

**Center for Environmental Excellence by AASHTO
Stormwater Management Community of Practice (CoP)**

**STATE-OF-THE-PRACTICE REPORT:
Effluent Limitations Guidelines (ELGs)**

March 2010



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INTRODUCTION

The Center for Environmental Excellence by AASHTO has established a Stormwater Management Community of Practice (CoP). The purpose of the Stormwater Management CoP is to create a forum where State Department of Transportation (DOT) practitioners can engage in facilitated discussions on emerging issues, research data needs, and innovative stormwater quality compliance solutions. The CoP has two primary goals, the first of which is to extend each state DOT's network and contacts, enabling them to share experiences and engage in technology transfer. In this regard, the program is a continuation of efforts that were initiated June 23–25, 2008 at the First National AASHTO Stormwater conference that was held in San Diego, California. The second goal is to develop a State-of-the-Practice Report (this document) on a selected focus topic. The Stormwater Management CoP consists of representatives from 16 state DOTs, the Federal Highway Administration (FHWA), and the Federal Transit Administration (FTA). The Stormwater Management CoP members agreed that the U.S. Environmental Protection Agency's (U.S. EPA's) Final Rule on Effluent Limitations Guidelines (ELGs) for Construction and Development Projects should be the top priority for this phase of the CoP.

This State-of-the-Practice report discusses EPA's Final Rule on ELGs for Construction and Development Projects. The pre-publication rule was released by the EPA on November 23, 2009. The final rule was published in the Federal Register on December 1, 2009. EPA has issued ELGs and new source performance standards (NSPS) for the Construction and Development (C&D) point source category. EPA is promulgating a series of non-numeric effluent limitations, as well as a numeric effluent limitation (NEL) for turbidity. All construction sites will be required to meet the series of non-numeric effluent limitations.

The final rule instates a new 280-NTU (nephelometric turbidity units) numeric limit, which applies to construction activities that disturb ten acres or more of land at one time, phased in over the next four years. These sites will be required to monitor discharges from the site and take water samples throughout the day to assess compliance with the numeric limit. The monitoring frequency will be up to the permitting authority, but EPA recommends at least three grab samples per day be taken at each discharge point. Permitting authorities can consider using representative sampling instead of sampling at each discharge point for linear projects. The daily average of these measurements must not exceed 280; if the

This state-of-the-practice report summarizes the discussions of CoP members who spoke as individual members of the community and does not necessarily represent their agencies' views or positions. In addition, the contents of this report do not necessarily represent the views or positions of AASHTO or the Center for Environmental Excellence, FTA, or FHWA.

2-year, 24-hour storm event is exceeded for the day, the effluent limitations do not apply (but sampling is still required on these days). Highway construction must comply with the new ELGs.

BACKGROUND

U.S. EPA Regulations

The Clean Water Act (CWA) was implemented through the U.S. EPA's National Pollutant Discharge Elimination System (NPDES) "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." It requires control of construction site stormwater runoff water quality using best management practices (BMPs) to the BAT/BCT (best available technology economically achievable/best conventional pollutant control technology) standard.

Water quality standards for waterbodies consist of designated uses, water quality criteria to protect these designated uses, an antidegradation policy to maintain and protect existing uses, and general policies to address implementation issues. States are required to adopt water quality standards to protect receiving waters, determine which receiving waters do not meet the established standards and must be restored, and develop a plan for restoration. The CWA requires that each state monitor and assess the health of all its waters and report its findings every two years to the EPA.

EPA is phasing in the NEL over four years to allow permitting authorities adequate time to develop monitoring requirements and to allow the regulated community time to prepare for compliance with the requirements. Construction sites that disturb 20 or more acres at one time will be required to conduct monitoring of discharges from the site and comply with the NEL beginning 18 months after the effective date of the final rule. Construction sites that disturb ten or more acres at one time will be required to conduct monitoring of discharges from the site and comply with the NEL beginning four years after the effective date of the final rule.

