

CHAPTER THREE

DESCRIPTION OF THE REGULATORY OPTIONS

Chapter One provided a summary of the Phase I and Phase II National Pollutant Discharge Elimination System (NPDES) Stormwater Regulations and the Construction General Permit (CGP) for the construction industry. This chapter describes the effluent limitation guidelines and standards (ELGS) program (Section 3.1), recaps the existing requirements under the CGP (Section 3.2), and presents EPA’s options that are considered for the Final Action (Section 3.3).

3.1 EFFLUENT LIMITATION GUIDELINES AND STANDARDS

The Federal Water Pollution Control Act, passed in 1972 (CWA, 33 U.S.C. §1251 *et seq.*), established a comprehensive program to “restore and maintain the chemical, physical, and biological integrity of the Nation's waters” (§101(a)), often referred to as “fishable, swimmable” status. The statute was amended in 1987 to provide for a program to address stormwater discharges. In addition, under sections 301, 304, 306, and 307 of the Clean Water Act (CWA), EPA is authorized to establish ELGs and pretreatment standards for industrial dischargers. EPA is authorized to publish the following standards:

- ***Best Practicable Control Technology Currently Available (BPT)***. These rules apply to direct dischargers. Generally, BPT limitations are based on the average of the best existing performances by plants of various sizes, ages, and unit processes within a point source category or subcategory.
- ***Best Available Technology Economically Achievable (BAT)***. These rules apply to direct discharges of toxic and nonconventional¹ pollutants.

¹ Toxic pollutants are listed in Table 1 of U.S.C 1317 section 307(a)(1) and currently include 64 pollutants and their organic and inorganic compounds. This list includes arsenic, DDT, lead, and mercury. Nonconventional pollutants are any pollutants that are not statutorily listed (not covered by the list of toxic or conventional pollutants) or which are poorly understood by the scientific community.

- **Best Conventional Pollutant Control Technology (BCT).** These rules apply to direct discharges of conventional pollutants.² BCT limitations are generally established using a two-part cost-reasonableness test. BCT replaces BAT for control of conventional pollutants.
- **Pretreatment Standards for Existing Sources (PSES).** PSES are analogous to BAT controls. These rules apply to existing indirect dischargers (i.e., dischargers to publicly owned treatment works (POTWs)).
- **New Source Performance Standards (NSPS).** These rules apply to discharges of all pollutants from new sources.
- **Pretreatment Standards for New Sources (PSNS).** PSNS are analogous to NSPS controls. These rules apply to new indirect dischargers (i.e., dischargers to POTWs).

Under the ELGs analyzed in this EA, EPA considered BAT, BPT, BCT, and NSPS guidelines and standards for erosion and sediment control (ESC) during the active construction phase.

3.2 REQUIREMENTS UNDER THE EXISTING CONSTRUCTION GENERAL PERMIT

EPA's CGP, published in 1992, replaced in 1998, and replaced again in July 2003, directs NPDES permittees to prepare a stormwater pollution prevention plan (SWPPP) for certain construction activities. The CGP also calls for installation of temporary sediment basins for construction sites with disturbed area of 10 acres or more. For projects disturbing less land, no specific ESCs are required. A description of ESCs is to be contained in the SWPPP. The CGP requires the SWPPP to contain a description of all post-construction stormwater management measures that will be installed during the construction process to control pollutants in stormwater discharges after construction operations have been completed, but no specific measures are required. As with ESCs, selected best management practices (BMPs) are to be described in the SWPPP. The latest revision of the CGP expands the scope of the permit to cover sites of 1 acre or more (the Phase II sites). See Chapter One for more information on the recently revised CGP.

² Conventional pollutants include biochemical oxygen demand (BOD), total suspended solids (TSS), fecal coliform, pH, and oil and grease.

3.3 SUMMARY OF REGULATORY OPTIONS/TECHNOLOGY ALTERNATIVES

EPA presents the analyses of four regulatory options in this EA:

- Option 1, which requires enhanced inspection and BMP certification for all construction sites where 1 acre of land or more is disturbed;
- Option 2, which provides for codification of the CGP with enhanced inspection and BMP certification for all construction sites where 5 acres of land or more are disturbed;
- Option 3, which is a no-rule option; and
- Option 4, a modified Option 2, which provides for codification of the CGP and applies to all sites where 5 acres of land or more are disturbed, but does not require enhanced inspection and BMP certification.

