obtained from USDA-Soil Conservation Service offices in the state, at the following addresses:

USDA-Soil Conservation Service
60 Quaker Lane, Suite 46
Warwick, R.I. 02886
(401) 828-1300

Northern Rhode Island Conservation District
19 Smith Ave.
Greenville, R.I. 02828
(401) 949-1480

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Southern Rhode Island Conservation District
5 Mechanic St.
P.O. Box 1145
Hope Valley, R.I. 02832
(401) 539-7767

Eastern Rhode Island Conservation District
909 East Main Rd.
Middletown, R.I. 02842
(401) 847-9196

Rhode Island Resource Conservation
& Development Office
5586 Post Rd.
East Greenwich, R.I. 02818
(401) 949-4418

State Groundwater Protection Program:

Some industrial stormwater dischargers may be subject to permit requirements under the state Groundwater Protection Program, which regulates subsurface discharges of stormwater and may impose additional requirements on industrial facilities in designated wellhead protection areas. For information about the groundwater protection program, contact Sue Kiernan, RIDEM, Division of Groundwater, 291 Promenade St., Providence, R.I. 02908; (401) 277-2234.

State Coastal Zone Management Program:

For information about rules and regulations for the Rhode Island Coastal Zone, contact Jim Boyd, Coastal Resource Management Council, at (401) 277-2476.

Reviews of Developments Within 200 Feet of the Shoreline. The state Coastal Resources Management Council (CRMC) is the designated coastal zone management agency in Rhode Island, and has authority to review permit applications for any development activities undertaken within 200 feet of a shoreline feature along the coast. Shoreline features can include natural features such as beaches, coastal wetlands and coastal bluffs and banks, or artificial structures such as bulkheads and revetments. If a portion of a proposed project, such as a subdivision, falls within 200 feet of a shoreline feature, CRMC has authority to review the entire project, even if the majority of it does not fall within the 200-foot zone.

Reviews Under Special Area Management Plans. In addition, CRMC has authority to review permit applications for activities falling within two watersheds covered by special area management plans (SAMPs). One SAMP covers the watershed of the Narrow River; the second covers the contributing watersheds of the South Shore Salt Pond system. In these two SAMP watersheds, CRMC may review projects

- lying within 200 feet of a shoreline feature;
- consisting of six units or more (e.g. a proposed subdivision, or a proposed motel of six units or more);
- involving one or more acres of impervious surface; or
- involving an on-site sewage disposal system with a design capacity of 2,000 gallons/day or more.

Applications for Project Reviews. To obtain a review, developers of projects subject to CRMC's jurisdiction must submit "Applications for Coastal Resources Management Council Assent" forms to the following address:

Coastal Resources Management Council
Oliver Stedman Government Center
4808 Tower Hill Rd.
Wakefield, R.I. 02879

Each one-page application form must be accompanied by proof of property ownership, a site plan for the proposed project, and a letter from the local building official in the town where the proposed project will be built. Letters should assure CRMC that the town has reviewed the site plan and that the requirements of local zoning regulations and applicable state building codes have been met.

Fees. There are application fees for CRMC project reviews. Fees can range from $20 for a minor project to several thousand dollars for a large project and are generally based on the estimated cost of the project. For large projects, CRMC usually charges a fee of one-half of one percent of the estimated project cost.

CRMC Reviews of Large Inland Developments Involving Industrial Activity. CRMC also regulates and reviews large inland projects that may affect the Rhode Island coast, particularly if their construction is likely to result in public expenditures on infrastructure. Projects that are likely to require a CRMC review include large developments involving these industrial activities:

- chemical processing,
- solid waste disposal,
- mineral extraction,
- the construction of new power plants, and
- petroleum processing.

Permit review fees for these large inland projects generally amount to one-half of one percent of the estimated project cost.

Limits on Post-Development Releases of Total Suspended Solids. Under Section 300.6 of the Rhode Island Coastal Resources Management Program, otherwise known as the "Red Book," the state requires that developers of new projects within 200 feet of a shoreline feature or within the watershed covered by a SAMP must remove 80 percent of the added total suspended solids at a site compared to pre-development conditions. The Rhode Island *Stormwater Design and Installation Standards Manual* is incorporated by reference under Section 300.6, and developers under CRMC's jurisdiction generally must incorporate the manual's recommended best management practices in controlling total suspended solids.

Nonpoint Source Stormwater Controls Under Section 6217 of CZARA. Like other coastal states, Rhode Island is in the process of complying with Section 6217 of the Coastal Zone Amendments and Reauthorization Act (CZARA) of 1990. Section 6217 requires states to implement enforceable controls on nonpoint-source stormwater runoff in designated coastal areas, but specifies that such controls will not apply to discharges already regulated under the National Pollutant Discharge Elimination System (NPDES) permit program. In Rhode Island, the federal government is proposing to make the entire state a designated coastal zone, extending coastal zone stormwater controls beyond the areas under CRMC's jurisdiction.

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¶890.41 South Carolina

State Contact(s):

Arturo Ovalles
Stormwater Chief
Harvey Daniel
Bureau of Water
South Carolina Department of Health and Environmental Control
2600 Bull St.
Columbia, S.C. 29201
(803) 734-5300

Program Description:

South Carolina is an NPDES-delegated state with general and individual permitting authority. The state has general permits for industrial stormwater discharges and for discharges at construction sites which expire in September 1997. The state plans to reissue both permits and will likely make few, if any, changes to the current requirements. Additionally, officials are considering adopting portions of EPA's multi-sector general permit, but they will not come to a final decision until after the general permits are reissued.

Application Requirements:*

To apply for coverage under the general permits, facilities must submit notice of intent (NOI) forms to the Department of Health and Environmental Control (DHEC) at the address listed above. NOI forms are available from DHEC, but applicants may use EPA's federal NOI form.

Individual Applications: Some facilities, particularly industrial dischargers subject to stormwater limitations under previous NPDES regulations, must obtain individual permits. Generally speaking, South Carolina's requirements for individual permit coverage follow those specified in EPA's baseline general permits.

Group Applications: Until DHEC officials decide whether to adopt EPA's multi-sector general permit, EPA-approved group applicants may seek coverage under the state industrial general permit.

* Revised, June 1997.

Program Notes:

DHEC's Bureau of Water is responsible for issuing stormwater permits in the state. The bureau has established a Stormwater Section in the Industrial and Agricultural Wastewater Division to deal with stormwater discharges "associated with industrial activity." The Municipal Section of the Domestic Wastewater Division will deal with the municipal stormwater NPDES permits that do not fall under this category.

For the most part, South Carolina's stormwater program is similar to EPA's program. Facilities deemed to have stormwater discharges contributing to water quality problems in the state will be required by DHEC to obtain individual permits tailored to resolve water quality problems.

Requirements for Construction General Permit: The general permit for construction activities requires each construction site of five acres or greater to prepare a stormwater pollution prevention plan (SWP3). The plan must contain the following:

- site description;
- erosion and sediment and stormwater management controls to be used; and
- other controls such as proper waste disposal and limiting off-site vehicle tracking of sediments.

The plan also must identify the best management practices to be used at the construction site to prevent the discharge of pollutants to surface water via stormwater.

The construction general permit does not require stormwater or water quality monitoring. The permit does require weekly inspections and an inspection within 24 hours of each rainfall event of 0.5 inches or greater.

Requirements for Industrial General Permits: The general permit for industrial dischargers requires each permittee to prepare an SWP3 that is similar to that required under EPA's baseline general permit.*

* Revised, June 1997.

Coal pile runoff is the only category of discharge subject to effluent limitations under the general permit. These limitations are 50 mg/l for total suspended solids and a pH limit of 6-9.

Under the general permit, the following facilities must monitor their stormwater discharges semi-annually:

- SARA Title III, Section 313 facilities;
- primary metal facilities;
- land disposal units, incinerators, and boilers and industrial furnaces;
- wood treatment facilities;
- coal pile runoff; and
- battery reclaimers.

The following facilities must monitor their stormwater dischargers annually:

- airports with 50,000 flights per year;
- coal-fired steam electric facilities;
- meat packing facilities;
- facilities classified as Standard Industrial Classification codes 30 (rubber and miscellaneous plastic products) or 28 (chemicals and allied products) with stormwater discharges that come in contact with storage piles for solid chemicals used as raw materials;
- junkyards: with over 250 auto/truck bodies with drivelines, with over 250 drivelines or over 500 bodies with or without drivelines, where more than 100 units per year are dismantled, or where there is exposure to stormwater;
- lime manufacturing facilities where stormwater comes into contact with lime storage piles;
- oil handling sites at oil-fired steam electric power plants;
- cement manufacturing facilities or cement kilns (other than discharges from material storage piles subject to stormwater effluent guidelines);
- ready-mixed concrete facilities; and
- ship building and repair facilities.

For each category that must monitor semi-annually or annually, the permit gives the specific parameters to be monitored. Only the facilities monitoring semi-annually are required to submit discharge monitoring reports, which must be submitted annually.

All facilities covered under this permit are required to perform annual inspections to ensure the pollution prevention plan has been implemented properly and is effective in controlling the discharge of pollutants in stormwater.

Fees: South Carolina assesses a $75 annual fee for stormwater permits.

Municipal Separate Storm Sewer System Permits:

Richland and Greenville counties and Columbia must obtain municipal separate storm sewer system (MS4) permits.

Construction Site Sedimentation and Erosion Control:

The South Carolina Stormwater Management and Sediment Reduction Act of 1991 regulates stormwater runoff and sedimentation from construction activities affecting land areas of one acre or more.

The program is separate from the NPDES stormwater program. However, like the NPDES program, the program requires the preparation of a pollution prevention plan for each construction site. The plans must be submitted for approval by either DHEC or a local entity that has been delegated responsibility for the state stormwater management and sedimentation control program.

For more information about the state stormwater management and sedimentation control program, contact Rick Nuzum at DHEC at (803) 734-9117.

South Carolina Coastal Council:

Under the state's Coastal Zone Management Program, the South Carolina Coastal Council reviews all NPDES permits issued for pollutant discharges in coastal counties. For more information on this program, contact the Coastal Council at (803) 744-5838.

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Documents Available:

- "Water Classifications and Standards (Regulation 61-68), Classified Waters (Regulation 61-68)," a booklet containing South Carolina's water quality standards. Dated April 27, 1990. Available from DHEC at the above address.
- "South Carolina Department of Health and Environmental Control NPDES General Permit for Stormwater Discharges from Construction Activities that are Classified as 'Associated with Industrial Activity' by EPA Regulation." Free from DHEC at the above address.
- "South Carolina Department of Health and Environmental Control NPDES General Permit for Stormwater Discharges Associated with Industrial Activity." Free from DHEC at the above address.

¶890.42 South Dakota

State Contact(s):†
Stacey Reed
(605) 773-6704
Department of Environment and Natural Resources
Division of Environmental Services
Joe Foss Building
523 E. Capitol
Pierre, S.D. 57501-3181

Stormwater Information Number:†
(800) SD-STORM (737-8676)

Program Description:†

South Dakota is an NPDES delegated state with general and individual permitting authority for stormwater discharges from industrial activities and stormwater discharges from construction sites disturbing at least five acres of land. Construction sites disturbing at least one acre will also be addressed once the Phase II regulations take effect. EPA has maintained jurisdiction over Clean Water Act compliance in "existing or former" Indian reservation lands in the state, including the Cheyenne River, Crow Creek, Flandreau, Lower Brule, Pine Ridge, Rosebud, Sisseton and Yankton Indian reservations. The Standing Rock Indian reservation authority is through North Dakota's jurisdiction under EPA.

For the most part, the state's general permit for construction sites is identical to EPA's general permit for construction sites (57 FR 41176) except that the state requires that a notice of intent (NOI) be submitted 15 days prior to the start of construction activity. Additionally, the certification of applicant form must be notarized. The South Dakota Department of Environmental and Natural Resources (DENR) is in the process of rewriting the general permit for construction activities, which expires Nov. 30, 2000.

The state's general permit for industrial activities is also similar to the EPA permit. Dischargers will be required to submit an NOI 15 days prior to the start of work activities. Certain monitoring requirements were eliminated when the permit was rewritten in 1997. South Dakota's general permit for stormwater discharges from industrial activity expires Dec. 15, 2002. DENR also offers coverage under three "multi-media" general permits for stationary and mobile concrete batch plants as well as rock crushing facilities and asphalt hot plant facilities. The permits cover both air emissions and stormwater discharges from such plants, but not process wastewater discharges.

Application Requirements:

To apply for coverage under the industrial and construction site general permits, dischargers need to submit the state's NOI forms to DENR at the above address 15 days prior to beginning activities at the site or facility.

Stormwater Pollution Prevention Plan (SWP3) Requirements:†

New permittees must prepare an SWP3 before submitting the NOI. They must implement the SWP3 before initiating any activity. Upon request, new permittees must submit their SWP3 to: South Dakota DENR, Surface Water Quality Program, 523 E. Capitol, Pierre, S.D. 57501.

Program Notes:

Monitoring Requirements:† Most of the monitoring requirements have been eliminated from the state's permits. However, monitoring is required under the industrial stormwater permit for discharges associated with coal pile runoff and facilities subject to Section 313 Water Priority Chemicals.

Reporting Requirements:† These requirements are identical to those in EPA's former baseline general permits (see Appendix 1(c) and Appendix 1(d)).

Fees: There are currently no fees for stormwater permitting under the South Dakota baseline general permits.

Regulation of the Mining Industry:†

Stormwater discharges from mining industry sites should already have permits under previously existing NPDES regulations and should not be required to obtain coverage under the stormwater general permit for industrial activities.

† Revised, November 2000.

† Revised, November 2000.

Indian Tribes:†

Please refer to the new EPA permits for information on requirements for Indian lands.

Related State Regulations:†

South Dakota's water quality standards are located at Chapter 74:51:01 of the South Dakota Administrative Rules.

† Revised, November 2000.

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¶890.43 Tennessee

State Contact(s):
Department of Environment and Conservation
Division of Water Pollution Control
L & C Annex, 6th Floor
401 Church St.
Nashville, TN 37243-1534

For more information on stormwater permits, contact:

Robert Haley
(615) 532-0669; or
Vojin Janjic†
(615) 532-0670

Program Description:†

Tennessee is an NPDES delegated state with general permitting authority. The Tennessee Department of Environment and Conservation (TDEC) has issued two state general permits for stormwater dischargers: one to cover industrial dischargers and one to cover construction sites disturbing five or more acres of land. The Tennessee industrial stormwater runoff multi-sector permit (TMSP) took effect on March 1, 1997. The permit is almost identical to EPA's multi-sector permit with a few exceptions for monitoring cutoff concentrations, discussed below. The permit will be renewed in 2001.

The multi-sector permit is divided into 29 industry sectors for 29 different industrial activities. The permit also includes a 30th catch-all sector (Sector AD). A facility is subject to more than one sector if there are co-located industrial activities at the facility. For example, a rubber manufacturing facility that has a landfill on site will be subject to the rubber manufacturing sector (Sector Y) and the landfill sector (Sector L); or, a paper manufacturer (SIC code 2621, Sector B) that operates a sawmill (SIC code 2421, Sector A) at the same location will be subject to both sectors. Additionally, the multi-sector permit does not cover metal mining (ore mining and dressing) facilities, nor does it provide coverage for active coal mines and coal mining-related facilities, or EPA's mineral mining sector, with the exception of construction sand and gravel mining, processing and dimension stone mining and quarrying facilities. The permit does cover inactive coal mines and inactive coal mining-related facilities.

The construction site general permit expired in September 1997. A new construction site runoff general permit became effective July 1, 2000. It includes special conditions for discharges into 303(d) listed (for siltation) waters and for discharges into state-designated high quality waters. The special conditions include more frequent site inspections (one per week) and reporting of results of these inspections to the state office.

Application Requirements:†

The following is a schedule of deadlines for submitting NOIs for coverage under the new multi-sector permit:

Application and Permitting status:	Deadline for Notice of Intent:
• Facilities put in operation after Nov. 30, 1997	5 days prior to operation
• Facilities that have stormwater discharges associated with industrial activity that have never applied for a stormwater permit	immediately
• Construction activity	30 days before any earth work

Officials will determine in which sector an industrial discharger belongs after the applicant submits an NOI to the department. Facility owners and operators must fill out the industrial information part of the NOI accurately with the proper SIC code(s); description of business; and activities at the facility. Applicants who indicate that vehicle maintenance activities occur on site will be sent the appropriate pollution prevention plan requirements for such activities. The requirement for vehicle maintenance activities must be incorporated into a facility's pollution prevention plan.

For more information on the new permit, contact the Nashville Central Office listed above or the appropriate local Environmental Assistance

†Revised, March 2001.

†Revised, March 2001.

Center (EAC) listed below (especially for site-specific questions):

Memphis
2510 Mt. Moriah Road
Memphis, TN 38115
(901) 368-7939

Jackson
362 Carriage House Drive
Jackson, TN 38305-2222
(901) 661-6200

Nashville
711 RS Gas Blvd.
Nashville, TN 37243-1550
(615) 670-7000

Knoxville
2700 Middlebrook Pike, Suite 220
Knoxville, TN 37921
(423) 594-6035

Mining section
2700 Middlebrook Pike, Suite 220
Knoxville, TN 37921
(423) 594-6035

Chattanooga
540 McCallie Ave., Suite 550
Chattanooga, TN 37402-2013
(423) 634-5745

Johnson City
2305 Silverdale Road
Johnson City, TN 37601
(423) 854-5400

In-state callers also may call (888) 891-8332 to be connected to the appropriate local office.