EPA currently issues permits for construction activities in four states (New Hampshire, Massachusetts, New Mexico and Idaho), the District of Columbia, and in certain U.S. territories and tribal areas. The regulation is effective on February 1, 2010. After this date, all permits issued by EPA or states must incorporate the final rule requirements. All construction sites required to obtain permit coverage must implement a range of erosion and sediment controls and pollution prevention measures. Beginning on August 1, 2011, all sites that disturb 20 or more acres of land at one time are required to comply with the turbidity limitation. On February 2, 2014, the limitation applies to all construction sites disturbing ten or more acres of land at one time. These sites must sample stormwater discharges and comply with a numeric limitation for turbidity. The limitation is 280 NTU.

State DOT stormwater discharges during construction activities are generally regulated under the state Construction General Permit (or EPA Construction General Permit for non-delegated states), and implementation of the new ruling will be subject to the requirements of the state permitting authorities, including monitoring and reporting requirements.

Appendix A contains a matrix summarizing the primary elements of the ELGs and suggestions for updating a DOT construction stormwater program in response to the new rule, as well as the text of the new rule. Appendix B contains a table summarizing the expiration date of the General Permit for Construction in each state. This table indicates the date that the ELGs would need to be included into each state's permit unless the state chooses to re-open the permit.

STATE-OF-THE PRACTICE: GENERAL PROGRAM INFORMATION FROM SELECTED STATES

The discussion below provides information on the state-of-the-practice for ELG compliance programs for selected states.

Colorado Department of Transportation (CDOT)

Colorado DOT is in the process of establishing a committee with hydrologists, water quality specialists, and engineers to review what other states are doing and develop recommended program changes for compliance with the EPA ELGs. The State General Construction Permit will be re-issued in 2012. The DOT committee will review compliance issues such as:

- Determine locations in the state where compliance should not be problematic due to sandy soils or low relief.
- Work with the state to gain acceptance of the use of flocculants, which are currently not allowed.
- CDOT also crosses federal (tribal) lands, which will require implementation of the ELGs on a shorter timeframe (starting this year) than the remainder of the state covered under the state's General Construction Permit.

California Department of Transportation (Caltrans)

The California Construction General Permit was reissued in September 2009; the EPA ELGs will most likely not be incorporated into the permit until it is reissued in 2014.

- Caltrans has completed discharge characterization studies from construction sites and noted that discharge turbidity can easily exceed 280 NTUs, even with best management practices (BMPs) in place.
- The reissued California Construction General Permit (CGP) contains numeric effluent limitation for turbidity. The turbidity NEL (500 NTU) in the California permit applies only to 'high risk' sites, defined as those sites with local conditions conducive to erosion, as well as a receiving water that is sensitive to turbidity. Caltrans is currently updating its construction compliance program by changing compliance manuals and updating standard specifications to reflect the requirements of the new CGP. Caltrans will also be training staff in the new CGP requirements. Caltrans does not anticipate that they will be required to comply with the new ELGs until the CGP is re-issued, presumably in 2014.

- Caltrans has established a committee to review the DOTs construction program to comply with the recently re-issued California General permit. The committee is charged with:
 - a. Updating all construction stormwater guidance manuals
 - b. Updating existing training programs
 - c. Revising construction specifications
 - d. Developing compliance tools for construction personnel
 - e. Estimating the cost to comply with the new rules, for both capital and personnel resources
 - f. Assessing various compliance monitoring approaches, including options to streamline data collection, assessment and reporting to the state regulatory agency

Delaware Department of Transportation (DeIDOT)

DeIDOT has been delegated by the Delaware Natural Resources & Environmental Control (DNREC) to administer its own Sediment and Stormwater Management Program. The program requires all construction activities and development that disturbs over 5,000 square feet to develop a stormwater management and sediment control plan to be submitted for review and approval. The submission requires a summary of field conditions, hydrologic and hydraulic computations, a plan checklist and details for sediment control and stormwater management practices. During construction, DeIDOT inspects each site regularly for compliance with the approved plans. The EPA ELGs will be incorporated into the state General Construction Permit by August 2011.