EPA has defined the baseline for the Final Action as full compliance with the current Phase I and Phase II NPDES stormwater regulations (see Chapter One). EPA also assumes full compliance with applicable state regulations (See Chapter Four, Section 4.1.2 for a discussion of EPA’s state regulation equivalency analysis). Table 3-1 summarizes the regulatory options under this baseline. Throughout the analysis presented in this report, EPA treats the baseline as “Option 3.” This table also provides a crosswalk between current options, proposed options, and the options as they are labeled in certain final ELG option selection materials that are found in the Rulemaking Record.

EPA’s choice of option for the Final Action is discussed in the Preamble to the Final Action. All four options (Options 1, 2, 3, and 4) are discussed in this report as equally possible choices for EPA’s Final Action.

3.3.1 Option 1

Option 1 is designed to amend the section of the Code of Federal Regulations (CFR) covering NPDES permitting, 40 CFR Part 122, adding a new paragraph (t) entitled *Inspection and Certification for Construction Site Stormwater Discharges* to § 122.44. These provisions are unchanged from proposal and are designed to include:

Table 3-1. Summary of Regulatory Options Considered for the Final Action

Option	Description	Regulatory Mechanism	Applicability	Option at Proposal	Option Label in EPA Briefing Materials
Option 1	Enhanced inspection and BMP certification	Amendment to NPDES stormwater permitting regulations	Sites of 1 acre or more	Option 1 (unchanged)	NA
Option 2	Provisions to codify the CGP with enhanced inspection and BMP certification requirements	ELGs	Sites of 5 acres or more	Option 2 (unchanged)	Option B
Option 3	No regulation (baseline)	N/A	All sites	Option 3 (unchanged)	Option C
Option 4	Provisions to codify the CGP	ELGs	Sites of 5 acres or more	NA	Option A

- (a) Site log book. The permittee for a point source discharge under § 122.26(b)(14)(x) or § 122.26(b)(15) shall maintain a record of site activities in a site log book. The site log book shall be maintained as follows:
- (i) A copy of the site log book shall be maintained on site and be made available to the permitting authority upon request;
 - (ii) In the site log book, the permittee shall certify, prior to the commencement of construction activities, that any plans required by the permit meet all Federal, State, Tribal and local erosion and sediment control requirements and are available to the permitting authority;
 - (iii) The permittee shall have a qualified professional (knowledgeable in the principles and practices of erosion and sediment controls, such as a licensed professional engineer, or other knowledgeable person) conduct an assessment of the site prior to groundbreaking and certify in the log book that the appropriate best management practices (BMPs) described in plans required by the permit have been adequately designed, sized and installed to ensure overall preparedness of the site for initiation of groundbreaking activities. The permittee shall record the date of initial groundbreaking in the site log book. The permittee shall also certify that any inspection, stabilization and BMP maintenance requirements of the permit have been satisfied within 48 hours of actually meeting such requirements; and

- (iv) The permittee shall post at the site, in a publicly-accessible location, a summary of the site inspection activities on a monthly basis;
- (b) Site Inspections. The permittee or designated agent of the permittee (such as a consultant, subcontractor, or third-party inspection firm) shall conduct regular inspections of the site and record the results of such inspection in the site log book in accordance with paragraph (t)(1) of this section.
 - (i) After initial groundbreaking, permittees shall conduct site inspections at least every 14 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater. These inspections shall be conducted by a qualified professional. During each inspection, the permittee or designated agent shall record the following information:
 - (A) Indicate on a site map the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14 days;
 - (B) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;
 - (C) Indicate all disturbed site areas that have not undergone active site work during the previous 14 days;
 - (D) Inspect all sediment control practices and note the approximate degree of sediment accumulation as a percentage of the sediment storage volume (for example 10 percent, 20 percent, 50 percent, etc.). Note all sediment control practices in the site log book that have sediment accumulation of 50 percent or more; and
 - (E) Inspect all erosion and sediment control BMPs and note compliance with any maintenance requirements such as verifying the integrity of barrier or diversion systems (e.g., earthen berms or silt fencing) and containment systems (e.g., sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document in the site log book any excessive deposition of sediment or ponding water along barrier or diversion systems. Note the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water.
 - (ii) Prior to filing of the Notice of Termination or the end of permit term, a final site erosion and sediment control inspection shall be conducted by the permittee or designated agent. The inspector shall certify that the site has undergone final stabilization as required by the permit and that all temporary erosion and

