CHAPTER 4.  NPDES Permit Application Process

This chapter describes the National Pollutant Discharge Elimination System (NPDES) permit application process, including the permit writer’s role in reviewing the application and evaluating background information about the applicant. Through this process the permit writer gains an understanding of the circumstances of the discharge and the characteristics of the proposed effluent, which is necessary to develop appropriate permit limitations and conditions.

4.1 Who Applies for an NPDES Permit?

The NPDES regulations at Title 40 of the Code of Federal Regulations (CFR) 122.21(a) require that any person, except persons covered by general permits under § 122.28, who discharges pollutants or proposes to discharge pollutants to waters of the United States must apply for a permit. Further, § 122.21(e) prohibits the permitting authority from issuing an individual permit until and unless a prospective discharger provided a complete application. This regulation is broadly inclusive and ties back to the Clean Water Act (CWA) section 301(a) provision that, except as in compliance with the act, “…the discharge of any pollutant by any person shall be unlawful.”

In most instances, the permit applicant will be the owner (e.g., corporate officer) of the facility. However, the regulations at § 122.21(b) require that when a facility or activity is owned by one person but is operated by another person, it is the operator’s duty to obtain a permit. The regulations also require the application to be signed and certified by a high-ranking official of the business or activity. The signatory and certification requirements are at § 122.22.

Permits (and applications) are required for most discharges or proposed discharges to waters of the United States; however, NPDES permits are not required for some activities as specified under the Exclusions provision in § 122.3. Exceptions include the following:

- Discharge of dredged or fill materials into waters of the United States which are regulated under CWA section 404.
- The introduction of sewage, industrial wastes or other pollutants into publicly owned treatment works (POTWs) by indirect dischargers.
- Any discharge in compliance with the instructions of an On-Scene Coordinator pursuant to Part 300 (The National Oil and Hazardous Substances Pollution Contingency Plan) or 33 CFR 153.10(e) (Pollution by Oil and Hazardous Substances).
- Any introduction of pollutants from nonpoint source agricultural and silvicultural activities, including stormwater runoff from orchards, cultivated crops, pastures, range lands, and forest lands, but not discharges from concentrated animal feeding operations as defined in § 122.23, discharges from concentrated aquatic animal production facilities as defined in § 122.24, discharges to aquaculture projects as defined in § 122.25, and discharges from silvicultural point sources as defined in § 122.27.
- Return flows from irrigated agriculture.
- Discharges into a privately owned treatment works, except as the Director may otherwise require under § 122.44(m).

While those types of discharges have been excluded from permitting requirements under the NPDES program, they might be subject to controls under other federal or state regulatory programs.

As of the date of this manual’s publication, the exclusion for certain discharges incidental to the normal operation of a vessel is still in the CFR. Similarly, discharges from the application of pesticides consistent with all relevant requirements under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) (i.e., those relevant to protecting water quality) are excluded from NPDES permit coverage in the following two circumstances: (1) the application of pesticides directly to waters of the United States to control pests, and (2) the application of pesticides to control pests that are present over waters of the United States, including near such waters, where a portion of the pesticides will unavoidably be deposited to waters of the United States to target the pests effectively. However, because of court decisions, the exclusions for vessels and pesticides are vacated as of February 6, 2009, and April 9, 2011, respectively. The effect of the vacaturs on the exclusions in § 122.3 is presented in Exhibit 4-1.

### Exhibit 4-1 Effect of court decisions on § 122.3

<table>
<thead>
<tr>
<th>Exclusion</th>
<th>Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vessel Discharges</td>
<td>The Court’s ruling does not affect vessel discharge exemptions from permitting that are specifically provided for in the CWA itself. For example, § 502(6)(A) excludes from the act’s definition of pollutant sewage from vessels (including graywater in the case of commercial vessels operating on the Great Lakes) and discharges incidental to the normal operation of a vessel of the Armed Forces within the meaning of CWA section 312. As another example, the CWA section 502(12)(B) provides that discharges from vessels (i.e., discharges other than those when the vessel is operating in a capacity other than as a means of transportation) do not constitute the, “discharge of a pollutant” when such discharges occur beyond the limit of the 3-mile territorial sea. Because both a pollutant and a discharge of a pollutant are prerequisites to the requirement to obtain an NPDES permit, those two statutory provisions have the effect of exempting the vessel discharges they address from the requirement to obtain an NPDES permit. In addition, in July 2008, Congress amended the CWA to add a new section 402(r) to the act, which excludes discharges incidental to the normal operation of a recreational vessel from NPDES permitting. For more information, see section 2.3.2.7 of this manual.</td>
</tr>
<tr>
<td>Pesticides</td>
<td>On January 7, 2009, the 6th Circuit Court vacated the final rule in The National Cotton Council of America et al. v. United States Environmental Protection Agency. The court held that while an NPDES permit is not required for chemical pesticide applications that leave no residuals, an NPDES permit is required for discharges (1) from chemical pesticide applications to or over, including near water, where there is a residual, or excess pesticide, in the water following the application, and (2) from all biological pesticide applications regardless of whether a residual is left. On June 8, 2009, the court granted a request from the U.S. Department of Justice for a 2-year stay of its decision, until April 9, 2011, to provide time for EPA and the states to develop and issue NPDES general permits for the discharge of pollutants from the application of pesticides. Before April 9, 2011, permits are not required for discharges from these applications when applied in accordance with the product’s FIFRA label. Certain related activities continue to be exempt from permitting under the CWA (i.e., irrigation return flow and agricultural stormwater runoff).</td>
</tr>
</tbody>
</table>
4.2 Application Deadlines

The regulations at § 122.21(c) and (d) specify the time to apply for NPDES permits. Exhibit 4-2 summarizes the application deadline requirements for dischargers to be covered by an NPDES permit.

Exhibit 4-2 When to apply for an NPDES permit

<table>
<thead>
<tr>
<th>Type of permit</th>
<th>Type of discharge</th>
<th>Schedule*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>New</td>
<td>At least 180 days before the date on which the discharge is to commence</td>
</tr>
<tr>
<td></td>
<td>Existing</td>
<td>At least 180 days before expiration date of existing permit</td>
</tr>
<tr>
<td></td>
<td>Construction Stormwater</td>
<td>At least 90 days before the date on which construction is to commence</td>
</tr>
<tr>
<td>General</td>
<td>New</td>
<td>Specified in general permit</td>
</tr>
<tr>
<td></td>
<td>Existing</td>
<td>X number of days following issuance of permit (specified in the general permit)</td>
</tr>
</tbody>
</table>

* Authorized states may use more stringent deadlines.