For implementation of the new ELGs, DeIDOT is:

- Discussing the new ELG requirements with their state regulators. Delaware will be including the ELGs in the state Construction Permit for all sites that disturb 10 or more acres. During discussions with regulators, it was determined that run-on to a construction site that does not meet the new ELG will be the responsibility of the DOT unless the run-on can be diverted around the active construction area. The intent of the regulations is most likely to focus on the quality of site runoff, and not that of the receiving water (for site regulation) as it passes through the construction site.
- Considering changing the construction site inspection process. Currently, the contractor inspects the site. DeIDOT may move this responsibility to consultants to maintain a degree of separation between implementation and monitoring. DeIDOT will be using flocculants to comply with the new EPA ELGs.

Florida Department of Transportation (FDOT)

The new ELGs will not likely impact the FDOT construction program significantly. Gradients are mild in the state, and most of the soils are very sandy, with generally low turbidity that can be improved using conventional construction site BMPs. There are some clay soils in the northern part of the panhandle. For areas with clay soils, they will consider using flocculants as needed to comply with the new turbidity limits.

Illinois Department of Transportation (IDOT)

IDOT is 'on the fast track' to revise the construction stormwater program, as they recently learned that compliance with EPA ELGs will be required starting in August 2010. IDOT believes compliance with the ELGs will be challenging, since Illinois has a substantial amount of silts and clays in most areas.

Many details of the program implementation need to be developed:

- The definition of 'representative' site effluent samples
- Options to complete monitoring, i.e., grab samples; remote monitoring
- Determining whether all discharge points from the site need to be monitored

One compliance strategy under consideration is to extend the length of the construction contract to reduce the amount of acreage open at any one time to less than ten acres, the lower area threshold for ELG compliance.

North Carolina Department of Transportation (NCDOT)

The North Carolina Department of Transportation complies with NPDES construction activity requirements through the Department's Statewide NPDES Stormwater Permit. NCDOT construction activities are required to meet applicable requirements of the North Carolina Division of Water Quality (DWQ) NCG010000 general permit for construction activities, which was renewed by EPA on December 29, 2009 and expires August 2, 2011. At this time, the new EPA Effluent Guideline Requirements will be incorporated.

NCDOT is proactively preparing for the requirements of the ELGs for both secondary and primary road projects. The focus is to minimize disturbed areas and use passive treatment systems to minimize turbidity in discharges. NCDOT continues to explore effective methods for application of polyacrylamides to construction site runoff and is currently tracking the number of disturbed acres on construction projects to evaluate when effluent monitoring may be required. NCDOT will continue to work closely with North Carolina State University to develop effective methods to control sediment and reduce turbidity. NCDOT anticipates that the ELGs will present challenges with site monitoring and for projects that are above the 20/10 acre threshold.

NCDOT has partnered with North Carolina State University (NCSU) to offer an Erosion and Sediment Control/Stormwater certification program. The program was developed to ensure compliance with erosion and sediment control, as well as storm water provisions on NCDOT projects. It provides comprehensive training on three levels. Currently, over 5,000 contractors, consultants, and transportation engineering technicians and engineers have completed the Certificate Program.

During fall 2009, NCDOT conducted multiple webinars to over 100 contractors and consultants, as well as trained approximately 700 DOT employees on the NPDES monitoring requirements. Additionally, NCDOT has been training state personnel and contractors on the use of wattles and polyacrylamides since 2008.

NCDOT and DWQ discussed the results of various research projects initiated by NCDOT. US 70 Clayton Bypass, US 1 Moore County, and the US 19 Madison/Yancey Counties' projects focused on sampling and monitoring of sediment and turbidity from large construction projects impacting streams. Automated equipment was used to collect samples on a selected time interval. Other studies, such as I-485 Charlotte, determined the effectiveness of ground covers and erosion and sediment control BMPs. Sediment capture, efficiency, and turbidity reduction were some of the parameters that were determined for specific BMPs. DWQ is reviewing the research to aid in determining appropriate guidelines for site sampling and monitoring.

New York State Department of Transportation (NYSDOT)

- New York State Department of Environmental Conservation (NYSDEC) issued its General Construction permit on January 29, 2010. Since the permit was issued before February 2010, it will not have to be reopened to include the new EPA ELGs until 2015, although NYSDEC expects to issue a permit modification in 2011 to address the new ELGs.