Construction Stormwater General Permit (CGP): Construction sites seeking general permit coverage must submit NOIs at least 30 days before the commencement of construction at a site. Beginning Spring 2001, fees ranging from $100 to $7500 will be required along with NOIs for construction activities. Construction site NOIs must be signed by the developer of a site and site contractors. NOIs should be submitted to the local EAC.

Facilities may seek individual NPDES stormwater permits. However, there is a permit maintenance fee of $500 per year.

Program Notes:†

Stormwater Pollution Prevention Plan (SWP3) Requirements: Pollution prevention plan requirements for construction sites covered by the state general permit closely resemble EPA's baseline SWP3 requirements. For new construction sites, SWP3s must be prepared and implemented by the start of construction.

The deadline for preparing an industrial SWP3 was Nov. 30, 1997, for all permittees listed in the chart above. However, facilities that come online after Nov. 30, 1997, must have their SWP3 prepared prior to the start of operations. Also, facilities that have stormwater discharges associated with industrial activity, but have never applied for a stormwater permit, must prepare their SWP3 immediately. The permit requires that industrial dischargers notify the main office (or appropriate field office) when the SWP3 is completed.

For facilities handling water priority chemicals subject to the right-to-know reporting requirements of Title III, Section 313 of the Superfund Amendments and Reauthorization Act of 1986 (SARA), there are special SWP3 requirements that are virtually identical to EPA's requirements for Section 313 facilities. In Tennessee, an SWP3 for a Section 313 facility must be signed by a registered professional engineer. A registered professional engineer also must recertify the SWP3 every three years at Section 313 facilities.

Visual Inspections: Qualified personnel must inspect all industrial dischargers subject to the general permit at least twice each year to ensure that SWP3s are in place and are being properly implemented.

Monitoring Requirements: Tennessee's multi-sector permit has the same monitoring parameters as EPA's permit, with the exception of some cutoff concentrations. The cutoff concentration for total suspended solids is 200 mg/l, rather than 100 mg/l; ammonia, 4 mg/l rather than 19 mg/l; ethylbenzene, 0.1 mg/l rather than 3.1 mg/l; toluene, 0.1 mg/l rather than 10.0 mg/l; iron, 5.0 mg/l rather than 1.0 mg/l; and a pH range of 5.0-9.0 rather than 6.0-9.0 standard units.

†Revised, March 2001.

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If a facility exceeds a cutoff concentration on two consecutive sampling events, the facility must notify the division within 30 days. Within 60 days, the facility must notify the division of what changes it will make to its SWP3 and the time schedule for those changes. The division has prepared a stormwater monitoring report form for the multi-sector permit. Facilities will be sent a copy of this form along with notice of coverage under the permit.

Recordkeeping Requirements: Generally, these resemble EPA's requirements.

Reporting Requirements: By March 31, 2001, each facility required to perform sampling must report the results of the previous year's monitoring. Facilities should use the state stormwater monitoring report (SWMR) form for March 31 reports.

Fees: Beginning in 2001, the Division of Water Pollution Control and TDEC plan to change the annual permit maintenance fee, the amount of which will depend on the size of the facility. Facilities will be invoiced.

For construction permits, beginning in 2001 the agency plans to initiate a fee for filing an NOI for construction activity stormwater runoff. The one-time application fee will vary, depending on the size of the site disturbance.

Construction General Permit (CGP) Requirements: The CGP requires a site-specific stormwater control plan to minimize erosion of soil and discharge of sediment and other pollutants to the waters of the state to be prepared. The plan must describe construction management techniques and sediment and erosion controls to be used and must set forth a schedule for implementing such controls. Certain management techniques and vegetative and structural controls apply, such as:

- a minimum of clearing and grubbing;
- sequencing to minimize exposed soil;
- staging or phasing of large projects;
- checking and maintenance of controls and recordkeeping thereof;
- specifying an individual responsible for erosion and sediment controls;
- erosion prevention and sediment control measures designed to operate effectively during storms;
- temporary soil stabilization on unfinished areas; and
- permanent soil stabilization after final grading.

State Statutes and Regulations:

- Tennessee's state water quality regulations are contained in Rules 1200-4-1 through 1200-4-5 and Rule 1200-4-7.
- The state water quality program is administered pursuant to the Tennessee Water Quality Control Act of 1987, section 69-3-101 *et seq.* of the Tennessee Code Annotated.

Tennessee Nonpoint Source Pollution Control Program:

For information, contact Greg Upham at (615) 360-0690.

State and Local Regulation of Construction Site Sedimentation and Soil Erosion:

Other than the NPDES stormwater permitting program, there are no state regulations of general applicability governing construction site sedimentation and soil erosion in Tennessee. However, TDEC publishes the "Tennessee Erosion and Sediment Control Handbook," which contains voluntary guidelines for sedimentation and soil erosion best management practices. For copies, contact Robert Haley or Greg Upham at the addresses indicated above.

Several larger cities, including Chattanooga, Nashville and Memphis, have special requirements for construction site sedimentation and erosion control.

The Natural Resources section of TDEC offers some technical assistance to developers seeking to control sedimentation and soil erosion. The Natural Resources section will review erosion control plans upon request. For more information, contact Bill Duffell, Natural Resources Section, Department of Environment and Conservation, Division of Water Pollution Control, L&C Annex, 6th Floor, 401 Church St., Nashville, TN 37243-1534.

Mining Industry Regulations:

Many environmental regulations covering the mining industry are administered by the Mining section of TDEC in Knoxville. For mining facilities that do not already have NPDES permits, the department plans to issue individual permits through the Mining section office. For information contact Donald Owens at (423) 594-6035.

Forest Industry Nonpoint Source Program:

Tennessee has a voluntary nonpoint source pollution control program for the timber and forest products industries. The program has produced a guidance document for the timber industry on controlling stormwater runoff and other pollution problems titled *Best Management Practices for Silvicultural and Other Forest Activities in Tennessee.* Copies may be obtained by writing the Tennessee Division of Forestry, 701 Broadway, Nashville, TN 37243-0444. The Division of Forestry employs a water quality management staff forester to train foresters, loggers and private landowners in the use of the program's best management practices. In addition, the Division of Forestry has 33 field foresters who work with the logging industry on implementing best management practices. For more information contact Robin Bible, Water Quality Management Forester, or Hart Applegate, assistant state forester, at the Division of Forestry, (615) 742-6622.

For additional technical assistance, contact the Tennessee Forestry Association, 2603 Elm Hill Pike, Suite J, Nashville, TN 37214; (615) 883-3832.

Municipal Separate Storm Sewer System Permits:

Four Tennessee municipalities have been listed by EPA as requiring municipal separate storm sewer system (MS4) permits for stormwater: Memphis and Nashville, which are considered large MS4s, and Chattanooga and Knoxville, which are considered medium MS4s. More information about the state's permit program is available on the Internet at www.state.tn.us/environment/permits.††

State Documents Available:

- "Tennessee Erosion & Sediment Control Handbook," Tennessee Department of Health and Environment, July, 1992. Available from Tennessee Department of Environment and Conservation, Division of Water Pollution Control, Industrial Facilities Section, L & C Annex, 6th Floor, 401 Church St., Nashville, TN 37243-1534.
- "Tennessee's Water Quality Criteria and Stream Use Classifications." Available from Morris Flexner, Department of Environment and Conservation; (615) 741-6623.
- "Best Management Practices for Silvicultural and Other Forest Activities in Tennessee." Available from the Tennessee Division of Forestry, 701 Broadway, Nashville, TN 37243-0444.

[The next page is Tab 800, Page 581.]

††Added, March 2001.

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¶890.44 Texas†

State Contact(s):

Texas Natural Resources Conservation Commission (TNRCC)
Wastewater Permitting and Stormwater Team
P.O. Box 13087
Austin, TX 78711-3087
(512) 239-4433

For more information on state stormwater permits, contact:

Stephen Ligon
Stormwater and General Permits Team Leader
(512) 239-4433

EPA Contact (for construction stormwater permits):

Brent Larsen
Mailcode: 6WQ-PM
U.S. Environmental Protection Agency, Region 6
1445 Ross Ave.
Dallas, TX 75202
(214) 665-7523

Program Description:

Texas received NPDES permitting authority in September 1998. TNRCC is in the process of finalizing the Texas pollutant discharge elimination system (TPDES) permit for industrial discharges. Construction general permits (CGPs) are still administered through EPA, Region 6.

The proposed TPDES permit, which will replace EPA's multi-sector general permit (MSGP) that expired Sept. 29, 2000, would allow continued authorization for the same discharges. Facilities that were authorized under the expired MSGP may continue to discharge under the conditions of their expired permits until the final TPDES permit is issued. Facilities that were not covered under the MSGP must apply for coverage under TPDES when the permit takes effect.

Application Requirements:

Applicants who discharge to a municipal separate storm sewer system (MS4) or to waters of the state must submit a notice of intent (NOI) form when the new TPDES permit is issued and effective. Waters of the state include groundwater, percolating or otherwise; lakes; bays; ponds; impounds; reservoirs; rivers; streams; creeks; estuaries; marshes; inlets; canals; the Gulf of Mexico inside territorial limits of the state; all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, navigable or non-navigable; and all beds and banks of all watercourses and bodies.

Facilities covered under the current NPDES permit will be allowed time to make any necessary changes to existing stormwater pollution prevention plans (SWP3s) according to the requirements of the impending TPDES permit. Facilities also may elect to obtain coverage under an individual permit. To apply for an individual permit, permittees should contact TNRCC's Stormwater Permits Team at (512) 239-4433.

To obtain a CGP, construction sites must complete and submit an NOI 48 hours prior to commencement of construction activity to USEPA, 401 M St. SW, Washington, DC 20460. An SWP3 must be developed and implemented before construction activity begins as well.

Program Notes:

TNRCC has proposed a draft general permit, which is available from the TNRCC Office of the Chief Clerk in Austin. A copy of the draft permit, a fact sheet and public notice also are available online at www.tnrcc.state.tx.us/permitting/waterperm/wwperm/industry.html.

Facilities currently must comply with the requirements of EPA's MSGP. Requirements of the TPDES general permit likely will be consistent with the MSGP.

Facilities within the Edwards Aquifer Recharge Zone or within the area upstream of the recharge zone must meet additional state requirements. The facilities should contact the TNRCC regional office that serves the county in which the facility is located.

For Comal, Bexar, Medina, Uvalde and Kinney Counties:

The Water Program Manager
TNRCC San Antonio Regional Office
(210) 490-3096

† Revised, April 2001.

For Williamson, Travis and Hays Counties:

The Water Program Manager
TNRCC Austin Regional Office
(512) 339-2929

No-exposure exemption. If a facility can certify that a condition of no exposure exists, it is not required to obtain a stormwater permit. The conditions of the no-exposure exemption are consistent with EPA's Phase II program.

Construction Stormwater Permits:

Through July 7, 2003, EPA Region 6 will administer Phase I stormwater permits for construction activities disturbing five or more acres. After that date, TNRCC will be responsible for permitting Phase I construction activity. By Dec. 9, 2002, TNRCC plans to develop its Phase II general permit program for construction activity that disturbs between one and five acres. For now, however, these activities are not required to obtain a permit.

A CGP is required if stormwater discharges into an MS4 or into waters of the state (see definition above). A CGP must be obtained by the operator of a construction site. In cases where there are two or more operators (e.g., owner and contractor), both parties must obtain permit coverage and must share responsibility for meeting permit requirements. To obtain a copy of the CGP, which was issued July 6, 1998, contact EPA Region 6.

In addition to sites of five or more acres, sites that are less than five acres but are part of a larger common plan of development or sale whose total land-disturbing activities is five acres or more also must obtain coverage. Any land-disturbing activity that occurs as part of a common plan of development or sale must obtain permit coverage until all intended construction is complete. For example, once a developer—who is responsible for clearing and grading a 10-acre site for a new subdivision—sells the lots to individual home builders, he is no longer responsible for the site and can terminate coverage.

A notice of termination (NOT) must be submitted within 30 days after one or more of the following conditions have been met: 1) final stabilization has been achieved; 2) another operator/permittee has assumed control over all areas of the site that have not been stabilized; or 3) temporay stabilization has been completed. NOTs must be submitted to: Stormwater Notice of Termination (4203), 401 M St. SW, Washington, DC 20460.

State-specific Requirements. Texas Section 401 certification special permit conditions address special numeric limitations for discharges from ready-mix concrete plants. Also, construction activities within the Texas Coastal Management Program must develop an SWP3 that takes into account certain requirements established under the program. To determine if a construction project is subject to the program and to determine the requirements, call the Texas General Land Office's Coastal Hotline at (800) 852-3224. In addition, construction activities located within the Edwards Aquifer Recharge Zone should contact the appropriate TNRCC regional offices for additional requirements (see above).

MS4 Stormwater Permits:

On Sept. 14, 1998, EPA authorized Texas to develop and implement a TPDES MS4 stormwater permit program. EPA Region 6 will remain the permitting authority for all existing individual MS4 stormwater discharge permits until they expire. TNRCC will develop and issue the permits as they expire on a case-by-case basis. In the meantime, all permit-related information, including monitoring data and annual reports, should be directed to EPA Region 6. TNRCC plans to develop a permit for small MS4s, which are covered under Phase II, by Dec. 9, 2002. To determine if an MS4 is regulated under Phase I, contact the TNRCC TPDES hotline at (888) 479-7337.

Upon expiration of an existing MS4 stormwater discharge permit, the MS4 operator will be required to submit a new permit application. The nine-page form will require significantly less information than the original NPDES process, according to TNRCC. The application must be received no later than 180 days prior to the current permit's expiration.

MS4 operators must meet the reduction of pollutant standards to the maximum extent practicable. Small MS4s under the Phase II program will have to meet this standard as well.

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Medium and large MS4s must conduct analytical monitoring and visual examinations, and submit periodic program assessment reports that include monitoring results to the TPDES permitting authority.

Fees. The fee for new, significantly amended and renewed TPDES MS4 permits is $2,000. An additional fee is required to cover the costs of providing public notice: $50 for new permits and significantly amended existing permits, and $15 for renewals of existing permits.

MS4s within the Edwards Aquifer Recharge Zone must meet additional requirements. Permittees should contact the respective regional office (see above).

WET Testing Procedures: Those Texas permittees required to test for acute whole effluent toxicity (WET) must do so within 180 days of the permit issuance date or within 90 days of commencing a new discharge in accordance with EPA's protocol.

WET tests shall determine whether effluent samples meet the Texas Surface Water Quality Standard listed at 31 TAC §307.6(e)(2)(B), which requires greater than 50-percent survival of test organisms at 100-percent effluent after 24 hours. If more than 10 percent of the test organisms in any control die, the test of the control and its related dilutions must be repeated.

Erosion and Sedimentation Control:

Several major Texas cities have erosion and sedimentation control ordinances and nearly all the major cities have begun programs to identify illegal discharges to municipal storm sewer systems by monitoring dry-weather flows. Fort Worth has pioneered the use of dry-weather screening to identify illicit discharges and has helped launch similar efforts in Houston, Austin, San Antonio, Dallas, Lubbock, El Paso, Amarillo and Corpus Christi. For information on sedimentation and erosion control programs, check with local municipal authorities. The North Central Texas Council of Governments is working on regional erosion control specifications that could affect 151 cities in 10 counties.

State Documents Available:

The following free document is available from TNRCC:

- "Application for Permit to Discharge, Deposit or Dispose of Waste(s) into or adjacent to Water in the State." Revised November 1995.

TNRCC has more information available on the Internet at: http://www.tnrcc.state.tx.us.

¶890.45 Utah

State Contact:
Harry Campbell
(801) 538-6146
Fax: (801) 538-6016
Department of Environmental Quality
Division of Water Quality
Salt Lake City, Utah 84114-4870

Program Description:*

Utah is an NPDES delegated state with general and individual permitting authority for industrial stormwater discharges and stormwater discharges from construction sites. The state's two general permits expire Sept. 30, 1997. Officials with the state's Department of Environmental Quality (DEQ) will reissue the general permit for construction sites. The new permit is expected to be similar to the current one in that it will closely follow the Environmental Protection Agency's (EPA's) general permit for construction sites (57 FR 41176). Officials intend to modify the state's general permit for industrial discharges by modeling it after EPA's multi-sector general permit for industrial activities. The state's multi-sector permit will likely be more concise than EPA's permit in that it may exempt dischargers from certain requirements such as those addressing endangered species and historic preservation.

Application Requirements:

Utah facilities seeking general permit coverage should use Utah notice of intent (NOI) forms, although U.S. Environmental Protection Agency (EPA) NOI forms are acceptable. Applicants should send the NOIs to DEQ's Division of Water Quality at the address above.

DEQ provides general permit coverage for most industrial dischargers. Certain facilities with unusual characteristics affecting stormwater and/or groundwater discharges will be issued individual permits. In the future, Utah may issue industry-specific general permits for some industries.

Permit Conditions:*

The state general permits for industrial discharges and discharges from construction sites generally resemble EPA's baseline general permits (57 FR 41236 and 41176). However, Utah law defines "waters of the state" as including groundwater. As a result, stormwater discharges into the ground may require groundwater permits and must be reported to the Ground Water Protection Program. Stormwater pollution prevention plans (SWP3s) developed under the industrial general permit must address stormwater discharges to groundwater as well as to surface water.