Anyone proposing a new discharge must apply to the permitting authority no later than 180 days before the expected commencement of the discharge if applying for an individual permit. Any person with an currently effective individual permit must submit an application to the permitting authority at least 180 days before the expiration of its existing individual permit unless permission for a later date has been granted in accordance with § 122.21(d). For general permits, the deadline for new dischargers to apply is specified in the general permit. A general permit also may specify a number of days after the general permit’s issuance that operators of existing facilities are given to apply for coverage. Authorized states may have different schedules for permit applications, but their schedules may be no less stringent than the federal deadlines. The State Director or the Regional Administrator may allow an individual application to be submitted at dates later than those specified in the regulations, but not later than the expiration date of the existing permit.

Note that, according to § 122.6, the conditions of an expired NPDES permit remain in effect until the new permit is issued, as long as the discharger submitted a complete application in accordance with the timeframes prescribed in the regulations (or in accordance with state law, in the case of state-administered NPDES programs). If state law does not allow expired permits to remain in effect until a permit is reissued, or if the permit application is not on time and complete, the facility may be considered to be discharging without a permit from the time the permit expired until the effective date of the new permit.

4.3 Application Forms and Requirements for Individual Permits

When a facility needs an individual NPDES permit, it must submit a permit application. Application forms and requirements are specific to the type of facility and discharge. NPDES permit application requirements are in Part 122, Subpart B and identified on forms developed by the U.S. Environmental Protection Agency (EPA). Authorized states are not required to use the EPA application forms; however, any alternative form used by an authorized state must include the federal requirements at a minimum.

Exhibit 4-3 provides an overview of the types of dischargers required to submit NPDES application forms, identifies the forms that must be submitted, and references the corresponding NPDES regulatory citation. In some cases, a facility might need to file more than one application form. For example, an
existing industrial facility (i.e., renewal) discharging stormwater combined with process and non-process wastewater might need to submit Form 1, Form 2C, and Form 2F. Section 2.3 of this manual discusses the NPDES program areas that have application requirements presented below.

### Exhibit 4-3 EPA application requirements for NPDES individual permits

<table>
<thead>
<tr>
<th>Type of facility or program area</th>
<th>Status</th>
<th>Forms</th>
<th>Regulatory citations and additional application requirements (40 CFR)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Municipal facilities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| • POTWs with design flows greater than or equal to 0.1 million gallons per day (mgd) | New and existing | Form 2A, Parts A, B and C; Parts D, E, F, or G as applicable | § 122.21(a)(2)(i)(B)  
  § 122.21(j) |
| • POTWs with design flows less than 0.1 mgd | New and existing | Form 2A, Parts A and C; Parts D, E, F, or G as applicable | § 122.21(a)(2)(i)(B)  
  § 122.21(j) |
| **TWTDS (sewage sludge)**      |                       |                                    |                                                                      |
| New and existing                | Form 2S               |                                    | § 122.21(a)(2)(i)(H)  
  § 122.21(q) |
| **Concentrated animal production facilities** |                       |                                    |                                                                      |
| • Concentrated animal feeding operations | New and existing | Form 1 and Form 2B                | § 122.21(a)(2)(i)(A) and (C)  
  § 122.21(f) and (i) |
| • Concentrated aquatic animal production facilities |                       |                                    |                                                                      |
| **Industrial facilities**       |                       |                                    |                                                                      |
| • Manufacturing facilities      | Existing              | Form 1 and Form 2C                | § 122.21(a)(2)(i)(A) and (D)  
  § 122.21(f) and (g) |
| • Commercial facilities         | New (process wastewater) | Form 1 and Form 2D              | § 122.21(a)(2)(i)(A) and (E)  
  § 122.21(f) and (k) |
| • Mining activities            | New (non-process wastewater) | Form 1 and Form 2E            | § 122.21(a)(2)(i)(A) and (F)  
  § 122.21(f) and (h) |
| • Silvicultural activities      |                       |                                    |                                                                      |
| **Stormwater discharges associated with industrial activities (except stormwater discharges associated with construction activity)** | New and existing | Form 1 and Form 2F                | § 122.21(a)(2)(i)(A) and (G)  
  § 122.21(f)  
  § 122.26(c) |
| **Stormwater discharges associated with construction activity** | New and existing | Form 1                            | § 122.21(a)(2)(i)(A)  
  § 122.21(f)  
  § 122.26(c)(1)(ii) |
| **Stormwater discharges from MS4s serving a population greater than 100,000** | New and existing | None                              | § 122.26(d) |
| **Stormwater discharges from small MS4s** | New and existing | None                              | § 122.33  
  § 122.21(f) |
| **Cooling water intake structures** | New and existing | None                              | § 122.21(r) |
4.3.1 Form 1: General Information

All facilities applying for an individual NPDES permit, with the exception of POTWs, treatment works treating domestic sewage (TWTDS), and municipal separate storm sewer systems (MS4s) applying for a municipal stormwater permit, must submit Form 1 [www.epa.gov/npdes/pubs/form_1.pdf]. The type of general facility information required by Form 1 is specified in §§ 122.21(a)(2)(i)(A) and 122.21(f) and includes the following:

- Name, mailing address, facility contact, and facility location.
- Standard industrial classification (SIC) code and a brief description of the nature of the business.
- Topographic map showing the location of the existing or proposed intake and discharge structures.

4.3.2 Form 2A: New and Existing POTWs

All new and existing POTWs must submit Form 2A [www.epa.gov/npdes/pubs/final2a.pdf]. EPA issued a final rule amending permit application requirements and application forms for POTWs and other TWTDS (64 FR 42433, August 4, 1999). The rule consolidated POTW application requirements, expanded toxic monitoring requirements for POTWs, and revised the forms used to submit permit applications. POTWs must also submit the form for permit renewals. Form 2A replaces Standard Form A and Short Form A.