The DOT uses a state manual for standards for erosion and sediment control. The DOT will work with the state to update the guidance manual to be consistent with the requirements of the EPA ELGs.

- The use of monitoring equipment in the field to measure turbidity to satisfy stormwater permitting requirements is currently not allowed. Legislation will be required to change existing New York Environmental Conservation Law to permit on-site, real-time analysis.
- Some of the tasks the DOT will be working on in anticipation of implementing the EPA ELGs include:
 - a. NYSDOT will work with the state on developing a sampling and monitoring guidance protocol.
 - b. Increase the number of polymers on the approved materials list.

Oregon Department of Transportation (ODOT)

- ODOT is unsure what areas of the state may have issues in complying with the new turbidity limit, and may begin a construction site effluent monitoring program to determine locations in the state where discharges could routinely exceed the guidelines. Generally characterizing areas of the state to determine the scope of potential compliance problems is a good first step to assess the resources that will be required to meet the new ELGs.
- Oregon is currently focused on the impacts to receiving waters (for compliance with the current state Construction Permit), but it is likely they will have to sample both runoff from projects and receiving waters in the future in response to the ELGs.
- The state General Construction Permit expired five years ago, but it has been administratively extended. It is unknown when the permit will be reissued, but will

have to include the EPA ELGs when it is. ODOT is beginning to prepare for the new permit conditions by:

- a. Training inspectors on turbidity monitoring techniques
- b. Will be forming a task force within ODOT to further recommend changes to the existing construction stormwater program
- c. Will be setting up a program to monitor various locations around the state to understand potential ELG compliance issues.

Texas Department of Transportation (TxDOT)

Monitoring construction site compliance is new for TxDOT, since they currently have no NELs. They are considering studying construction site runoff to develop background information to assist the DOT and the state regulatory agency in determining appropriate guidelines for monitoring frequency and location.

Virginia Department of Transportation (VDOT)

The Virginia state Construction General Permit was renewed last year (2009) and will not be required to include the EPA ELGs until 2014. The DOT will be tracking the permit re-issuance process and will be developing guidelines as the draft permit is developed.

Washington Department of Transportation (WSDOT)

- The current state construction stormwater general permit (CSGP) has benchmarks of 25 and 250 NTU. Exceeding the benchmarks is not a violation of the permit, but requires response actions. If a discharge exceeds 25 NTU, site BMPs must be enhanced to improve performance with the objective of reducing effluent turbidity to below the benchmark level. If 250 NTU is exceeded, reporting requirements are also triggered. WSDOT noted that anionic polyacrylamide (PAM) and other enhancements/additives such as chitosan filtration have been effective in difficult site conditions to help comply with the numeric targets in the current permit.
- WSDOT outlined the current monitoring program for construction sites. Sites are monitored by DOT staff (about 50 sites annually). Sites that disturb one acre or more trigger coverage under the CSGP and must be monitored weekly. Discharge Monitoring Reports have to be submitted monthly, even if there is no rain event discharge.
- WSDOT does not anticipate a major program shift to comply with the new ELGs, since the current permit requirements are similar.
- The current state CSGP expires December 16, 2010. The state water quality regulatory agency plans to form a stakeholder group of permittees to provide guidance to develop the content of the reissued permit. The stakeholder process will also guide the incorporation of the EPA ELGs into the General Construction Permit.

- One of the primary decisions that the stakeholder group will discuss is the use of an area limit for ELG application (ten acres or larger). The stakeholder group will also discuss the definition of 'representative samples,' including the number of sampling points per project and sampling techniques.
- Washington DOT has used active treatment systems (ATS) to treat difficult site conditions related to fine grain soils. The system is expensive but works well and reduces turbidity below 25 NTU, the lower benchmark in the current permit.

FHWA

- NCHRP is currently accepting synthesis topics. A potential topic is to investigate construction site monitoring requirements nationally. Parameters could include frequency, location, and methods of adequately 'characterizing' runoff from a construction site.
- EPA is working with FHWA on updating the National Highway Institute training course on the Design and Implementation of Erosion and Sediment Control to include information and guidance on the NEL.

