



National Aeronautics and
Space Administration

Principal Center for Regulatory Risk Analysis and Communication

REGULATORY SUMMARY

Proposed Effluent Limitations Guidelines and Standards for Construction and Development Point Source Category

This information was prepared by NASA's Principal Center for Regulatory Risk Analysis and Communication (RRAC PC). If you have further questions or need assistance with this matter, please contact the RRAC PC Manager, Sharon Scroggins (256-544-7932, sharon.scroggins@nasa.gov).

Introduction

The U.S. Environmental Protection Agency (EPA) is proposing a regulation that would establish Effluent Limitation Guidelines (ELGs) and New Source Performance Standards (NSPS) for the Construction and Development (C&D) point source category. These regulations are intended to strengthen the existing national storm water regulatory program and to reduce the amount of sediment and other pollutants discharged from construction sites. The proposed rule was published in the *Federal Register* (FR) on 28 November 2008 ([73 FR 72561](#)); comments are due 26 February 2009. Issues regarding the proposed rule should be identified immediately to facilitate the preparation and timely submittal of comments. [EPA's website](#) also has additional information about the proposed regulations.

Background

Improper control of storm water discharges from construction activity is among the many contributors of sediment, which is a water quality issue throughout the United States. Sediment is the leading cause of water quality impairment and wetland degradation. If not managed properly, disturbed soil from clearing, excavating, and grading activities can be easily washed offsite during storm events, potentially resulting in physical, chemical, and biological impacts to receiving waters. Likewise, other pollutants preferentially adhere to mineral or organic particles in fine sediment, and these pollutants can cause additional impairments to receiving waters.

In the *Code of Federal Regulations* (CFR), existing national storm water regulations ([40 CFR 122.26](#)) require permittees to implement control measures to manage discharges associated with construction activity. The current regulations require permit coverage for construction activities that disturb 1 or more acres of land, or that disturb less than 1 acre of land but are part of a larger common plan of development whose total land disturbance is 1 acre or greater. The permit coverage may include ELGs, which are technology-based effluent limitations required by the [Clean Water Act, Sections 301 and 306](#) for categories or subcategories of point source dischargers. They may be numeric or non-numeric in nature and are incorporated, where appropriate, into National Pollutant Discharge Elimination System (NPDES) permits. They are based on the level of control achievable through various levels of pollutant control technologies.

ELGs for the C&D point source category were proposed in June 2002; however, they were never finalized and ultimately were withdrawn in April 2004 as a result of the inability to administer the program cost-effectively at that time. On 1 December 2006, a U.S. District Court finalized a ruling that requires EPA to promulgate ELGs for the C&D point source category no later than December 2009 and to meet established interim milestones.

Summary of Proposed Rule

If finalized, this rule would establish nationwide technology-based minimum requirements for the reduction of sediment, turbidity, total suspended solids (TSS), and other pollutants in storm water discharges from C&D sites through the use of varying degrees of technology for conventional, toxic, and nonconventional pollutants. The proposed rule would amend 40 CFR to add a new Part 450—Construction and Development Point Source Category. These proposed regulations specify minimum requirements for controlling erosion, sedimentation, and pollutant discharges from C&D sites. If finalized, the proposed regulations would be applied to C&D sites through incorporation in individual NPDES permits or general permits issued by the NPDES permitting authority. Effluent limitations for pollutants not covered by this proposed regulation also could be established by the NPDES permitting authority, if necessary, based on state water quality standards or other provisions. Because of the time required to implement these technologies, it is anticipated that the compliance date for implementation will be in 2014. Details regarding the proposed regulations are provided in the following sections.

Best Practicable Control Technology

Under the Clean Water Act (CWA), EPA is required to specify best practicable control technology (BPT) effluent limits for conventional, toxic, and nonconventional pollutants by evaluating the level of control that is technologically available and economically practicable. These guidelines are based on the average of the best performing facility within a category.