POTWs with design influent flows equal to or greater than 100,000 gallons per day (gpd) (0.1 mgd) must submit Parts A, B, and C of Form 2A. POTWs with design flows of less than 100,000 gpd must submit Parts A and C of Form 2A. Parts A, B and C are referred to as Basic Application Information:

- Part A of Form 2A contains basic application information for all applicants:
  - Facility and applicant information.
  - Collection system type, areas served, and total population served.
  - Discharges and other disposal methods.
  - If the treatment works discharges effluent to waters of the United States, a description of outfalls, receiving waters, and treatment and effluent testing information.

- Part B of Form 2A collects additional information for applicants with a design flow greater than or equal to 0.1 mgd, including inflow and infiltration estimates, a topographic map, process flow diagram, and effluent testing data for additional parameters.

- Part C is a certification that all applicants must complete.

Form 2A also includes Supplemental Application Information (Parts D–G). POTWs complete these additional forms, as applicable, depending on the characteristics of the municipal discharge:

- Part D requests expanded effluent testing data for metals, volatile organic compounds, acid-extractable compounds, and base-neutral compounds. A POTW that discharges effluent to waters of the United States and meets one or more of the following criteria must complete Part D:
  - Has a design flow rate greater than or equal to 1 mgd.
  - Is required to have a pretreatment program (or has one in place).
  - Is otherwise required by the permitting authority to provide the information.
A POTW that meets one or more of the following criteria must complete Part E (Toxicity Testing Data):
- Has a design flow greater than or equal to 1 mgd.
- Is required to have a pretreatment program (or has one in place).
- Is otherwise required by the permitting authority to submit results of toxicity testing.

A POTW that accepts process wastewater from any significant industrial users (SIUs) or receives Resource Conservation and Recovery Act (RCRA) or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or other remedial wastes must complete Part F. SIUs are defined as:
- All industrial users subject to Categorical Pretreatment Standards under § 403.6 and 40 CFR Chapter I, Subchapter N.
- Any other industrial user for which any of the following is true
  - Discharges an average of 25,000 gpd or more of process wastewater to the POTW (excluding sanitary, non-contact cooling, and boiler blowdown wastewater).
  - Contributes a process wastestream that makes up 5 percent or more of the average dry-weather hydraulic or organic capacity of the treatment plant.
  - Is designated an SIU by the control authority on the basis that it has a reasonable potential for adversely affecting the POTWs operation or for violating any pretreatment standard or requirement.

- The control authority can determine that an industrial user subject to categorical pretreatment standards is a nonsignificant categorical industrial user, rather than an SIU, on a finding that it never discharges more than 100 gpd of total categorical wastewater and if:
  - Before that finding, the industrial user has consistently complied with all applicable categorical pretreatment standards and requirements.
  - The industrial user annually submits a certification statement required in § 403.12(q) and any information necessary to support the certification statement.
  - The industrial user never discharges any untreated concentrated wastewater.

- If an industrial user meets one of the other criteria for determining that it is an SIU (i.e., discharges an average of 25,000 gpd of process wastewater), but the control authority finds that it has no reasonable potential for adversely affecting the POTW’s operation or for violating any pretreatment standards or requirement, the control authority can determine that the industrial user is not an SIU.

A POTW that has a combined sewer system must complete Part G. Information that must be provided in the section includes a system map and diagram, and descriptions of outfalls, combined sewer overflow (CSO) events, receiving waters, and operations.

### 4.3.3 Form 2S: New and Existing TWTDS

New TWTDS and TWDS with effective NPDES permits must submit a new or renewal permit application, respectively, using new Form 2S [www.epa.gov/npdes/pubs/final2s.pdf](www.epa.gov/npdes/pubs/final2s.pdf). Part 1 of Form 2S is to be completed by sludge-only facilities; that is, facilities that do not have, and are not applying for, an NPDES permit for a direct discharge to surface water. Part 1 collects background information on the facility, including identification information, quantities of sewage sludge handled, pollutant concentrations, treatment methods, and use and disposal information.
Part 2 is used by facilities that already have or are applying for an NPDES permit. It includes five sections:

- All applicants using Part 2 must complete the general information collected by **section A**.
- Applicants who either generate sewage sludge or derive a material from sewage sludge must complete **section B**.
- Applicants who either apply sewage sludge to the land or generate sewage sludge that is applied to the land by others (unless the sludge from the facility meets certain exemption criteria) must complete **section C**.
- Applicants who own or operate a surface disposal site must complete **section D**.
- Applicants who own or operate a sewage sludge incinerator must complete **section E**.

### 4.3.4 Form 2B: New and Existing Concentrated Animal Feeding Operations (CAFOs) and Concentrated Aquatic Animal Production (CAAP) Facilities

In addition to Form 1, owners of new and existing CAFOs (defined in § 122.23) and CAAP facilities (defined in § 122.24) must submit **Form 2B**.[www.epa.gov/ne/npdes/2010RevisedCafoFedRegstrForm2b.pdf](www.epa.gov/ne/npdes/2010RevisedCafoFedRegstrForm2b.pdf). Form 2B was significantly modified as part of the final CAFO Rules (68 FR 7176, February 12, 2003, and 73 FR 70418, November 20, 2008). The type of information required by Form 2B consists of the following:

- **For CAFOs**
  - The name of the owner or operator.
  - The facility location and mailing addresses.
  - Latitude and longitude of the production area.
  - A topographic map of the geographic area in which the CAFO is located.
  - Specific information about the number and type of animals.
  - The type of containment and total capacity for storage (tons/gallons).
  - The total number of acres under control of the applicant available for land application.
  - Estimated amounts of manure, litter, and process wastewater generated and amounts transferred to other persons per year.
  - A nutrient management plan (NMP) that satisfies the requirements of § 122.42(e).

- **For CAAP facilities**
  - The maximum daily and average monthly flow from each outfall.
  - The number of ponds, raceways, and similar structures.
  - The name of the receiving water and the source of intake water.
  - For each species of aquatic animals, the total yearly and maximum harvestable weight.
  - The calendar month of maximum feeding and the total mass of food fed during that month.

Note that recent revisions to the NPDES regulations require that a CAFO seeking coverage under a permit submit its NMP with its application for an individual permit or notice of intent (NOI) to be authorized under a general permit. Permitting authorities are required to review the plan and provide the public with an opportunity for meaningful public review and comment. Permitting authorities also are required to incorporate terms of the NMP as NPDES permit conditions. For more information on the revisions to the CAFO regulations, see the Animal Feeding Operations Website [www.epa.gov/npdes/cafo](www.epa.gov/npdes/cafo).
Sections 2.3.2.5 and 2.3.2.6 of this manual provide additional information on CAFOs and CAAP facilities, respectively.