*Construction Site Deadlines:** Regulated construction projects must have an SWP3 onsite on the day that work begins. NOIs for regulated construction sites must be submitted by the day that work begins.

Monitoring Requirements: The state stormwater sampling and monitoring requirements are virtually identical to those in EPA's general permit. However, Utah does not regularly require biomonitoring (whole effluent toxicity (WET) tests) of industrial facilities. On written notice, DEQ may require individual facilities to perform additional monitoring of specified parameters or WET tests for specified time periods.

Recordkeeping and Reporting Requirements: The state requirements are virtually identical to those in EPA's general permit.

*Permit Fees:** There is a five-year fee of $500 for coverage under a stormwater general permit. The fee can be prorated when permit coverage will not be needed for five years, as in the case of some construction projects. Prorated fees amount to $8.30 for each month of permit coverage, but there is a minimum fee of $50. There is no fee for municipal stormwater permits. Utah also charges fees for individual permits under existing state NPDES regulations. The fee for obtaining an individual permit is $60 for every hour that state employees must spend to process and issue the permit. In general, fees for five-year NPDES individual permits range from $2,000 to $10,000 for most regulated industries.

Requirements for Indian Reservations: Stormwater dischargers on Indian reservations in Utah are regulated directly by EPA. On Sept. 9, 1992, EPA published an industrial general permit covering Indian lands in Utah (57 FR 41236) and a second general permit covering construction activities on such lands (57 FR 41176). Most Indian lands in

* Revised, May 1997.

* Revised, May 1997.

the state are regulated by EPA Region 8. However, Region 9 administers the general permits covering Goshute and Navajo Reservation lands in Utah.

Municipal Permits:

One Utah municipality, Salt Lake County, will require a stormwater permit as a large municipal separate storm sewer system (MS4). One municipality, Salt Lake City, will require a permit as a medium MS4.

Mining Industry Requirements:

Reclamation plans and erosion prevention plans are required for mining activities in Utah and are reviewed by the Division of Oil, Gas and Mining (DOGM). For information, contact DOGM at (801) 538-5340.

DEQ also imposes additional stormwater runoff controls on coal mines in the state. These controls include maximum flow requirements and limitations on total suspended solids, sedimentation, pH, iron, and total salts in stormwater runoff. Coal mines in areas where mining disturbs the surface of the land are regulated under a state general permit that requires the use of sedimentation controls, detention ponds and mine site dewatering. Dewatering discharges are subject to limitations on iron, total dissolved solids, pH, suspended solids, and oil and grease.

Mineral mining is regulated independently of coal mining. Mineral mines in Utah must obtain DEQ permits. For information on the DEQ requirements, contact Mike Herkimer, Steve McNeil or Paul Krauth at the DEQ address listed above.

Colorado River Salinity Controls:

Under an agreement with the Colorado Salinity Control Forum, dischargers of stormwater or wastewater into the Colorado River and its tributary, the Greene River, may not discharge more than one ton of salts per day per discharger unless salinity control is shown to be economically infeasible.

Construction Site Sedimentation and Soil Erosion Controls:

Several Utah counties have requirements for sedimentation and soil erosion controls at construction sites. Counties with programs include Summit, Davis, Salt Lake, and the Utah County/Provo metropolitan area.

Salt Lake City Stormwater Utility:

In 1991, Salt Lake City instituted a user fee for residential and business use of city storm drains. Other Utah municipalities, including the city of Provo, also have instituted stormwater utility fees.

State Statutes and Regulations:

Stormwater regulations in Utah are implemented pursuant to the state Clean Water Act provisions of the Utah Code Annotated at Sections 19-5-101 through 19-5-119. Permitting regulations are located at Utah Administrative Code, R 317 - Part 8.

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¶890.46 Vermont

State Contact(s):

Department of Environmental Conservation
Permits, Compliance and Protection Division
103 S. Main St.
Waterbury, Vt. 05676
(802) 241-3822
(802) 241-2596 (fax)

For information on stormwater permits, contact:
Brian Kooiker or Randy Bean
(802) 241-3822

Program Description:*

Vermont is an NPDES delegated state with general permitting authority. In January 1997, the Department of Environmental Conservation (DEC) issued a general permit for stormwater discharges from construction activities disturbing five or more acres of land. Vermont is one of the last states to issue its own stormwater permits. Stormwater discharges associated with construction and industrial activities were previously covered under the state's land-use law. The state is in the process of finalizing a general permit for industrial activities, and hopes to have EPA approval in the next few months.

Application Requirements:*

At present, DEC has not issued state stormwater general permit application forms for industrial activity and will not accept individual application forms. Facilities seeking stormwater permits will be placed on a mailing list and will receive information on the state's general permit for industrial activity when it becomes available. DEC has developed a notice of intent (NOI) form for the construction activity general permit. The NOI for coverage under the construction permit must be filed at least 30 days prior to the start of construction activity. Stormwater runoff from construction sites where activity began before the January 1, 1997, effective date of the permit are exempt from coverage under the permit. NOIs may be obtained by calling (802) 241-2369.

The state may require any person who files an NOI to apply for an individual permit if the discharge does not qualify for coverage under the construction permit or state officials determine that an individual permit is required pursuant to 13.12D of the General Permit Rules.

Program Notes:*

The provisions of Vermont's general permit for construction sites differs somewhat from EPA's baseline general permit provisions for regulated construction. Provisions of the state construction general permit will reflect existing state regulation of construction site runoff under Act 250, the state land-use and development law. Provisions for industrial facilities will likely be different as well. DEC anticipates requiring stormwater monitoring for high-risk industrial facilities, but no monitoring for low-risk facilities. Determinations of which facilities are low- or high-risk will be made by DEC officials. DEC does not intend to adopt EPA's multi-sector permit at this time.

Construction Sites:* Vermont's general permit for stormwater discharges from construction sites covers discharges associated with all construction activities, including clearing, grading and excavation activities that will result in the disturbance of five or more acres. The coverage includes the discharge of stormwater runoff from construction sites that result in the disturbance of less than five acres, but which are part of a larger common plan of development or sales that will result in the disturbance of a total of five or more acres. The permit also covers discharges to all Class B waters within the state, with the exception of Outstanding Resource Waters and Class I wetlands. The permit does not cover stormwater discharges to Class A waters.

Erosion and Sediment Control Plan: The construction permit requires discharges to prepare and implement an erosion and sediment control plan, designed to minimize the erosion of disturbed land and to prevent the discharge of sediment to waters of the state. The permittee is required to designate a person — the on-site coordinator — to be directly responsible for implementation of the plan. The plan must be kept on site at all times. Further, the plan must be amended prior to implementing any changes in design, construction, operation or other procedure that may increase erosion and discharge of sediment to waters of the state. It must also be amended if the existing plan is ineffective in preventing erosion

* Revised, January 1998.

* Revised, January 1998.

and controlling discharge of sediment or does not meet the minimum requirements of the permit.

The on-site coordinator does not have to be an employee of the owner/developer. The owner may designate any person, such as a contractor, contractor employee, or consulting engineer, to implement the plan. One of the coordinator's responsibilities is to inspect, or oversee the inspection of, all erosion and sediment control structures and measures at least once every seven calendar days and as soon as possible, but no later than 24 hours, after any storm event that generates a discharge of stormwater runoff from the construction site.

*Permit Fees:** There is a $100 application fee for the construction general permit that must be submitted with the notice of intent (NOI).

Industrial Activities:* The information in this section addresses the provisions that will likely be included in the industrial general permit when it is finalized.

Monitoring Requirements: DEC hopes to exempt many smaller stormwater dischargers from stormwater sampling requirements.

Recordkeeping Requirements: DEC hopes to exempt many smaller stormwater dischargers from any recordkeeping requirements.

State Pollution Control, Stormwater Requirements:

General Permitting Regulations Under State Law: The state general permitting regulations are incorporated in the state water pollution control regulations under 10 Vermont Statutes Annotated (VSA) chapter 47, section 1258(b).

State Stormwater Volume Controls for New Developments: Vermont has a state stormwater permitting program established pursuant to 10 VSA chapter 47, section 1264. This program requires the establishment of treatment and volume-control measures to control runoff from new residential, commercial and subdivision projects following construction of the projects. Developers must submit to DEC project designs, hydrological calculations, and proposed management measures to control runoff volume from such projects. DEC reviews the submittals and decides on a site-specific basis whether to issue a discharge permit. Where discharge permits are issued, they may require developers to implement hydraulic controls to ensure that the post-development stormwater discharge rate does not exceed the pre-development discharge rate. Whether such hydraulic controls are required depends in part on a project's anticipated impact on the local watershed.

State Water Quality Standards: Under state law, stormwater and wastewater dischargers must not impose "undue adverse effects on receiving waters" or affect the designated uses of receiving waters. Designated uses are determined by the State Water Quality Board in accordance with the Vermont Water Quality Standards. Section 2-05 of the State Water Quality Standards defines "major" and "minor" nonindustrial stormwater discharges and sets standards for stormwater management. For such dischargers, DEC eventually may draft a general permit to address minor nonindustrial stormwater discharges. Standards of protection for receiving waters vary according to their designation and are particularly stringent for trout streams and wetlands.

Runoff Controls for Forest Products Industry:

Stormwater runoff at logging sites is regulated by the Department of Forests, Parks and Recreation. For information or a copy of a document titled "Acceptable Management Practices for Maintaining Water Quality on Logging Jobs in Vermont," contact the Department of Forests, Parks and Recreation, Waterbury Complex, 10 South, Waterbury, Vt. 05677; (802) 241-3655.

State Documents Available*

Vermont Handbook for Soil Erosion and Sediment Control on Construction Sites, is available from the Wastewater Management Division at the address listed above.

* Revised, January 1998.

* Revised, January 1998.

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State Contact:

Burt Tuxford
Water Division
Office of Water Permit Support
Department of Environmental Quality (DEQ)
P.O. Box 10009
Richmond, VA 23240-0009
(804) 698-4086
(804) 698-4032 (fax)††
E-mail: brtuxford@deq.state.va.us††
Internet: www.deq.state.va.us/water††

Program Description:

Virginia is an NPDES delegated state with general permitting authority. DEQ administers the federal program as the VPDES permit program, which is authorized under the State Water Control Law. The stormwater requirements are set forth in the VPDES Permit Regulation (9 VAC 25-31-10 *et seq.*). DEQ issues stormwater permits to industrial dischargers, construction sites and MS4s.

DEQ has two general permits that took effect June 30, 1999:

- VAR4—VPDES General Permit for Storm Water Discharges from Construction Sites; and
- VAR5—VPDES General Permit for Discharges of Storm Water Associated with Industrial Activity.

VAR4 is the state's version of EPA's 1998 general construction permit. DEQ currently is amending the permit to add coverage for construction sites of less than five acres. The permit revision may be complete by mid-2002.

VAR5 is the state's version of EPA's 1995 multisector stormwater general permit. Some industrial activities are excluded from coverage by VAR5. For example, Virginia has developed industry-specific general permits for ready-mix concrete plants and nonmetallic mineral mining. The industry-specific permits contain requirements and conditions similar to those of the general permit.

Application Requirements:

To apply for coverage under the appropriate general permit, an applicant must submit a complete registration statement to DEQ. Registration statements must include: a registration statement form (industrial facilities also must submit a site map and a list of facility outfalls), a permit application form and fee (see Fees section below). Virginia's stormwater general permits are five year permits with fixed expiration dates of June 30, 2004.

The complete registration statement, the pink copy of the permit fee form and a copy of the check for the fee should be mailed to the DEQ regional office where the industrial facility or construction site is located. Contact DEQ for a list of regional offices.

A copy of the registration statement form, the white and yellow copies of the permit fee form and the applicant's check should be mailed to:

Department of Environmental Quality
Receipts Control
P.O. Box 10150
Richmond, VA 23240

Owners or operators proposing new industrial discharges must file a complete registration application at least 30 days prior to any discharges. Facilities with existing stormwater discharges were required to apply for a permit by Oct. 1, 1992. Owners of construction sites disturbing five or more acres of land must file a registration statement with DEQ at least two days before beginning any land disturbing activities.

Fees: The application fee for permit coverage for the full five years is $200. Application fees are prorated based on when the permit is applied for as follows:

- June 30, 1999 to Dec. 31, 1999 $200
- Jan. 1, 2000 to Dec. 31, 2000 $160
- Jan. 1, 2001 to Dec. 31, 2001 $120
- Jan. 1, 2002 to Dec. 31, 2002 $80
- Jan. 1, 2003 to Dec. 31, 2003 $40
- Jan. 1, 2004 to June 30, 2004 $0

† Revised, December 2001.
†† Added, December 2001.

Notices of Termination: Owners of regulated construction sites must submit state notice of termination (NOT) forms to their regional DEQ office within 30 days of the date when all stormwater discharges from construction activities are eliminated and stabilization has occurred at the site, or when the operator of the site has changed.

Program Notes:

In addition to the implementing the federal NPDES program, Virginia also has several state programs addressing stormwater runoff. The Chesapeake Bay Preservation Act imposes stormwater regulations on industrial dischargers and construction sites located in counties immediately adjacent to the Chesapeake Bay. A state nonpoint source pollution control program is administered by the Division of Soil and Water Conservation. The coal industry's NPDES permits, which often contain stormwater provisions, are handled by the Virginia Department of Mines, Minerals and Energy. (For details see below.) DEQ handles all other stormwater programs.

Industrial facilities that would otherwise be required to obtain a stormwater permit may be exempt from permitting if they certify that all stormwater discharges meet the state's definition of "no exposure." To qualify for such an exemption, a facility must ensure that all industrial materials and activities are protected by a storm resistant cover so that they are not exposed to rain, snow, snowmelt or runoff. Facilities must file a "No-Exposure Certification" every five years with the appropriate DEQ regional office; some facilities will not be granted an exemption, including construction sites, steam electric power generating facilities and hazardous waste TSD facilities.

Industrial stormwater permits require technology-based controls based on best available technology (BAT), best conventional pollutant control technology (BCT) considerations or water quality-based controls, if necessary. An industrial facility may have a permit that covers both stormwater discharges, as well as other discharges.

Stormwater Pollution Prevention Plans: All general permittees must develop a stormwater pollution prevention plan (SWP3). The SWP3 must identify all stormwater discharges at the facility and actual and potential sources of stormwater contamination. The plan must implement structural and non-structural best management practices (BMPs) to reduce the impact of runoff on receiving streams to the maximum extent practicable. If a construction site is already subject to an erosion and sediment control plan approved by state and local officials, and this plan meets all the requirements of the SWP3 required by the construction general permit, the approved erosion and sediment control plan may be used to satisfy the requirements of the general permit for development of an SWP3.

SWP3s must be prepared and implemented before filing registration statements for permit coverage under VAR4 or VAR5. Those applying for individual permits must prepare and implement an SWP3 within 270 days of permit issuance. SWP3s are not required to be submitted to DEQ, but they must be kept on site and available for inspection.

Monitoring Requirements: Some regulated dischargers must conduct stormwater sampling. Operators of regulated construction sites do not need to conduct monitoring unless requested to by DEQ. However, such permittees must not discharge "floating solids or visible foam in other than trace amounts" from their sites. The SWP3 and monitoring provisions of Virginia's industrial general permits resemble those of EPA's baseline permit, but with some modifications.

Generally, stormwater monitoring for industrial dischargers follows the same parameters identified in EPA's baseline general permit (see Tab 500, ¶544 and Tab 600, Figure 620-1). In addition, all industrial facilities that are subject to monitoring requirements must monitor stormwater flow. However, unlike EPA, Virginia does not require whole effluent toxicity testing. Also primary metal facilities and landfills must monitor for hexavalent chromium (dissolved) rather than total recoverable chromium. Landfills also must monitor for

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fecal coliform. In addition to other parameters, airports must monitor for total kjeldahl nitrogen.

Recordkeeping and Reporting Requirements: Generally, records must be kept on site for at least three years after the date of the sample, measurement, report or application, or until at least one year after coverage under the general permit terminates, whichever is later.

There are special reporting requirements for instances of noncompliance with the terms of the general permits and for "any unpermitted, unusual or extraordinary stormwater discharge which enters or could be expected to enter surface waters of the state." Such unusual discharges must be reported as quickly as possible, within 24 hours, to a DEQ regional office. If the regional office cannot be reached, permittees should call a 24-hour telephone service in Richmond at (804) 527-5200. When facilities release "reportable quantities" of oil or hazardous substances subject to the reporting requirements of 40 CFR Part 117 or 40 CFR Part 302, their SWP3s must be modified within 14 calendar days of knowledge of the release.

State-sponsored Construction: In December 1990, Virginia adopted mandatory state stormwater management regulations for construction projects sponsored by state agencies. Local governments may adopt local stormwater management programs, but such programs must comply with the state regulations. Copies of the state regulations are available upon request. For more information about these regulations, contact the Department of Conservation and Recreation (DCR), Division of Soil and Water Conservation, 203 Governor St., Suite 206, Richmond, VA 23219; (804) 786-2064.

Erosion and Sediment Control Program: Under a separate program, private (non-state) land-disturbing activities are regulated by local erosion and sediment control programs. Local governments in Virginia must adopt ordinances regulating construction site erosion and sedimentation that are at least as stringent as the state Erosion and Sediment Control Law (Title 10.1, Chapter 5, Article 4 of the Code of Virginia, as amended (1992)) and its implementing regulations (Virginia Regulation 625-02-00).