sediment controls (such as silt fencing) not needed for long-term erosion control have been removed.

Option 1 is also designed to amend §122.44(i)(4) to *exclude* construction activities from requirements for monitoring of stormwater discharges.

Option 1 is designed to apply to sites where 1 acre of land or more is disturbed.

3.3.2 Option 2

Option 2 is designed to add a new section to the ELGs section of the CFR (i.e., Part 450—Construction and Development Point Source Category). Option 2 remains unchanged from proposal. This section is intended to essentially codify in the CFR the provisions of the CGP (see Section 3.2) and, in addition, is intended to add the provisions for inspection and certification introduced under Option 1 (Section 3.3.1). Option 2 is designed to amend 40 CFR 122(i)(3) to specify that discharges from construction activity are instead governed by Part 450.

40 CFR Part 450, Subpart A describes applicability and provides definitions. Subpart B is intended to establish the ESC requirements based on application of BPT, BAT, BCT, and NSPS.

Under Option 2, Part 450 is intended to apply to C&D activities subject to an NPDES permit under the definition of “construction activity” at 40 CFR 122.26(b)(14)(x). Section 450.11 establishes some general definitions for the following terms: BMPs, commencement of construction, final stabilization, groundbreaking, new source, operator, perimeter controls, qualified professional, runoff coefficient, and stabilization.

Section 450.21 is designed to establish effluent limitations reflecting BPT, as follows:³

³ Parts 450.22, 450.23, and 450.24 would establish identical requirements for BAT, BCT, and NSPS, respectively.

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BPT. Permittees with operational control of construction plans and specification, including the ability to make modifications to those plans and specifications (e.g., developer or owner), must ensure the project specifications that they develop meet the minimum requirements of a SWPPP, which are listed in § 450.21(d):

- (a) General Erosion and Sediment Controls. Each SWPPP shall include a description of appropriate controls designed to retain sediment on site to the extent practicable. These general erosion and sediment controls shall be included in the SWPPP developed pursuant to paragraph (d) of this section. The SWPPP must include a description of interim and permanent stabilization practices for the site, including a schedule of when the practices will be implemented. Stabilization practices may include:
 - (1) Establishment of temporary or permanent vegetation;
 - (2) Mulching, geotextiles, or sod stabilization;
 - (3) Vegetative buffer strips;
 - (4) Protection of trees and preservation of mature vegetation.

- (b) Sediment Controls. The SWPPP must include a description of structural practices to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable.
 - (1) For common drainage locations that serve an area with 10 or more acres disturbed at one time, a temporary (or permanent) sediment basin that provides storage for a calculated volume of runoff from a 2 year, 24-hour storm from each disturbed acre drained, or equivalent control measures, shall be provided where attainable until final stabilization of the site. Where no such calculation has been performed, a temporary (or permanent) sediment basin providing 3,600 cubic feet of storage per acre drained, or equivalent control measures, shall be provided where attainable until final stabilization of the site. When computing the number of acres draining into a common location it is not necessary to include flows from off-site areas and flows from on-site areas that are either undisturbed or have undergone final stabilization where such flows are diverted around both the disturbed area and the sediment basin.
 - (2) In determining whether a sediment basin is attainable, the operator may consider factors such as site soils, slope, available area on site, etc. In any event, the operator must consider public safety, especially as it relates to children, as a

design factor for the sediment basin, and alternative sediment controls shall be used where site limitations would preclude a safe basin design.

