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# Chapter 8

## Special Conditions

Special conditions in NPDES permits are designed to provide an additional measure of control (beyond numeric effluent limits) for the reduction of discharges of pollutants to waters of the United States. They are not included in the effluent limitations section of a permit because they do not contain specific numeric limits. The purpose of special conditions is to encourage the permittee to undertake activities designed to reduce the overall quantity of pollutants being discharged, or to reduce the potential for discharges of pollutants.

There are many different reasons to incorporate special conditions into a permit including the following:

- To address unique situations, such as facilities discharging pollutants for which data are absent or limited such that derivation of technology- or water quality-based effluent limits (WQBELs) is difficult or impossible
- To incorporate preventative requirements, such as requirements to install process control alarms, containment structures, good housekeeping practices, etc.
- To address foreseeable changes to discharges, such as planned changes to process, products, or raw materials that may affect discharge characteristics
- To incorporate compliance schedules to provide the time necessary to comply with permit conditions

- To incorporate other NPDES Programmatic requirements (e.g., pretreatment, municipal sewage sludge)
- To impose additional monitoring activities that provide the permit writer data to evaluate the need for changes in permit limitations
- To increase or decrease monitoring requirements, depending on the monitoring results or certain changes in processes or products, etc.
- To impose requirements to conduct special studies such as ambient stream surveys, toxicity reduction evaluations (TREs), bioaccumulation studies, sediment studies, mixing or mixing zone studies, pollutant reduction evaluations, or other such information gathering studies.

Section 8.1 of this chapter addresses the general types of special conditions for both municipal and non-municipal facilities. Special conditions for storm water discharges associated with industrial activity are explained in Section 8.2. Finally, special conditions unique to POTW/municipal permits are addressed in Section 8.3.

## 8.1 General Types of Special Conditions

This section discusses several general types of special conditions that could be used in any NPDES permit (i.e., municipal or non-municipal). The special conditions include:

- Special studies/additional monitoring
- Best Management Practices (BMPs)
- Pollution prevention
- Compliance schedules.

### 8.1.1 Special Studies and Additional Monitoring

Special studies and additional monitoring requirements imposed beyond those required under the effluent limits section of the permit are useful for collecting data that was not available to the permit writer for consideration during permit development. Special studies and additional monitoring requirements are generally used to supplement numeric effluent limits or support future permit development activities.

Examples of the types of special studies that could be required in a NPDES permit include:

- **Treatability studies**—Applicable when treatability information is lacking for a pollutant or pollutants that would prohibit a permit writer from developing defensible technology-based effluent limits. Treatability studies can also be required when the permit writer suspects that a facility may not be able to comply with an effluent limit.
- **Toxicity identification evaluation/Toxicity reduction evaluation (TIE/TRE)**—Required for facilities for which wastewater discharges are found to be toxic as a result of a whole effluent toxicity (WET) test. The purpose of these evaluations is to identify and control the sources of toxicity in an effluent. Further guidance related to EPA recommended TIE/TRE procedures and requirements can be found in the following guidance manuals:
  - *Toxicity Reduction Evaluation Protocol for Municipal Wastewater Treatment Plants.*<sup>45</sup>
  - *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs).*<sup>46</sup>
  - *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures. Second Edition.*<sup>47</sup>
  - *Sediment Toxicity Identification Evaluations: Phase I (Characterization), Phase II (Identification), Phase III (Confirmation) Modifications of Effluent Procedures.*<sup>48</sup>
  - *Toxicity Identification Evaluations: Characterization of Chronically Toxic Effluents, Phase I.*<sup>49</sup>

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<sup>45</sup>USEPA (1989). *Toxicity Reduction Evaluation Protocol for Municipal Wastewater Treatment Plants*. EPA-600/4-89-001A. Water Engineering Research Laboratory, Cincinnati, Ohio.

<sup>46</sup>USEPA (1989). *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs)*. EPA-600/2-88-070. Water Engineering Research Laboratory, Cincinnati, Ohio.

<sup>47</sup>USEPA (1991). *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures. Second Edition*. EPA-600/6-91-003. Environmental Research Laboratory, Duluth, Minnesota.

<sup>48</sup>USEPA (1991). *Sediment Toxicity Identification Evaluations: Phase I (Characterization), Phase II (Identification), Phase III (Confirmation) Modifications of Effluent Procedures*. EPA-600/6-91-007. Environmental Research Laboratory, Duluth, Minnesota.

<sup>49</sup>USEPA (1992). *Toxicity Identification Evaluations: Characterization of Chronically Toxic Effluents, Phase I*. EPA-600/6-91-005F. Environmental Research Laboratory, Duluth, Minnesota.

- *Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity.*<sup>50</sup>
- *Methods for Aquatic Toxicity Identification Evaluations: Phase III Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity.*<sup>51</sup>
- **Mixing or mixing zone studies**—Used to assist in determining the allowable ambient mixing that can be applied when developing WQBELs.
- **Sediment monitoring**—Used if a permit writer suspects that pollutants contained in wastewater discharges accumulate in the sediments of the receiving water.
- **Bioconcentration studies**—These biological monitoring studies are used to determine whether pollutants contained in wastewater discharges bioaccumulate in aquatic organisms (e.g., fish, invertebrates). These types of studies are usually recommended when WQBELs for pollutants that bioaccumulate are established below analytical detection levels. Additional guidance related to evaluating the bioaccumulation potential of a pollutant can be found in the EPA *Great Lakes Water Quality Initiative Technical Support Document for the Procedure to Determine Bioaccumulation Factors.*<sup>52</sup>

When establishing special conditions, permit writers must ensure that any particular requirements related to the study (e.g., special sampling or analytical procedures) are specified in the permit condition. In addition, permit writers must establish a reasonable schedule for completion and submission of the study or monitoring program. If the anticipated schedule is longer than 6 months to 1 year, then it is recommended that the permit writer require that the facility provide an interim progress report.

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<sup>50</sup>USEPA (1993). *Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity.* EPA-600/R-92-080. Environmental Research Laboratory, Duluth, Minnesota.

<sup>51</sup>USEPA (1993). *Methods for Aquatic Toxicity Identification Evaluations: Phase III Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity.* EPA-600/R-92-081. Environmental Research Laboratory, Duluth, Minnesota.

<sup>52</sup>USEPA (1995). *Great Lakes Water Quality Initiative Technical Support Document for the Procedure to Determine Bioaccumulation Factors.* EPA-820/B-95-005. Office of Science and Technology.