The program is administered by cities, counties, or incorporated towns with oversight by the Division of Soil and Water Conservation. In Buchanan County in southwest Virginia, the Lonesome Pine Soil and Water Conservation District administers the erosion and sediment control program. Before starting any land disturbing activity, developers must obtain approval of their erosion and sediment control plans from administering agencies. Review of proposed plans may be by the local agency or by soil and water conservation districts, under the oversight of the Division of Soil and Water Conservation.

A new program requiring the certification of contractors took effect July 1, 2001. Sediment and erosion control plans submitted for approval by local authorities must be signed by a state-certified "responsible land distributor." Contractors, engineers or other qualified persons may receive Internet-based training and testing, as well as other materials, from DCR. A $75 fee is required. For more information, contact DCR at (804) 786-2064.††

Fees for Land Disturbance Permits: Some, but not all, local governments require permits for land disturbing activities. Fees vary by locality. Under state law, fees for such permits may not exceed $1,000 per permit.

For more information about the erosion and sediment control program, contact Larry Gavan, DCR, Division of Soil and Water Conservation, at (804) 786-4508.

Individual Permits:††

Individual permit applicants for industrial facilities must submit EPA Forms 1 and 2F, an application fee form and a fee of $2,400. EPA Form 2F requires that the applicant sample at least one representative storm event and include the results in the application. Applicants for construction sites must complete EPA Form 1, specific narrative information relating to the construction activity (contact DEQ for more information), an application fee form and a $2,400 fee.

†† Added, December 2001.

For new industrial stormwater discharges, applications must be submitted to DEQ 180 days prior to beginning discharges. Generally, DEQ only issues individual permits for construction sites under unusual circumstances. If an individual permit is necessary for a construction site, an application must be submitted to DEQ 90 days before construction is planned to begin.

Municipal Stormwater Permits:

DEQ has issued stormwater permits for all Virginia large and medium MS4s. The large municipalities are Fairfax County, Norfolk and Virginia Beach. The medium municipalities are Arlington County, Chesapeake, Chesterfield County, Hampton, Henrico County, Newport News, Portsmouth and Prince William County.

The MS4 permits require the municipalities to develop and implement a comprehensive stormwater management program (SWMP) of structural and non-structural measures to control the discharge of pollutants from the storm sewer system to the maximum extent practicable, and to effectively prohibit non-stormwater discharges to the separate storm sewer system. The permits require the municipality to regularly assess the effectiveness of the various stormwater controls employed by the municipality, and some of the permits also require the municipality to conduct storm event monitoring.

Under the Phase II regulations, permits will be issued by DEQ to regulated small MS4s, which include systems owned by municipalities, federal and state facilities, universities and the Virginia Department of Transportation. There are 43 Virginia municipalities located within urbanized areas that have been "automatically designated" by EPA; 10 more have been "potentially designated," meaning that DEQ will have to evaluate these areas.

Permits for regulated small MS4s will require the development, implementation and enforcement of an SWMP that includes EPA's "six minimum control measures." Small MS4s must apply for a permit by March 10, 2003, and will have up to five years after DEQ issues the permit to develop and implement their SWMPs. Applicants must identify: the BMPs and measurable goals for each of the six minimum control measures, the timing of the implementation of each control measure and the person or persons responsible for implementing the SWMP.

DEQ must develop the small MS4 VPDES permit by Dec. 9, 2002. The permit will be based on EPA's model permit for small MS4s. DEQ will use EPA's menu of BMPs as a starting point, but the department may revise the BMPs in conjunction with DCR and the Chesapeake Bay Local Assistance Department (CBLAD) to ensure statewide consistency in the final menu of BMPs. DEQ will develop a process and criteria to designate additional small MS4s for permitting. DEQ expects to designate all small MS4s by Dec. 9, 2002, but may postpone designation to Dec. 8, 2004, if a comprehensive watershed plan has been developed. DEQ is required to make a final determination on MS4 designations within 180 days of the receipt of a petition from anyone seeking the designation of a large, medium or small MS4.

Chesapeake Bay Preservation Act:

Under the 1987 Chesapeake Bay Agreement, Virginia and other states surrounding the Bay agreed to reduce by 40 percent nutrient loading to the Bay estuary by the year 2000. The participating states must commit to restore living resources in Bay waters and to reduce toxic pollution.

To implement the agreement, Virginia's 1988 Chesapeake Bay Preservation Act mandates the control of nonpoint sources of pollution through land-use controls in 89 localities in the Tidewater region of the state. Such Tidewater municipalities must designate as Chesapeake Bay Preservation Areas (CBPAs) shoreline lands "which, if improperly developed, may result in substantial damage to the water quality of the Chesapeake Bay and its tributaries." Such CBPAs are designated as either Resource Protection Areas (RPAs) or Resource Management Areas (RMAs). Development in areas designated as CBPAs must meet certain general performance criteria, including the control of the quality of stormwater in the developed areas and in agricultural and forested areas.

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Pre- and Post-Development Pollutant Loads: The standards under the act require that post-development pollutant loads in stormwater runoff from regulated sites be no larger than pre-development pollutant loads. Average pre-development pollutant loads were developed by the Chesapeake Bay Local Assistance Department using phosphorous as an indicator pollutant. Localities may adopt the state's pollutant loads by default or may specify their own pollutant load levels on a watershed basis. Among the local governments that have adopted local watershed management plans are Prince William County and Fairfax County. Developers in these counties may have to pay a portion of the county's stormwater management costs, but will likely escape having to implement more expensive management measures on a site-by-site basis.

For redeveloped sites, the state standards require a 10 percent reduction in average pollutant loads, assuming that stormwater discharges from existing sites are not controlled already through best management practices.

Intensely Developed Areas: The Act allows local governments to designate certain highly developed CBPAs as Intensely Developed Areas (IDAs). BMPs for stormwater control are mandatory for these IDAs, unless the IDAs provide for 20 percent vegetative cover of the land.

Credits for Existing Controls: Stormwater dischargers in Tidewater communities may receive full or partial credit for runoff controls installed under other regulatory programs.

For more information about the Chesapeake Bay Preservation Act, contact the local government officials implementing the program or Doug Beisch, Chesapeake Bay Local Assistance Department, 101 N. 14th St., 17th Floor, Richmond, VA 23219; (804) 371-7506.

Nonpoint Source Pollution Program:

For information about the state nonpoint source pollution program, which is administered by the Division of Soil and Water Conservation, contact Rick Hill, Nonpoint Source Planning and Grants Manager, at (804) 786-7119.

Mining Permits:

The state Department of Mines, Minerals and Energy (DMME) handles all NPDES permits for the coal mining industry, which is excluded from VAR5 coverage. Coal mines and mining-related activities are subject to the Surface Mining Control and Reclamation Act of 1977 (SMCRA). Any point source discharges from SMCRA-regulated coal mines are regulated by DMME's Division of Mined Land Reclamation (9 VAC 25-31-940). Only those coal mine-related activities that are specifically exempt from SMCRA and DMME's individual permit program are eligible for coverage under VAR5. For more information, contact Benjamin Wampler at (703) 523-8145.

General Permit for Nonmetallic Mineral Mining. In June 1994, DEQ's Water Division and DMME issued a final general permit for process wastewater discharges and stormwater discharges from the nonmetallic mining industry. Under the permit, mining facilities must monitor their process wastewater discharges for total flow, pH and TSS. The general permit also sets an effluent limitation of pH 6-9 in such discharges and sets an effluent limit on process wastewater discharges of less than 60 mg/l, or less than 30 mg/l averaged on a monthly basis.

Nonmetallic mining facilities covered by this permit also must conduct annual grab samples of stormwater discharged from their sites. Stormwater must be monitored for pH, TSS and total flow. Sampling data must be submitted on discharge monitoring forms to DEQ by Jan. 10 of the year following the year of the sample.

Virginia Coastal Zone Management Program:

The Virginia Coastal Program has responsibility for coordinating Coastal Zone Management Act activities in the state. For information about regulatory requirements under the Coastal Zone Management Act, contact Mike Murphy, Director, Division of Environmental Enhancement, Virginia Coastal Program, DEQ, 629 E. Main St., Richmond, VA 23219; (804) 698-4003.

State Documents Available:

- "Local Assistance Manual," $30 for complete manual set, $16.50 for text without binder. Available from Chesapeake Bay Local Assistance Department (CBLAD), 101 N. 14th St., 17th Floor, Richmond, VA 23219 (804) 225-3440. Make checks payable to: Treasurer of Virginia.
- "VR 17-0201.1—Emergency Chesapeake Bay Preservation Area Designation and Management Regulation." Available from CBLAD at the above address.
- "VR 625-02-00. Virginia Erosion and Sediment Control Regulations." Available from the Department of Conservation and Recreation, Division of Soil and Water Conservation, 203 Governor St., Suite 206, Richmond, VA 23129.
- *Virginia Erosion and Sediment Control Handbook, Third Edition, 1992.* Price is $20 plus $3 for shipping and handling. Available from the Division of Soil and Water Conservation at the above address.
- "VR 215-02-00. Virginia Stormwater Management Regulations." Available from the Division of Soil and Water Conservation at the above address.
- "Model Stormwater Management Ordinance." Available from the Division of Soil and Water Conservation at the above address.

[The next page is Tab 800, Page 621.]

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State Contacts:†

David Roberts, municipal stormwater program supervisor
(360) 407-6470

Stan Ciuba, technical services
(360) 407-6435

Linda Matlock, industrial permits
(360) 407-6437

Ed O'Brien, municipal permits
(360) 407-6438

Ann Wessel, municipal permits
(360) 407-6457

Department of Ecology
Office of Water Programs
Water Quality Program
P.O. Box 47696
Olympia, WA 98504-7696
Internet: www.ecy.wa.gov/progrms/wq/stormwater††

Program Description:

Washington is an NPDES-delegated state with general permitting authority. The state has general permits for industrial stormwater discharges and discharges from construction sites disturbing five or more acres of land. Both permits are issued by the Department of Ecology (Ecology). The general permits cover most industrial stormwater dischargers in the state, with the exception of the industrial categories noted below, and federal facilities and facilities on tribal lands. State officials have decided not to adopt EPA's multi-sector permit at this time.

Federal Facilities, Tribal Lands: Industrial and construction site stormwater dischargers on federal and tribal lands in Washington are covered by EPA's multi-sector general permits for stormwater. Administration of these general permits in the state is done by U.S. Environmental Protection Agency (EPA), Region 10, Water Management Division (WD-134), Stormwater Staff, 1200 Sixth St., Seattle, WA 98101.

Like Washington state's general permit, the state-specific requirements added to EPA's baseline general permits for Indian and federal lands in the state prohibit stormwater discharges that violate state groundwater standards (Chap. 173-200 WAC), state surface water standards (Chap. 173-201 WAC) or state sediment management standards (Chap. 173-204 WAC). Discharges of stormwater runoff to groundwater in Washington state also are regulated by the state's Underground Injection Control Program (Chap. 173-218 WAC).

Application Requirements:

For coverage under either general permit, dischargers must submit to Ecology a state Notice of Intent (NOI) for the General Permit to Discharge Stormwater Associated with Industrial Activity or the NOI for the General Permit to Discharge Stormwater Associated with Construction Activity. NOI forms should be sent to: Department of Ecology, Water Quality Program, Stormwater Unit, P.O. Box 47696, Olympia, WA 98504-7696.

Some Washington state stormwater dischargers may need to seek individual permits, see below. Members of EPA-approved group applications must obtain coverage under the state general permit, despite their membership in a group.

NOI Deadlines:† Industrial and construction site stormwater dischargers are required to submit an NOI to Ecology at least 38 days prior to commencing any industrial or construction activity. An acceptable NOI is usually processed within 30 days of receipt. Before a stormwater permit is granted to construction sites, the applicant must have prepared a stormwater pollution prevention plan (SWP3) and verify that State Environmental Policy Act (SEPA) and public notice requirements have been met.

Other Notification Requirements: Applicants for the construction general permit that discharge stormwater to a storm sewer operated by any of the following municipalities or departments should submit copies of their NOIs to the appropriate authority: Seattle; King County; Snohomish County; Tacoma; Pierce County; Clark County; Spokane County; or Washington Department of Transportation.

† Revised, January 2002.
†† Added, January 2002.

† Revised, January 2002.

Informational Mailing List: Industrial dischargers of stormwater are encouraged to contact Linda Matlock at Ecology at the above address to be placed on a mailing list for the department's stormwater newsletter.

Program Notes:

Eligibility for General Permit Coverage:† Most categories of industrial dischargers and discharges from construction sites disturbing five or more acres of land are required to obtain coverage under the Washington state general permit. They include:

- facilities listed at 40 CFR Subpart 122.26(b)(14)(i-ix), which includes "heavy" industrial activity, hazardous waste facilities, recycling facilities and treatment works;
- facilities listed at 40 CFR 122.26(b)(14)(xi), which have a stormwater discharge associated with industrial activity;
- facilities that are included in EPA-approved group applications, unless they are excluded by a state-specific requirement;
- any facility required under 40 CFR Subpart 122.26(b)(14) to have an NPDES stormwater permit, and that has an existing discharge permit that does not address all of the facility's stormwater discharges associated with industrial activity;
- any inactive industrial facility listed under 40 CFR Subpart 122.26(b)(14), where "significant materials" remain onsite and are exposed to stormwater; and
- construction activity, including clearing, grading and excavation activities, and those sites or common plans of development or sale that will result in the total disturbance of five acres or more land area and also have a discharge of stormwater to a surface water or a storm drain.

Facilities for Which Coverage is Not Required:† Stormwater discharges from the following types of facilities or activities are not required to apply for coverage under the state's general permits:

- any facility owned or operated by a municipality with a population of fewer than 100,000, in accordance with the most recent census, other than an airport, power plant or uncontrolled sanitary landfill;
- industrial facilities that discharge their stormwater only to a municipal combined sewer or sanitary sewer;
- any industrial facility under category 11 of the permit whose only stormwater associated with industrial activity is drainage from roofs or other surfaces exposed to air emissions from a manufacturing building or a process area, unless the air emissions are judged by the owner/operator or DOE to be a source of discharge or significant amounts of pollutants to stormwater;
- industrial facilities that discharge stormwater to the ground through infiltration basins, dry wells, drain fields and any other discharge to the ground and have no point source discharge to surface water or a municipal storm sewer;
- office buildings and/or administrative parking lots from which stormwater discharges are not commingled with stormwater discharges from areas associated with industrial activity;
- in accordance with 40 CFR 122.3(d), any part of a facility with a discharge which is in compliance with the instructions of an on-scene coordinator pursuant to 40 CFR part 300 (the National Oil and Hazardous Substances Pollution Contingency Plan) or 33 CFR 153.10 (pollution by oil and hazardous substances);
- any part of a facility with a stormwater discharge resulting from remedial action conducted by EPA or Ecology or a potential liable/responsible person under an order, agreed order or consent decree issued under the Comprehensive Environmental Response, Compensation and Liability Act. These facilities still must comply with the requirements in this general permit determined by Ecology to be applicable, relevant and appropriate requirements under these laws;

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- any land application site used for the beneficial use of industrial and municipal wastewater for agricultural activities at agronomic rates or for landscaping purposes;
- any farmland, domestic garden or land used for sludge management where domestic sewage sludge is beneficially reused and which is not physically located in the confines of domestic sewage treatment works, or areas in compliance with Section 405 (disposal of sewage sludge) of the Clean Water Act;
- any active coal mining operation if the performance bond issued to the facility by the appropriate Surface Mining Control and Reclamation Act authority has been released;
- any active non-coal mining operation if released from applicable state or federal reclamation requirements after Dec. 17, 1990. Any active non-coal mining operation which does not have a discharge of stormwater that comes in contact with any overburden, raw material, intermediate products, finished products, by-products or waste products located on the site of the facility;
- inactive mining, inactive oil, and gas operations or inactive landfills where neither an owner nor an operator can be identified;
- any emergency construction activity required to protect public health and safety; and
- any construction activity for routine maintenance of existing facilities to maintain original line and grade, or hydraulic capacity.

Discharges to Sanitary and Combined Sewers: Stormwater discharges to municipal sanitary sewers or combined sewers must be limited pursuant to Chap. 173-245 WAC. Discharges of stormwater to sanitary sewers may not occur without the approval of the municipality that owns or operates the sanitary sewer system.

Stormwater Pollution Prevention Plans (SWP3s):† Industrial facilities and construction site operators seeking stormwater permit coverage must develop an SWP3 before submitting their NOI. Plans must be implemented before commencing stormwater discharges.

For the most part, the state's SWP3 requirements follow those in EPA's baseline general permit and are detailed in the state general permit. One special requirement facing industrial dischargers concerns the handling of solid and liquid wastes generated by BMP maintenance activities, including the removal of liquids and solids from catch basins and other stormwater facilities. Disposal of waste materials from such activities must be conducted in accordance with the state's Minimum Functional Standards for Solid Waste Handling (Chap. 173-304 WAC) and, where appropriate, its Dangerous Waste Regulations (Chap. 173-3-3 WAC). Leachate from solid waste material handling and disposal sites should not be discharged to state surface waters or groundwater without being provided with all "known, available, and reasonable methods of treatment." Leachate also should not cause violations of state groundwater or surface water quality standards or sediment management standards.