**4.3.5 Form 2C: Existing Manufacturing, Commercial, Mining, and Silvicultural Discharges**

In addition to Form 1, operators of existing (i.e., currently permitted) manufacturing, commercial, mining, and silvicultural discharges must submit Form 2C <www.epa.gov/npdes/pubs/3510-2C.pdf>. The type of information required in Form 2C includes:

- Outfall locations.
- A line drawing of the water flow through the facility.
- Flow characteristics, sources of pollution, treatment technologies.
- Production information (if applicable).
- Improvements (if applicable).
- Intake and effluent characteristics for conventional, nonconventional and toxic (priority) pollutants.
- Potential discharges not covered by analysis.
- Biological testing data.
- Contract laboratory information.
- Certification and signature.

Quantitative effluent data requirements for existing industrial dischargers vary depending on the industrial category of the facility, the facility’s discharge characteristics and the types of pollutants expected to be present in the discharge.

**4.3.6 Form 2D: New Manufacturing, Commercial, Mining, and Silvicultural Discharges of Process Wastewater**

In addition to Form 1, operators of new manufacturing, commercial, mining, and silvicultural discharges of process wastewater must submit Form 2D <www.epa.gov/npdes/pubs/3510-2D.pdf>. New dischargers are those that have not previously obtained permits for a discharge and have not commenced operation. The type of information required in Form 2D includes the following:

- Expected outfall locations.
- Date of expected commencement of discharge.
- Expected flow characteristics.
- Sources of pollutants.
- Treatment technologies.
- Production information (if applicable).
- Expected intake and effluent characteristics.

**4.3.7 Form 2E: Manufacturing, Commercial, Mining, and Silvicultural Facilities that Discharge Only Non-Process Wastewater**

In addition to Form 1, operators applying for an individual NPDES permit for manufacturing, commercial, mining, and silvicultural facilities that are not regulated by effluent limitations guidelines and standards (effluent guidelines) or new source performance standard, and that discharge only non-
process wastewaters, must submit Form 2E <www.epa.gov/npdes/pubs/3510-2E.pdf>. Non-process wastewater includes sanitary wastes, restaurant or cafeteria wastes, and non-contact cooling water, but it does not include stormwater. Stormwater is specifically excluded from the definition of non-process wastewater. Form 2E also may not be used for discharges by educational, medical, or commercial chemical laboratories or by POTWs. The type of information required in Form 2E includes the following:

- Outfall locations.
- Type of waste discharged.
- Effluent characteristics, including quantitative data for selected parameters.
- Flow characteristics.
- Treatment technologies.

### 4.3.8 Form 2F: Stormwater Discharges Associated with Industrial Activities

In addition to Form 1, operators applying for an individual NPDES permit for discharges composed entirely of stormwater associated with industrial activity must submit Form 2F <www.epa.gov/npdes/pubs/3510-2F.pdf>. Applicants whose discharge is composed of stormwater and non-stormwater must also submit Form 2C, 2D, or 2E as appropriate. The type of information required in Form 2F includes the following:

- A topographic map and estimates of impervious surface area.
- Descriptions of material management practices and control measures.
- A certification that outfalls have been evaluated for non-stormwater discharges.
- Descriptions of past leaks and spills.
- Analytical data from each outfall for several specified parameters.

EPA developed the Guidance Manual For the Preparation of NPDES Permit Applications For Stormwater Discharges Associated With Industrial Activity¹ <www.epa.gov/npdes/pubs/owm0241.pdf> to assist operators of facilities that discharge stormwater associated with industrial activity in complying with the requirements for applying for an NPDES permit.

### 4.3.9 Stormwater Discharges Associated with Construction Activity

Most stormwater discharges associated with construction activities that result in the disturbance of one acre or more are covered under a general permit issued by EPA or the authorized state. In cases that a general permit does not cover the discharge or the discharger decides that an individual permit is necessary for stormwater discharges associated with construction activity, the discharger is required to submit Form 1, along with a narrative description of the following:

- The location (including a map) and the nature of the construction activity.
- The total area of the site and the area of the site that is expected to undergo excavation during the life of the permit.
- Proposed measures, including best management practices (BMPs), to control pollutants in stormwater discharges during construction, including a brief description of applicable state and local erosion and sediment control requirements.
• Proposed measures to control pollutants in stormwater discharges that will occur after construction operations have been completed, including a brief description of applicable state or local erosion and sediment control requirements.

• An estimate of the runoff coefficient of the site and the increase in impervious area after the construction addressed in the permit application is completed, the nature of fill material and existing data describing the soil or the quality of the discharge.

• The name of the receiving water.

### 4.3.10 Stormwater Discharges from MS4s Serving a Population Greater than 100,000

The stormwater application regulations (55 FR 47990, November 16, 1990) require operators of large or medium MS4s to submit two-part applications. Part 1 application information was required to be submitted by large MS4s (serving a population greater than 250,000) by November 18, 1991, and by medium MS4s (serving a population greater than 100,000 but less than or equal to 250,000) by May 18, 1992. Part 2 application information was required to be submitted by large MS4s by November 16, 1992, and by medium MS4s by May 17, 1993. Those applications could be submitted on a system- or jurisdiction-wide basis. Key requirements of each part of the application include [and are further addressed in § 122.26(d)] the following:

#### Part 1
- General information (e.g., name, address).
- Existing legal authorities to control discharges to the storm sewer system and any additional authority that might be required.
- Source identification information (e.g., storm sewer outfalls, land use information).
- Discharge characterization, including monthly precipitation estimates, average number of storm events, and results from dry-weather flow screening.
- Characterization plan, including identification of 5 to 10 representative outfalls for stormwater sampling.
- Description of existing stormwater management practices.
- Descriptions of existing budget and resources available to complete Part 2 of the application and implement the stormwater program.

#### Part 2
- Demonstration of adequate legal authority.
- Identification of any major storm sewer outfalls not included in Part 1 of the application.
- Discharge characterization data from three representative storm events.
- Proposed stormwater management program.
- Assessment of controls, including expected reductions in pollutant loadings.
- Fiscal analysis, including necessary capital and operation and maintenance expenditures for each year of the permit.