Erosion Control BPT

Applicable construction sites will be required to provide and maintain effective erosion controls in accordance with established industry practices. These controls must be implemented on disturbed areas of the construction site to minimize the discharge of sediment and other pollutants. Erosion controls implemented at the site must, at a minimum, be designed and installed to do the following:

1. Stabilize disturbed soils immediately when earth-disturbing work has temporarily or permanently ceased.
2. Control storm water velocity within the site to minimize soil erosion.
3. Minimize the amount of soil exposed.
4. Control storm water discharges, including the peak flow rate and total storm water volume, leaving the site.
5. Preserve topsoil and natural vegetation.

6. Minimize soil compaction by construction equipment in areas that will not contain permanent structures or where compaction is not necessary for structural integrity. In areas that do not require compaction, use deep ripping and decompaction of soils and incorporate organic matter to restore infiltrative capacity.
7. Provide and maintain natural buffers around surface waters.
8. Minimize the construction of stream crossings.
9. Sequence or phase construction activities to minimize the extent and duration of exposed soils.
10. Minimize disturbance of steep slopes.
11. Implement erosion controls specifically designed to prevent soil erosion on slopes.
12. Establish temporary or permanent vegetation or use non-vegetative controls such as mulch, compost, geotextiles, rolled erosion control products, polymers, or soil tackifiers to stabilize exposed soil.
13. Divert storm water run-on away from the disturbed areas of the site.

Sediment Control BPT

Construction sites will be required to provide and maintain effective sediment controls in accordance with established industry practices to minimize the discharge of sediment from the site. Sediment controls must be installed before construction begins and be maintained during the phases of construction activity. Sediment controls implemented at the site must, at a minimum, be designed and installed to do the following:

1. Establish and maintain perimeter control measures for the down-slope and side-slope perimeters where storm water will be discharged from disturbed areas of the site. Down-slope perimeter control measures must be installed following the contours of the land. Perimeter controls should direct storm water discharge through vegetated areas and functioning stream buffers.
2. Control discharges from silt fences using a vegetated filter strip or vegetated buffer at least 6 feet wide.
3. Minimize the length of slopes and install linear sediment controls along the toe, face, and at the grade breaks of exposed and erodible slopes.
4. Establish, use, and maintain stabilized construction entrances and exits. Establish, use, and maintain wheel wash stations to remove sediment from construction equipment and vehicles leaving the site.
5. Remove sediment and other pollutants from paved surfaces daily. Washing sediment and other pollutants into storm drains is prohibited unless those storm drains discharge to a sediment basin or other sediment control on the site.
6. Establish, use, and maintain controls and practices to minimize the introduction of sediment and other pollutants to storm drain inlets.

7. Control sediment and other pollutants from dewatering activities and obtain and comply with state or local discharge standards or permits for dewatering activities. Discharges from dewatering activities are prohibited unless treated to minimize the discharge of pollutants and sediment within the range of particle sizes expected to be present on the site.
8. For common drainage locations that serve an area with 10 or more acres disturbed at one time, install and maintain a sediment control basin that meets the following minimum requirements:
 - a. A water storage volume for the calculated volume of storm water 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 a water quality storage volume of 3,600 cubic feet per acre of total watershed area draining to the basin until final stabilization of the disturbed area. The volume of the basin also must account for run-on from up-slope areas.
 - b. A sediment storage volume of at least an additional 1,000 cubic feet per acre of disturbed land area directed to the basin. The volume of the basin must also account for run-on from up-slope areas.
 - c. The effective length of the basin must be at least four times the width of the basin.
 - d. Include and use an outlet device designed to withdraw water from the surface of the water column (for example, a skimmer).
 - e. Regulate discharges such that the residence time of water in the basin is maximized. The dewatering time for the water storage volume must be at least 72 hours. Permitting authorities may specify other dewatering times, but they may not be less than 24 hours and determinations must be based on physical factors affecting the basin, including, but not limited to, soil particle sizes, intensity and duration of storm water runoff, and soil types.
9. Direct storm water discharges from sediment controls to seep berms and level spreaders or use spray or drip irrigation systems to distribute storm water to vegetated areas and functioning stream buffers.