In addition, the state industrial general permit specifies certain source, erosion and sediment control, and treatment BMPs that may be incorporated into the SWP3. These BMPs are further described in Ecology's *Stormwater Management Manual for Western Washington.*

An SWP3 for construction activities must provide for:

- an erosion and sediment control (ESC) plan that describes stabilization and structural practices, both of which must be implemented to minimize erosion and the transport of sediments;
- the handling and disposal of all pollutants other than sediment in a manner that does not cause contamination of stormwater; and
- compliance with any more stringent local government requirements.

These plan requirements are described in more detail under special condition S9 of the state general permit. Guidance for developing the ESC plan can be found in Volume II of Ecology's *Stormwater Management Manual for Western Washington.*

† Revised, January 2002.

Fees:† Although there is no application fee for a permit, there is an annual fee of $343 for each permit. Permittees are billed soon after receiving their permits. Thereafter, Ecology bills permittees annually. For information concerning fees, contact Ecology's fee administrator, Bev Poston, at (360) 407-6425.

Monitoring: All facilities covered by the general permit, except construction sites, must conduct two inspections per year, one during the wet season (Oct. 1-April 30) and the other during the dry season (May 1-Sept. 30).

For construction sites, all structural BMPs must be inspected, maintained and repaired as needed to assure continued performance of their intended functions. All on-site erosion and sediment control measures must be inspected at least once every seven days and within 24 hours after any storm event of greater than 0.5 inches of rain per 24-hour period. An inspection report file must be maintained. (See Section S6 of the construction and industrial permit applications.)†

Ecology at this time is not requiring sampling and analysis of stormwater discharges or groundwater, surface water or sediments affected by stormwater discharges. However, the state encourages sampling and analysis, stating that they may be appropriate during the development and implementation of a facility's SWP3. For facilities that conduct sampling and testing, the state recommends that sampling procedures be conducted in accordance with EPA's Storm Water Sampling Guidance Document (EOO 833-B-92-001). The state recommends, but does not require, that testing or analysis of stormwater samples be done in accordance with 40 CFR Part 136 and the Puget Sound Estuary Protocols.

Recordkeeping: Although there is no state requirement for stormwater sampling, the general permits require permittees to prepare and retain reports for their SWP3s on the scope of any inspection, the personnel conducting the inspection, the date(s) of the inspection, and major observations relating to the implementation of the SWP3. The report also should record whenever a facility's self-inspection reveals inadequacies in the SWP3 concerning its description of potential pollutant sources, pollution prevention measures and controls, and indicating that the SWP3 has been modified accordingly. According to Special Condition S9.D2a. of the industrial general permit, and S9.C1e of the construction general permit, facility operators must modify their SWP3s within two weeks of any self-inspection disclosing such inadequacies.†

Records for industrial facilities and for construction activities covered by the state's general permits also must include reports on incidents of noncompliance with the permit, such as spills. Permittees must retain all records required by the general permit, including copies of all NOIs, spill reports, and reports on inspections, for at least five years. Permittees should make such reports available on request to Ecology or the owner and operator of any municipal separate storm sewer system through which they discharge their stormwater. All records and reports should be retained for at least three years from the date of permit termination.

Notices of Termination: Industrial dischargers may submit a notice of termination (NOT) when all stormwater discharges have ceased, and no significant materials remain exposed to stormwater. NOTs also may be submitted when the operator of the facility changes. (See S11 of the industrial general permit.)†

A construction site owner must submit an NOT when the site has undergone final stabilization and all stormwater discharges authorized by the permit have been eliminated. When ownership of a site changes, the former owner must submit an NOT, and the new owner must submit a new NOI to obtain general permit coverage. Permit fees will continue until Ecology receives the NOT form. (See S10 of the construction general permit.)†

Municipal Permits:†

NPDES stormwater permits for Phase I municipalities in Washington state are up for reissuance. Ecology is working on reissuing stormwater permits for municipalities. Ecology is proposing to combine the three existing general permits into a single statewide general permit that will apply to all entities required to have permit coverage under Phase I. This includes cities and unincorporated portions of counties whose populations

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† Revised, January 2002.

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exceed 100,000. The municipalities that must renew permit coverage include Lang County, Pierce County, Snohomish County, Clark County, City of Seattle and City of Tacoma.

Relevant State Statutes and Regulations:

- Chapter 400-12 WAC, Local Planning and Management of Nonpoint Source Pollution.
- Chapter 90.70 RCW, Puget Sound Water Quality Authority.
- Chapter 90.48 RCW, "Water Pollution Control Act."
- Chapter 173-220, WAC, National Pollutant Discharge Elimination System (NPDES) Permit Program.
- Chapter 173-201, WAC, Water Quality Standards for Surface Waters of the State of Washington.

State Documents Available:†

The following documents are available by contacting Ecology at the address above, or at www.ecy.gov/permit.html:

- "Stormwater Management Program," a background piece on the Washington program.
- State NOI forms and other stormwater documents.
- Guidance Document for Applying for Ecology's General Permit to Discharge Stormwater Associated with Construction Activity, January 2001 (includes NOI form).
- Guidance Document for Applying for Ecology's General Permit to Discharge Stormwater Associated with Industrial Activity, July 2001 (includes NOI form).
- Chapter 173-270WA, Puget Sound Highway Runoff Program.
- Chapter 372-68WAC, Water Pollution Control and Abatement Plans for Sewage Drainage Basins.
- Chapter 173-224WAC, Wastewater Discharge Permit Fees.
- Chapter 173-226WAC, Waste Discharge General Permit Program.

[The next page is Tab 800, Page 631.]

† Revised, January 2002.

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State Contact(s):*

Art Vickars (industrial stormwater permits)
(304) 558-8855
Department of Commerce, Labor and Environmental Resources
Engineering Branch
1201 Greenbrier St.
Charleston, W.Va. 25311

Lyle Bennett (construction stormwater permits)
(304) 558-2108
Department of Commerce, Labor and Environmental Resources
Division of Environmental Protection
Office of Water Resources
1201 Greenbrier St.
Charleston, W.Va. 25311-1088

For assistance in filling out stormwater application forms:
Leroy Gilbert
(304) 256-6850
Department of Commerce, Labor and Environmental Resources
Division of Environmental Protection
Office of Water Resources
1201 Greenbrier St.
Charlestown, W. Va. 25311-1088

Program Description:

West Virginia is an NPDES-delegated state with general and individual permitting authority. The state has a general permit covering industrial stormwater discharges and for discharges from construction sites disturbing three or more acres of land. This permit — the "General National Pollutant Discharge Elimination System Pollution Control Permit for Stormwater" establishes separate requirements for industrial dischargers and construction site dischargers. However, not all West Virginia stormwater dischargers are eligible for general permit coverage. Those not covered by the state general permit must submit applications for individual stormwater discharge permits using EPA forms 1 and 2F. In addition to the general permits, the state is developing its own multi-sector general permit based on EPA's model.

Application Requirements:

The state general permit provides coverage for any establishment whose stormwater discharges consist entirely of stormwater associated with industrial activity, with the following exceptions:

- facilities with existing stormwater effluent guidelines.
- facilities with existing NPDES permits covering stormwater;
- facilities covered by alternative general permits;
- facilities with discharges that may reasonably be expected to be contributing to violation of a state water quality standard;
- facilities classified by the following Standard Industrial Classifications (SIC) codes:
  - SIC 12: Coal mining;
  - SIC 13: Oil and Gas Extraction;
  - SIC 33: Primary Metals (However, a primary metal facility may obtain general permit coverage for discharges consisting entirely of stormwater if it provides proper pretreatment for industrial wastes discharged to a publicly owned treatment works (POTW) with proper authority to receive such wastes, under the national pretreatment regulations);
  - SIC 2491: Wood Preserving (wood preserving facilities require individual permits);
- landfills. (these are regulated jointly in West Virginia by DEP's Waste Management Section and Water Resources Section, under joint Chapter 20, Article 5A/5F permits);
- discharges of stormwater from POTWs; and
- discharges from facilities where the construction of wastewater treatment facilities is necessary to meet the Clean Water Act's best available technology (BAT) or best conventional technology (BCT) standards (DEP will identify such facilities after reviewing site registration application forms submitted by industrial facilities seeking general permit coverage).

Dischargers of PCBs, chlordane and solvents must submit individual permit applications.

Site Registration Application Forms: Applicants must use site registration application forms developed by DEP's Office of Water Resources to seek general permit coverage. For site registration application forms, contact DEP.

Program Notes:

Prior to EPA's issuance of stormwater permitting regulations in 1990, West Virginia regulators had been writing stormwater provisions into NPDES wastewater permits for some time and had already regulated stormwater in an estimated 400 of the state's 2,000 NPDES wastewater permits. Both stormwater dischargers covered by these permits and stormwater dischargers coming under the state general permit are subject to state water quality standards under Title 46 of the Legislative Rule for the Water Resources Board, Series 1 and Appendix E.

General Permit Requirements for Industrial Dischargers:

Monitoring Requirements: Under the state general permit, most industrial dischargers must sample once per year for the stormwater pollution parameters listed below.

Annual Sampling Parameters are

- oil and grease;
- five-day biochemical oxygen demand (BOD5);
- chemical oxygen demand (COD);
- total suspended solids (TSS); and
- nitrate plus nitrite nitrogen.

However, different, semi-annual sampling and monitoring requirements apply to land application units, coal piles, and facilities subject to the Toxic Release Inventory reporting requirements of the Superfund Amendments and Reauthorization Act of 1986 (SARA), Title III, Section 313 (see chart below).

Effluent Limitations: Under the general permit, permittees must not cause a violation of Series I, Section 3 of the West Virginia Legislative Rules issued pursuant to Chapter 30, Article 5A. In addition, discharges from coal piles must meet effluent limitations on pH and total suspended solids. Compliance with these effluent limitations must be achieved by the time the general permit coverage is obtained.

WET tests of land application units and SARA Title III, Section 313 facilities must not show

Parameter	SARA III Section 313	Coal Piles	Land Application Units
Oil, Grease	X	X	X
BOD-5	X		X
COD	X		X
TSS	X	X	X
Total Dissolved Solids			X
Total Kjeldahl Nitrogen	X		
Phosphorus	X		
Acute WET	X		X
Copper		X	
Nickel		X	
Zinc		X	
Chloride			X
Total Iron			X
Manganese			X
Total Organic Carbon			X
Others ***	X		

*** For any Section 313 water priority chemical likely to be present that is subject to the reporting requirements of SARA III Section 313.

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mortality levels in excess of 20 percent of the test organisms. However, compliance with the acute WET limitations need not be achieved until three years after the effective date of the general permit.

Reporting: Permittees must submit annual or semi-annual discharge monitoring reports (DMRs) on sampling results to: Chief, Office of Water Resources, DEP, 1201 Greenbrier Street, Charleston, W. Va. 25311, ATTN: Engineering Branch. DMRs should be mailed no more than 20 days after the end of the reporting period.

Pollution Prevention Plans: Industrial facilities covered by the general permit must prepare comprehensive stormwater pollution prevention plans (SWP3s) and submit them along with their site registration application forms. New facilities must be in compliance with their SWP3s upon commencing operations.

Special Requirements for SARA Title III, Section 313 Facilities: In areas where Section 313 chemicals are stored, processed or otherwise handled, the state general permit requires such facilities, at a minimum, to use one of the following diversionary and/or drainage controls or its equivalent:

- secondary containment structures;
- drainage structures such as curbing, culverts, gutters, sewers or similar structures to "prevent or minimize" the potential contact of stormwater with significant materials; or
- roofs, covers or other forms of protection to prevent stormwater exposure, wind blowing or leaching from affecting storage piles.

Facilities may provide alternative controls if installation of structures and equipment is "not practicable at a given facility." An alternative control must include a strong spill contingency plan and a "written and actual commitment" of staff and materials to control and remove any Section 313 chemicals discharged.

Certification by a Registered Professional Engineer is required for each SWP3 for a SARA Title III, Section 313 facility.

Fees: Industrial stormwater dischargers must pay both application fees and annual permit fees. The amount of the fee depends on the average daily volume of contaminated runoff discharged from the site. Both wet and dry days of the year are used to calculate the average. Permittees may reduce their fees by reducing or eliminating stormwater exposure of significant materials at a site, thereby reducing the average daily discharge of contaminated stormwater.

Both new and existing facilities must pay the fees. "Existing facilities" are facilities for which the chief of the Department of Commerce, Labor and Environmental Resources has already issued an NPDES permit or a state environmental permit.

No. of gallons/day discharged	Existing Facility	New Facility
Less than 1,001	$60	$235
1,001-5,000	$120	$350
5,001-50,000	$175	$585
50,001-100,000	$235	$700
More than 100,000	$290	$875

Annual Permit Fees for New Industrial Facilities

No. of gallons/day discharged	Fee
Less than 5,000	$50
5,0001-15,000	$125
15,001-50,000	$250
50,001-100,000	$500
More than 100,000	$750

Zone 1: Western Plateau, Median Annual Rainfall 43.7 inches.
Zone 2: Northern Panhandle, Median Rainfall 38.5 inches.
Zone 3: Mountains, Median Rainfall 52.7 inches.
Zone 4: Eastern Panhandle, Median Rainfall 37.0 inches.

Fee	Zone 1	Zone 2	Zone 3	Zone 4
$350	3 acres	3-4 acres	3 acres	3-4 acres
$585	4-38 acres	5-43 acres	4-31 acres	5-45 acres
$700	39-76 acres	44-87 acres	32-63 acres	46-90 acres
$875	77 acres+	88 acres+	64 acres+	91 acres+

General Permit Requirements for Construction Sites:

General permit coverage is required for construction activities disturbing three or more acres of land. The owner/developer providing the capital for a construction project must apply for permit coverage 30 days before work commences on a site. Applications must include descriptions of the construction activity, the total area of the site to be disturbed, and an SWP3 outlining measures to control runoff, both during and following construction. In general, SWP3s for construction sites over three acres resemble the sediment control plans many such sites previously submitted for approval to local Soil Conservation Districts and the state Department of Commerce, Labor and Environmental Resources.

Limits on Responsibility When Construction Ends: Coverage by the NPDES general stormwater permit for construction sites expires 90 days after construction activity is satisfactorily completed. A permittee's responsibility extends 90 days beyond the completion date specified in the application, or until after post-construction stormwater control practices have been satisfactorily implemented.

Construction Sites of 1-3 Acres: West Virginia at first proposed to regulated stormwater from all construction sites disturbing an acre or more of soil, but decided to require general permit coverage only for sites of three acres or more following a compromise agreement with the West Virginia Homebuilders Association. Under the compromise, developers of one-to-three acre construction sites are strongly encouraged to file notices of intent and sediment control plans with the Water Resources Section. No fees or 30-day advance notices are required of one-to-three acre projects under the compromise. In essence, one-to-three acre construction projects are still controlled by West Virginia's Nonpoint Source Program. Voluntary compliance with Nonpoint Source Program requirements can protect developers from potential penalties for violating state water quality standards for turbidity.

Permit Fees for Construction Sites: Permit fees for construction site coverage under the general permit reflect the volume of runoff expected at each site. Consequently, fees vary according to the size of the project and its location within state precipitation zones, as suggested in the above chart.

SWP3s: For construction sites, SWP3s must include an erosion and sediment control plan, a description of stormwater management measures, provisions for handling waste materials from the construction site, and road maintenance measures, including the spreading of gravel on existing public or private roads within a construction project that carry more than 25 vehicles a day.

State Nonpoint Source Program Requirements:

West Virginia has a state Nonpoint Source Program addressing various kinds of runoff associated with the silviculture, construction, resource extraction and agricultural industries. The program is being updated to address urban runoff problems and hydrologic modification of West Virginia waters as well. The Water Resources Section administers the program in conjunction with the state Forestry Division of the Department of Commerce, Labor and Natural Resources, the state Soil Conservation Committee and the state Department of Energy. Regulation of mining site runoff, particularly from abandoned mining sites, is administered by the Mining section of the state Division of Energy. Regulation of oil and gas operations is administered by the department's Oil and Gas Division.

Construction Sites: Developers of small construction projects disturbing one-to-three acres of soil may avoid potential penalties for violating state water quality standards by developing sediment control plans, having them approved, and implementing and maintaining them over time. Sediment control plans must be submitted to one of West Virginia's 14 state Soil Conservation Districts, approved at the district level and submitted for approval to the Water Resources Section of the Division of Natural Resources, State Department of Commerce, Labor and Natural Resources. Approved plans must include best management practices.

Construction site runoff also is regulated at the local level in two counties in West Virginia's eastern panhandle: Jefferson County and Berkeley County. The Soil Conservation Committee administers a nonpoint source pollution demonstration program in the eastern panhandle area and provides technical assistance to some developers on request. For more information, contact a Soil Conservation District office.

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Silviculture Industry: In 1992 West Virginia enacted the Logging Sediment Control Act. The law is administered by the Division of Forestry (DOF) of the Department of Commerce, Labor and Environmental Resources. As of Sept. 1, 1992, the law requires that no person may "conduct a timber operation, purchase timber or buy logs for resale" without obtaining a license from DOF. Applicants must also notify DOF of the location and expected duration of timbering operations, describe sediment control practices to be used, and provide additional information on the site and persons who will supervise the operations. After July 1, 1993, the law requires supervisors of timbering operations to be certified by DOF and trained in certain safety procedures, as well as in the use of best management practices to prevent, "insofar as possible," soil erosion and sedimentation at timbering sites.

