

Complying with Phase II storm water regulations by March 10, 2003

TECHNOLOGY NEWS first published information about Phase II regulations in May 2000, when this topic was not yet on the radar screens of many local agencies. Now, as the deadline to comply with the regulations approaches (**March 10, 2003**), many public agencies are scrambling to understand what is covered and what they need to do. It can be overwhelming just to wade through the technical fact sheets, frequently asked questions, and web pages on this topic issued by the Environmental Protection Agency (EPA).

The following articles cut through the official jargon and update the basic information provided in 2000 for local agencies. Thanks to Joe Conway at the Iowa Department of Natural Resources (DNR) for his help interpreting and condensing relevant regulations.

Understanding the regulations

The storm water pollution problem

Nearly a quarter of a century after enactment of the Clean Water Act, a 1996 study revealed that 40 percent of U.S. water bodies still didn't meet water quality standards. Polluted storm water runoff continues to impair water bodies, destroy wildlife habitats, and threaten public health.

The program to reduce storm water pollution

The Environmental Protection Agency (EPA) works to reduce storm water pollution through its National Pollutant Discharge

Elimination System (NPDES). (In the state of Iowa, the Iowa DNR serves as the NPDES permitting authority.) The NPDES Storm Water Program has been implemented in two phases:

Phase I—In 1990, the EPA announced the regulation of medium and large municipal separate storm sewer systems (MS4s) and 11 categories of industrial activity. Though transportation facilities were included under industrial activities, the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) exempted public facilities operated by municipalities with populations of less than 100,000 (with the exception of power plants, airports, and uncontrolled sanitary landfills). Construction activities disturbing five or more acres of land were also subject to the regulations.

Phase II—The EPA is now extending the regulations to include the MS4s of some smaller municipalities and construction activities disturbing as little as one acre of land. The deadline for compliance is March 10, 2003. Provisions within ISTEA that temporarily exempted most of the industrial and transportation activities of municipalities with populations of less than 100,000 also expire on this date.

Entities and activities covered

No entities are exempt. The regulations apply to each of three types of activities—industrial/transportation, construction, and municipal separate storm sewer operations. See below.

Details on what is covered for each of these activities (industrial and transportation activities, construction, and MS4s) and options for compliance are provided in the following three articles.

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Do the storm water regulations apply to you?

Entities	Type of activity				
	Industrial and transportation activities	Construction			MS4s
		≥ 5 acres	≥ 1 acre, < 5 acres	< 1 acre	
Cities, counties, other public entities with populations of at least 100,000	Yes (Phase I)	Yes (Phase I)	Yes (3/10/03)	No	Yes (Phase I)
Cities, counties, other public entities with populations of less than 100,000	Yes (3/10/03)	Yes (3/10/03)	Yes (3/10/03)	No	Yes* (3/10/03)
Private entities	Yes (Phase I)	Yes (Phase I)	Yes (3/10/03)	No	N/A

* MS4s located in areas with populations of less than 100,000 are only affected if that area and adjacent areas together have a population of at least 50,000 and a population density of at least 1,000 per square mile, or if that area itself has a population of at least 10,000 and a population density of at least 1,000 people per square mile.

1. Industrial and transportation activities

What's covered

Under Phase II, all entities—public or private and of any size—are responsible for the compliance of their industrial and transportation activities. Eleven categories of activities (based on Standard Industrial Classification codes) are covered:

1. facilities with effluent limitations
2. manufacturing
3. mineral, metal, oil, and gas
4. hazardous waste, treatment, or disposal facilities
5. landfills
6. recycling facilities
7. steam electric plants
8. transportation facilities
9. treatment works
10. construction activity (discussed in a separate article; see page 7)
11. light industrial activity

As a general rule, if storm water runoff occurs anywhere on an industrial or transportation site, the regulations apply.

The regulations affect municipal highway garage complexes, including buildings or areas in which any of the following occurs:

- vehicle/equipment maintenance, repair, lubrication, fueling, painting, or washing
- vehicle, equipment, materials, or waste storage (including salt piles; any sand or aggregate mixed with salt is considered a salt pile)

Options

Agencies must obtain either a no-exposure exclusion or an NPDES industrial permit (general or individual) for their industrial activities by March 10, 2003.