Under the NPDES regulations, permittees are required to reapply for a new NPDES permit before the expiration of their existing permit; however, in the case of stormwater permits for MS4s, Part 1 and Part 2 application requirements described above were intended only for the initial issuance of an MS4 permit and specific requirements for reapplication have not been defined in the regulations. On May 17, 1996, EPA issued a policy that sets forth a streamlined approach for reapplication requirements for operators of
MS4s (61 FR 41698, August 9, 1996) that allows municipalities to use recommended changes submitted in their fourth year annual report required under § 122.42(c)(2), as the principal component of their reapplication package. It also encourages changes to monitoring programs to make them appropriate and useful to stormwater management decisions. With the policy, EPA seeks to improve municipal stormwater management efforts by allowing municipalities to target their resources for the greatest environmental benefit.

4.3.11 Stormwater Discharges from Small MS4s

The application requirements for small MS4s are addressed in § 122.33. Most states have issued general permits for small MS4s; however, regulated small MS4s may seek authorization to discharge under an individual permit. The application requirements are different depending on whether the MS4 will implement a program under § 122.34 (i.e., a program that follows EPA’s six minimum control measures) or a program that varies from § 122.34. EPA anticipates that most MS4s will follow the § 122.34 requirements.

Regulated small MS4s seeking an individual permit and wishing to implement a program under § 122.34 (the six minimum control measures) must submit an application to their NPDES permitting authority that includes the following:

- The information required under §§ 122.21(f) and 122.34(d).
- An estimate of square mileage served by the small MS4.
- Any additional information that the NPDES permitting authority requests.

A storm sewer map that satisfies the requirement of § 122.34(b)(3)(i) will also satisfy the map requirement in § 122.21(f)(7).

Regulated small MS4s seeking an individual permit and wishing to implement a program that is different from the program under § 122.34 must comply with the permit application requirements of § 122.26(d) (for additional information, see section 4.3.10 above). Under § 122.33, the regulated small MS4 is required to submit both parts of the application requirements in §§ 122.26(d)(1) and (2) by March 10, 2003. Small MS4s are not required to submit the information required by §§ 122.26(d)(1)(ii) and (d)(2) regarding their legal authority, unless they intend for the permit writer to take such information into account when developing their other permit conditions. Regulated small MS4s may jointly apply with another regulated entity consistent with the same requirements.

Additionally, another regulated entity may seek a modification of an existing MS4 permit to include a regulated small MS4 as a co-permittee. In such a case, the regulated small MS4 must apply consistent with § 122.26 rather than § 122.34. Application requirements of §§ 122.26(d)(1)(iii) and (iv) and (d)(2)(iii) do not apply and compliance with §§ 122.26(d)(1)(v) and (d)(2)(iv) can be met by referring to the other MS4’s stormwater management program.

4.3.12 Cooling Water Intake Structures

Phase I of the CWA section 316(b) rule was finalized on December 18, 2001, in 66 FR 65256. The Phase I Rule (Part 125, Subpart I) implements CWA section 316(b) for most new facilities. The rule applies to new facilities that use cooling water intake structures to withdraw water from waters of the United States and that have or require an NPDES permit. This rule includes new facilities that have a design intake flow of greater than 2 mgd and that use at least 25 percent of water withdrawn for cooling purposes. For other
new facilities that have or require an NPDES permit but do not meet the 2-mgd intake flow threshold or use less than 25 percent of their water for cooling water purposes, the permit authority must implement CWA section 316(b) on a case-by-case basis, using best professional judgment (BPJ) (§§ 125.90(b) and 401.14).

Phase II of the CWA section 316(b) rule was finalized on July 9, 2004, in 69 FR 41576. In 2007 EPA suspended the rule following remand of a number of its provisions by the U.S. Court of Appeals for the Second Circuit. CWA section 316(b) requirements for such facilities must be developed on a case-by-case basis.

Phase III of the CWA section 316(b) rule was finalized on June 16, 2006, in 71 FR 35006. The Phase III rule (Part 125, Subpart N) implements CWA section 316(b) for new offshore oil and gas extraction facilities that use cooling water intake structures to withdraw water from waters of the United States and that have or require an NPDES permit. The rule includes facilities with a design intake flow of greater than 2 mgd and that use at least 25 percent of water withdrawn for cooling purposes.

EPA has not established national standards for existing Phase III facilities and is reevaluating its decisions in both Phase II and Phase III because of court remands. In the interim, for Phase III facilities not regulated under national categorical standards, the permitting authority must implement CWA section 316(b) on a case-by-case basis, using BPJ (§§ 125.90(b) and 401.14). For the most current information on regulatory requirements, see the Cooling Water Intake Structure Program Website <www.epa.gov/waterscience/316b/>.

### 4.4 Requirements for NPDES General Permits

As previously discussed in section 3.1.2 of this manual, general permits (§ 122.28) are permits developed for a specific category of dischargers within a specified geographic or political boundary. Using a general permit could simplify the permitting process for both EPA and the discharger. Owners/operators may seek coverage under a general permit only if one has been issued that is applicable to the type of facility for which coverage is sought and the permit covers the facility’s activities. In addition, the permitting authority may determine that a general permit is not appropriate for a facility seeking coverage under the general permit and can require the facility to apply for an individual permit. Furthermore, a facility that otherwise qualifies for a general permit may opt to apply for an individual permit.

In most cases, a facility or activity seeking coverage under a general permit must seek coverage by submitting an NOI. The information that must be provided by the facility or activity in the NOI is specified in the general permit and must include, at a minimum, the following:

- Legal name and address of the owner or operator.
- Name and address of the facility.
- Type of facility or discharges.
- The receiving stream(s).

EPA has developed the Electronic NOI (eNOI) for construction sites and industrial facilities that need to apply for coverage under EPA’s Construction General Permit (CGP) or Multi-Sector General Permit (MSGP), respectively. EPA’s Electronic Stormwater Notice of Intent (eNOI) Website <www.epa.gov/npdes/stormwater/enoi> presents additional information about eNOI.
4.5 Application Review

The contents of individual NPDES permits are based, in part, on the information included in the application. Thus, the application must be complete and accurate before a permit writer can properly develop a permit. Exhibit 4-4 depicts the general process for reviewing a permit application, based on a chart provided in the Washington Department of Ecology’s Permit Writers’ Manual².

