

Environmental Regulation

EPA Proposes New Effluent Guidelines for the Construction and Development Point Source Category

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On November 28, 2008, EPA published in the *Federal Register* a proposed rule, [73 Fed. Reg. 72,562](#), that would establish technology-based effluent guidelines for the newly implemented Construction and Development (C&D) Point Source Category under new 40 C.F.R. Part 450. Targeting land developers and other operators of construction sites, the proposed rule would effectively impose additional regulatory controls on a national level that are intended to reduce the amount of sediment and other pollutants discharged in stormwater from construction sites. Under the proposed rule, regulated dischargers of stormwater from construction sites (covered dischargers) would be subject to a set of non-numeric best management practices requiring the installation and maintenance of effective erosion control measures, sediment control measures, and other pollution prevention measures designed to minimize the discharge of pollutants in stormwater. In addition, at certain large sites located in areas exhibiting high rainfall energy and soils with significant clay content, dischargers would be required to meet a *numeric* effluent limitation on the allowable level of turbidity, which is a measure of sediment being carried in the water. If adopted as proposed, this rule would be the first to impose a numerical limitation on stormwater discharges from construction sites. EPA is seeking comment on the proposed rule by no later than February 26, 2009.

The Ailment: Excessive Sediment in Stormwater Discharges from Construction Sites

Construction activities typically involve site selection, site planning, and land-disturbing tasks such as clearing, excavating and grading. Soils disturbed by these construction-related tasks can be discharged offsite during storm events. Excessive amounts of sediment from C&D sites can result in adverse physical and biological impacts to waters resources. As an example, excessive sediment discharge may reduce water depth, leading to the need for dredging activities.

Existing national stormwater regulations found at 40 C.F.R. 122.26, which requirements serve as the basis for the current terms and conditions in EPA and authorized state-adopted general permits, require covered dischargers to develop and implement control measures to manage stormwater discharges associated with construction activity. The existing stormwater regulations obligate operators to minimize their discharges of pollutants using appropriate erosion and sediment control best management practices (BMPs) to address sediments, as well as control measures for other pollutants such as litter, construction debris, and construction chemicals that could be exposed to stormwater runoff.

Although the current stormwater regulations have helped improve the nation's water quality, impairment of surface water continues. EPA reports in the proposed rule that 45 percent of assessed river and stream miles, 47 percent of assessed lake acres, and



32 percent of assessed square miles of estuaries show impairments from a wide range of sources. Inadequate control of stormwater discharges, namely sediment, is a significant contributor. Accordingly, EPA has proposed erosion and sediment requirements for the C&D Point Source Category. These newly proposed technology-based effluent guidelines would represent a “floor” or minimum requirements that apply at construction sites on a national basis.

The Cure: Application of Effluent Guideline Standards

Effluent guidelines are national standards established by EPA on an industry-by-industry basis to control pollutants discharged to surface waters and publicly owned treatment plants. National regulations for industrial wastewater discharges set technology-based limitations for conventional, toxic, and nonconventional pollutants¹ at several levels of control, including Best Practicable Control Technology (BPT), Best Available Technology Economically Achievable (BAT), Best Conventional Pollutant Control Technology (BCT), and New Source Performance Standards (NSPS). While each of these standards is intended to address different aspects of water pollution and these standards differ somewhat for most categories of pollution sources, EPA’s proposed rule establishes the same requirements under each set of standards. All of the effluent guidelines established under any of BPT, BAT, BCT, and NSPS are implemented through the National Pollutant Discharge Elimination System (NPDES) permit program.

The industry targeted by the proposed rule is the C&D Point Source Category, which primarily includes firms classified by the U.S. Census Bureau into one of two North American Industry Classification System codes: NAICS 236 – Construction of Buildings (including residential, non-residential, industrial, commercial, and institutional building construction), and NAICS 237 – Heavy and Civil Engineering Construction (including utility systems construction such as water and sewer lines, oil and gas pipelines, power and communication lines; land subdivision; highway, street, and bridge construction; and other heavy and civil engineering construction). Although land developers and general building contractors are clearly the primary targets of the proposed rule, the new rule could apply to other NAICS codes.²

¹ Effluent guidelines address three classes of pollutants: (i) conventional pollutants – specifically consisting of biochemical oxygen demand, total suspended solids, fecal coliform, pH, and oil and grease; (ii) toxic pollutants – including 65 pollutants and classes of pollutants of which 126 specific substances have been designated as priority toxic pollutants; and (iii) nonconventional pollutants – all other pollutants not identified as conventional or toxic pollutants.

² As noted by EPA in the proposed rule, the listing of NAICS 236 and 237 does not constitute an exhaustive list of regulated entities. Rather, the agency recommends close examination of the applicability criteria for this proposed rule, which simply states that the rule applies to discharges associated with construction activity required to obtain NPDES permit coverage pursuant to 40 C.F.R. 122.26(b)(14)(x) (construction disturbing more than five acres or disturbing less than five acres but part of a larger project that will disturb more than five acres overall) and (b)(15) (construction disturbing more than one acre but less than five acres).