- (3) For portions of the site that drain to a common location and have a total contributing drainage area of less than 10 disturbed acres, the operator should use smaller sediment basins and/or sediment traps.
- (4) Where neither a sediment basin nor equivalent controls are attainable due to site limitations, silt fences, vegetative buffer strips or equivalent sediment controls are required for all down slope boundaries of the construction area and for those side slope boundaries deemed appropriate as dictated by individual site conditions.

(c) Pollution Prevention Measures. The SWPPP shall include the following pollution prevention measures:

- (1) Litter, construction chemicals, and construction debris exposed to stormwater shall be prevented from becoming a pollutant source in stormwater discharges (e.g., screening outfalls, picked up daily); and
- (2) A description of construction and waste materials expected to be stored on-site with updates as appropriate, and a description of controls to reduce pollutants from these materials including storage practices to minimize exposure of the materials to stormwater, and spill prevention and response.

(d) Stormwater Pollution Prevention Plan. Operators subject to this Part shall compile Stormwater Pollution Prevention Plans (SWPPPs) prior to groundbreaking at any construction site. In areas where EPA is not the permit authority, operators may be required to prepare documents that may serve as the functional equivalent of a SWPPP. Such alternate documents will satisfy the requirements for a SWPPP so long as they contain the necessary elements of a SWPPP. A SWPPP shall incorporate the following information:

- (1) A narrative description of the construction activity, including a description of the intended sequence of major activities that disturb soils on the site (major activities include grubbing, excavating, grading, and utilities and infrastructure installation, or any other activity that disturbs soils for major portions of the site);
- (2) A general location map (e.g., portion of a city or county map) and a site map. The site map shall include descriptions of the following:
 - (i) Drainage patterns and approximate slopes anticipated after major grading activities;
 - (ii) The total area of the site and areas of disturbance;

- (iii) Areas that will not be disturbed;
 - (iv) Locations of major structural and nonstructural controls identified in the SWPPP;
 - (v) Locations where stabilization practices are expected to occur;
 - (vi) Locations of off-site material, waste, borrow or equipment storage areas;
 - (vii) Surface waters (including wetlands); and
 - (viii) Locations where stormwater discharges to a surface water;
- (3) A description of available data on soils present at the site
 - (4) A description of BMPs to be used to control pollutants in stormwater discharges during construction as described elsewhere in this section
 - (5) A description of the general timing (or sequence) in relation to the construction schedule when each BMP is to be implemented;
 - (6) An estimate of the pre-development and post-construction runoff coefficients of the site;
 - (7) The name(s) of the receiving water(s);
 - (8) Delineation of SWPPP implementation responsibilities for each site owner or operator;
 - (9) Any existing data that describe the stormwater runoff characteristics at the site.
- (e) Updating the SWPPP. The operator shall amend the SWPPP and corresponding erosion and sediment control BMPs whenever:
- (1) There is a change in design, construction, or maintenance that has a significant effect on the discharge of pollutants to waters of the United States which has not been addressed in the SWPPP; or
 - (2) Inspections or investigations by site operators, local, State, Tribal or Federal officials indicate that the SWPPP is proving ineffective in eliminating or significantly minimizing pollutant discharges.

- (f) Site Log Book/Certification. The operator shall maintain a record of site activities in a site log book, as part of the SWPPP. The site log book shall be maintained as follows:
- (1) A copy of the site log book shall be maintained on site and be made available to the permitting authority upon request;
 - (2) In the site log book, the operator shall certify, prior to the commencement of construction activities, that the SWPPP prepared in accordance with paragraph (d) of this section meets all Federal, State and local erosion and sediment control requirements and is available to the permitting authority;
 - (3) The operator shall have a qualified professional conduct an assessment of the site prior to groundbreaking and certify in the log book that the appropriate BMPs and erosion and sediment controls described in the SWPPP and required by paragraphs (a), (b), (c) and (d) of this section have been adequately designed, sized and installed to ensure overall preparedness of the site for initiation of groundbreaking activities. The operator shall record the date of initial groundbreaking in the site log book. The operator shall also certify that the requirements of paragraphs (g), (h) and (i) of this section have been satisfied within 48 hours of actually meeting such requirements;
 - (4) The operator shall post at the site, in a publicly-accessible location, a summary of the site inspection activities on a monthly basis.
- (g) Site Inspections. The operator or designated agent of the operator (such as a consultant, subcontractor, or third-party inspection firm) shall conduct regular inspections of the site and record the results of such inspection in the site log book in accordance with paragraph (f) of this section.
- (1) After initial groundbreaking, operators shall conduct site inspections at least every 14 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater. These inspections shall be conducted by a qualified professional. During each inspection, the operator or designated agent shall record the following information:
 - (i) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;
 - (ii) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;