Exhibit 4-4 Permit application review process

After the initial application review, the permit writer may request that an applicant submit other information needed to decide whether to issue a permit and for permit development. The requested information could include the following:

- Additional information, quantitative data, or recalculated data.
- Submission of a new form (if an inappropriate form was used).
- Resubmission of the application (if incomplete or outdated information was initially submitted).

In some situations, a considerable amount of correspondence might be required before the permit writer obtains all the information that he or she believes is necessary to draft the permit.
4.5.1 The Complete Application

The regulations at § 122.21(e) state that the Director, “[must] not issue a permit before receiving a complete application...” At a minimum, the application form must have all applicable spaces filled in. Instructions for the application form state that all items must be completed and that applicants use the statement not applicable (N/A) to indicate that the item had been considered. Blanks on a form can occur for a number of reasons, such as the following:

- The response was inadvertently omitted.
- The applicant had difficulty determining the correct response and rather than provide misleading or incorrect information, left the space blank.
- The applicant was unwilling to provide the response.

A permit writer must obtain a response to the blank items by contacting the facility in writing or, in some cases, by telephone. Only minor changes should be handled by telephone and even minor items should be documented in writing in the permit file. Under no circumstances should a permit writer edit or modify the application, which is a legal document that has been signed and certified by the applicant. The original application, any subsequent clarifications, and any supplemental information provided by the applicant should be clearly identified in the file. The information will become part of the administrative record (§ 124.9) for the permit (see section 11.2.1 of this manual), which is critical if any legal challenges regarding permit decisions arise. If the changes or corrections to any application are extensive, the permit writer may require the permit applicant to submit a new application.

The permit writer may also require supplementary information, such as more detailed production information or maintenance and operating data for a treatment system, to process the permit. According to § 122.21(e), an application is considered complete when the permitting authority is satisfied that all required information has been submitted. Supplementary information also can be obtained later when the permit writer is actually drafting the permit. The applicant may submit additional information voluntarily or be required to do so under CWA section 308 or under a similar provision of state law.

4.5.2 Common Omissions in Applications

This section identifies some of the most common omissions and errors found in NPDES permit applications and provides examples of ways to identify missing information and verify the accuracy of certain data.

One of the most commonly omitted items from NPDES permit applications is a topographic map of the area around the discharge, which is required as an attachment to Form 1, Form 2A, and Form 2S. Other industry- or municipality-specific information is also often omitted. For example, industrial applicants sometimes fail to submit a line drawing of the water flow through the facility required by Part II-A of Form 2C. The line drawing is important for ensuring that the location and description of the outfalls and the description of processes (Parts I and II-B of Form 2C) provided by the applicant are accurate.

Sometimes applicants do not properly submit the effluent data necessary to characterize the facility. Below are some required data elements that are commonly omitted from permit applications:

- Valid whole effluent toxicity (WET) testing data, required from POTWs with design flows greater than 1 mgd or those with a pretreatment program. This requirement may be satisfied if the
expiring permit contains a requirement for effluent characterization of WET. The permit writer should note the use of this option on the fact sheet.

- Biosolids (sewage sludge) monitoring data; a description of biosolids use and disposal procedures; annual biosolids production volumes; and information on the suitability of the site and a description of the site management for land application sites from POTWs and other TWTDS. A land application plan is required for any sites not identified in the application.

- Expected toxics and other pollutants. Non-municipal dischargers categorized as primary industries have some mandatory testing requirements for toxic pollutants (see § 122.21, Appendix D, Table I and Table II and also listed in Application Form 2C).

- Production rates and flow data from industrial facilities that are subject to production- or flow-based effluent guidelines. Applicants must use units of measure corresponding to applicable effluent guidelines to allow calculation of effluent limitations.

- Appropriate sample types for all required pollutants and parameters being analyzed (Part 136) (see sections 8.1.4 and 8.3 of this manual for more information). For example, only grab samples or continuous monitoring may be used for pH, total residual chlorine, and temperature, and only grab samples may be used for total phenols and volatile organics.

Exhibit 4-5 presents three examples of the types of questions that the permit writer should consider to determine whether an application is complete.

**Exhibit 4-5 Considerations for an application to be complete**

**Example 1:**
A plastics processor submits Form 1 and Form 2C but fails to indicate testing required for any gas chromatograph/mass spectrometer (GC/MS) fractions in section V.C. of Form 2C and does not provide any data for these pollutants.

**Question:**
Did the applicant provide all the required data for the toxic organic pollutants in Form 2C?

**Answer:**
No. The plastics processor is required to indicate testing required (in the check box) and provide data from at least one sample for each pollutant in the volatile GC/MS fraction (Table 2C-2 in the application form instructions and § 122.21(g)(7)(v)(A) of the NPDES regulations).

**Example 2:**
A soap and detergent manufacturing facility in the liquid detergents subcategory submits Form 1 and Form 2C but marks thallium and beryllium as believed absent in section V.C. of Form 2C and did not provide any data for these pollutants.

**Question:**
Is it appropriate for this applicant to mark believed absent in this section of Form 2C?

**Answer:**
No. Although an applicant that manufactures liquid detergents is not expected to discharge thallium and beryllium, page 2C-3 of the application form instructions and § 122.21(g)(7)(v)(B) require testing for all listed metals by all applicants in a primary industry category, such as soap and detergent manufacturers. The indication of believed absent is incorrect. The applicant should have indicated testing required and provided the results of at least one sample per pollutant. Occasionally, unexpected contaminants could be present in a wastestream.
Exhibit 4-5 Considerations for an application to be complete

Example 3:
An integrated slaughterhouse and meat processing facility submits Form 1 and Form 2C and indicates that zinc is believed absent from its wastewater.

Question:
Is believed absent a proper indication for zinc for this wastewater?

Answer:
Possibly. After consulting the effluent guidelines development documents for the Meat and Poultry Products Point Source Category, the permit writer determines that metals, including zinc, are often used as feed additives and in sanitation products and might be present in the effluent, even though there are no effluent limitations specified for zinc in the applicable effluent guideline. The permit writer should contact the applicant and clarify whether zinc would be expected to be present in the discharge.

