



Approaching Storm:

NPDES Phase II Stormwater Rule Deadline Nears

In December of 1999, the United States Environmental Protection Agency (EPA) published the National Pollutant Discharge Elimination System (NPDES) Phase II Stormwater rule in the Federal Register. The issuance of the rule started a clock that has had municipalities, and stormwater professionals working to understand and evaluate its implications.

Applications for Phase II permit coverage are due by March 10, 2003. The amount of preliminary work to get permit coverage can be extensive, and regulated municipalities should be in the process of determining what their particular permitting authority's requirements are and what actions are needed to be in compliance when the Phase II deadline arrives.

The Phase II rule is an extension of the NPDES Stormwater program. The Phase I Stormwater Rule was issued in 1990 and covered medium and large municipal sepa-

rate storm sewer systems (MS4s). These include cities or jurisdictional entities serving populations over 100,000. In addition, operators of construction activities disturbing more than five acres and 11 categories of industrial activities were required to obtain separate permit coverage under Phase I.

Phase II will extend NPDES Stormwater permit requirements to small MS4s and construction activities disturbing more than one acre. Unlike the numeric requirements set in Phase I that had extensive monitoring demands, the Phase II rule has

a narrative approach. Those municipalities regulated under the general permit requirements of Phase II will not have to establish pollutant characterization of stormwater quality by conducting analytical testing. The implementation of Best Management Practices (BMPs) and associated measurable goals will be sufficient to meet compliance with the six minimum measurement requirements of Phase II.

The Phase II Stormwater rule automatically will cover operators of MS4s that are located within an "urbanized area" with a total population of 50,000 or more and a density of at least 1,000 persons per square mile. These regulated areas include all jurisdictions within the defined area regardless of individual population numbers and are based on official 2000 U.S. census data. Municipalities that are being added to the list of "automatic" coverage as a result of the 2000 census still will have to comply by March 10, 2003. Therefore, there are many municipalities that are just learning they will need to apply for permit coverage.

A "municipality" for purposes of the permit is defined by the rule to include not only what is traditionally thought of as

a municipality (e.g., cities, towns and villages) but also state agencies, counties, federal installations, military bases and Native American lands. The definition also includes state-owned or -operated departments of transportation, universities, school districts, public hospitals and even local drainage, sewer or water conservation districts that operate separate storm sewer systems. In addition, the definition of what constitutes a "separate storm sewer system" includes any method of conveying surface water, including streets, gutters, ditches, swales or any other man-made structures that in any way alter natural wet-weather flow. Thus, the impact of the Phase II rule is far reaching.

Along with the automatically designated MS4s, the Phase II rule also requires the NPDES Permitting Authority (in most cases, individual states) to establish criteria for including those MS4s located in population areas of at least 10,000, if it determines that wet-weather flow discharges from that municipality have an adverse impact on the quality of receiving waters. Permitting authorities also have the option of including municipalities as designated MS4s with populations as low as 1,000 under certain conditions. Any municipality that becomes a designated MS4 will have 180 days from the date of designation to obtain permit coverage. These designations are supposed to occur by December 2002.

Finally, MS4 operators with populations of fewer than 1,000 outside of automatic and designated areas also may need stormwater permits for discharge if permitting authorities determine that the MS4 is contributing substantially to pollutant loading of a physically interconnected and regulated MS4.

Permit Requirements

A municipality's individual permit application or notice of intent for coverage under a general permit must include descriptions of the BMPs and measurable goals that will be used to meet the following six measures.

Public Education and Outreach.

This measure must include a program designed to educate the public about the impacts of stormwater discharges on

receiving waters and what individuals can do to prevent stormwater pollution.

Public Participation and Involvement.

This measure must include a procedure for giving the public an opportunity to actually participate in both the development and implementation of a stormwater program.

Elicit Discharge Detection and Elimination. Regulated municipalities

must develop a plan with mechanisms designed to locate and eliminate discharges into storm sewers from sources other than stormwater. This plan must include a complete map of all outfalls and identification of locations and sources of any water entering a system.

Construction-Site Runoff Control.

Regulated municipalities must have a

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regulatory mechanism in place for erosion and sediment control as well as BMPs for preventing or reducing other pollutants associated with construction activity. It is important to note that this measure does not relieve the requirements of a construction-site operator to obtain an independent NPDES permit for sites larger than one acre. However, the state permitting authority can specifically reference qualifying local programs in the NPDES general permit requirements so that the construction operator does not need to follow two different sets of requirements.

Post-Construction Runoff Controls.

Regulated municipalities must have a program requiring new and redevelopment projects to implement on-site controls that will reduce pollutant loads in stormwater runoff.

Pollution Prevention and Good Housekeeping. Regulated municipalities must have an operation and maintenance program to prevent or reduce pollutant runoff from municipal operations.

While these measures are the minimum required by EPA, the rule allows for states with NPDES permitting authority to develop permits that may require more stringent measures to meet water quality requirements. In addition, municipalities also may

develop local stormwater regulations that go beyond the requirements of Phase II.

The Phase II rule is drafted to encourage development of a stormwater management control plan that fits local conditions and allows flexibility by local authorities to meet their individual needs. However, those MS4s that wait until the last minute are likely to face much higher costs and possibly more prescriptive requirements that will not take into account local conditions. Therefore, officials, planners and stormwater professionals who have not yet started the planning process should do so now.

