



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

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OFFICE OF  
WATER

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**MEMORANDUM**

**SUBJECT:** Best practices memorandum for NPDES pretreatment coordination to address toxic and hazardous chemical discharges to POTWs

**FROM:** Andrew Sawyers, Director  
Office of Wastewater Management

A handwritten signature in blue ink, appearing to read "Andrew Sawyers".

**TO:** Water Division Directors  
Regions 1-10

The Office of Water has created a memorandum describing recommendations to program staff in the National Pollutant Discharge Elimination System (NPDES) permit program and National Pretreatment Program for addressing toxic and hazardous chemical discharges from industry to Publicly Owned Treatment Works (POTWs). The Pretreatment Program is a key component of the Clean Water Act's (CWA) NPDES permit program, addressing indirect discharges of pollutants from industrial and commercial facilities to POTWs. NPDES permit writers should have knowledge of the pretreatment program in order to establish appropriate discharge limits in POTW permits.

The attached memorandum, entitled "Best Practices for NPDES Pretreatment Coordination to Address Toxic and Hazardous Chemical Discharges to POTWs", describes EPA's regulations on three separate statutes that address toxic and hazardous chemicals – Toxic Release Inventory (TRI) chemicals through the Emergency Planning and Community Right-to-Know Act (EPCRA), hazardous waste through the Resource Conservation and Recovery Act (RCRA) and pollutants of concern through the CWA. It also describes online tools and additional sources of information available to both NPDES permit writers and pretreatment coordinators to identify discharges of toxic and hazardous chemicals that may affect the integrity of the POTW infrastructure as well as quality of the POTW's effluent and biosolids. Finally, the memorandum describes ways in which permit writers can use these data to set limits or monitoring requirements for POTW NPDES permits.

To effectively communicate the best practices described in this memorandum, the Office of Wastewater Management is planning to launch a series of trainings and webinars directed at both NPDES permit writers and pretreatment coordinators to discuss new tools and methods for addressing toxic and hazardous chemical discharges to POTWs. We highly recommend that managers encourage their staff to participate in these trainings. More details on the trainings are forthcoming.

## **CONTACT INFORMATION**

If you have any questions regarding this memorandum, please contact Jan Pickrel, National Pretreatment Expert at (202) 564-7904 or [pickrel.jan@epa.gov](mailto:pickrel.jan@epa.gov).

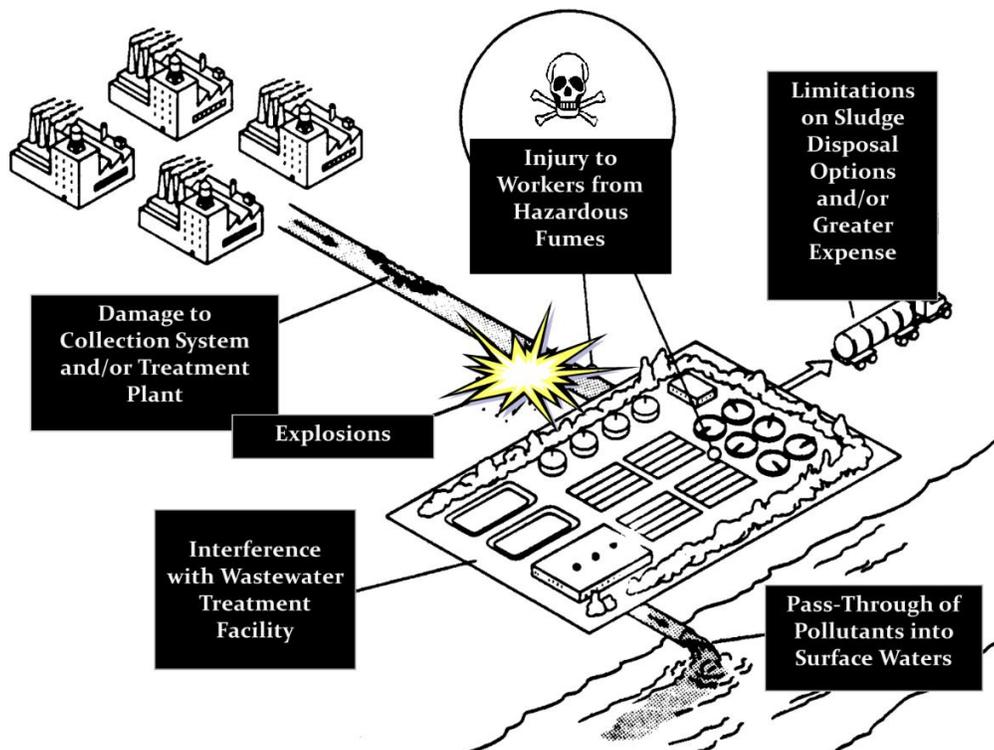
Attachment: Best Practices for NPDES Pretreatment Coordination to Address Toxic and Hazardous Chemical Discharges to POTWs