SUGGESTED RESEARCH AND FUTURE TOPICS

Following are research and data needs and topic focus areas suggested during the CoP conference call for future discussion as a part of the CoP. Additional topics and research ideas related to ELGs issues are listed in no particular order of priority.

Barriers to compliance:

- There are concerns with how monitoring would be conducted for highway construction due to the large number of outfalls and many locations with run-on and sheet flow runoff. The EPA rule states that monitoring for ELGs will need to comply with the states' regulators' requirements.
- Many DOTs have concerns about meeting the 280 NTUs effluent limit, especially in the eastern states, where clays and fines are predominant and difficult to treat. Research into low-cost site controls that will meet the new numeric limit is needed.
- There are concerns about the use of polymers, chitosan, chemical treatment, and dosing. For many states, these coagulants are not approved or are available in the DOT BMP toolbox. The EPA is working on a fact sheet regarding polymers and proper dosing.
- There are concerns about toxicity effects from the use of chemical dosing. It was noted that, if applied correctly with proper dosing and training, toxicity should not be a concern. A seminar could be provided to present an overview to the DOTs on the use of polymers in DOT construction sites.
- Additional investigation is needed to determine who should sample effluent quality at DOT construction sites. The contractor or other private consultant may have a

conflict of interest if they are contractually liable for the performance of the construction site erosion and sediment control measures, or have developed the stormwater pollution prevention plan (SWPPP).

ELG Implementation

- Delegated states will need to update their state General Construction Permits before the new ELGs can take effect. EPA will also need to update the federal General Construction Permit.
- DOTs should work with their state regulatory agency on administrative items that will be helpful for DOTs (e.g., grandfathering for DOT projects to allow time to update project delivery guidance, monitoring limited to business hours, reporting requirements, etc.).

Active Treatment System Experience

Some of the DOTs have experience in the use of ATS on construction sites. For more information, the DOTs listed below can be contacted directly.

Washington DOT – Has implemented ATS systems on roadway construction projects. Effluent quality can easily achieve 25 NTU, the benchmark required in the state. The systems are expensive to install and operate.

New York State DOT – Has implemented an ATS system in upstate New York on a new roadway construction project. The system uses chitosan injection and can produce effluent quality of about 1 NTU. The system is expensive to install and operate. Operation costs are between \$115,000 and \$200,000 per month.

Maryland State Highway Administration (SHA) – Has implemented an ATS system for work on an inter-county collector project at a cost of about \$15,000 per month. The system is producing effluent quality at about 50 NTU. The SHA is using post-development parcels during construction for runoff storage and operation of the ATS.

ACRONYMS AND ABBREVIATIONS

The following acronyms and abbreviations are used in this report:

AASHTO	American Association of Highway and Transportation Officials
BAT	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
BMP	Best Management Practice
C&D	Construction and Development
Caltrans	California Department of Transportation
CGP	Construction General Permit
CoP	Community of Practice
CWA	Clean Water Act
DelDOT	Delaware Department of Transportation
DNREC	Department of Natural Resources and Environmental Control
DOT	Department of Transportation
ECS	Erosion Control Supervisor
ELGs	Effluent Limitations Guidelines
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
NCDOT	North Carolina Department of Transportation
NCSU	North Carolina State University
NEL	Numeric Effluent Limitation
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards
NTU	Nephelometric Turbidity Units
NYS DOT	New York State Department of Transportation
ODOT	Oregon Department of Transportation
SHA	State Highway Administration
SWPPP	Stormwater Pollution Prevention Plan
WSDOT	Washington State Department of Transportation

RESOURCES

- Center for Environmental Excellence by AASHTO: <http://environment.transportation.org>
- Developing and Implementing a Stormwater Management Program in a Transportation Agency Practitioner Handbook and Webinar: http://environment.transportation.org/center/products_programs/webinar_handbook_13.aspx
- EPA Effluent Limitations Guidelines and New Source Performance Standards (NSPS) to control the discharge of pollutants from construction sites and supporting documents and fact sheets: <http://www.epa.gov/guide/construction>
- NCSU Soil Sciences: <http://www.soil.ncsu.edu>
- Stormwater and Erosion Control: <http://www.soil.ncsu.edu/programs/stormwater>