Industrial Impacts

In addition to the changes noted above for municipal and construction activities, Phase II also will affect Phase I-regulated industrial activities. Under Phase II, all industrial activities now will be eligible for no-exposure waivers instead of only light industries defined in Category 11. However, all Category 11 industries will need to file waivers or obtain a permit; under Phase I, Category 11 industries with no exposure did not need to file these waivers.

Finally, under the Intermodal Surface Transportation and Efficiency Act (ISTEA) moratorium, municipalities did not need permits for their industrial activities such as

transportation centers. This moratorium will end on March 10, 2003, and all municipalities then will need additional NPDES permit coverage for regulated industrial activities.

Best Management Practices (BMPs)

Since Phase II is a narrative rule that requires the implementation of BMPs to achieve compliance, selection of the proper mix of BMPs appropriate for a municipality becomes critical. The Phase II rule requires that EPA and permitting authorities prepare BMP menus for each minimum measure to assist MS4s in developing the stormwater management program BMP "toolbox." These menus will include both structural and nonstructural BMPs.

There are a wide range of available BMP options and choosing the one best for a particular purpose or application depends, in large part on local conditions. Future articles will give more details on specific BMP types. A more generalized list is set out below.

Nonstructural BMPs may include

- Educational materials,
- School stormwater programs,
- Public meetings and citizen groups,
- Volunteer cleanups, monitoring programs and "Adopt-A-Storm Drain" programs,
- Illicit discharge detection programs,
- Regulatory ordinances and other regulatory mechanisms, including
 - Prohibitions on non-storm discharges into separate storm sewers,
 - Requirements for control of erosion, sediment and other pollutants on construction sites,
 - Ordinances and other site-plan approval processes requiring post construction stormwater controls, and
 - BMP operation and maintenance requirements with regulatory enforcement provisions,
- Procedures for inspecting and monitoring structural BMPs,
- Street sweeping, catch-basin cleaning and organic yard waste controls,
- Training materials and municipal maintenance activities and schedules, and
- Recycling and pollution prevention programs.



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Structural BMPs may include

- Vegetative BMPs such as constructed wetlands, swales, filter strips and rain gardens,
- Infiltration BMPs (with pretreatment where necessary for groundwater and wellhead protection) such as basins, trenches, sand filters and porous pavement,
- Detention and retention methods for controlling both volume and quality of water flow into MS4s and receiving waters,
- Treatment controls such as separators, filtration devices, catch-basin inserts and skimmers, and
- Outfall and drain grates.

These are just a few examples of BMPs that could be used to meet Phase II requirements. The rule does not set limits as to which BMPs can be used. States and regulated municipalities likely will develop their own BMP requirements, and planners should examine their own state and local requirements.

With many proprietary technologies entering the marketplace, state and local officials and stormwater professionals need to conduct research to ensure that various claims regarding BMP capabilities are accurate. Various verification protocols and testing procedures are in place or being developed to assist decision makers on what specific technologies should be allowed and for what applications. The EPA through its Environmental Verification Program (ETV) has developed protocols for testing proprietary claims. There also are various BMP databases available on the web.

Conclusion

With the Phase II deadline approaching fast, there is a growing sense of apprehension among impacted municipalities. Yet, while at first glance the Rule's requirements may seem overwhelming, they are not that difficult to comply with. Future articles will provide more specifics about issues such as BMP selection, measurable goals, ordinance development and other Phase II related issues. The days when stormwater management meant only "moving the water" are clearly over. However, with careful planning, municipalities and others affect-


ed by the NPDES Phase II Stormwater regulations will be able to meet the compliance deadlines and requirements easily.

The following individuals helped review this article for accuracy: Roger Bannerman, Wisconsin DNR; Gary Minton, Resource Planning Associates; Roger Sutherland, Pacific Water Resources, Inc.; Kelly Cave, Wayne County Michigan, Department of Environment.

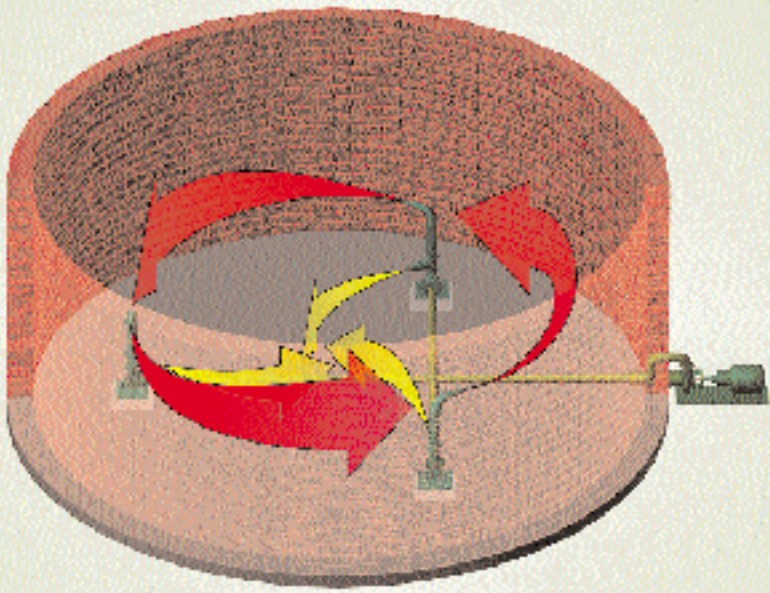
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