No-exposure exclusion for industrial activities

Many agencies may qualify for a no-exposure exclusion if they can certify that all their industrial materials and activities are protected from exposure to storm water and runoff by March 10, 2003.

No-exposure exclusion applications involve three steps:

1. Using the four-page form (available at http://www.epa.gov/npdes/pubs/noexpoform_app4.pdf), submit written certification that the given facility meets the definition of “no exposure” to the Iowa DNR once every five years.
2. Submit a copy of the certification form to the municipality in which the facility is located.
3. Allow the Iowa DNR to inspect the facility and make the inspection reports publicly available upon request.

In some cases obtaining no-exposure status may require relocating materials or constructing or modifying structures.

The surest protection is to conduct industrial activities and store vehicles, equipment, materials, and waste (including salt piles) within roofed and walled buildings.

Roof-only structures suffice where storm water does not flow through the structure. Fueling, for example, can be performed under a roofed structure with berms to contain water runoff.

Drums, barrels, and tanks with taps or valves must be sheltered. Equipment and vehicles must be sheltered if they leak or are otherwise a contamination source.

Municipalities must enclose or cover salt piles except when adding or removing materials. Temporary covers must be thick, reinforced plastic sheets. Highway crews should minimize spills during loading and unloading and immediately clean up any spills that do occur.

No-exposure certification might also require

- providing temporary covers over potential contaminants such as compost piles
- removing particulate matter or visible deposits from roof stacks and/or vents
- washing pollutants from equipment and vehicles and treating the wash water
- sweeping or covering materials that might become windblown contaminants
- repairing pipes that leak contaminants
- removing past contamination sources
- storing trash in covered containers without leaks

Successful no-exposure applications will exclude entities from having to obtain a permit. Exclusions are good for five years or until any change in exposure status occurs.

General permit for industrial and construction activities

Some agencies may be able to obtain an NPDES general permit that will cover all industrial activities at a site.

General permits are applicable to discharges that are composed of storm water only and thus do not cover mixtures of storm water with non-storm water where the non-storm water would require an individual NPDES permit.

There are three types of general permits:

- Permit No. 1 for industrial activities excluding construction
- Permit No. 2 for construction activities
- Permit No. 3 for the industrial activities of asphalt plants, concrete batch plants, rock crushing plants, and sand and gravel processing plants

(1. Industrial and transportation activities continued)

General permit applications involve the following steps:

1. Develop a storm water pollution prevention plan for all activities at a site, including the following:
 - a. Designate a team of experts to guide the development of the pollution prevention plan. The team should include individuals who are familiar with the facility and the regulations. Public agencies may hire private engineers and specialists as team members.
 - b. Assess potential storm water pollution sources. Prepare a site map that shows the pattern of storm water drainage and surface water bodies. Evaluate the following for exposure to rainfall and runoff: fueling operations and storage, vehicle and equipment maintenance and cleaning, material storage and processing, loading and unloading operations, and waste disposal practices. Storm water discharge quality and quantity should be measured, and non-storm water discharges such as vehicle wash water should be evaluated.
 - c. Establish management practices and controls, including maintaining a clear and orderly facility, minimizing exposure of potential pollutants, spill prevention and response procedures, erosion prevention and sediment control, runoff management, and minimizing tracking and blowing of waste materials, sediment, and dust. Agencies should not feel that they have to generate management and control strategies on their own. Proven best management practices (BMPs) are available from the EPA (<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/>), companies that have developed storm water management products, and other agencies.
 - d. Periodically evaluate the plan's effectiveness. Employees should be trained to properly carry out the plan. Inspectors should conduct a comprehensive compliance inspection annually and submit a report to the Iowa DNR.
2. Submit a complete Notice of Intent package to the Iowa DNR, including the following items:
 - a. completed two-page Notice of Intent form (Form 542-1415)
 - b. proof that public notices were placed in the two greatest circulation newspapers in the area
 - c. appropriate permit fee (\$150 for one year, \$300 for three years, \$450 for four years, or \$600 for five years)

Operations cannot start until at least 24 hours after a Notice of Intent package is received and accepted as complete and correct.

3. Submit a completed Notice of Discontinuation form to the Iowa DNR when discharges at the site have been eliminated as defined in the permit or when another operator has assumed control of the site.

Forms and detailed directions are available at www.state.ia.us/government/dnr/organiza/epd/wastewtr/wwapps/npdes.htm.