Aiding the Cure, Part I: Establishment of Non-numeric Effluent Guideline BMPs

The proposed rule would establish on a national level a set of non-numeric effluent guideline BMPs that would require dischargers to provide and maintain effective (i) erosion control measures, (ii) sediment control measures, and (iii) pollution prevention measures to minimize the discharge of pollutants in stormwater and other wastewater derived from construction sites. Compliance with these BMPs would be mandatory except in instances where EPA has provided a discharger with a variance because factors relating to the discharger's facilities, equipment, or processes were fundamentally different from the factors considered by EPA in development of these BMPs. These BMPs are reflective of a BPT level of control and thus are based on the average of the best performing facilities in the C&D Point Source Category.

Specifically, the proposed rule would impose on a national level the following non-numeric effluent guideline BMPs on the C&D Point Source Category:

Erosion Controls

Covered dischargers must provide and maintain effective erosion controls on all disturbed areas of the construction site to minimize the discharge of sediment and other pollutants. Generally speaking, erosion controls are considered effective by EPA when bare soil is uniformly and evenly covered with vegetation or other suitable materials, stormwater is controlled so that rills and gullies are not visible, sediment is not visible in runoff from these areas, and channels and stream banks are not eroding.

EPA has proposed a series of 13 erosion control BMPs that would have to be achieved by C&D Point Source Category dischargers, including:

- Stabilizing disturbed soils immediately when earth-disturbing work has temporarily (*i.e.*, more than 14 days) or permanently ceased;
- Controlling stormwater volume and velocity at the construction site;
- Minimizing the amount of soil exposed for the duration of the construction activity as well as at any one time during the activity;
- Controlling stormwater discharges leaving the construction site to prevent channel and stream bank erosion and erosion at outlets;
- Preserving topsoil and natural vegetation;
- Minimizing soil compaction by construction equipment in areas that will not contain permanent structures or where compaction is not necessary for structural integrity;
- Providing and maintaining natural buffers around surface waters;



- Minimizing the construction of stream crossings;
- Sequencing construction activities to minimize the extent and duration of exposed soils;
- Minimizing disturbance of steep slopes;
- Minimizing erosion controls specifically designed to prevent soil erosion on slopes;
- Establishing temporary or permanent vegetation or use non-vegetative controls to stabilize exposed soils; and
- Diverting stormwater that runs onto the construction site away from disturbed areas of the site.

Sediment Controls

In addition, covered dischargers must provide and maintain effective sediment control BMPs to minimize discharges of sediment from construction sites. These sediment control BMPs should be designed so as to effectively remove sediments within the range of particle sizes expected to be present at the construction site, taking into account rainfall, topography, soil types, climate, and vegetation at each site as well as the proximity to storm drain inlets and receiving waters.

EPA has proposed a set of nine sediment control BMPs that must be implemented by C&D Point Source Category dischargers. The most significant of the nine BMPs is the current requirement in the EPA Construction General Permit relating to the installation and operation of sediment basins. Under the proposed rule, covered dischargers at construction sites disturbing ten acres or more at any one time would be required to install a sediment basin to contain and settle sediment from the stormwater runoff. The proposed rule specifies certain minimum standards of design applicable to sediment basins.³

The remaining sediment control BMPs that would have to be achieved by C&D Point Source Category dischargers include:

- Establishing and maintaining perimeter control measures for any portion of the downslope and side-slope perimeter where stormwater will be discharged from disturbed areas of the site;

³ The sediment basin must: (i) provide a water storage volume for either: (a) the calculated volume of stormwater runoff from the local 2-year, 24-hour storm for the entire watershed area draining to the basin until final stabilization of the disturbed area; or (b) 3,600 cubic feet per acre of total watershed area draining to the basin until final stabilization of the disturbed area; (ii) provide a sediment storage volume of at least an additional 1,000 cubic feet per acre of disturbed land area directed to the basin; (iii) have an effective length of at least four times the basin's width; (iv) include and utilize an outlet device (such as a skimmer) designed to withdraw water from the surface of the water column; (v) have its discharge regulated in a manner that maximizes the residence time of the water in the basin (such time to be dependent upon the range of soil particle sizes expected to be present on the construction site).



- Controlling discharges from silt fences using a vegetative filter strip or vegetated buffer with at least six feet in length;
- Minimizing the length of slopes and installing linear sediment controls along the toe, face, and at the grade breaks of exposed and erodible slopes;
- Establishing, using and maintaining stabilized construction entrances and exits as well as installing, using, and maintaining wheel wash stations to remove sediment from construction equipment and vehicles leaving the site;
- Removing any sediment and other pollutants from paved surfaces daily to minimize discharges from the construction site;
- Minimizing the introduction of sediment and other pollutants to storm drain inlets;
- Controlling sediment and other pollutants from dewatering activities; and
- Directing stormwater discharges from sediment controls to seep berms and level spreaders or using spray or drip irrigation systems to distribute stormwater to vegetated areas and functioning stream buffers to increase sediment removal and to maximize infiltration.