### 8.1.2 Best Management Practices (BMPs)

In general, BMPs are measures to prevent or mitigate water pollution from sources ancillary to the industrial manufacturing or treatment process. The NPDES regulations, at 40 CFR §122.2, define the term “best management practices” and provide the following measures as examples of BMPs:

- Schedules of activities
- Prohibitions of practices
- Maintenance procedures
- Treatment requirements
- Operating procedures and practices to control
  - Plant site runoff
  - Spillage or leaks
  - Sludge or waste disposal
  - Drainage from raw material storage areas.

The NPDES regulations at 40 CFR §122.44(k) acknowledge that BMPs shall be included as permit conditions (when applicable) where they are authorized under Section 304(e) of the CWA; when numeric effluent limitations are infeasible; or when they are necessary to achieve limitations or carry out the purpose and intent of the CWA. Examples of when numeric effluent limitations are infeasible include:

- Regulating a pollutant for which limited treatability or aquatic impact information are available to allow development of technology-based or water quality-based effluent limits
- Regulating releases when the types of pollutants vary greatly over time.

Other circumstances when BMPs should be imposed as permit conditions include:

- When chemical analyses are inappropriate or impossible
- When a history of leaks and spills exist or when housekeeping is sloppy
- When a complex facility lacks toxic pollutant data
- When other discharge control options are prohibitively expensive.

Permit writers may include BMPs in permits in two basic ways: require the development of a general BMP plan, and/or require site-, process-, or pollutant-

specific BMPs. How BMPs are included as a permit condition, depends on the type of permit being developed. In the case of an individual permit, where a permit writer is developing permit conditions for a particular facility and has the opportunity to review the circumstances of the facility, the development of site- or pollutant-specific BMPs may be appropriate. On the other hand, including site- or pollutant-specific BMPs as conditions in a general permit may not be appropriate since they are highly dependent on the circumstances of individual facilities. As a result, discharges covered under a general permit may be required to develop a general BMP plan that allows the permittee to determine appropriate BMPs based on the circumstances of their particular facility.

The *Guidance Manual for Developing Best Management Practices (BMPs)*<sup>53</sup> describes the activities and materials at an industrial or municipal facility which are best addressed by BMP plans. The manual also describes how BMPs work and gives examples of the types of BMPs that can be used.

If a permit writer uses a general permit requirement for a BMP plan, it is the responsibility of the facility to plan, develop and implement, and reevaluate the success/shortfalls of its own plan. Usually, a BMP committee (group of individuals within the plant organization) is responsible for developing the BMP plan and assisting the plant management in implementing and updating the BMP plan. However, plant management, not the committee, has overall responsibility and accountability for the quality of the BMP plan.

EPA has identified several recommended components for effective BMP plans. The minimum suggested components of a general BMP plan are presented below:

- General Requirements
  - Name and location of facility
  - Statement of BMP policy and objective
  - Review by plant manager
- Specific Requirements
  - BMP committee

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<sup>53</sup>USEPA (1993). *Guidance Manual for Developing Best Management Practices (BMPs)*. EPA 833-B-93-004. Office of Water.

- Risk identification and assessment
- Reporting of BMP incidents
- Materials compatibility
- Good housekeeping
- Preventive maintenance
- Inspections and records
- Security
- Employee training.

Each of these components are discussed in more detail in the *Guidance Manual for Developing Best Management Practices (BMPs)*.<sup>54</sup>

Site-, process-, and pollutant-specific BMPs are designed to address conditions particular to a site, process, or pollutant. The need for specific BMPs at a facility often will be discovered in conjunction with other permit-related activities, such as compliance inspections. Poor housekeeping or a history of spills, for example, indicate a need for specific BMPs to supplement the quantitative effluent limits for specific pollutants in the permit.

To select a specific BMP, the permit writer must:

- Review the industry profiles to determine the industrial processes that apply
- Evaluate whether the BMP would help to achieve the environmental objectives of the industry
- Use industry- or municipal-specific examples from other permits, pollution prevention sources, existing permits for similar processes, or EPA guidance documents.

BMP plans can be submitted for review by the regulatory agency but are usually kept onsite and made available to the permitting authority upon request. The normal compliance schedule is to require preparation of the BMP plan within 6 months, and implementation of the plan within 12 months of permit issuance.

Specific BMPs have been developed for storm water discharges and combined sewer overflows (CSOs) and are discussed in Sections 8.2 and 8.3, respectively.

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<sup>54</sup>USEPA (1993). *Guidance Manual for Developing Best Management Practices (BMPs)*. EPA 833-B-93-004. Office of Water.

**Example:**

The following is example language for requiring development and implementation of a BMP Plan in an NPDES permit. The language should be crafted and changed as necessary to meet the individual facility's needs and State/EPA goals for the facility. The text which is **\*\*redlined\*\*** (i.e., text between asterisks) needs special permit-specific consideration.

**1. Implementation.**

If a BMP Plan does not exist:

The permittee, shall develop and implement a Best Management Practices (BMP) Plan which achieves the objectives and the specific requirements listed below. A copy of the Plan shall be submitted to EPA **\*\*and/or State agency.\*\*** The Plan shall be implemented as soon as possible but no later than twelve months from the effective date of the permit.

If a BMP Plan already exists:

The permittee shall during the term of this permit operate the facility in accordance with the BMP Plan **\*\*cite existing Plan\*\*** or in accordance with subsequent amendments to the Plan. The permittee shall also amend this Plan, to incorporate practices to achieve the objectives and specific requirements listed below, and a copy shall be submitted to EPA **\*\*and/or State agency\*\*** The amended Plan shall be implemented as soon as possible but not later than six months from the effective date of the permit.

**2. Purpose.** Through implementation of the BMP Plan the permittee shall prevent or minimize the generation and the potential for the release of pollutants from the facility to the waters of the United States through normal operations and ancillary activities.**3. Objectives.** The permittee shall develop and amend the BMP Plan consistent with the following objectives for the control of pollutants.

- a. The number and quantity of pollutants and the toxicity of effluent generated, discharged or potentially discharged at the facility shall be minimized by the permittee to the extent feasible by managing each influent waste stream in the most appropriate manner.
- b. Under the BMP Plan, and any Standard Operating Procedures (SOPs) included in the Plan, the permittee shall ensure proper operation and maintenance of the treatment facility.
- c. The permittee shall establish specific objectives for the control of pollutants by conducting the following evaluations.