Appendix A US EPA ELG Summary and Implementation Guide

EPA's Final Rule on Effluent Limitations Guidelines (ELGs) for Construction and Development Projects, Released November 23, 2009

ELG Paragraph Reference	Suggested Investigation for DOT program
Subpart B Construction and Development Effluent Guidelines	
§ 450.21 ELs reflecting BPT	
(a) <i>Erosion and Sediment Controls (ESCs)</i> -- Design, install and maintain effective ESCs to minimize discharge of pollutants. At a minimum, design, install and maintain controls to:	
(1) Control stormwater volume and velocity within site to minimize soil erosion	Provide volume reduction BMPs
(2) Control stormwater discharges, including both peak flowrates and total stormwater volume, to minimize erosion at outlets and minimize downstream channel and streambank erosion	Provide volume reduction BMPs
(3) Minimize amount of soil exposed during construction activity	No change
(4) Minimize steep slope disturbance	No change
(5) Minimize sediment discharges from site. Design, installation and maintenance of ESCs must address precipitation amount, frequency, intensity and duration, resulting stormwater runoff nature, and soil characteristics, including range of soil particle sizes expected	Refine BMP design procedure to include assessment of storm and site characteristics using shear stress principles
(6) Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration, unless infeasible	Infiltration BMPs
(7) Minimize soil compaction and, unless infeasible, preserve topsoil	BMP to preserve topsoil
(b) <i>Soil Stabilization</i> -- Initiate disturbed area stabilization, at minimum, immediately whenever permanently stopping clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of site or temporarily stopping on any portion of site and not resuming for longer than 14 days. Permitting authority determines period to complete stabilization. In arid, semiarid, and drought-stricken areas where infeasible to immediately initiate vegetative stabilization measures, employ alternative stabilization measures per permitting authority.	Provide list of approved binders and guidance for application
(c) <i>Dewatering</i> -- Dewatering activity discharges, including trenches and excavations, are prohibited unless managed by appropriate controls	BMPs for dewatering of stranded stormwater

ELG Paragraph Reference	Suggested Investigation for DOT program
(d) <i>Pollution Prevention Measures</i> -- Design, install, implement, and maintain effective pollution prevention measures to minimize pollutant discharge. At a minimum, design, install, implement, and maintain such measures to:	
(1) Minimize pollutant discharge from equipment and vehicle washing, wheel wash water, and other wash waters. Treat wash waters in sediment basin or alternative control providing equivalent or better treatment before discharge.	Eliminate non-stormwater discharge
(2) Minimize exposing building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other site materials to precipitation and stormwater.	Require cover of all potential pollutants from materials not in final constructed form
(3) Minimize pollutant discharge from spills and leaks and implement chemical spill and leak prevention and response procedures.	No change
(e) <i>Prohibited Discharges</i> :	
(1) Concrete washout wastewater unless managed by appropriate control	Washouts must be water-tight
(2) Wastewater from washout/cleanout of stucco, paint, oils, curing compounds and other construction materials	No change
(3) Fuels, oils, or other pollutants used in vehicle and equipment O&M	No change
(4) Soaps or solvents used in vehicle and equipment washing	No change
(f) <i>Surface Outlets</i> -- When discharging from basins and impoundments, utilize outlet structures that withdraw water from surface, unless infeasible.	BMP fact sheet updated to include use of skimmer outlet. See: http://www.soil.ncsu.edu/publications/Soilfacts/A_G439-65W.pdf
§ 450.22 ELs reflecting BAT	
(a) Beginning no later than [date to be inserted 20 months after published in Federal Register] during construction activity that disturbs 20+ acres of land at one time, including non-contiguous land disturbances that take place at same time and are part of larger common plan of development or sale; and no later than [date to be inserted 4 years and 2 months after published in Federal Register] during construction activity that disturbs 10+ acres of land area at one time, including non-contiguous land disturbances that take place at same time and are part of larger common plan of development or sale, the following requirements apply:	
(1) Except as provided by paragraph (b) of this section, average turbidity of any discharge for any day must not exceed Daily Maximum Value (NTU) 280.	Develop program for achieving turbidity limits for local conditions. Combination of erosion and sediment control. Will require the use of binders prior to rain event, and passive application of coagulants.