Pollution Prevention Measures

Finally, covered dischargers must provide and maintain effective pollution prevention measures to control the discharge of pollutants from the construction site. Pollution prevention measures specified under the proposed rule include:

- Prohibiting the discharge of construction wastes, trash, and sanitary waste in stormwater;
- Prohibiting the discharge of wastewater from washout of concrete, stucco, paint, and cleanout of other construction materials;
- Prohibiting the discharge of fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
- Prohibiting the discharge of pollutants resulting from the washing of equipment and vehicles (a) where soaps or solvents are used or (b) using only water to remove sediment unless wash waters are treated in a sediment basin or equivalent;
- Implementing measures to minimize the exposure of stormwater to building materials, landscape materials, fertilizers, pesticides herbicides, detergents, and other liquid or dry products; and
- Prevent stormwater runoff from contacting areas with uncured concrete to minimize changes in stormwater pH.

Aiding the Cure, Part II: Addition of Numeric Effluent Guideline BMP for Turbidity

In addition to requiring implementation of non-numeric BMPs as outlined above, the proposed rule would, under limited circumstances, impose an obligation for covered dischargers to assess compliance with a numeric effluent guideline BMP reflecting BAT and NSPS levels of control on the C&D Point Source Category. Specifically, for large construction sites of 30 acres or more located in areas of high rainfall energy and with soils with significant clay content,⁴ discharges would be subject to a numeric effluent limit of 13 nephelometric turbidity units (NTUs), which is a measure of sediments carried in water. This turbidity limit is intended to require covered dischargers to remove fine-grained and slowly-settling or non-settleable particles contained in the stormwater prior to discharge. As currently proposed, satisfaction of the 13 NTU numeric limit would not apply to the discharge of pollutants in the overflow from a sediment basin or other storage impoundment whenever chronic or catastrophic rainfall events cause an overflow of stormwater from a sediment basin or other impoundment designed, constructed, and operated to contain runoff from a 2-year, 24-hour rainfall event.

Incorporating Effluent Guidelines into Individual and General Permits

Effluent guidelines are the primary means of controlling the discharge of pollutants to waters of the United States. Upon adoption of this proposed rule, the proposed standards would be applied to C&D sites through incorporation into NPDES individual or general permits issued by EPA or authorized states or tribes. Because it is expected that, once adopted, these effluent guidelines would be implemented over time as authorized states revise their general permits, full implementation of the proposed rule is expected by EPA to occur within five years of the effective date of the final rule. With a final rule required to be promulgated by December 2009, this would mean expected full implementation of the rule by 2014. Moreover, once these effluent guidelines are implemented into NPDES individual or general permits, they would be enforced in the same manner as existing terms and conditions found in such permits – through inspections by agency personnel.

EPA Is Soliciting Comments on Aspects of the Proposed Rule

EPA is seeking comment on this proposed rule. In particular, EPA is expressly seeking public comment on certain aspects of the proposed rule. Express solicitations include (but are not limited to) the following:

- Whether there is a need to regulate additional pollutants or require monitoring of additional parameters, specifically pH;

⁴ Areas of high rainfall energy signify an area's rain erosivity; that is, for a given area, the potential for rainfall, or sum of rainfall, during a definite period to erode a particular soil type. This measure of soil erosivity is referred to as an annual rainfall erosivity factor (R factor) and, for purposes of triggering the turbidity effluent limitation under the proposed rule, is set by EPA at 50 or higher as defined by the Revised Universal Soil Loss Equation. Significant clay content means construction site soils with 10 percent or greater by mass of soils less than 2 microns in diameter, down to the graded and excavated level of the site.



- Whether EPA has set the annual rainfall erosivity factor, or R factor, too low for purposes of being required to meet the numeric turbidity testing requirement (under the proposed rule, the R factor is set at 50 or higher);
- On the feasibility and ease of implementing the proposed 10 percent clay content applicability criteria applicable to the numeric turbidity testing requirements;
- Whether any of the proposed options for BAT, BPT, BCT, or NSPS should be based on the total size of the project, the disturbed areas of the project, or other limiting factors;
- On the appropriateness of the 30-acre triggering threshold applicable to the numeric effluent guideline BMP; and
- On whether to set a turbidity limit in the range of 50 to 150 NTUs (or some other number) based on passive, rather than active, treatment consisting of polymer-assisted clarification followed by filtration.

Conclusion

EPA is proposing technology-based effluent guideline BMPs applicable to the C&D Point Source Category, which includes land developers and general building contractors. These BMPs include non-numeric standards and, for the first time, numeric standards. The proposed rule would require covered operators to implement specific BMPs including possibly the installation of sediment basins and testing of turbidity in stormwater being discharged. Implementation of BMPs is costly and time consuming and thus this comment period represents an opportunity for the regulated community's voice to be heard. For instance, while the sediment basin and numeric testing requirements are currently proposed for respective 10-acre and 30-acre triggering thresholds, these thresholds are subject to possible downward change, resulting in the applicability of these particular requirements to even more construction site operators. Comments to EPA are due by February 26, 2008.

For further information on this proposed rulemaking or other stormwater discharge-related issues, please contact [Larry Pechacek](#). Visit our website to learn more about Vinson & Elkins' [Environmental Regulation practice](#).

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