- (1) Each facility component or system shall be examined for its waste minimization opportunities and its potential for causing a release of significant amounts of pollutants to waters of the United States due to equipment failure, improper operation, and natural phenomena such as rain or snowfall, etc. The examination shall include all normal operations and ancillary activities including material storage areas, plant site runoff, in-plant transfer, process and material handling areas, loading or unloading operations, spillage or leaks, sludge and waste disposal, or drainage from raw material storage. **\*\*note that only the area from the previous list which apply to a facility should be included\*\***
- (2) Where experience indicates a reasonable potential for equipment failure (e.g., a tank overflow or leakage), natural condition (e.g., precipitation), or other circumstances to result in significant amounts of pollutants reaching surface waters, the program should include a prediction of the direction, rate of flow and total quantity of pollutants which could be discharged from the facility as a result of each condition or circumstance.

**Example (continued):**

4. Requirements. The BMP Plan shall be consistent with the objectives in Part 3 above and the general guidance contained in the publication entitled *Guidance Manual for Developing Best Management Practices (BMPs)* (USEPA, 1993) or any subsequent revisions to the guidance document. The BMP Plan shall:
- a. Be documented in narrative form, shall include any necessary plot plans, drawings or maps, and shall be developed in accordance with good engineering practices. The BMP Plan shall be organized and written with the following structure:
    - (1) Name and location of the facility.
    - (2) Statement of BMP policy.
    - (3) Structure, functions, and procedures of the BMP Committee.
    - (4) Specific management practices and standard operating procedures to achieve the above objectives, including, but not limited to, the following:
      - (a) modification of equipment, facilities, technology, processes, and procedures,
      - (b) reformulation or redesign of products,
      - (c) substitution of materials, and
      - (d) improvement in management, inventory control, materials handling or general operational phases of the facility.
    - (5) Risk identification and assessment.
    - (6) Reporting of BMP incidents.
    - (7) Materials compatibility.
    - (8) Good housekeeping.
    - (9) Preventative maintenance.
    - (10) Inspections and records.
    - (11) Security.
    - (12) Employee training.
  - b. Include the following provisions concerning BMP Plan review:
    - (1) Be reviewed by plant engineering staff and the plant manager.
    - (2) Be reviewed and endorsed by the permittee's BMP Committee.
    - (3) Include a statement that the above reviews have been completed and that the BMP Plan fulfills the requirements set forth in this permit. The statement shall be certified by the dated signatures of each BMP Committee member.
  - c. Establish specific best management practices to meet the objectives identified in Part 3 of this section, addressing each component or system capable of generating or causing a release of significant amounts of pollutants, and identifying specific preventative or remedial measures to be implemented.

**Example (continued):**

- d. Establish specific best management practices or other measures which ensure that the following specific requirements are met:
- (1) Ensure proper management of solid and hazardous waste in accordance with regulations promulgated under the Resource Conservation and Recovery Act (RCRA). Management practices required under RCRA regulations shall be referenced in the BMP Plan.
  - (2) Reflect requirements for Spill Prevention, Control, and Countermeasure (SPCC) plans under Section 311 of the Act and 40 CFR Part 112 and may incorporate any part of such plans into the BMP Plan by reference.
  - (3) Reflect requirements for storm water control under Section 402(p) of the Act and the regulations at 40 CFR 122.26 and 122.44, and otherwise eliminate to the extent practicable, contamination of storm water runoff.
  - (4), etc.

**\*\*Section 4.d. needs to be tailored to each facility by the permit writer. Processes or areas of the facility with housekeeping problems, noncompliance, spills/leaks, or other problems which could be remedied through a BMP should be addressed here. If a solution to the problem is known (e.g., more frequent inspections, preventive maintenance, etc.) this remedy should also be included as a part of the BMP Plan requirements. To gather ideas for such requirements, the permit writer may want to contact the permittee, compliance personnel, facility inspectors, operations office personnel, State agency counterparts. The permit writer may also want to check requirements in other permits and BMP Plans for similar facilities.\*\***

5. **Documentation.** The permittee shall maintain a copy of the BMP Plan at the facility and shall make the plan available to EPA **\*\*and/or State agency\*\*** upon request. All offices of the permittee which are required to maintain a copy of the NPDES permit shall also maintain a copy of the BMP Plan.
6. **BMP Plan Modification.** The permittee shall amend the BMP Plan whenever there is a change in the facility or in the operation of the facility which materially increases the generation of pollutants or their release or potential release to the receiving waters. The permittee shall also amend the Plan, as appropriate, when plant operations covered by the BMP Plan change. Any such changes to the BMP Plan shall be consistent with the objectives and specific requirements listed above. All changes in the BMP Plan shall be reported to EPA **\*\*and/or State agency\*\*** in writing.
7. **Modification for Ineffectiveness.** At any time, if the BMP Plan proves to be ineffective in achieving the general objective of preventing and minimizing the generation of pollutants and their release and potential release to the receiving waters and/or the specific requirements above, the permit and/or the BMP Plan shall be subject to modification to incorporate revised BMP requirements.

### 8.1.3 Pollution Prevention

Pollution prevention has been shown to reduce costs as well as pollution risks through source reduction and recycling/reuse techniques. Under Section 6602(b) of the Pollution Prevention Act of 1990, Congress established a national policy for a hierarchy of environmental management:

- Pollution should be prevented or reduced at the source, whenever feasible.
- Pollution that cannot be prevented should be recycled in an environmentally safe manner, whenever feasible.

- Pollution that cannot be prevented or recycled should be treated in an environmentally safe manner, whenever feasible.
- Disposal or other release into the environment should be employed only as a last resort and should be conducted in an environmentally safe manner.

The Pollution Prevention Act emphasizes that pollution prevention means source reduction and defines source reduction as any practice that:

- Reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment, or disposal
- Reduces the threats to public health and the environment associated with the release of hazardous substances, pollutants, or contaminants
- Increases the efficiency of using raw materials, energy, water, or other resources, or protects natural resources by conservation.

The environmental management hierarchy—prevention, recycling, treatment, and disposal—should be viewed as establishing a set of preferences, rather than an absolute judgment that prevention is always the most desirable option. The hierarchy is applied to many different circumstances that require good judgment. Prevention includes what is commonly called in-process recycling. Recycling conducted in an environmentally sound manner shares many of the advantages of prevention (e.g., energy and resource conservation and reduction of the need for end-of-pipe treatment or waste containment).