The comprehensive testing requirements that apply to the various categories of industry are designed to determine whether any contaminants (some expected, some unexpected) are present in significant quantities and to determine levels of pollutants that are known to be present. Exhibit 4-6 presents an example of how a permit writer makes the determination of pollutant data required in the application.

Exhibit 4-6 Example of required testing during application review

Consider the plastics processor and the liquid detergents manufacturer mentioned above, and answer the following questions:

Question:
What pollutant data are needed to characterize the industries above?
- For which toxic organic pollutants are they required to test?
- For which heavy metals are they required to test?
- Which metals would you expect to find in their wastewaters regardless of whether testing is required?

Answer:
The application form in Table 2C-2 and § 122.21(g)(7)(ii)(A) of the NPDES regulations require testing of the volatile GC/MS fraction by the plastics processor and the volatile, acid, and base/neutral fractions by the liquid detergent manufacturer. Page 2C-3 of the application instructions and § 122.21(g)(7)(ii)(B) require testing of all the metals listed in item V, Part C1 of the application form as well as cyanide and total phenols by both of these primary industry facilities. For information on which, if any, metals might be expected in wastewater discharged by these applicants, see the effluent guidelines development documents.

4.5.3 The Accurate Application

All information submitted on a permit application must be accurate. Although it might be difficult to detect certain inaccuracies, a number of common mistakes can be readily detected. When mistakes are detected, they must be corrected. Generally, any correction or edit to the application should be obtained from the applicant in writing and will become a part of the administrative record for the permit.

In most cases, errors in the application will be inadvertent because of the length and complexity of the form. Note, however, that the application certification statement indicates, “…that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.” If the permit writer believes that falsification has occurred, he or she should refer the findings to the agency’s enforcement staff.
Some of the most common mistakes on permit applications include failing to provide the correct long-term average and daily maximum values, reporting quantified values below known detection limits, and using misplaced decimal points or incorrect concentration units. Exhibit 4-7 presents three examples of the types of questions that the permit writer should consider while reviewing the permit application for accuracy. Additional guidance from EPA might be available to assist permit writers in reviewing applications for some of these common errors. For example, an August 23, 2007, memorandum Analytical Methods for Mercury in National Pollutant Discharge Elimination System (NPDES) Permits describes when a method for mercury is sufficiently sensitive for purposes of permit applications and monitoring under a permit. In the memorandum, EPA strongly recommends that a permitting authority determine that a permit application that lacks effluent data analyzed with a sufficiently sensitive EPA-approved method (such as Method 1631E) is incomplete unless and until the facility supplements the original application with data analyzed with such a method.

4.6 Facility Information Review

In addition to the submitted application form, the permit writer should assemble other information that could be used to develop permit limitations and conditions.

4.6.1 Permit File Review

Before developing the draft permit and fact sheet, the permit writer should assemble and review any additional background information on the facility. If the permit writer is reissuing an existing permit, much of the information should be available in the permit file. Such information would typically include:

- The current permit.
- The fact sheet or statement of basis for the current permit.
- Discharge monitoring reports (DMRs).
- Compliance inspection reports.
- Engineering reports.
- Correspondence or information on changes in plant conditions, problems, and compliance issues.

Much of this information, particularly DMR data, is stored in automated data tracking systems such as:

- Permit Compliance System (PCS) or state databases.
- Online Tracking Information System (OTIS) <www.epa.gov/idea/otis>.
- Envirofacts Warehouse <www.epa.gov/enviro>.

The permit writer can check with other permit writers who have permitted similar types of facilities to see if there are any special considerations related to the type of facility to be permitted. A permit writer might also wish to discuss compliance issues, changes, or history of complaints with compliance personnel who conducted previous inspections of the facility or with permit writers for other media (e.g., air, solid waste). Examples of some other sources of information that the permit writer could use for permit development include the following:

- Receiving water quality data from databases such as the EPA STOrage and RETrieval database (STORET) <www.epa.gov/STORET>.
## Exhibit 4-7 Considerations for an application to be accurate

### Example 1:
An industrial applicant provides a daily maximum effluent flow value of 50,000 gpd in its permit application Form 2C. However, a review of historical water usage records and an old permit application indicate estimated wastewater flows ranged from 100,000 to 150,000 gpd. The applicant had not instituted any water use reduction measures, significantly changed its process operations, or decreased its number of employees.

**Question:**
Are reported values consistent with historical information?

**Answer:**
No. An inspection of the facility revealed two separate water meters (one for sanitary and one for process water); the applicant had overlooked the sanitary meter. Further, the process water meter was found to be defective. Subsequent flow monitoring of the actual total wastestream recorded a flow of 125,000 gpd. A new water meter was installed, and concurrent wastestream flow monitoring and water meter readings resulted in the following water balances:

- **Water In** (based on both water meter readings):
  - 148,000 gpd (131,000 gpd process line and 17,000 gpd sanitary line).
- **Water Out** (based on effluent flow monitoring):
  - 125,000 gpd total treated effluent discharged to the receiving water.
  - Evaporative and consumption losses were estimated at 23,000 gpd (15% of total water usage).

The permit writer should require the applicant to submit a signed and certified letter with the revised flow estimates and a new water balance diagram or submit a revised application.

### Example 2:
An applicant reported its maximum daily flow as 1.2 mgd, the maximum daily suspended solids concentration as 23 milligrams per liter (mg/L), and the maximum daily mass discharge as 690 pounds per day (lbs/day).

**Question:**
Do the concentration, mass, and flow values correspond?

**Discussion:**
No. Even in the unlikely event that the maximum daily flow and the maximum daily concentration occurred on the same day, the mass discharged would be well below the reported value of 690 lbs/day. Using the calculation below, the mass discharge that corresponds to the solids concentration (23 mg/L) and flow (1.2 mgd) would be 230 lbs/day:

\[
23 \text{ mg/L} \times 1.2 \text{ mgd} \times 8.34 \text{ (lbs)(L)/(mg)(millions of gallons)} = 230 \text{ lbs/day}
\]

(conversion factor)

Because the applicant reported a maximum mass discharge of 690 lbs/day, a significant discrepancy is indicated. The permit writer should contact the applicant to resolve the discrepancy. The applicant should submit a signed and certified letter clarifying the correct maximum daily mass discharge of suspended solids or submit a revised application.