- (iii) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;
 - (iv) Inspect all sediment control practices and note the approximate degree of sediment accumulation as a percentage of the sediment storage volume (for example 10 percent, 20 percent, 50 percent, etc.). Record all sediment control practices in the site log book that have sediment accumulation of 50 percent or more; and
 - (v) Inspect all erosion and sediment control BMPs and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document in the site log book any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water.
- (2) Prior to filing of the Notice of Termination or the end of permit term, a final site erosion and sediment control inspection shall be conducted by the operator or designated agent. The inspector shall certify that the site has undergone final stabilization using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed.
- (h) Stabilization. The operator shall initiate stabilization measures as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. This requirement does not apply in the following instances:
- (1) Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions, stabilization measures shall be initiated as soon as practicable;
 - (2) Where construction activity on a portion of the site is temporarily ceased, and earth-disturbing activities will be resumed within 21 days, temporary stabilization measures need not be initiated on that portion of the site.
 - (3) In arid areas (areas with an average annual rainfall of 0 to 10 inches), semi-arid areas (areas with an average annual rainfall of 10 to 20 inches), and areas experiencing droughts where the initiation of stabilization measures by the 14th

day after construction activity has temporarily or permanently ceased is precluded by seasonably arid conditions, the operator shall initiate stabilization measures as soon as practicable.

- (i) Maintenance. Sediment shall be removed from sediment traps or sediment ponds when design capacity has been reduced by 50 percent.

Option 2 is designed to apply to construction sites where 5 acres of land or more are disturbed.

3.3.3 Option 3

Option 3 is the “no regulation” option. Under this option, stormwater runoff from C&D activities continues to be managed in accordance with existing requirements. Where EPA is the permitting authority, this generally means that discharges associated with the construction projects disturbing at least 1 acre will be controlled in accordance with the CGP (or an individual EPA-issued permit, as appropriate). In states that are authorized to conduct their own NPDES programs, the state requirements will continue to apply. Under this option, there are no incremental compliance requirements and, similarly, no incremental compliance costs or benefits.

3.3.4 Option 4

Option 4 is a modification of Option 2 and also applies to sites where 5 acres of land or more are disturbed. As such, it is identical to Option 2 in all particulars, with the exception of the exclusion of the I&S requirements. It modifies the same section of the CFR, with the same intent to codify the provisions of the CGP. The following lists the requirements that apply under Option 4:

- Codify provisions of the EPA CGP
- Prepare a SWPPP prior to groundbreaking
 - Description and schedule of construction activity
 - Site map indicating drainage patterns, area, locations of controls, surface waters, discharge points, BMP descriptions, etc.

- Install sediment basins or equivalent controls for common drainage locations of 10 or more acres, where attainable, designed to store runoff from the 2-year, 24-hour storm or 3,600 ft³/acre
- Install smaller sediment basins and/or sediment traps for common drainage areas of between 5 and 10 acres
- Where neither sediment basins nor equivalent controls are attainable, install other controls such as silt fences or vegetated buffer strips
- Stabilize exposed soil areas within 14 days after construction activity has temporarily or permanently ceased except:
 - Arid and semi-arid areas
 - During droughts or seasonally arid conditions
 - Where precluded by snow and frozen ground
 - Where construction activity will resume within 14 days
- Conduct inspections at least every 7 calendar days OR every 14 days and following 0.5” or greater rainfall except:
 - Once a month if site is temporarily stabilized, during winter, during seasonal arid periods
 - Waiver available until one month before thawing conditions expected if project is located in area with extended frozen conditions and land disturbance has been suspended
- Implement pollution prevention measures to prevent contamination of stormwater with litter, construction chemicals, construction materials and construction debris and waste materials