Within the NPDES Program, BMPs are inherently pollution prevention practices. Traditionally, BMPs have focused on good housekeeping measures and good management techniques that attempt to avoid contact between pollutants and water media as a result of leaks, spills, and improper waste disposal. However, based on the authority granted under the regulations, BMPs may include the universe of pollution prevention, which encompasses production modifications, operational changes, materials substitution, materials and water conservation, and other such measures.

### 8.1.4 Compliance Schedules

The NPDES regulations at 40 CFR §122.47 allow permit writers to include schedules of compliance to allow permittees additional time to achieve compliance with the CWA and applicable regulations. Schedules developed under this provision must require compliance by the permittee as soon as possible, but may not extend the date for final compliance beyond compliance dates established by the Act. Examples of situations where compliance schedules may be appropriate include:

- Pretreatment program development
- Sludge use and disposal program development and/or implementation
- New/revised effluent guidelines application
- New/revised water quality standards application
- BMP plan development and/or implementation
- Storm water, CSO and/or SSO control program development and/or implementation.

While compliance schedules may be appropriate for implementation of certain NPDES Program requirements, they are not appropriate for requirements where statutory deadlines have passed. In particular, compliance schedules are not appropriate under the following scenarios:

#### 1. Compliance with Technology-Based Effluent Limits

Compliance schedules are not allowed at this time because statutory deadlines have passed for BPT, BAT, and BCT levels of treatment.

- July 1, 1977 for BPT
- March 31, 1989 for BAT and BCT.

This applies to both existing and new dischargers. It should be noted, however, that 40 CFR §122.29(d)(4) allows a new source or new discharger up to 90 days to “start-up” its pollution control equipment and achieve compliance with its permit conditions (i.e., provides for up to a 90-day period to achieve compliance).

#### 2. Compliance with Water Quality-Based Effluent Limits

The determination of whether a compliance schedule to meet water quality-based permit limits is permissible depends on when the applicable State water

quality standards were initially promulgated. Because States were required to have water quality standards promulgated by July 1, 1977, and because facilities were supposed to have had the opportunity to comply with the standards, compliance schedules are not allowed if the State water quality standards were promulgated before July 1, 1977.

If a State promulgates a water quality standards after July 1, 1977, and if the State water quality regulations allow for a compliance schedule to comply with the standards, then a compliance schedule could be granted in accordance with 40 CFR 47.

If a State promulgates a water quality standards after July 1, 1977, and the State water quality regulations do not allow for a compliance schedule to comply with the standards, then a compliance schedule may not be granted.

[See: **Star-Kist Caribe, Inc.**, NPDES Appeal No. 88-5]

In situations where the permittee will be unable to meet permit conditions, and where a compliance schedule pursuant to 40 CFR §122.47 is not permitted, the practical alternative is to initiate an Administrative Order under Section 309 of the CWA (containing a schedule of compliance) concurrent with permit issuance.

## **8.2 Permit Conditions Addressing Storm Water Discharges Associated With Industrial Activities**

As previously discussed in Chapter 2, all storm water discharges associated with industrial activity that discharge storm water through a separate municipal storm sewer system (MS4) or discharge directly to waters of the United States are required to obtain NPDES permit coverage. Following the promulgation of the November 16, 1990, storm water application regulations, EPA and NPDES authorized States were faced with providing permit coverage for storm water discharges from over 100,000 industrial facilities. Due to the nature of the discharge (i.e., storm water) and the large number of facilities requiring permit coverage, EPA and most NPDES authorized States chose to use general permits as a mechanism to provide permit coverage for facilities requiring permit coverage for their storm water discharges.

Unlike discharges of process wastewater where numerical effluent limitations (technology-based and/or water quality-based) are typically used to control the discharge of pollutants from industrial facilities, the primary permit condition used to

address discharges of pollutants in a facilities storm water is a pollution prevention plan. The development and implementation of a site-specific storm water pollution prevention plan is considered to be the most important requirement of the EPA and State issued storm water general permits. Site-specific storm water pollution prevention plans allow permittees to develop and implement “best management practices”, whether structural or non-structural, that are best suited for controlling storm water discharges from their industrial facility.

Each industrial facility covered under an EPA issued storm water general permit must develop a pollution prevention plan, tailored to the site specific conditions, and designed with the goal to control the amount of pollutants in storm water discharges from the site. The special conditions component of EPA’s storm water general permits identify the requirements that each facility must include in their storm water pollution prevention plan, including:

- A description of potential pollutant sources at the facility, including:
  - A map of the facility indicating the drainage areas of the site and the industrial activities which occur in each drainage area
  - An inventory of materials that may be exposed to storm water
  - A description of the likely sources of pollutants from the site and a prediction of the pollutants which are likely to be present in the storm water
  - The history of spills and leaks of toxic and hazardous materials over the last three years
- The measures and controls that will be implemented to prevent or minimize pollution of storm water, including:
  - Good housekeeping or upkeep of industrial areas exposed to storm water
  - Preventative maintenance of storm water controls and other facility equipment
  - Spill prevention and response procedures
  - Testing of outfalls to ensure that there are no illicit discharges
  - Employee training on pollution prevention measure and controls, and record keeping.

A permit writer’s best source of information for developing appropriate special conditions for storm water controls are perhaps other storm water general permits. Using existing general permits as the basis for special conditions is encouraged since

this will reduce duplication of efforts. A listing of all general permits (storm water and non-storm water) issued by EPA as well as authorized States, which can be used as a permit writing resource, can be found in the EPA Point Source Information Provision Exchange System (PIPES) accessible through EPA's World Wide Web home page [<http://www.epa.gov>]. In addition, EPA has developed the following guidance documents to help permit writers identify components of storm water pollution prevention plans as well as to assist permittees in developing plans:

- *Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices.*<sup>55</sup>
- *Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.*<sup>56</sup>

### 8.3 Special Conditions for Municipal Facilities

This section explains several common special conditions that are applicable only to municipal facilities. These conditions reflect requirements for POTWs to implement and enforce local pretreatment programs for their industrial users; sludge disposal requirements; CSO requirements; SSO requirements; and MS4 requirements.

#### 8.3.1 The National Pretreatment Program

Section 402(b)(8) of the CWA requires that POTWs receiving pollutants from significant industrial sources subject to section 307(b) standards establish a POTW pretreatment program to ensure compliance with these standards. The implementing regulations at 40 CFR 403.8(a) state, "any POTW (or combination of POTWs operated by the same authority) with a total design flow greater than 5 million gallons per day (mgd) and receiving from industrial users pollutants which pass through or interfere with the operation of the POTW or are otherwise subject to pretreatment standards will be required to establish a POTW pretreatment program unless the NPDES State exercises its option to assume local responsibilities as provided in 403.10(e)." EPA or a NPDES State with an approved pretreatment program may require POTWs with

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<sup>55</sup>USEPA (1992). *Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices*. EPA 832-R-92-006. Office of Water.