Timbering operations regulated by the law do not include the cutting of Christmas trees grown for the traditional Christmas season, the cutting of trees incidental to ground-disturbing activities at construction sites, the cutting of trees to maintain public rights-of-way for highways or utility lines, or an individual's cutting of trees on the individual's own property for individual use, unless a professional in the tree cutting and removal business is hired for this purpose.

Applicants must use DOF forms to apply for timbering licenses and must pay an annual fee of $50 per license.

For more information on sediment control and silviculture, contact William Maxey, DOF, at (304) 558-2788.

Mining Industry: For information on state regulation of the mining industry, contact Ken Pollitan, NPDES Manager, West Virginia Division of Mining Reclamation, 10 McJunkin Rd., Nitro, W.Va. 25143; (304) 759-0510.

Most oil and gas sites are exempt from stormwater regulation unless a spill has occurred onsite within the last three years. For sites that are not exempt, the Oil and Gas Section of the Division of Energy is planning to prepare a state general permit fashioned after the general permit now under development by the Water Resources Section.

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State Contacts (Central Office):†

Eric Rortvedt (Stormwater Coordinator)
(608) 264-6273

Dan Graff (Legal Issues)
(608) 264-8527

Mary Anne Lowndes (Construction Support)
(608) 261-6420

John Pfender (Municipal Support)
(608) 266-9266

Jennifer Gihring (Database/Program Support)
(608) 264-6127

Mike Solomon (Program Assistant)
(608) 267-3774

Wisconsin Department of Natural Resources
Bureau of Watershed Management
P.O. Box 7921
Madison, WI 53707-7921

Program Description:

Wisconsin is a delegated NPDES state with general permitting authority. The Department of Natural Resources (DNR) is responsible for issuing stormwater permits in the state. The stormwater requirements are set forth in Chapter NR 216 of the Wisconsin Administrative Code.

NR 216 contains subchapters for each permit category: municipal, industrial and construction site soil erosion control. Each subchapter identifies where the permits are applicable, the application process, permit requirements and permit fees.

Application Requirements:†

Existing facilities were required to apply for permit coverage by Nov. 1, 1994. Applications for new construction sites must be submitted before construction begins.

Industrial facilities must submit notices of intent (NOIs) for general permit coverage. Wisconsin does not intend to adopt EPA's multi-sector general permit. However, general permits are issued under a three-tiered system that groups industries by type and by how likely they are to contaminate stormwater (see discussion below). A facility may be covered by an individual permit if any of the following conditions apply:

- the stormwater discharge is a significant source of pollution and more appropriately regulated by an individual stormwater discharge permit;
- the stormwater discharger is not in compliance with the terms and conditions of NR 216 or the general stormwater permit issued under NR 216; or
- effluent limitations or standards are promulgated for a stormwater discharge.

To obtain a construction site permit, land owners must develop an erosion control and stormwater management plan and submit an NOI to DNR. The plan must be submitted only if requested by DNR.

Program Notes:†

Industrial Facilities: General permits for industrial facilities are issued under a three-tiered system that groups industries by type and by how likely they are to contaminate stormwater. Tier 1 permits cover various "heavy" manufacturers such as petroleum refining facilities, recycling facilities, battery reclaimers, salvage yards, automobile junk yards, and facilities with bulk storage piles of coal, metallic and nonmetallic minerals and ores, and scrap.

Tier 2 includes "light" industries that engage in activities that contaminate stormwater or have materials exposed to stormwater. Tier 2 includes hazardous waste treatment, storage and disposal facilities; mining, oil and gas operations; transportation facilities with vehicle maintenance areas; and other industrial activities listed in NR 216. DNR also may issue Tier 3 permits on a case-by-case basis to certain industrial sites where stormwater is not contaminated by industrial activity.

Facilities in Tier 1 and Tier 2 categories must develop plans to reduce the exposure of stormwater to industrial activities. Each facility also must develop and implement a stormwater pollution prevention plan (SWP3). Existing

†Revised, April 2001.

†Revised, April 2001.

facilities must have prepared and implemented an SWP3 within 12 months of obtaining a permit. New facilities must prepare an SWP3 before breaking ground. Certification of the plan by a professional engineer is not required. The SWP3 should be kept at the facility and should include:

- the name and title of the person(s) responsible for developing and implementing the plan and serving as the facility's contact;
- a site map;
- a summary of any information that helps characterize the quality of stormwater discharges;
- potential sources of stormwater contamination;
- status of all nonstormwater discharges to the stormwater conveyance system that do not have a Wisconsin Pollutant Discharge Elimination System (WPDES) permit;
- control practices that reduce the exposure of stormwater to contamination sources;
- identification of residual pollutants that could remain in stormwater even after pollution prevention activities have occurred;
- treatment practices to remove pollutants from stormwater if there are no practical ways to control contamination before it occurs;
- a monitoring plan to determine the effectiveness of the facility's pollution prevention activities; and
- a schedule for implementing the SWP3.

A permittee under a Tier 3 permit must conduct an annual inspection to verify that the facility's stormwater is not exposed to industrial activity and that no unauthorized nonstormwater discharges have occurred.

When requested to do so, permittees must submit their SWP3s to: Wisconsin DNR, P.O. Box 7921, Madison, WI 53707-7921.

Construction Sites: Landowners that intend to conduct construction activities that disturb five or more acres of land must obtain a permit from DNR. To obtain a permit, the landowner must develop an erosion control and stormwater management plan prior to breaking ground, which must be submitted to DNR only if requested. Next, the landowner must submit an NOI. DNR will review the NOI and notify the landowner by letter whether a permit has been issued or more information is needed. If notice is not received within 14 working days after DNR receives the NOI, the landowner may begin construction.

The purpose of the erosion control and stormwater management plan is to reduce or eliminate pollution caused by soil erosion and sedimentation during construction and to prevent stormwater pollution from occurring on the site after construction is completed. The plan should be prepared according to the criteria specified in the November 1993 revision of the *Wisconsin Construction Site Best Management Practice Handbook* (DNR publication number WR-222-93 revised), which is available for $6.30 plus tax from DNR, Document Sales, 202 S. Thorton Ave., Madison, WI 53707; (608) 266-3358.

The plan must include:

- a description of the site and the nature of the construction activity;
- a description of the intended sequence of major activities that may disturb soils for major portions of the site;
- estimates of the total area of the site and the total portion of the site that may be disturbed by construction activities;
- an estimate of the runoff coefficient of the site before and after construction is completed;
- existing data describing the surface soil and subsoils;
- depth to groundwater;
- the name(s) of immediate waterway(s) that receive runoff from the construction site;
- a description of appropriate controls that will be performed for each major activity at the site to prevent pollutants from reaching waterways and when the controls will be implemented; and

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- a site map noting existing topography and drainage patterns, roads, surface waters, wetlands and construction site boundaries.

The Department of Commerce (DOC) has an equivalent erosion control permit program for commercial building sites. A DNR erosion control permit is not required if a permit from DOC is obtained.

Permit Fees: Industrial dischargers must pay an annual fee of $200 per year for Tier 1 dischargers and $100 per year for Tier 2 dischargers. Tier 3 dischargers are not required to pay a fee. Industries with individual permits must pay an annual fee of $500.

A $200 permit application fee must be included with the NOI for construction site stormwater permits.

Monitoring Requirements: All industrial dischargers must identify nonstormwater discharges, conduct an annual facility site compliance inspection and conduct quarterly visual inspections. Tier 1 facilities must conduct annual chemical stormwater monitoring. Such facilities must test for any contaminants that are likely to contaminate stormwater discharges following implementation of source area control best management practices. Part III(B)(2)(g) of the general permit provides a list of pollutants to consider when making this determination.

Representative discharge samples are permitted and must be submitted to: Wisconsin DNR, P.O. Box 7921, Madison, WI 53707-7921.

Construction site permittees must conduct visual inspections to assure that their erosion control and stormwater management plans are working.

Municipal Permits:†

The following categories of cities must obtain a stormwater permit from DNR:

- municipalities with municipal separate storm sewer systems (MS4s) serving incorporated areas with populations of 100,000 or more;
- municipalities in Great Lakes "areas of concern" where water quality has been identified as a serious problem; and
- municipalities with populations of 50,000 or more located in state priority watershed planning areas.

As of February 2001, Milwaukee, Madison and other communities in southeast Wisconsin have received municipal stormwater permit coverage. The following communities also must obtain permits: Eau Claire, Green Bay (plus Allouez, Ashwaubenon, and De Pere), Marinette, Racine, Sheboygan, Superior, Waukesha and West Allis. MS4s located within these municipalities that are owned by others, such as the University of Wisconsin, the Wisconsin Department of Transportation and counties, will also need to obtain permits.

Adjacent Communities: The permit process requires applicants to identify urban stormwater planning areas, which define stormwater contributions from surrounding municipalities sharing a drainage basin. NR 216 allows the municipalities that must obtain permits to petition DNR to require surrounding communities also to obtain stormwater permits. DNR is responsible for designating what municipalities are significant sources of pollutants. The City of Milwaukee has at least 25 suburbs that will need to obtain permits because of the interconnectedness of the local storm sewer system. The City of Madison has at least eight such suburbs. A total of about 60 municipalities are likely to be affected in this way.

DNR also has the authority to require other municipalities to obtain permits if a community either contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the state. For the immediate future, DNR plans to limit its stormwater permit program to municipalities in urban areas where water quality problems have been documented. Eventually, DNR will seek to reduce stormwater pollutants from additional urbanized areas that share a watershed.

†Revised, April 2001.

A municipality may apply for a permit on its own, as a member of a group of municipal co-applicants or through a regional authority that would administer a stormwater permit for a group of municipal co-applicants.

Permit Requirements: Municipalities will be required to focus initially on gathering information about stormwater within their jurisdictions and developing a stormwater management program that emphasizes pollution prevention and public education.

The permits will require municipalities to:

- meet a schedule for developing and implementing a stormwater management program;
- implement a stormwater management program that eliminates or reduces stormwater pollutant sources or uses structures to prevent stormwater pollution:
- field-screen all major municipal separate storm sewer outfalls for illegal sewer connections and improper waste disposal;
- estimate pollutant loadings to waters of the state;
- calculate the types and quantities of pollutants in representative samples of stormwater;
- carry out a stormwater monitoring program to characterize pollutants in stormwater and evaluate the effectiveness of stormwater management practices;
- assess the effectiveness of the stormwater management program;
- prepare an annual report on the status of the municipality's stormwater program; and
- provide a fiscal analysis indicating the source and amount of funding that will be used to implement the stormwater management program.

Municipalities serving populations of 100,000 or more must pay an annual permit fee of $10,000. Municipalities of less than 100,000 must pay an annual permit fee of $5,000.

Phase II: Wisconsin plans to begin the rulemaking process to implement EPA's phase II program in Spring 2001.

State Funding: Wisconsin's Clean Water Fund can provide loans to municipalities for stormwater construction projects. The Wisconsin Nonpoint Source Water Pollution Abatement Program can provide local cost-share grants and other program support to municipalities participating in priority watershed projects. For more information, contact DNR's Bureau of Community Assistance at (608) 266-7555.

Local Programs:†

The Wisconsin Department of Transportation is responsible, under a memorandum of understanding with DNR, for controlling construction site erosion at transportation facilities, including bridges and highways. DOC is responsible, under a memorandum of understanding with DNR, for issuing permit coverage to commercial building sites that disturb five or more acres of land.

State Documents Available:

The following documents are available from DNR:

- Summaries of the stormwater requirements for industrial facilities, construction sites and municipalities (November 1994);
- *Industrial Storm Water Pollution Prevention Planning* guidance manual;
- *Wisconsin Construction Site Best Management Practice Handbook* (DNR publication number WR-222-93 revised); and
- Chapter NR 216 of the Wisconsin Administrative Code.

†Revised, April 2001.

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¶890.51 Wyoming

State Contact:
Todd Parfitt (supervisor)
(307) 777-7082
Fax: (307) 777-5973
Department of Environmental Quality
Water Quality Division
Herschler Building, 4th Floor
122 W. 25th St.
Cheyenne, Wyo. 82002

Program Description:*

Wyoming is an NPDES-delegated state with general permitting authority. Wyoming regulates most stormwater dischargers under two general permits issued on Sept. 2, 1992 — permit number WYR00-0000 for industrial dischargers and permit number WYR10-0000 for construction activities. Both of these permits expire on Aug. 31, 1997. State officials have proposed draft permits to replace these and expect to issue them in final form before the current permits expire. The new permits will expire Aug. 31, 2002. At this time, the state does not plan to adopt EPA's multi-sector general permit, however, some of the revisions in the state's draft industrial permit resemble provisions in EPA's multi-sector permit. In particular, the state has included it its draft several applicable industrial categories from the multi-sector permit. These categories include:

- timber products facilities;
- glass, clay, cement, concrete and gypsum product manufacturing facilities;
- metal mining facilities;
- mineral mining facilities (non-metal); and
- scrap recycling and waste recycling facilities.

Group applicants must seek coverage under the state general permits.

The following industrial facilities cannot obtain coverage under the industrial general permit and may need individual permits:

- industrial facilities with individual NPDES permits that include stormwater control requirements;
- industrial facilities covered under a more specific general permit;
- industrial facilities that discharge stormwater commingled with other wastewaters;
- construction activities, unless the construction is integral to an industrial activity otherwise subject to coverage under the general permit (most construction sites larger than five acres are covered by the construction general permit); and
- stormwater discharges associated with industrial activity that are subject to an existing federal effluent limitation guideline addressing stormwater, i.e., cement manufacturing (40 CFR 411), feedlots (40 CFR 418), petroleum refining (40 CFR 422), steam electric plants (40 CFR 423), coal mining (40 CFR 434), mineral mining and processing (40 CFR 436), ore mining and dressing (40 CFR 440) and asphalt emulsion facilities (40 CFR 443 Subpart A).

The following industrial stormwater discharges may not be required to obtain either individual or general permit coverage:

- discharges from any facility owned and operated by a municipality with a population of less than 100,000, unless it consists of (1) an airport with a stormwater discharge from deicing operations, fueling areas or maintenance areas, (2) a steam electric power plant, or (3) an uncontrolled sanitary landfill; and
- discharges composed entirely of runoff from oil and gas exploration, production, processing, treatment or transmission facilities, unless the facility has a stormwater discharge that (1) contributes to a violation of a water quality standard, or (2) has had a stormwater discharge since Nov. 16, 1987, resulting in the discharge of a reportable quantity of oil or gas, through stormwater runoff, to waters of the state.

In practice, oil and gas facilities that have released stormwater with a visible sheen to state waters since Nov. 16, 1987, must obtain stormwater permit coverage. However, such facilities do not need stormwater permits if the discharge did not reach state waters or if the discharge to state waters was not through stormwater runoff.

* Revised, August 1997.

Application Requirements:*

Industrial General Permit: Applicants seeking coverage under the industrial general permit must submit state notice of intent (NOI) forms to DEQ at the address listed above at least 30 days prior to commencing industrial activities. If the owner or operator of a facility changes, the new owner or operator should request a transfer of the permit at least 48 hours prior to the change. Within 30 days of receipt of the NOI, DEQ will notify the applicant of coverage status.

Construction General Permit: To obtain coverage under the construction general permit, operators of construction projects must file state NOI forms with DEQ at the address listed above at least 30 days prior to the start of construction activities, and receive written approval from DEQ before starting construction. When a project's operator is to change, the new operator must request a permit transfer at least 48 hours before the change. When a construction site has been stabilized and the slopes and vegetation are approximately the same as before construction began, the permittee must submit a state notice of termination form. Permit coverage is terminated when the permittee receives written confirmation from DEQ.

Application Fees: Currently there are no application fees for stormwater permits in Wyoming.

Permit Conditions:

Industrial General Permit: According to DEQ, the purpose of the industrial general permit is to prevent or minimize pollution to state waters. The general permit, therefore, may require only minimal runoff controls in desert areas, but quite extensive controls for discharges located on steep terrain or near trout streams. Facilities covered by the general permit must adopt best management practices (BMPs) or other controls that ensure that their stormwater discharges do not violate state water quality standards.

SWP3s: These requirements generally follow EPA's baseline general permit for industrial dischargers (see Appendix 1(c)(1)). Industrial facilities must implement stormwater pollution prevention plans (SWP3s) prior to submission of the NOI.

Monitoring and Reporting Requirements: Requirements under the current permit generally follow EPA's baseline general permit for industrial dischargers (see Appendix 1(c)(1)). To meet monitoring requirements, most regulated facilities must conduct only on-site reviews of stormwater pollution prevention plan implementation once a year and must maintain inspection reports for at least three years. DEQ may require a permittee to collect and report additional data on stormwater effluent quality or ambient water quality. Requirements for monitoring and reporting under the proposed revision of the industrial permit are almost identical to those found in EPA's multi-sector permit. As such, most regulated facilities must conduct analytical monitoring quarterly during the second and fourth years of permit coverage.*

Permit Fees: Wyoming currently lacks authority to impose fees for NPDES permits.

Section 313 Facilities: Facilities subject to reporting requirements under Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA Title III) must take "appropriate measure to insure there is no contaminated discharge from areas subject to Section 313 requirements." This requirement does not apply if precipitation and/or snowmelt exceeds the 25-year/24-hour storm event for the facilities' location.