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# Best Practices for NPDES Permit Writers and Pretreatment Coordinators to Address Toxic and Hazardous Chemical Discharges to POTWs

EPA-830-B-16-001

November 2016



United States Environmental Protection Agency

Office of Water

## **Disclaimer**

This guidance generally describes measures (“best practices”) NPDES permit writers and pretreatment coordinators should consider adopting to address hazardous and toxic chemical discharges to POTWs. It describes EPA’s regulations for three separate statutes that address these categories of pollutants – TRI chemicals through the Emergency Planning and Community Right-to-Know Act (EPCRA), hazardous waste through the Resource Conservation and Recovery Act (RCRA) and the discharge of pollutants under the Clean Water Act (CWA). It describes online tools available to permit writers and pretreatment coordinators to gather additional information about these pollutants for use in POTW NPDES permits. Although the guidance provides additional explanation of EPA’s requirements, it does not alter or substitute for any of the regulations at 40 C.F.R. Parts 122, 260-265, 372, and 403. The guidance is not a rule and is not legally enforceable. It does not confer legal rights or impose legal obligations on any federal, state agency or any member of the public. It does not create any rights, substantive or procedural, enforceable at law by a party to litigation with EPA or the United States. In the event there is an apparent conflict between the guidance and any statute or regulation, the guidance is not controlling. EPA has made every effort to ensure the accuracy of information in the guidance, but the requirements for EPA’s NPDES and pretreatment programs are determined by the relevant statutes, regulations or other legally binding requirements.

This guidance represents EPA’s “best thinking” about the information that is useful in developing POTW pretreatment programs and NPDES permits. This guidance document reflects EPA views about what data and information are available and how permit writers and pretreatment coordinators can use it. Where the guidance uses the word “should” or in some cases “must,” this is intended only to apprise the permit writer or pretreatment coordinator of the kind of information that, in EPA’s view, will assist in determining pollutants of concern and writing POTW NPDES permits.

EPA may decide to revise the guidance without public notice. The public may offer suggestions to EPA for clarifications at any time.

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## 1. Background to the National Pollutant Discharge Elimination System and Pretreatment Programs

The **Clean Water Act (CWA)** prohibits the direct discharge of pollutants to waters of the United States except in compliance with specified provisions of the Act, including section 402 under which EPA may issue a permit for discharging. Section 402 establishes the **National Pollutant Discharge Elimination System (NPDES)** program for permitting direct discharges of pollutants to waters of the United States from point sources. NPDES permits must include a number of conditions, including technology-based effluent limitations and more stringent effluent limitations where necessary to achieve water quality standards.

Under the CWA, the EPA authorizes state, tribal, and territorial governments to administer their NPDES program, authorizing them to perform the permitting, administrative, and enforcement aspects of the program. In states authorized to administer CWA programs, the EPA retains oversight responsibilities. Currently 46 states and one territory are authorized to implement the NPDES program.

