

## EPA ISSUES \$953 MILLION REGULATION FOR CONSTRUCTION STORMWATER

The United States Environmental Protection Agency (EPA) issued final regulations on December 1, 2009 under the Clean Water Act establishing new effluent limitations for construction stormwater discharges. These new regulations include a numeric limitation, which will significantly affect the construction industry in Pennsylvania and across the country. This newsletter provides a general summary of the federal regulations, the timeframe for compliance and the importance of stakeholder input into the rulemaking process.

Existing regulations on construction stormwater discharges impact most construction activities. The extent of these impacts is determined by the size of the disturbed area and the proximity to streams, wetlands and other protected waters. EPA's current Construction General Permit contains non-numeric limitations and requires "best management practices" that minimize erosion and sedimentation. In Pennsylvania, the Department of Environmental Protection (DEP) regulates construction stormwater through National Pollutant Discharge Elimination System general and individual permits. The new regulations will not be fully effective in Pennsylvania until its general permit expires and a new

*These new regulations include a numeric limitation, which will significantly affect the construction industry in Pennsylvania and across the country.*

general permit is issued, which will include the non-numeric and numeric limitations. However, individual permits issued by DEP after February 1, 2010 will include the new regulations.

### Stormwater Controls for All Regulated Construction Sites

The non-numeric limitations apply to all regulated construction sites and generally require permittees to prevent discharges of sediment and other pollutants through proper planning and erosion prevention measures and control the discharges that do occur through effective sediment control measures. Permittees are required to control stormwater volume, velocity and peak flow rates within the site and at outlets, minimize the amount of soil exposed, minimize the disturbance of steep slopes, minimize sediment discharges from the site, provide and maintain natural buffers, maximize stormwater infiltration, minimize soil compaction and preserve

topsoil. Permittees are required to initiate soil stabilization measures immediately whenever the earth disturbing activities have permanently ceased on any portion of the site or temporarily ceased if no earth disturbing activities will resume for a period of 14 calendar days. Permittees are required to minimize discharges from dewatering trenches and excavations, minimize dis-



charge of pollutants from equipment and wheel wash water, spills and leaks and minimize exposure of construction materials and wastes to precipitation. Discharge of wastewater from washout and cleanout of stucco, paint and other construction materials is prohibited, as well as from fuels, oils and other pollutants from vehicle and equipment operation and maintenance and from

soaps used in vehicle and equipment washing. Discharges from washout of concrete are prohibited unless managed by an appropriate control. These regulations apply to sites that are also subject to the numeric limitation because they may address different pollutants or the same pollutants differently and the numeric limitation is only applicable in specific situations.

### **Numeric Effluent Limit – Regulating Turbidity**

The numeric effluent limitation is a daily maximum, which requires that the “average turbidity of any discharge for any day” must not exceed 280 NTU (Nephelometric Turbidity Units). This means that permittees may sample the turbidity in their discharges multiple times during a day and the average of all



Source: NC State University Water Quality Group  
Water Sheds website

the measurements may not exceed the limitation. One or more samples can exceed the limitation, but as long as the average for that day is below the threshold, then discharges for that day are deemed to be compliant. This limitation does not apply if stormwater discharges occur as a result of a storm event “in that same day” that is larger than the local 2-year, 24-hour storm. Since a permit-

*Turbidity was chosen as the pollutant for the numeric limitation because it is both a pollutant and an indicator for other pollutants, such as metals and nutrients.*

tee will not know in advance whether the precipitation on that day is going to exceed this threshold, sampling will still be required, but the numeric limitation will not apply. However, discharges from the site on subsequent days following this storm event are subject to the numeric limitation.

Turbidity was chosen as the pollutant for the numeric limitation because it is both a pollutant and an indicator for other pollutants, such as metals and nutrients. Furthermore, EPA feels that measuring turbidity is relatively easy, inexpensive and the technology necessary to comply with a numeric limitation is available and can be implemented easily.

Beginning on August 2, 2010, the numeric limitation applies to construction activities disturbing 20 or more acres at one time, including non-contiguous land disturbances that take place at the same time and are part of a larger common plan of development or sale. Starting on February 2, 2014, construction activities disturbing 10 or more acres at one time must meet the numeric limitation. Permittees in Pennsylvania will be required to conduct monitoring with requirements that will be established by DEP.

Given that EPA feels the most effective method of controlling discharges of construction pollutants is to minimize the site disturbance, the regulations specifically encourage permittees to restrict the total disturbance to below the thresholds to

avoid the sampling requirements and turbidity limitation. When disturbances exceed the thresholds, EPA expects that passive treatment systems can be utilized to meet the numeric limitation. Passive treatment technologies include sediment basins and traps (with and without polymer dosing), polymer addition to check dams, sand filtration, and dispersion of stormwater to vegetated areas.

### **Vital Stakeholder Input**

Input from a wide range of stakeholders resulted in significant revisions between the proposed and the final regulations. Most notably is the change from active to passive treatment systems as the technology basis for the numeric limitation. The proposed regulations required that turbidity from discharges not exceed 13 NTU for construction activity of 30 or more acres with certain soil properties and particular erosivity factor. Active systems, including polymer-assisted clarification followed by filtration, are considerably more expensive and less readily available compared to passive technologies. Additionally, EPA modified the non-numeric limitations to make them broadly applicable and compatible with all types of regulated construction activity. Even with the revisions, EPA estimates the annual compliance cost once the regulations are fully implemented to be \$953 million per year.

*Written by Jared Hockenberry, P.E., CPESC, staff engineer with CET Engineering Services*

**CET Engineering Services** is part of Commonwealth Engineering & Technology Inc., an environmental engineering firm providing its services to guide your project from planning through operation. CET is composed of professional engineers, environmental scientists, planners and infrastructure management consultants.

For more information about CET, call us at 1-800-CET-ENGG (1-800-238-3644) or visit us at [www.cet-inc.com](http://www.cet-inc.com).

*Published by CET Engineering Services, Raymond H. Myers, P. E., BCEE, Editor; [rmyers@cet-inc.com](mailto:rmyers@cet-inc.com).*

*Copyright © 2010 by Commonwealth Engineering & Technology, Inc. T/A CET Engineering Services. All Rights Reserved.*