<sup>56</sup>USEPA (1992). *Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices*. EPA 832-R-92-005.

design flows of 5 mgd or less to develop a POTW pretreatment program if circumstances warrant (40 CFR 403.8(a)). The requirement to develop a pretreatment program only applies to POTWs or States using the option under 403.10(e), this is primarily due to the fact that the pretreatment regulations at 40 CFR 403 only apply to POTWs and industrial users of POTWs, and the State or EPA offices that issue permits to the POTWs.

Since 1978, approximately 1,500 POTWs have been required to develop and implement pretreatment programs as special conditions of NPDES permits. The pretreatment program was developed to control industrial discharges to POTWs and to meet three objectives at the POTWs: (1) to prevent pass through, (2) to prevent interference, including interference with its use or disposal of municipal sludge, (3) to improve opportunities to recycle and reclaim municipal and industrial wastewater and sludges.

As authorized by the pretreatment regulations at 40 CFR 403.8(c),(d) and (e) and the NPDES regulations at 40 CFR 122.44(j)(2), the requirements to develop and implement a POTW pretreatment program are placed as enforceable conditions in the POTW's NPDES permit.

Pretreatment Program development and Program Implementation are done as two separate steps. Through the NPDES permit the POTW is required to develop a Pretreatment Program. The POTW is required to submit an approvable program that meets the requirements in 40 CFR 403.9(b), specifically, these requirements are the provisions of a program as laid out in 40 CFR 403.8(f). 40 CFR 403.8(f) requires the POTW to have certain legal authority (usually a municipal ordinance or set of regulations) and procedures to fully and effectively exercise and implement the legal authority and procedures. The POTW must submit a program detailing the legal authority to:

1. Deny or condition new or increased contributions of pollutants, or changes in nature of pollutants, to the POTW by industrial users;
2. Require compliance with applicable pretreatment standards and requirements by industrial users;

3. Control through permit, order, or similar means the contribution to the POTW by each industrial user to ensure compliance with applicable pretreatment standards and requirements. These control mechanisms must have certain conditions as laid out in 403.8(f)(1)(iii) and be enforceable;
4. Require the development of compliance schedules where necessary by each industrial user for the installation of technology required to meet applicable pretreatment standards and requirements, and submission of all notices and self-monitoring reports to assess and ensure compliance;
5. Carry out all inspection, surveillance, and monitoring procedures necessary to determine compliance with applicable pretreatment standards and requirements independent of information submitted by the industrial user (this will include authority to enter the premises of the industrial user);
6. Obtain remedies for noncompliance (e.g., injunctive relief, penalties);
7. Comply with confidentiality requirements.

Further at a minimum, the POTW must have procedures to:

1. Identify and locate all possible industrial users which might be subject to the POTW pretreatment program;
2. Identify the character and volume of pollutants contributed to the POTW by the industrial users;
3. Notify industrial users of applicable pretreatment standards and applicable requirements under section 204(b) and 405 of the Clean Water Act and subtitles C and D of RCRA;
4. Receive and analyze self monitoring reports;
5. Conduct sampling, inspections and other surveillance activities to determine compliance with applicable pretreatment standards and requirements independent of information supplied by the industrial user;
6. Investigate instances of noncompliance; and
7. Comply with public participation, including public notice annually of industrial users determined to be in significant noncompliance during the previous 12-month period.

Also, as part of the POTW pretreatment program, POTWs must have adequate resources and funding to implement the program, evaluate the need for local limits and develop them if the need exists, and develop an enforcement response plan.

The permit requires the POTW to submit the program documentation which details the authority and procedures to be implemented along with other information about the program as laid out in 40 CFR 403.9. The permit will allow the POTW up to one year from the time the permitting authority determines the need for a pretreatment program exists to develop and submit a program for approval. Once the permitting authority reviews and approves the program, the program is then incorporated into the permit in order to make the requirement to implement the program an enforceable part of the permit.

The incorporation of the requirement to develop a pretreatment is generally done at the time of reissuance of the permit. However, the requirement may also be incorporated through a modification of the permit if cause exists. Cause exists if "... the addition of pollutants into POTW by an industrial user or combination of industrial users presents a substantial hazard to the functioning of the treatment works, quality of the receiving waters, human health, or the environment," (40 CFR 403.8(e)(1)). A permit modification to require the development of a pretreatment program is considered a major modification and must follow the procedures in 40 CFR 122.62.

The incorporation of an approved program into the permit, thereby making the implementation of the program an enforceable part of the permit, is considered a minor modification to the permit and must follow the procedures in 40 CFR 122.63(g). During the life of the permit it may be necessary for the POTW to modify its approved pretreatment program (changes to local limits, changes to the ordinance, etc.). These changes may be brought about by the POTW's desire to change the way the program operates, or they may be the result of changes that are necessary to address deficiencies in the program found during inspections or audits done by the permitting authority. Whatever the reason for the modification, these modifications to the approved program require review and approval by the permitting authority (Approval Authority) when the modifications are considered substantial, per 40 CFR 403.18. All approved substantial program modifications to the POTW's approved pretreatment program require minor modifications to the permit.

**Regulatory Update**

As of December 1996, there are two proposed regulations that may impact the permitting requirements for POTWs with pretreatment programs. First is the regulation that defines a substantial pretreatment program modification. EPA is reconsidering the definition of what is a substantial modification. EPA has proposed to shorten the list and thereby reduce the need for minor permit modifications. Second, EPA has proposed a new regulation for POTWs to apply for NPDES permits. The current regulations require POTWs to submit an evaluation of the need for local limits with their NPDES permit application. The proposed regulation would require the evaluation to be submitted after the permit has been reissued. Therefore the permit will need to have language included that implements this requirement.

Most of the POTWs who need pretreatment program requirements in their permits currently have them in place. EPA Regions and approved States have developed standard pretreatment development or implementation conditions (with minor modifications made to tailor the conditions to the specific permittee) that are placed in all pretreatment POTW NPDES permits in that Region or State. The permit writer can obtain examples of these NPDES pretreatment conditions from the EPA or State pretreatment coordinators. The permit writer may need to update or modify pretreatment implementation language or initiate corrective action related to the pretreatment program.