Pollution Prevention BPT

Construction sites will be required to provide and maintain effective pollution prevention measures in accordance with established industry practices to minimize the discharge of pollutants from the site. Pollution prevention measures implemented at the site must, at a minimum, be designed and installed to do the following:

1. Prohibit the discharge of construction wastes, trash, and sanitary waste in storm water.
2. Prohibit the discharge of wastewater from washout of construction materials.
3. Prohibit the discharge of fuels, oil, or other pollutants used in vehicle and equipment operation and maintenance.
4. Prohibit the discharge of pollutants resulting from the washing of equipment and vehicles where soaps or solvents are used.

5. Prohibit the discharge of pollutants resulting from the washing of equipment and vehicles using only water to remove sediment, unless wash waters are treated in a sediment basin or alternative control to provide equivalent or better treatment.
6. Implement measures to minimize the exposure of storm water to building materials, landscape materials, fertilizers, pesticides, herbicides, detergents, and other liquid or dry products. Implement appropriate chemical spill prevention and response procedures.
7. Prevent storm water runoff from contacting areas with uncured concrete to minimize changes in the storm water pH.

Best Available Technology Economically Achievable

The best available technology (BAT) effluent guidelines apply to toxic (priority) and nonconventional pollutants under the CWA. EPA has identified 65 pollutants and classes of pollutants as toxic pollutants. Of these, 126 substances have been designated as priority toxic pollutants (see [40 CFR 401.15](#) and [40 CFR 423, Appendix A](#)) These guidelines are based on the best available performance of direct discharging facilities in a given category.

If finalized, the amended rule would require the following:

- Construction sites that have 10 percent or greater by mass of soils less than 2 microns in diameter and that have an annual erosivity factor (R factor) of 50 or higher will adhere to the BPT measures for erosion and sediment control and pollution prevention. If the construction site meeting these parameters is 30 or more acres, the turbidity must not exceed 13 nephelometric turbidity units (NTU) in the storm water discharge. This turbidity limit is intended to remove fine-grained and slowly settling or non-settleable particles contained in storm water. Because conventional storm water BMPs cannot achieve this level of treatment, the technology basis is active treatment systems, such as polymer-assisted clarification followed by filtration. This requirement will not pertain to overflow from a sedimentation basin or other storage impoundment resulting from chronic or catastrophic rainfall events, provided that these impoundments were designed properly for a 2-year, 24-hour rainfall event.
- EPA also is requesting comments on a possible option to set an alternative turbidity limit of 50 to 150 NTU, based on passive treatment.
- All construction sites not meeting the conditions noted above will be subject to the BPT measures for erosion and sediment control and pollution prevention.

Effluent Limitations based on Best Conventional Pollutant Control Technology

The 1977 CWA amendments require EPA to identify effluent reduction levels for conventional pollutants. This technology class replaced the BAT guidelines for conventional pollutants. The factors used to establish these limitations are the same as those for BAT, with consideration for the different pollutant type. If finalized, the amended rule would set BCT requirements equivalent to the BPT requirements for erosion and sedimentation control and pollution prevention.

New Source Performance Standards

Because new sources do not require the expense of retrofitting existing measures, new sources are required to install the best and most efficient production processes and treatment technologies. These limitations are based on the best available demonstrated control technology for all pollutants. If finalized, the amended rule would require that any new source must achieve NSPS equivalent to the BAT requirements for turbidity, as well as to the BPT requirements for erosion and sedimentation control and pollution prevention.

Potential Impacts to NASA

If these regulations are finalized, NASA would be required to meet these regulations for applicable construction projects, which could result in increased project costs for implementing the construction permits and complying with the discharge limits. Issues or comments regarding the proposed rule should be identified immediately and provided to the RRAC PC to facilitate the preparation and submittal of comments to EPA by the 26 February 2009 deadline.