Effluent Standards: All permittees must comply with the effluent standards and prohibitions on toxic pollutants established under Section 307(a) of the Clean Water Act.

Wind River Indian Reservation: Industrial facilities located on the Wind River reservation must seek coverage under the U.S. EPA baseline general permit for industrial facilities published Sept. 9, 1992 (57 FR 41326). Correspondence regarding permitting at the Wind River reservation should be directed to:

Vern Berry
(303) 312-6234
U.S. EPA, Region 8
999 18th St., Suite 500
Mailcode: 8EPR-EP
Denver, Colo. 80202-2466

* Revised, August 1997.

* Revised, August 1997.

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Construction Site General Permit: Construction sites with runoff that affects live water bodies—bodies of water that have water year round—must not increase turbidity by more than 10-15 turbidity units above background levels, the allowable increase set by state water quality standards. In some cases, the discharge of discolored water could violate the standard. Discharges that do not affect "live" water bodies do not have to meet the standard, but must not deposit sediments that cause "aesthetic degradation and degradation of habitat."

SWP3s: Before submitting NOIs, construction permittees must prepare SWP3s for their projects. Permittees with construction projects authorized under the 1992 general permit will be required to update their SWP3 to comply with the new requirements no later than 90 days after the effective date of the new permit.

SWP3s for regulated construction sites must describe the measures to be installed during the construction process to control polluted runoff after construction activities are complete. Installation of structural controls for this purpose may be subject to the wetlands provisions of Section 404 of the Clean Water Act.

In designing and controlling stormwater management controls, permittees should aim to remove 80 percent of the total suspended solids from all flows exceeding predevelopment levels. Where this goal cannot be met, permittees must justify the rejection of each proposed management measure to achieve it, based on site conditions. Construction site permittees should refer to specifications and plans to determine who is responsible for maintaining post-construction stormwater controls once construction is complete.

Monitoring and Recordkeeping Requirements: Monitoring requirements are specified above. In general, records of any stormwater inspections required by the general permits or the SWP3s must be retained on site for at least three years.

Permit Fees: Wyoming currently lacks authority to impose fees for NPDES permits.

Effluent Standards: Permittees under the construction general permit must meet the effluent standards and prohibitions for toxic pollutant releases mandated by Section 307(a) of the Clean Water Act.

Wind River Indian Reservation: Construction sites located on the Wind River reservation must seek coverage under EPA's baseline general permit for construction activities (57 FR 41176). Correspondence regarding permitting at the Wind River reservation should be directed to Vern Berry, U.S. EPA, Region 8, at the address listed above.

State Regulations for the Mining Industry:

The quality of water discharges from mining sites is regulated by DEQ. For information, contact DEQ at the address listed above. Other aspects of mining, including reclamation planning, are regulated by Land Quality Division of DEQ. For information, contact the Land Quality Division at (307) 777-7756.

Discharges Into the Snake and Green Rivers:

Portions of the Snake River and the Green River are designated under the state water quality standards as Class 1 waterways. Point source discharges into the upper Snake River and upper Green River are forbidden by state law. Total salinity discharged into the Green River is regulated by the state under the interstate Colorado River Salinity Control Program.

Documents Available:

- WYR00-0000—Authorization to Discharge Stormwater Associated with Industrial Activity Under the National Pollutant Discharge Elimination System. State industrial general permit, including SWP3 requirements and NOI form. Available from DEQ at the address above.
- WYR10-0000—Authorization to Discharge Stormwater Associated with Construction Activity Under the National Pollutant Discharge Elimination System. State construction site general permit, including SWP3 requirements and NOI form. Available from DEQ at the address above.

¶890.53 Guam

EPA Contact:
Eugene Bromley
U.S. EPA Region 9 (W-5-1)
Water Management Division
75 Hawthorne St.
San Francisco, Calif. 94105
(415) 744-1906

State Agency:
Guam Environmental Protection Agency
P.O. Box 22439 GMF
Barrigada, Guam 96921
(617) 472-8863

Program Description:

Guam does not have NPDES permitting authority. Stormwater permitting in the territory is handled by EPA Region 9 in San Francisco. Stormwater dischargers in Guam can obtain coverage under EPA's baseline general permit for discharges from construction sites or under EPA's multi-sector permit. Both permits, however, include some specific provisions for dischargers in Guam. Those provisions are outlined below.

Construction site dischargers may also seek individual permits. Individual permit applications should be submitted both to the EPA address listed below and to the Guam EPA at the above listed address.

Application Requirements:

For coverage under EPA's construction permit, or the multi-sector permit, send a federal notice of intent (NOI) form to:

Stormwater Notice of Intent
401 M St. N.W.
MS-4203
Washington, D.C. 20460

Stormwater notice of termination (NOT) forms should be sent to the same address, but directed to: Stormwater Notice of Termination.

Construction site permittees should also submit a copy of their NOI to the Guam EPA at the address listed above.

Program Notes:

Most industrial dischargers in Guam are eligible for coverage under EPA's multi-sector general permit that took effect Sept. 24, 1996—a year after EPA issued the permit. Although the effective date of Guam's permit was later than that established by EPA, the Oct. 1, 2000, expiration date is the same. Alignment of the expiration dates is intended to facilitate permit reissuance.

Existing facilities were required to submit an NOI for the multi-sector permit to both EPA and the Guam EPA by Dec. 24, 1996. Eligible facilities previously covered by EPA's 1992 baseline general permit for stormwater discharges associated with industrial activity could either continue coverage under the baseline permit, or submit an NOI for coverage under the multi-sector permit by Dec. 24, 1996. Facilities not covered by EPA's multi-sector permit continue to be covered by the now expired baseline general permit, but will be required to apply for coverage under the multi-sector permit when modifications to the permit are finalized some time this year. Such facilities will have 90 days to comply with the modified permit.

Guam's multi-sector permit requirements generally follow EPA's requirements for stormwater dischargers, with the exception of certain special conditions required by the Guam EPA pursuant to Section 401 of the Clean Water Act. The Guam EPA provided its 401 certification for the multi-sector general permit on April 8, 1996.

Stormwater Pollution Prevention Plans:

All existing and new facilities were required to prepare and be in compliance with a stormwater pollution prevention plan (SWP3) no later than June 24, 1997. Facilities previously subject to the baseline general permit for industrial activity were required to revise the plan as necessary to address the requirements of the multi-sector permit. Revisions to the plan for existing facilities covered by the baseline permit (but eligible for the multi-sector permit) were to be completed by the June deadline. Those facilities not covered by the 1995 EPA permit will be required to revise their SWP3 when EPA issues modifications to the multi-sector permit.

For facilities on Guam, a copy of the SWP3 and supporting best management practices must be submitted as soon as they are completed to:

Guam EPA
P.O. Box 22439 GMF
Barrigada, Guam 96921

Monitoring and Reporting Requirements: These are the same as those specified in EPA's multi-sector permit. However, a copy of all discharge monitoring reports and other reports required by the multi-sector permit must also be sent to the Guam EPA at the address listed above.

Fees: There are no fee requirements at this time for stormwater permit coverage in Guam.

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¶890.55 Puerto Rico

EPA Contact(s):†
Sergio Bosques
(787) 729-6951
Fax: (787) 289-7103
Stormwater Coordinator/Environmental Engineer
U.S. EPA, Region 2
Mailcode: CEPD-EMB
EPA Caribbean Environmental Protection Division
Central Europa Building, Suite 417
1492 Ponce De Leon Ave.
Santurce, Puerto Rico 00907

State Contact(s):
Roberto Ayala
(787) 767-8181
Director of Water Quality Area
Environmental Quality Board
P.O. Box 11488
Santurce, Puerto Rico 00910

Program Description:

The Commonwealth of Puerto Rico does not have NPDES permitting authority. The NPDES stormwater program is administered by EPA Region 2 in New York.

EPA's two baseline general permits for industrial stormwater discharges and discharges from construction sites are currently available in Puerto Rico, but expired in September 1997. EPA has reissued the construction permit, but not the industrial permit. Instead, it modified the EPA multi-sector permit to cover industries covered by the baseline general permit for industrial stormwater discharges. The multi-sector general permit (MSGP) expired September 2000. However, EPA is in the final process of reissuing the MSGP.†

Industrial dischargers also may seek coverage under an individual stormwater permit. Regulated construction sites may seek individual permit coverage, but probably will not find this advisable.

Compliance with the EPA baseline general permit for construction activity runoff does not relieve a construction site permittee from the responsibility of complying with the provisions of the Sediment and Erosion Control Plans (Plan CEST) required by the Environmental Quality Board (EQB) of Puerto Rico.

Application Requirements:

For coverage under an EPA general permit, send a federal notice of intent (NOI) form to: Stormwater Notice of Intent (NOI), 200 Pennsylvania Ave. N.W., MS-4203, Washington, D.C. 20460. Stormwater notice of termination (NOT) forms should be sent to the same address, but directed to: Stormwater Notice of Termination.†

Permittees at construction sites should submit to the state EQB at the address listed above, with copies to EPA Region 2 Caribbean Environmental Protection Division, the following information:†

- the number of stormwater discharges associated with industrial activity at the site to be covered by the EPA baseline general permit; and
- a drawing indicating the drainage area of each stormwater outfall.

This information must be submitted within 45 days of submitting the NOI.

Industrial stormwater permittees should submit to EQB, with copies to EPA Region 2 Caribbean Environmental Protection Division, the following information:†

- the number of stormwater discharges associated with industrial activity at the site to be covered by a stormwater permit; and
- a drawing indicating the drainage area of each stormwater discharge associated with industrial activity and its sampling point.

This information must be submitted within 45 days of the submission of the NOI for industrial activities.

†Revised, November 2000.

†Revised, November 2000.

Program Notes:

There are certain Commonwealth-specific requirements, in addition to those specified in EPA's baseline general permits, that apply to both industrial stormwater dischargers and construction site stormwater dischargers in Puerto Rico. Under both permits, permittees must obtain EQB's approval for their engineering reports, plans and specifications before constructing any treatment facilities for waters composed entirely of stormwater. Permittees also must operate all air pollution control equipment in compliance with the applicable provisions of the Commonwealth's Regulation for the Control of Atmospheric Pollution, as amended, to avoid water pollution as a result of air pollution fallout. Stormwater dischargers covered by the baseline general permits must not release any discharges composed entirely of stormwater that cause the presence of an oil sheen in the receiving body of water. Stormwater discharges from regulated facilities also may not cause violations of applicable water quality standards in receiving bodies of water.

Both industrial stormwater dischargers and dischargers of stormwater from regulated construction sites must comply with requirements for proper operation and maintenance of equipment, as specified in the Feb. 17, 1998, *Federal Register* for construction sites (63 FR 7858) and in the Sept. 25, 1995, *Federal Register* for industrial dischargers (60 FR 50804).†

General Water Quality Certificate for Industrial Dischargers: In 1992 EQB issued a general water quality certificate (GWQC) incorporating special conditions that industrial stormwater dischargers in the Commonwealth must meet to comply with applicable requirements of Sections 301(b)(1)(c) and 401(d) of the Clean Water Act and with applicable requirements of the Law of the Commonwealth of Puerto Rico. For a copy of the GWQC requirements, contact EQB, P.O. Box 11488, Santurce, Puerto Rico 00910; (787) 767-8181.†

Permit Fees: There are no permit fees for NPDES stormwater discharge permits in Puerto Rico at this time.

†Revised, November 2000.

Stormwater Pollution Prevention Plans (SWP3s):

Industrial SWP3s: Facilities with industrial stormwater discharges must prepare SWP3s. Each permittee must submit to EQB certifications prepared by professional engineers licensed in Puerto Rico. A sworn statement attesting to the professional qualifications of the individual who prepared the plan must accompany each certification.†

Permittees must provide for implementation and compliance with the terms of the SWP3s by no later than the start of industrial activities. A signed certification that the SWP3 was implemented in accordance with the general permit's requirements must be submitted to EQB.†

For industrial facilities, permittees must prepare and comply with the terms of their SWP3s on or before the date of submitting an NOI for permit coverage.

For industrial stormwater discharges from an oil and gas exploration, production, processing or treatment operation, or an oil and gas transmission facility that has had a discharge of a reportable quantity (RQ) of oil or some other hazardous substance for which notification is required pursuant to 40 CFR 110.6, 40 CFR 117.21 or 40 CFR 302.6, an SWP3 must be prepared that provides for compliance with the EPA MSGP as modified for Puerto Rico within 14 calendar days of the date when the permittee first knew of the RQ release. Within 30 days of first knowing of the release, a permittee must submit to EQB, with a copy to EPA Region 2 Caribbean Environmental Protection Division, a certification that the SWP3 has been developed or modified and implemented in accordance with the conditions and requirements of the MSGP.†

In addition to modifying the plan when conditions warrant changes, all SWP3s should be reviewed at least once every three years to determine whether they need updating. If no amendment is required, the engineer or qualified professional who performs the review must submit to EQB, a certification that the SWP3 has been reviewed and that based upon the review, no

†Revised, November 2000.

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modification of the plan is necessary. If events have occurred that require an SWP3's modification, the reviewer must submit to EQB, a certification stating the modifications that have been made and a separate certification when the modifications have been implemented.†

Construction Site SWP3s: The SWP3 must provide for compliance no later than the start of construction activities. The permittee must submit to EQB, a certification that the plan has been developed and implemented in accordance with the provisions of the EPA general permit.†

Monitoring Requirements:

In addition to the requirements specified in EPA's MSGP, dischargers are subject to special requirements established for the Commonwealth.

Monitoring Requirements for Industrial Facilities: Industrial monitoring requirements for industrial stormwater dischargers in Puerto Rico essentially resemble the monitoring requirements of EPA's MSGP.†

State Water Quality Standards:†

Puerto Rico has established water quality standards and a classification of water bodies in the Commonwealth. For information on the Commonwealth water quality standards and water body classifications, contact the Library of the EQB, P.O. Box 11488, Santurce, Puerto Rico 00910; (787) 767-8181.

Coastal Zone Management Program:

For information on Puerto Rico's Coastal Zone Management Program, contact Gisela Roman, Coastal Zone Coordinator, Planning Board of Puerto Rico; (787) 726-0289. The Puerto Rico Department of Natural Resources also has some responsibility for the coastal zone. For information, contact the Department of Natural Resources at (787) 723-0869.

Environmental Statements: Under Puerto Rico's Environmental Public Policy Law (Law Number 9, June 18, 1970), environmental statements must be prepared for major and minor development projects and reviewed by the Commonwealth. Commonwealth officials say the process is very similar to the procedures for federal agencies to submit environmental impact statements under the National Environmental Policy Act. Forms and instructions are available for filing "Determinations of No Impact" statements, "Environmental Assessment" statements, and more elaborate "Environmental Impact" statements. For copies of these forms and instructions in Spanish or English, write to the EQB Library, c/o Asesoramiento Cientifico (Scientific Assessments Office), EQB, P.O. Box 11488, Santurce, Puerto Rico 00910.

Permits from ARPE: New construction projects and construction activities involving the modification of existing commercial or industrial structures must receive permits from the Administration de Reglamento y Permisos (Administration of Regulations and Permits or ARPE). Procedures for obtaining ARPE permits call for review by intermediary state agencies such as EQB. For information on how EQB reviews the environmental data in ARPE permit applications, contact Fernando Guzman, Asesoramiento Cientifico, EQB, P.O. Box 11488, Santurce, Puerto Rico 00910; (787) 767-8119.

For information on the ARPE application process itself, contact Evangelio Lebron Gonzalez, Oficina de Redicion, Asesorameinto Ambiental, Administration de Reglamentos y Permisos, P.O. Box 41179, Minillas Estation, Santurce, Puerto Rico 00940; (787) 268-4825.

†Revised, November 2000.

¶890.56 Virgin Islands

State Contact(s):
Jim Casey
(809) 773-0565
Department of Planning and Natural Resources
Division of Environmental Protection
1118 Water Gut Homes
Christiansted
St. Croix, Virgin Islands 00820

Nora Santana
(809) 773-3450
Coastal Zone Management Office
Department of Planning and Natural Resources
6003 Annas Hope
Christiansted
St. Croix, Virgin Islands 00820-4433

Program Description:

The Virgin Islands has responsibility for administering the NPDES program, but does not have general permitting authority. In addition, the territorial government lacks authority under local laws and regulations to issue stormwater permits and general permits, including EPA's multi-sector permit. The legal situation facing industrial stormwater dischargers and construction sites in the territory is therefore somewhat unclear. Many construction activities, however, are regulated under the territorial Coastal Zone Management Program.

Rather than issuing baseline general permits for industrial stormwater discharges and discharges from construction sites, the Virgin Islands issues Territorial Pollutant Discharge Elimination System (TPDES) permits that regulate conventional point-source dischargers of wastewater. These two-year permits are the territorial version of NPDES permits. The territorial regulations governing the TPDES permitting system can be found in the *Virgin Islands Rules and Regulations*, Title 12, Chapter 7. This chapter of the territorial rules also contains a classification of territorial waters into Class A, Class B, and Class C waterways. No wastewater discharges are permitted into Class A waters, the most pristine in the territory. Limited discharges are permitted into Class B waters, but the majority of the territory's TPDES permittees discharge into Class C waters.

The Virgin Islands has not yet adopted numeric effluent limitation standards for TPDES permittees. However, the territorial government is reviewing regulations that would impose such limitations in the future. Officials do not know when these regulations will be finalized.