A NPDES State or an EPA Region will often designate a pretreatment coordinator to serve as the pretreatment expert to review the annual report from the POTW and recommend any action to be taken. The State or EPA Regional pretreatment coordinator is a key resource on pretreatment issues, particularly at the time of NPDES permit reissuance. EPA has prepared a number of guidance manuals for POTWs on how to implement their local pretreatment programs.

Pretreatment program information and monitoring data obtained through the POTW's pretreatment program may be useful to the permit writer in identifying possible modifications to the pretreatment program's local limits or procedures, or the need for water quality-based controls. Although there is currently no requirement for chemical-specific toxics effluent monitoring to be submitted with the permit application, most pretreatment POTWs have performed toxics monitoring of their influent, effluent, and sludge. The permit writer should obtain such data with the aid of the pretreatment coordinator. These data can be used to determine the need for water quality-based limits.

### 8.3.2 Municipal Sewage Sludge

Section 405(d) of the CWA requires that EPA regulate the use and disposal of sewage sludge to protect public health and the environment from any reasonably anticipated adverse effects of these practices. In the CWA, Congress directs EPA to develop technical standards for municipal sludge use and disposal options. These standards are set out in 40 CFR Part 503. Congress also enacted strict deadlines for compliance with these standards. Within 1 year of promulgation of the standards, compliance was required unless construction of new pollution control facilities was necessary, in which case compliance was required within 2 years.

EPA promulgated the 40 CFR Part 503 Standards for the Use or Disposal of Sewage Sludge on February 19, 1993 (58 *FR* 9248) with amendments on February 19, 1994 (59 *FR* 9095) and October 25, 1995 (60 *FR* 54764). These regulations address four sludge use and disposal practices: land application, surface disposal, incineration, and disposal in a municipal solid waste landfill. The standards for each end use and disposal method consist of general requirements, numeric pollutant limits, operational standards, and management practices, as well as monitoring, recordkeeping, and reporting requirements. Unlike technology standards based on the ability of treatment technologies to reduce the level of pollutants, EPA's sewage sludge standards are based on health and environmental risks.

40 CFR Part 503 imposes requirements on four groups:

- Persons who prepare sewage sludge or material derived from sewage sludge
- Land appliers of sewage sludge
- Owners/operators of sewage sludge surface disposal sites
- Owners/operators of sewage sludge incinerators.

The regulation is largely self-implementing. This means that anyone engaged in activities covered by the regulation must comply with the appropriate requirements on or before the compliance deadlines. A person who violates 40 CFR Part 503 requirements is subject to administrative, civil, and/or criminal enforcement actions.

Section 405(f) of the CWA requires the inclusion of sewage sludge use or disposal requirements in any NPDES permit issued to a Treatment Works Treating Domestic Sewage (TWTDS) and authorizes the issuance of sewage sludge permits to non-discharging TWTDS. To provide a mechanism for this inclusion, EPA promulgated revisions to the NPDES permit regulations at 40 CFR Parts 122 and 124 on May 2, 1989 (54 *FR* 18716). These revisions expanded EPA's authority to include sewage sludge use and disposal standards in NPDES permits and to issue NPDES permits to treatment works that do not have an effluent discharge to waters of the United States, but are involved in sewage sludge use or disposal as preparers, applicators, or owners/operators. TWTDS includes all sewage sludge generators and facilities that change the quality of sewage sludge such as blenders.

EPA recognizes that implementation of 40 CFR Part 503 requirements is a source of confusion for permit writers and permittees who may already have NPDES permits with sewage sludge special conditions. The end result is that both NPDES sludge permit conditions and 40 CFR Part 503 requirements apply. EPA expects that over time, all NPDES sludge requirements will be revised to include the 40 CFR Part 503 requirements. To reduce confusion, EPA has provided several guidance documents to explain the requirements of 40 CFR Part 503.

- *Part 503 Implementation Guidance.*<sup>57</sup>
- *Land Application of Sewage Sludge—A Guide for Land Applicators on the Recordkeeping and Reporting Requirements of the Federal Standards for the Use and Disposal of Sewage Sludge Management in 40 CFR Part 503.*<sup>58</sup>
- *Surface Disposal of Sewage Sludge—A Guide for Owners/Operators of Surface Disposal Facilities on the Monitoring, Recordkeeping, and Reporting Requirements of the Federal Standards for the Use and Disposal of Sewage Sludge in 40 CFR Part 503.*<sup>59</sup>

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<sup>57</sup>USEPA (1995). *Part 503 Implementation Guidance*. EPA 833-R-95-001. Office of Water.

<sup>58</sup>USEPA (1994). *Land Application of Sewage Sludge—A Guide for Land Applicators on the Recordkeeping and Reporting Requirements of the Federal Standards for the Use and Disposal of Sewage Sludge Management in 40 CFR Part 503*. EPA-831/B-93-002c. Office of Water.

<sup>59</sup>USEPA (1994). *Surface Disposal of Sewage Sludge—A Guide for Owner/Operators of Surface Disposal Facilities on the Monitoring, Record Keeping, and Reporting Requirements of the Federal Standards for the Use and Disposal of Sewage Sludge in 40 CFR Part 503*. EPA-831/B-93-002b. Office of Water.

- *Preparing Sewage Sludge for Land Application or Surface Disposal—A Guide for Preparers of Sewage Sludge on the Monitoring, Record Keeping, and Reporting Requirements of the Federal Standards for the Use or Disposal of Sewage Sludge in 40 CFR Part 503.*<sup>60</sup>
- *Domestic Septage Regulatory Guidance, A Guide to the EPA 503 Rule.*<sup>61</sup>
- *Control of Pathogens and Vector Attraction in Sewage Sludge.*<sup>62</sup>

The permit writer should refer to the Part 503 Implementation Guidance<sup>63</sup> and EPA Region and State guidelines or policies for instructions on how to implement the applicable 40 CFR Part 503 standards into the permit. The permit writer will need to determine the type of sludge use or disposal practice(s) used by the permittee and apply the appropriate 40 CFR Part 503 standards. In general, conditions will need to be established to address:

- Pollutant concentrations or loading rates
- Operational standards (such as pathogen and vector attraction reduction requirements for land application and surface disposal and total hydrocarbons (THC) concentrations for incinerators)
- Management practices (e.g., siting restrictions, design requirements, operating practices)
- Monitoring requirements (e.g., pollutants to be monitored, sampling locations, frequency, and sample collection and analytical methods)
- Recordkeeping requirements
- Reporting requirements (e.g., contents of reports and frequency or due dates for submission of reports)
- General requirements (e.g., specific notification requirements prior to land application, submission of closure and post closure plan for surface disposal sites).