Individual permit for industrial activities

If a no-exposure exclusion or a general permit is not applicable, agencies must obtain one NPDES individual permit for each of their dischargers or point source discharges.

To obtain an individual permit, agencies must complete Form 1 and Form 2F. Additional forms may be required if storm water is mixed with non-processed wastewater (Form 2), processed wastewater from existing sources (Form 3), or processed wastewater from new sources (Form 4). Permit fees are \$300 for one year or \$1,250 for five years.

Applications must be made at least 180 days before the start of operations. Forms and detailed directions are available at www.state.ia.us/government/dnr/organiza/epd/wastewtr/wwapps/npdes.htm.

2. Construction

What's covered

Phase I targeted the following large construction activities:

- construction that will disturb at least five acres
- construction that will disturb less than five acres but is part of a larger plan of development or sale that will disturb at least five acres

As of March 10, 2003, Phase II adds small construction activities to those affected:

- construction that will disturb at least one acre
- construction that will disturb less than one acre but is part of a larger plan of development or sale that will disturb at least one acre

All entities—of any size, public or private—are responsible for the compliance of their construction activities, large or small. Activities are affected only where storm water runoff from the construction site will be discharged into a municipal storm sewer system or waters

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3. MS4s

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of the United States. The definition of construction does not include routine maintenance of roads and ditches.

Options

Agencies must obtain either a waiver or an NPDES general permit for their large or small construction activities by March 10, 2003.

Waiver for small construction activities

Some small construction activities may be eligible for waivers if one of the following two conditions can be proven:

- The activity will occur during a negligible rainfall period. The construction site must have a rainfall erosivity factor of less than 5 for the period of construction. See www.epa.gov/npdes/pubs/fact3-1.pdf for more information.
- A determination that storm water controls are not necessary has been made based on criteria available from the Iowa DNR. (The determination is made based on total maximum daily load or equivalent analysis, which establishes maximum pollutant levels and allocations allowed for each source.)

General permit for large or small construction activities

Large construction activities already require an NPDES general construction permit (Permit No. 2), as described under the general permit section of the industrial/transportation activities article (pages 7–8). By March 10, 2003, small construction activities will also require the same permit if a waiver is not applicable.

What's covered

Municipal separate storm sewer systems (MS4s) are broadly defined as any system of storm water conveyance, including roads with drainage systems, gutters, and ditches, owned or operated by a public entity.

Phase I targeted medium and large MS4s, those located in incorporated places or counties with populations of at least 100,000. Des Moines and Cedar Rapids are already compliant under Phase I.

Small MS4s are those located in incorporated places or counties with populations under 100,000.

Only a select subset of small MS4s are targeted in Phase II. Small MS4s fall under the regulations under two conditions:

1. Small MS4s in urbanized areas are regulated—that is, if the area in which they are located and the adjacent areas together have a population of at least 50,000 and a population density of at least 1,000 people per square mile. This covers 32 cities in Iowa.
2. Small MS4s are also regulated if they are not located in urban areas but are located in an area with a population of at least 10,000 and a population density of at least 1,000 people per square mile. Though 17 additional cities are potentially affected under this requirement,

under proposed rules, 12 of these cities would be waived. The remaining five cities, which discharge into impaired waterways, will be affected.

The Iowa DNR has already identified and contacted all affected jurisdictions.

Options

Affected municipalities must develop an MS4 storm water management program that provides best management practices, measurable goals, and estimated implementation schedule for each of the following minimum control measures:

- Distribute public education and outreach materials.
- Encourage public participation in program development and implementation.
- Develop a plan for detecting and eliminating illicit discharges.
- Control construction runoff.
- Control post-construction runoff.
- Provide staff training on pollution prevention measures and techniques.

Example best management practices are available from the EPA and other sources.

The Iowa DNR is currently working with Iowa's affected municipalities to gain compliance by the March 10, 2003, deadline. •

For information and assistance

Public agencies should seek help from experts to assess their facilities and activities for compliance with all federal and state environmental regulations.

For more information on EPA storm water regulations, go to http://cfpub.epa.gov/npdes/home.cfm?program_id=6. For information regarding the compliance process in Iowa, contact Joe Griffin, Iowa DNR, 515-281-7017, joe.griffin@dnr.state.ia.us.