### Example 3:
The results submitted in the application for total cyanide are all reported as < 1,000 micrograms per liter (μg/L). When asked, the applicant indicated that total cyanide was analyzed using EPA Method 335.3 (Color, Auto).

**Question:**
Do concentration values correspond with published method detection limits for the method used?

**Answer:**
No. EPA Method 335.3 for total cyanide has a published method detection limit (MDL) of 5 μg/L. The applicant should be able to quantify results for total cyanide at values well below 1,000 μg/L using this method. The applicant has most likely used Standard Method 4500-CN (titrimetric) for total cyanide, rather than the testing procedure indicated. If total cyanide is expected to be present in the discharge and would be of concern at effluent concentrations below 1,000 μg/L, the permit writer should require the applicant to retest for total cyanide using the more sensitive method and to submit the results in a signed, certified letter.
• Supporting documentation collected by EPA for effluent guidelines and categorical pretreatment standards for a variety of industrial categories.

• Reference textbooks and technical documents that provide information about manufacturing processes and wastestreams for specific industry categories, which are available from libraries such as
  - National Technical Information Service (NTIS) <www.ntis.gov>.
  - National Service Center for Environmental Publications (NSCEP) <www.epa.gov/ncepihom>.

• Related environmental permits that could provide site-specific background information about the types of pollutants and wastestreams at a facility, including, for example
  - RCRA permits, which regulate the management of hazardous waste by owners and operators of treatment, storage, and disposal facilities.
  - Clean Air Act permits, which regulate the discharge of atmospheric pollutants.

• EPA’s Treatability Manual, which is a five-volume guidance manual that provides detailed descriptions of industrial processes, potential pollutants from each process, appropriate treatment technologies, and cost estimating procedures.

• The Toxic Release Inventory (TRI) <www.epa.gov/tri>, which is accessible on EPA’s mainframe and through a public online service. The TRI contains information on more than 300 listed toxic chemicals released by specific facilities, including chemical identification, quantity of chemicals released to various environmental media, off-site waste transfer, and waste treatment and minimization information.

If the permit writer must address special conditions in a permit for a municipal discharger to develop or implement a pretreatment program or to address discharges other than the wastewater treatment plant discharge, he or she should obtain the information needed to develop these special conditions. For example, the permit writer might need information on pretreatment program implementation, combined sewer overflows (CSOs), sanitary sewer overflows (SSOs), sewage sludge use or disposal, or stormwater discharges relevant to the facility. Such information is in

• Annual pretreatment reports, pretreatment compliance inspections and audits.
• CSO reports.
• Bypass notifications or SSO reports.
• Stormwater discharge applications or NOIs for a general permit.

### 4.6.2 Facility Site Visits

Facility site visits are an invaluable way to update information on manufacturing processes; obtain information about the facility’s operations, equipment or management; and verify application information. A site visit also acquaints the permit writer with the people who will be operating under the permit and participating in the permit development process.

Site visits can also allow the permit writer to gain a better understanding of more complex facilities. Site visits are especially warranted if significant pollution control or treatment improvements will be required, if there have been frequent problems in complying with the existing permit, if there are known problems...
with spills or leaks or with contaminated surface runoff, or if there are other unique on-site activities that could affect the characteristics of the discharge from the facility.

The site visit should include a detailed review of production processes to evaluate the types of toxic or hazardous substances that might be present in raw materials, products, and by-products. The permit writer should review the water uses, the resulting wastewater streams, and any in-process pollution controls. This review is needed to assist in selecting toxic and other pollutants to be limited and in evaluating possible in-process control improvements.

In addition, the site visit should include a review of the performance and operation and maintenance practices of wastewater treatment facilities. The review is useful in evaluating the adequacy of existing treatment performance and assessing the feasibility of improvements in performance. The permit writer should examine effluent monitoring points, sampling methods, and analytical techniques to identify any needed changes to monitoring requirements and to evaluate the quality of DMR data.

Raw material and product storage and loading areas, sludge storage and disposal areas, hazardous waste management facilities, including on-site disposal areas, and all process areas should be observed to determine the need for controls on surface runoff and specific BMPs. Information from other environmental programs (e.g., CERCLA or RCRA) might be important in this regard.

While on-site, the permit writer should note any housekeeping problems or the need for spill prevention actions, which are not usually detectable from permit applications. If allowed, photographs of problem areas should be taken for future use during permit preparation. If necessary, the permit writer should meet with management to ask questions or clarify information provided on the permit application. If any inaccuracies in the application were found because of the site visit, that is the time for the permit writer to request corrected information.

The time required to conduct a site visit will vary according to the complexity of the facility. For facilities with only a few basic processes, one main waste treatment system, limited in-process controls, few surface runoff outfalls, and limited on-site management of sludge or hazardous wastes, an adequate site visit can most likely be completed in one day. Visits to complex, larger plants with several treatment systems, numerous outfalls, and extensive ancillary activities may require several days.

Time spent on site visits often results in time savings during permit preparation. However, time and travel resources might not be adequate to allow visits to all facilities to be permitted. In such cases, the permit writer might be able to obtain much of the desired information from facility compliance inspections and should try to coordinate the timing of compliance inspections with the timing of permit development.

Aerial photographs may provide much of the needed information on the potential for contamination of surface runoff and on ancillary activities without a site visit or inspection. In addition, comparing aerial photographs with site and process diagrams provided with the application can provide the permit writer with a complete visual description of the facility. Aerial photographs are available from a variety of sources, including the U.S. Geological Survey Earth Resources Observation and Science Center <eros.usgs.gov/#/Find_Data>; TerraServer <www.terraserver.com>; Google Earth <earth.google.com>; and other private contractors.
4.7 Confidential Information

In accordance with Part 2, information submitted to EPA pursuant to the NPDES permitting regulations under Part 122 may be claimed as confidential; however, EPA has determined that the following information will not be held confidential (§ 122.7):

- Name and address of the applicant.
- Permit applications and information submitted with applications.
- Permits.
- Effluent data.

Information that may be claimed as confidential includes material related to manufacturing processes unique to the applicant, or information that might adversely affect the competitive position of the applicant if released to the public. Under such circumstances, the permit writer will be required to treat the information as confidential in accordance with the requirements in Part 2. Any claims of confidentiality must be made at the time of submission or the information will not be considered confidential.