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<sup>60</sup>USEPA (1993). *Preparing Sewage Sludge for Land Application or Surface Disposal—A Guide for Preparers of Sewage Sludge on the Monitoring, Recordkeeping, and Reporting Requirements of the Federal Standards for the Use or Disposal of Sewage Sludge in 40 CFR Part 503.* EPA-831/B-93-002a. Office of Water.

<sup>61</sup>USEPA (1993). *Domestic Septage Regulatory Guidance—A Guide to the EPA 503 Rule.* EPA-832/B-92-005. Office of Water.

<sup>62</sup>USEPA (1992). *Control of Pathogens and Vector Attraction in Sewage Sludge.* EPA-625/R-92-013. Office of Research and Development.

<sup>63</sup>USEPA (1995). *Part 503 Implementation Guidance.* EPA 833-R-95-001. Office of Water.

In addition to any specific applicable 40 CFR Part 503 standards, three boilerplate conditions must be written in the NPDES permit: (1) language requiring the POTW/TWTDS to comply with all existing requirements for sludge use and disposal, including the 40 CFR Part 503 standards, (2) a reopener clause, which authorizes reopening a permit to include technical standards if the technical standards are more stringent or more comprehensive than the conditions in the permit, and (3) a notification provision requiring the permittee to give notice to the permitting authority when a significant change in the sludge use or disposal practice occurs (or is planned).

If permit conditions based on existing regulations are insufficient to protect public health and the environment from adverse effects that may occur from toxic pollutants in sewage sludge, permit conditions should be developed on a case-by-case basis using BPJ to fulfill the statutory requirement. EPA's *Part 503 Implementation Guidance*<sup>64</sup> contains information to assist permit writers in developing pollutant limits and management practice requirements on a case-by-case basis to protect public health and the environment from adverse effects that may occur from toxic pollutants in sewage sludge.

### 8.3.3 Combined Sewer Overflows (CSOs)

Combined sewer systems are designed to collect both sanitary and industrial wastewater and storm water runoff. During dry weather, combined sewers carry sanitary wastes and industrial discharges to a treatment plant. In periods of heavy rainfall, however, the combined storm water runoff and untreated sanitary sewage, including industrial wastewater, can overflow and discharge this untreated wastewater directly to a water body. These overflows are called combined sewer overflows (CSOs).

On April 19, 1994, EPA published a CSO Control Policy in the *Federal Register* (59 FR 18688) which represents a comprehensive national strategy to ensure that municipalities, permitting authorities, water quality standards authorities, and the public engage in a comprehensive and coordinated planning effort to achieve cost effective CSO controls that ultimately meet appropriate health and environmental objectives.

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<sup>64</sup>USEPA (1995). *Part 503 Implementation Guidance*. EPA 833-R-95-001. Office of Water.

CSOs are point source discharges subject to both the technology-based requirements of the CWA and to applicable State water quality standards. Under the CWA, CSOs must comply with the BAT for nonconventional and toxic pollutants and BCT for conventional pollutants. However, there are no promulgated BAT/BCT effluent guidelines and limitations for CSOs. As a result, permit writers must use BPJ in developing technology-based permit requirements for controlling CSOs. In addition, permit conditions must achieve compliance with applicable water quality standards.

The 1994 CSO Control Policy contains the recommended approach for developing and issuing NPDES permits to control CSOs. In addition, EPA has developed the following guidance documents to help permit writers and permittees implement the CSO Control Policy:

- *Combined Sewer Overflows—Guidance for Long-Term Control Plan.*<sup>65</sup>
- *Combined Sewer Overflows—Guidance for Nine Minimum Controls.*<sup>66</sup>
- *Combined Sewer Overflows—Guidance for Screening and Ranking.*<sup>67</sup>
- *Combined Sewer Overflows—Guidance for Monitoring and Modeling.*<sup>68</sup>
- *Combined Sewer Overflows—Guidance for Financial Capability Assessment and Schedule Development.*<sup>69</sup>
- *Combined Sewer Overflows—Guidance for Funding Options.*<sup>70</sup>
- *Combined Sewer Overflows—Guidance for Permit Writers.*<sup>71</sup>

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<sup>65</sup>USEPA (1995). *Combined Sewer Overflows—Guidance for Long-Term Control Plan*. EPA-832/B-95-002.

<sup>66</sup>USEPA (1995). *Combined Sewer Overflows—Guidance for Nine Minimum Controls*. EPA-832/B-95-003.

<sup>67</sup>USEPA (1995). *Combined Sewer Overflows—Guidance for Screening and Ranking*. EPA-832/B-95-004.

<sup>68</sup>USEPA (1995). *Combined Sewer Overflows—Guidance for Monitoring and Modeling*. (DRAFT). EPA-832/B-95-005.

<sup>69</sup>USEPA (1995). *Combined Sewer Overflows—Guidance for Financial Capability Assessment and Schedule Development* (DRAFT). EPA-832/B-95-006.

<sup>70</sup>USEPA (1995). *Combined Sewer Overflows—Guidance for Funding Options*. EPA-832/B-95-007.

<sup>71</sup>USEPA (1995). *Combined Sewer Overflows—Guidance for Permit Writers*. EPA-832/B-95-008.

*Combined Sewer Overflows—Guidance for Permit Writers* contains guidance, and example permit language that the permit writer can use. Because the control of CSOs typically requires substantial long-term planning, construction, financing and continuous reassessment, the implementation of CSO controls will probably occur over several permit cycles. The *Combined Sewer Overflows—Guidance for Permit Writers* explains a phased permitting approach to CSOs. **Exhibit 8-1** depicts this phased permitting approach and the types of permitting conditions that should be developed for each phase. Depending on the particular permittee's situation, a permit may contain both Phase I and Phase II elements. The initial permit conditions for CSOs, called Phase I permit requirements, should address:

- Implementation of technology-based CSO controls as soon as possible but no later than January 1, 1997. The policy describes nine CSO control measures that may be considered minimum BAT/BCT, based on the permit writer's BPJ. **Exhibit 8-2** shows the nine minimum controls (NMC).
- Development of a CSO Long-Term Control Plan (LTCP) generally within 2 years of permit issuance. The policy describes the minimum elements which the LTCP should address. **Exhibit 8-3** shows those minimum elements.