ELG Paragraph Reference	Suggested Investigation for DOT program
(2) Conduct monitoring consistent with permitting authority's established requirements - - Analyze each sample for turbidity per methods specified by permitting authority.	Obtain turbidity meters and train staff on use.
(b) If stormwater discharges in any day occur as result of storm event in that same day that is larger than local 2-year, 24-hour storm, EL in paragraph (a)(1) of this section does not apply for that day.	
(c) <i>Erosion and Sediment Controls</i> -- Limitations are described at § 450.21(a).	
(d) <i>Soil Stabilization</i> -- Limitations are described at § 450.21(b).	
(e) <i>Dewatering</i> -- Limitations are described at § 450.21(c).	
(f) <i>Pollution Prevention Measures</i> -- Limitations are described at § 450.21(d).	
(g) <i>Prohibited Discharges</i> -- Limitations are described at § 450.21(e).	
(h) <i>Surface Outlets</i> -- Limitations are described at § 450.21(f).	
§ 450.23 ELs reflecting best conventional pollutant control technology (BCT)	
Except as provided in 40 CFR 125.30--125.32, any point source subject to this subpart must achieve, at minimum, the following ELs representing degree of effluent reduction attainable by application of BCT.	
§ 450.24 New source performance standards reflecting best available demonstrated control technology (NSPS)	
Any new source subject to this subpart must achieve, at minimum, the following new source performance standards representing degree of effluent reduction attainable by application of NSPS: Standards described at § 450.22.	

Text of New Rule

<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&rgn=div5&view=text&node=40:29.0.1.1.23&idno=40>

PART 450--CONSTRUCTION AND DEVELOPMENT POINT SOURCE CATEGORY

Subpart A--General Provisions

Sec.

450.10 Applicability.

450.11 General definitions.

Subpart B--Construction and Development Effluent Guidelines

450.21 Effluent limitations reflecting the best practicable technology currently available (BPT).

450.22 Effluent limitations reflecting the best available technology economically achievable (BAT).

450.23 Effluent limitations reflecting the best conventional pollutant control technology (BCT).

450.24 New source performance standards reflecting the best available demonstrated control technology (NSPS).

Authority: 42 U.S.C 101, 301, 304, 306, 308, 401, 402, 501 and 510.

Subpart A--General Provisions

Sec. 450.10 Applicability.

(a) This part applies to discharges associated with construction activity required to obtain NPDES permit coverage pursuant to 40 CFR 122.26(b)(14)(x) and (b)(15).

(b) The provisions of Sec. 450.22(a) do not apply to discharges associated with interstate natural gas pipeline construction activity.

(c) The New Source Performance Standards at Sec. 450.24 apply to all new sources and are effective February 1, 2010.

(d) The BPT, BCT and BAT effluent limitations at Sec. 450.21 through 450.23 apply to all sources not otherwise covered by paragraph (c) of this section and are effective February 1, 2010.

Sec. 450.11 General definitions.

(a) New Source. New source means any source, whose discharges are defined in 40 CFR 122.26(b)(14)(x) and (b)(15), that commences construction activity after the effective date of this rule.

(b) [Reserved]

Subpart B--Construction and Development Effluent Guidelines

Sec. 450.21 Effluent limitations reflecting the best practicable technology currently available (BPT).

Except as provided in 40 CFR 125.30 through 125.32, any point source subject to this subpart must achieve, at a minimum, the following effluent limitations representing the degree of effluent reduction attainable by application of the best practicable control technology currently available (BPT).

(a) Erosion and Sediment Controls. Design, install and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants. At a minimum, such controls must be designed, installed and maintained to:

(1) Control stormwater volume and velocity within the site to minimize soil erosion;

(2) Control stormwater discharges, including both peak flowrates and total stormwater volume, to minimize erosion at outlets and to minimize downstream channel and streambank erosion;

(3) Minimize the amount of soil exposed during construction activity;

(4) Minimize the disturbance of steep slopes;

(5) Minimize sediment discharges from the site. The design, installation and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site;

(6) Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration, unless infeasible; and

(7) Minimize soil compaction and, unless infeasible, preserve topsoil.