Application Requirements:

Persons or businesses that need to apply for a TPDES permit for either construction or industry-related stormwater and wastewater discharges must submit a Notice of Intent (NOI). For more information on how to obtain an NOI and where to send it, contact Jim Casey at the Department of Planning and Natural Resources, (809) 773-0565.

Coastal Zone Management Program:

A land and water use plan has been introduced in the territorial legislature to designate the entire land area of the Virgin Islands, on St. Thomas, St. Kitts and St. Croix, as part of the territorial coastal zone. However, the plan has not yet been adopted. For now, the Virgin Islands has a two-tiered system for regulating land use in the designated coastal zone. Tier 1 lands extend from the mean low water line of the shoreline seawards. Construction activities involving docks, mooring devices and marinas in these areas are subject to Coastal Zone Management (CZM) regulations for submerged lands. Tier 2 lands, from the shoreline inland, are somewhat similarly regulated, but are not subject to submerged land regulations.

Earth Change Permits: Any land-disturbing activities in the Tier 2 lands require earth change permits from the Department of Planning and Natural Resources.

Minor and Major CZM Permits: In both Tier 1 and Tier 2 lands, developers are required to obtain minor CZM permits for projects that involve only one or two small structures and major CZM permits for construction projects involving commercial buildings with a value of $75,000 or greater. Applicants for CZM permits may be subject to various requirements under the Virgin Islands Environmental Code, the Coastal Zone Management Act and the soil conservation code. In some cases, permit applications will be considered jointly by the CZM Program and the U.S. Army Corps of Engineers.

To obtain a minor CZM permit, an applicant may be required to install soil erosion controls, undeveloped buffer zones and minimum vegetated areas to control runoff from a site. Minor CZM permit provisions may also require the use of stormwater management devices, retention structures, silt fences or curtains, mulching, and hay bales or soil berms to control runoff. Location of septic drainage fields may also be subject to regulation.

To obtain a major CZM permit, a developer may also be required to use retention ponds, designated collection channels, buffer areas and silt curtains, among other management devices, to control sedimentation and stormwater runoff. In addition, the CZM Office may request that a professional hydrologist determine the hydrological condition of the site before and after the permitted construction activity or other permitted change to the site to ensure that the pre- and post-construction conditions are the same.

Permit Fees: The fee structure for coastal zone management permits can be found in the 1992 amendments to the *Virgin Islands Rules and Regulations*, Title 12, Chapter 21, Subchapter 910. Selected fees are as follows:

- Minor Coastal Zone Permit Application, for facility with estimated construction cost of $10,000 or less: $50;
- Minor Coastal Zone Permit Application, for estimated construction cost of greater than $10,000 but less than $25,000: $125;
- Minor Coastal Zone Permit Application, for estimated construction cost of $25,000 or more: $200;
- Major Coastal Zone Permit Application, for estimated construction cost of $250,000 or less: $500;
- Major Coastal Zone Permit Application, for estimated construction cost of more than $250,000 but less than $500,000: $750;
- Major Coastal Zone Permit Application, for estimated construction cost of $500,000 or greater: $1,000;
- Amendment of Minor Coastal Zone Permit: $50;
- Amendment of Lease or of Major Coastal Zone Permit: $500;
- Assignment of Minor Coastal Zone Permit: $50;
- Assignment of Lease or Major Coastal Zone Permit: $500;
- Pledge of Minor Coastal Zone Permit: $50;
- Pledge of Lease or Major Coastal Zone Permit: $500;
- Modification of Minor Coastal Zone Permit: $50;
- Modification of Lease or Major Coastal Zone Permit: $500;
- Subdivision of one to four lots: $100;
- Subdivision of five or more lots: $30 per lot.

For more information on these and other fees relating to land uses in the coastal zone, contact the Coastal Zone Management Office at (809) 773-3450.

Flood Zone Permits:

Construction is regulated in flood-prone areas. Construction activities also are regulated in areas of the coast subject to particularly high waves, where setbacks from the shore may be required. Construction also is forbidden entirely in designated Special Flood Areas of the islands. For maps of flood-prone areas and high-wave areas in the Virgin Islands, contact FEMA in Washington, D.C. or the FEMA office in Puerto Rico.

Informational Materials and Documents:

Information on environmental regulations in the Virgin Islands is available from the Lieutenant Governor's Office at (809) 773-6449. Documents that may be of particular interest to industrial stormwater dischargers and the construction industry include the following:

- Environmental Protection Handbook, explaining Act 3667.
- Environmental Laws and Regulations of the Virgin Islands.

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- Chapters 12 and 19 of the Virgin Islands Code.
- Soil Survey of the Virgin Islands (prepared by the Soil Conservation Service of the Department of Agriculture).

For more information, please contact the Department of Planning and Natural Resources, CZM Office, 6003 Annas Hope, Christiansted, St. Croix, Virgin Islands 00820-4433.

Tab 900

Enforcement and Penalties

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- State NPDES Enforcement Actions ..... ¶941
- State Common Law ..... ¶942

¶910 Executive Summary

The Clean Water Act (CWA), as amended, provides statutory authority for the U.S. Environmental Protection Agency (EPA), state implementing agencies and individual citizens to enforce the provisions of the act. Because the stormwater regulations are part of the National Pollutant Discharge Elimination System (NPDES), which is authorized by CWA, all of these enforcement mechanisms are available.

In states that have been delegated authority to implement the NPDES program, federal authority generally is limited to allow states to exercise the appropriate enforcement activity. However, if EPA officials believe that action is warranted, they have the authority to proceed independently of the states. In states that do not have NPDES authority, the EPA regional offices are the primary regulating agencies and will undertake enforcement actions where warranted.

This tab focuses on the various mechanisms available to state and federal authorities to enforce the requirements of the stormwater program. It also examines the citizen suit provision of CWA, which provides private citizens with the right to sue the government and industry to enforce the act's provisions and regulations. This tab will be updated as enforcement activities begin to address the specific elements of the stormwater program.

[The next page is Tab 900, Page 15.]

¶920 Federal Enforcement Options

EPA, through the 10 regional offices, has authority to bring three categories of enforcement actions:

- Administrative orders (two classes)
- Civil actions
- Criminal prosecutions

Regulated facilities also have the option of self reporting violations through EPA's December 1995 voluntary audit policy. Facilities conducting such audits may benefit from significant reductions in gravity-based penalties (See¶924 for more information).*

¶921 Administrative Orders

Administrative orders are procedures through which EPA can impose fines and penalties without recourse to court action. In most cases, EPA will work with an alleged violator in an attempt to work out a schedule of compliance and subsequently may issue an administrative order detailing the agreed-upon conditions.

Often the administrative order is proceeded by an order to the violator to show why an administrative order should not be issued. However, EPA is not required to provide such notice prior to issuing an administrative order.

Types of Administrative Penalties

To issue a class I penalty, EPA must give the alleged violator notice in writing that the fine is contemplated under the administrative order and give the violator opportunity to request, within 30 days, an informal hearing to discuss the issues. Under class II penalty procedures, EPA must give notice and an opportunity for a full adjudicatory hearing prior to assessment of penalties.

In December 1996, EPA issued the Civil Monetary Penalty Inflation Adjustment Rule which raises civil and administrative penalties under CWA by 10 percent to keep pace with inflation. The increase is the first time penalties have been raised since the fines were first established more than 20 years ago. The initial adjustment is capped at 10 percent with subsequent adjustments being made at least once every four years according to increases in the cost-of-living. Penalty adjustments will be made according to the consumer price index (CPI) for the month of June of the calendar year preceding the adjustment. As a result, during the first year that the rule is in effect, penalties will increase by a maximum of 10 percent. As such a maximum fine of $25,000 under current provisions will increase to $27,500. However, during subsequent years if inflation increases by 20 percent, the new maximum penalty will increase to $33,000.

The new rule took effect Jan. 30, 1997. Under the new rule, the maximum penalty for a class I violation is limited to $11,000 per day of violation with a total maximum of $27,500. The maximum penalty for a class II violation is limited to $11,000 per day of violation, with a total maximum of $137,500.

* Added, April 1997.

In determining the amount of any administrative penalty, EPA must take into account the nature, circumstances, extent and gravity of the violation, ability to pay, any prior history of such violations, the degree of culpability, economic benefit or savings resulting from the violation, and other such matters as justice may require.

Before issuing an administrative order, EPA must provide public notice of, and reasonable opportunity for public comment on, the proposed issuance of such order.

These administrative orders also can contain schedules for compliance and specific details about what physical activities must take place for the facility to come into compliance. These activities may be in addition to or in lieu of the stated fines.

In essence, the administrative order procedures are a means by which EPA can get the attention of the alleged violator and attempt to reach an agreement that results in compliance with stormwater requirements and guidelines.

Judicial Review of Administrative Orders

Any person against whom an administrative penalty is assessed or who commented on the assessment of the proposed penalty may obtain review of such assessment. For class I violations, review is in the U.S. District Court for the District of Columbia or in the district where the alleged violation occurred. For class II violations, review is in the U.S. Court of Appeals for the District of Columbia Circuit or in any other circuit in which the person appealing resides or transacts business. Notice of appeal must be filed within 30 days of the date the order is issued.

[The next page is Tab 900, Page 27.]

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¶922 Civil Actions*

EPA is authorized to bring civil suits against any alleged violators of CWA. The suits will be heard in the federal district courts in the district where the alleged violator is located, resides or is doing business. EPA is not required to issue an administrative order prior to filing a civil action. Instead, EPA may initiate a civil suit anytime there is evidence of a CWA violation. EPA must give notice of commencement of the suit to the appropriate state authority.

A key element of a civil action is "proof of violation." EPA must show only that the act, its regulations or the conditions of a permit are being violated to pursue successfully a civil action. EPA is not required to show fault or negligence on the part of the violator.

Effective Jan. 30, 1997, civil penalties for violations under CWA were adjusted to keep pace with inflation. The inflation adjustment described in EPA's Civil Monetary Penalty Inflation Adjustment Rule will be determined by increasing the maximum civil monetary penalty for each penalty by the cost-of-living adjustment. The first adjustment is capped at 10 percent. Thereafter, penalties are to be reviewed and adjusted at least once every four years. In other words, during the first year that the rule is in effect, penalties will increase by a maximum of 10 percent. As such a maximum fine of $25,000 increased to $27,500 as of Jan. 30, 1997. However, during subsequent years if inflation increases by 20 percent, the new maximum penalty will increase to $33,000.

There is no maximum total limit for civil penalties. Therefore, the fines can continue to accumulate until the violation is corrected. It is important to note that each day is considered a separate violation with respect to calculation of fines.

In determining the amount of a civil penalty, a court may consider the seriousness of the violation, the economic benefit resulting from the violation, any history of such violations, any good faith efforts to comply with the applicable requirements, the economic impact of the penalty on the violator, and other such matters as justice may require.

In addition to seeking monetary penalties, EPA may also use a civil action to seek temporary and permanent injunctions to halt noncompliance or to impose a court-ordered compliance schedule.

[The next page is Tab 900, Page 39.]

* Revised, February 1997.

¶923 Criminal Actions

The most severe enforcement action available to EPA is criminal prosecution. In criminal cases, EPA may pursue the matter by referring the case to the Department of Justice for criminal prosecution of a discharger that willfully or negligently violates CWA.

In addition to actions against corporations, criminal prosecutions may proceed against any individual who willingly, knowingly or negligently violates CWA. These violations include failure to maintain proper reporting records, failure to maintain appropriate equipment, improper modification to equipment causing improper discharges, etc. Criminal prosecutions also may proceed against individuals who maintain only supervisory responsibility, and not hands-on accountability, for CWA compliance.

EPA has authority to pursue criminal actions regardless of whether previous administrative orders or civil actions have been undertaken. EPA may proceed directly to criminal prosecution if agency officials feel such action is warranted.

Criminal Penalties

The following comprise the potential penalties that can be imposed in a criminal action:

- *Initial conviction for negligent violation.* Fines from $2,500 to $25,000 per day of violation and imprisonment for a maximum of one year or both
- *Initial conviction of a knowing violation.* Fines from $5,000 to $50,000 per day of violation and imprisonment for a maximum of three years or both
- *Known violation in which a person is placed in imminent danger of death or serious bodily harm.* Fines of up to $250,000 for individuals and $1 million for organizations and imprisonment for up to 15 years
- *Making of false statements, representations, or certifications; or falsifying or knowingly rendering inaccurate any monitoring device required under CWA.* Fines of up to $10, 000 and imprisonment of up to two years or both
- *Subsequent convictions beyond the initial conviction.* Fines and imprisonment terms can be doubled.

[The next page is Tab 900, Page 43.]

¶924 EPA's Voluntary Audit Policy*

In December 1995, EPA issued *Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations* – a voluntary audit policy that will result in significantly reduced penalties for companies that voluntarily identify, disclose and correct violations of environmental laws discovered during voluntary compliance audits, or efforts that reflect "due diligence." The policy, which was published in the Dec. 22, 1995, *Federal Register* (60 FR 66706), took effect Jan. 22, 1996.

For companies to participate in the program, they must meet the following conditions:

- disclose the violation voluntarily;
- discover the violation through an audit or due diligence;
- disclose the violation to EPA within 10 days;
- correct the condition within 60 days, unless an exception is granted;
- discover and disclose the violation independent of government or third-party legal actions;
- cooperate with EPA; and
- implement steps to avoid a recurrence of the violation.

In addition, the audit policy only applies if the violation did not result in serious harm or present an imminent or substantial danger to public health or the environment; and the reported violation is not a repeat violation.

Compliance with all of these conditions except the one requiring discovery of the violation through an audit or due diligence will result in a 75 percent reduction in gravity-based penalties. Additionally, EPA will not recommend that federal criminal charges be brought against a company that has acted in good faith to identify, disclose and correct violations as long as no serious actual harm occurred. However, EPA does reserve the right to recommend for criminal prosecution any individual managers or employees deemed responsible for specific violations. Finally, EPA will not request voluntary environmental audit reports to trigger enforcement investigations.

EPA's policy does not provide a legal privilege. Such a privilege would protect information uncovered during audits from subsequent use in federal civil, administrative and criminal actions. The agency explicitly reserves the right to collect full civil penalties for criminal conduct, violations that present an imminent and substantial endangerment or result in serious actual harm, or repeat violations. The agency also retains full discretion to recover any economic benefit gained as a result of noncompliance to prevent violators from gaining a competitive advantage over their competitors by delaying compliance investments.

For a copy of the audit policy or for more information on how to participate in the voluntary program, call the EPA Audit Policy Docket at (202) 260-7548 or visit the agency's Internet site at: http://es.inel.gov/oeca/epaolguid.html.

[The next page is Tab 900, Page 51.]

* Added, April 1997.

¶930 Citizen Suits

CWA also authorizes private citizens to initiate civil actions against alleged violators of the act and against EPA for failure to perform any nondiscretionary duty under the act. However, if EPA or a state currently is pursuing a course of action against an alleged violator for a particular violation, a citizen suit cannot be filed for the same offense.

Under CWA, a citizen is defined as a "person or persons having an interest which is or may be adversely affected" by the violation. Courts generally have interpreted this definition very broadly.

Procedurally, the citizen must first notify the alleged violator of the intent to sue and provide a 60-day "grace period" prior to filing the suit. This notice must include the alleged violations, and copies of the notice must be sent to EPA and the state where the alleged violation occurs.

This notice allows EPA or the state to pursue enforcement action, if warranted, and also gives the alleged violator an opportunity to correct the violation. If the violation still exists at the end of the 60 days, the citizen may file a complaint in federal district court.

The U.S. Supreme Court has held that citizen suits may be brought only for continuing violations. Thus, if at any point in the proceeding the violation is corrected, the suit can no longer be maintained. Citizen suits cannot be brought for wholly past violations.

Remedies

Relief awarded in a citizen suit can take the form of civil penalties or an injunction to prevent the violation. Damages are not available. In addition, litigation costs also may be awarded.

Although there is no requirement that the citizen's legal fees be reimbursed, it is quite common in a successful action for the court to require the violator to pay the citizen's legal fees. In practice, citizen suits commonly are filed by environmental groups against high-profile companies to serve as examples or warnings to other potential violators. Sometimes the notice of intent to sue will encourage a violator to negotiate with the environmental group to reach an acceptable compromise and to eliminate the alleged violation.

[The next page is Tab 900, Page 63.]

¶940 State Enforcement Activities

NPDES states have authority to enforce CWA violations though the NPDES enforcement mechanisms and are the primary enforcers of compliance in their states. However, if EPA finds that any person is in violation of the act, EPA must proceed under its enforcement authority or notify the alleged violator and the applicable state authority of such finding. If, after 30 days, the state has not undertaken an enforcement action, EPA shall issue an administrative order or bring a civil action in federal court.

¶941 State NPDES Enforcement Actions

The states have access to all enforcement options under CWA: that is, administrative orders, civil actions and criminal prosecutions (see ¶920-¶923). It is important to note that the limitations and penalties discussed in ¶920-¶923 with respect to federal enforcement actions represent a minimum standard for the states. In many instances, the states will have more stringent penalties and other enforcement actions available under the state NPDES and similar water quality programs.

¶942 State Common Law

The common law in many states provides other methods through which aggrieved parties may sue dischargers. In addition, many states have public nuisance laws that can be used to prevent inappropriate discharges.