The second round of NPDES permits to control CSOs, called Phase II, will contain specific permit conditions addressing continued implementation of the NMC and implementation of the selected long-term CSO control measures identified in the LTCP. The permit writer will need to review the permittee's LTCP and consult with other staff involved in the CSO control process and the permittee to determine the appropriate permit conditions. Water quality-based controls will be expressed as narrative requirements and performance standards for the combined sewer system. Finally, post Phase II permit conditions would address continued implementation of the NMC, long-term CSO controls, and post-construction compliance monitoring. There may also be numeric water quality-based effluent limits when sufficient data exists to support their development.

## EXHIBIT 8-1 Categories of CSO Permitting Conditions

Time (yrs) 0 .....5.....10.....>			
NPDES Permit	Phase I	Phase II	Post Phase II
A. Technology-Based	<ul style="list-style-type: none"> <li>• NMC, at a minimum</li> </ul>	<ul style="list-style-type: none"> <li>• NMC, at a minimum</li> </ul>	<ul style="list-style-type: none"> <li>• NMC, at a minimum</li> </ul>
B. Water Quality-Based	<ul style="list-style-type: none"> <li>• Narrative</li> </ul>	<ul style="list-style-type: none"> <li>• Narrative + performance-based standards</li> </ul>	<ul style="list-style-type: none"> <li>• Narrative + performance-based standards + numeric water quality-based effluent limits (as appropriate)</li> </ul>
C. Monitoring	<ul style="list-style-type: none"> <li>• Characterization, monitoring, and modeling of CSS</li> </ul>	<ul style="list-style-type: none"> <li>• Monitoring to evaluate water quality impacts</li> <li>• Monitoring to determine effectiveness of CSO controls.</li> </ul>	<ul style="list-style-type: none"> <li>• Post-construction compliance monitoring</li> </ul>
D. Reporting	<ul style="list-style-type: none"> <li>• Documentation of NMC implementation</li> <li>• Interim LTCP deliverables.</li> </ul>	<ul style="list-style-type: none"> <li>• Implementation of CSO controls (both NMC and long-term controls)</li> </ul>	<ul style="list-style-type: none"> <li>• Report results of post-construction compliance monitoring</li> </ul>
E. Special Conditions	<ul style="list-style-type: none"> <li>• Prohibition of dry weather overflows (DWO)</li> <li>• Development of LTCP.</li> </ul>	<ul style="list-style-type: none"> <li>• Prohibition of DWO</li> <li>• Implementation of LTCP</li> <li>• Reopener clause for water quality standards violations</li> <li>• Sensitive area reassessment.</li> </ul>	<ul style="list-style-type: none"> <li>• Prohibition of DWO</li> <li>• Reopener clause for water quality standards violations.</li> </ul>

### **EXHIBIT 8-2**

#### **Nine Minimum CSO Controls**

1. Proper operation and regular maintenance programs for the sewer system and the CSOs
2. Maximum use of the collection system for storage
3. Review and modification of pretreatment requirements to ensure that CSO impacts are minimized
4. Maximization of flow to the POTW for treatment
5. Prohibition of CSOs during dry weather
6. Control of solid and floatable materials in CSOs
7. Establishment of pollution prevention programs
8. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts
9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

### **EXHIBIT 8-3**

#### **Elements of the Long-Term CSO Control Plan**

1. Characterization, monitoring, and modeling of the combined sewer system
2. Public participation
3. Consideration of sensitive areas
4. Evaluation of alternatives
5. Cost/performance considerations
6. Operational plan
7. Maximizing treatment at the existing POTW treatment plant
8. Implementation schedule
9. Post-construction compliance monitoring program.

In developing permit requirements to meet technology-based requirements and applicable State water quality standards, the permit writer in conjunction with staff involved in water quality standards and the permittee, should identify the appropriate site-specific considerations that will determine the CSO conditions to be established in the permit. EPA believes that the following information will be particularly relevant in developing the appropriate conditions:

- CSO Discharge
  - Flow, frequency, and duration of the CSO discharge
  - Available effluent characterization data on the CSO discharge
  - Available information and data on the impacts of the CSO discharge(s) (e.g., 305(b) reports, ambient survey data, fish kills, 304(l) lists of impaired waters)
  - Compliance history of the CSO owner, including performance and reliability of any existing CSO controls
  - Current NPDES permit and NPDES permit application
  - Facility planning information from the permittee which addresses CSOs
  
- Technologies
  - Performance data (either from the manufacturer or from other applications) for various CSO technologies that may be employed, including equipment efficiency and reliability
  - Cost information associated with both the installation, operation and maintenance of CSO technologies
  - Reference materials on various types of CSO technologies (e.g., Water Environment Federation Manual of Practice, American Society of Chemical Engineers publications).

### 8.3.4 Sanitary Sewer Overflows

(RESERVED)

### 8.3.5 Municipal Separate Storm Sewer Systems (MS4)

The November 16, 1990 (55 *FR* 47990) storm water application regulations established requirements for a two-part permit application that allows local governments to assist in defining priority pollutant sources within the municipality and to develop and implement appropriate controls for such discharges to MS4. Part II of the application required municipal applicants to propose municipal storm water management programs to control pollutants to the “maximum extent practicable” (MEP) and to effectively prohibit non-storm water discharges to the municipal system. Municipal storm water management programs are a combination of source controls and management practices that address targeted sources within the boundaries of the municipal system. For example, a municipality that expects significant new development may focus more on proposing requirements for new development and construction. On the other hand, a municipality that does not expect significant new development may focus more on municipal activities that affect storm water quality

such as: maintenance of leaking sanitary sewers, road de-icing and maintenance, operation of municipal landfills, flood control efforts, and control of industrial contributions of storm water.

As with any NPDES permit, MS4 permits must assure compliance with applicable technology-based requirements (in this case, the MEP) as well as applicable water quality standards. However, unlike POTWs where technology-based requirements are defined by secondary treatment standards, and most industrial sources that have promulgated ELGs, there are no promulgated technology-based standards that define MEP. Therefore, permit writers must rely on application requirements specified in the regulations and the applicants proposed management program when developing appropriate permit conditions. EPA has developed the following guidance document to assist permit writers as well as permittees to implement the Municipal Storm Water Program:

- *Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications For Discharge From Municipal Separate Storm Sewer Systems.*<sup>72</sup>

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<sup>72</sup>USEPA (1992). *Guidance Manual for the Preparation of Part 2 of the NPDES Permit Application for Discharges from Municipal Separate Storm Sewer Systems*. EPA-833/B-92-002. Office of Water.