(b) Soil Stabilization. Stabilization of disturbed areas must, at a minimum, be initiated immediately whenever any clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. Stabilization must be completed within a period of time determined by the permitting authority. In arid, semiarid, and drought-stricken areas where initiating vegetative stabilization measures immediately is infeasible, alternative stabilization measures must be employed as specified by the permitting authority.

(c) Dewatering. Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are prohibited unless managed by appropriate controls.

(d) Pollution Prevention Measures. Design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented and maintained to:

(1) Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides

equivalent or better treatment prior to discharge;

(2) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to stormwater; and

(3) Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

(e) Prohibited Discharges. The following discharges are prohibited:

(1) Wastewater from washout of concrete, unless managed by an appropriate control;

(2) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

(3) Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and

(4) Soaps or solvents used in vehicle and equipment washing.

(f) Surface Outlets. When discharging from basins and impoundments, utilize outlet structures that withdraw water from the surface, unless infeasible.

Sec. 450.22 Effluent limitations reflecting the best available technology economically achievable (BAT).

Except as provided in 40 CFR 125.30 through 125.32, any point source subject to this subpart must achieve, at a

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minimum, the following effluent limitations representing the degree of effluent reduction attainable by application of the best available technology economically achievable (BAT).

(a) Beginning no later than August 2, 2010 during construction activity that disturbs 20 or more acres of land 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; and no later than February 2, 2014 during construction activity that disturbs ten or more acres of land area 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, the following requirements apply:

(1) Except as provided by paragraph (b) of this section, the average turbidity of any discharge for any day must not exceed the value listed in the following table:

Pollutant	Daily maximum value (NTU)\1\
Turbidity.....	280

\1\ Nephelometric turbidity units.

(2) Conduct monitoring consistent with requirements established by the permitting authority. Each sample must be analyzed for turbidity in accordance with methods specified by the permitting authority.

(b) If stormwater discharges in any day occur as a result of a storm event in that same day that is larger than the local 2-year, 24-hour storm, the effluent limitation in paragraph (a)(1) of this section does not apply for that day.

(c) Erosion and Sediment Controls. The limitations are described at Sec. 450.21(a).

(d) Soil Stabilization. The limitations are described at Sec. 450.21(b).

(e) Dewatering. The limitations are described at Sec. 450.21(c).

(f) Pollution Prevention Measures. The limitations are described at Sec. 450.21(d).

(g) Prohibited Discharges. The limitations are described at Sec. 450.21(e).

(h) Surface Outlets. The limitations are described at Sec. 450.21(f).

Sec. 450.23 Effluent limitations reflecting the best conventional pollutant control technology (BCT).

Except as provided in 40 CFR 125.30 through 125.32, any point source subject to this subpart must achieve, at a minimum, the following effluent limitations representing the degree of effluent reduction attainable by application of the best conventional pollutant control technology (BCT). The effluent limitations are described at Sec. 450.21.

Sec. 450.24 New source performance standards reflecting the best available demonstrated control technology (NSPS).

Any new source subject to this subpart must achieve, at a minimum, the following new source performance standards representing the degree of effluent reduction attainable by application of the best available demonstrated control technology (NSPS): The standards are described at Sec. 450.22.

Appendix B
Status of State General Construction Permits – Summary of Expiration Dates

State	Permit Expiration Year
South Dakota, Maine, Alabama, Michigan, Indiana, North Dakota, Pennsylvania, North Carolina	2009 or already expired
Connecticut, New York, Tennessee, Oregon, Washington	2010
Delaware, Wyoming, South Carolina, Vermont, Wisconsin, Arkansas, Kansas, Montana, New Hampshire, New Mexico, Idaho, Massachusetts	2011
Missouri, New Jersey, Colorado, Oklahoma, Nevada, Iowa, Hawaii, West Virginia, Nebraska	2012
Arizona, Ohio, Texas, Utah, Georgia, Illinois, Minnesota, Rhode Island, Maryland	2013
Florida, Kentucky, Virginia, California, Louisiana	2014