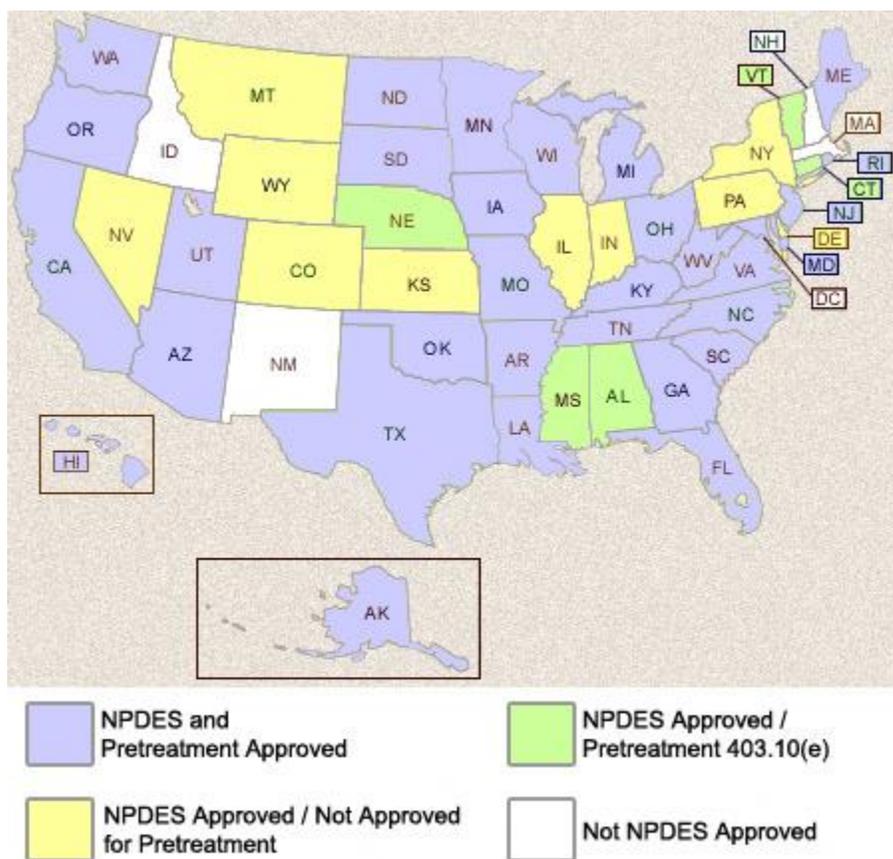


Figure 1 NPDES versus pretreatment approved states.

The CWA also requires EPA to promulgate federal standards for the pretreatment of wastewater discharged to a POTW and prohibits any discharge in violation of any pretreatment standard. The CWA prohibits the *introduction* of pollutants into a POTW that might pass through or interfere with the POTW and its operations. To address *indirect* discharges from industries to POTWs, EPA has established the **National Pretreatment Program** as a component of the NPDES Permitting Program. The National Pretreatment Program requires industrial and commercial dischargers to treat or control pollutants in their wastewater before discharge to POTWs. EPA has developed national pretreatment standards for industrial users of POTWs in different industrial categories. These are known as categorical pretreatment standards. EPA has also developed other nationally applicable pretreatment standards in its General Pretreatment Regulations for Existing and New Sources of Pollution (Pretreatment Regulations) at 40 CFR Part 403. Such pretreatment standards are applicable to any user of a POTW, defined as a source of an indirect discharge [40 CFR 403.3(i)]. POTWs are typically designed to treat only conventional pollutants and are subject to effluent limitations that restrict the discharge of two conventional pollutants, total suspended solids and biochemical oxygen demand. The pretreatment regulations are aimed at controlling other pollutants such as toxic or non-conventional pollutants that may be present in commercial and industrial wastewater and 1) “pass through” the POTW untreated or only partially treated and 2) interfere with POTW operations. Of the 46 states that have authorized NPDES programs, 36 states have authorized pretreatment programs (Figure 1).

As noted, pollutants that are not treatable at POTWs can *Pass Through*<sup>1</sup> the treatment plant. The regulations define pass through to mean a pollutant that exits a POTW in such quantity as to cause or contribute to a violation of any requirement in the POTW’s NPDES permit, such as a water quality-based effluent limitation or condition.

Industrial wastewater pollutants from indirect dischargers may also cause or contribute to *Interference*<sup>2</sup> with POTWs by inhibiting or disrupting treatment processes or POTW operations, resulting in violations such as the discharge of inadequately treated wastewater into water bodies, increased air pollution, biosolids use and disposal problems, and/or the failure to otherwise properly operate or maintain the POTW normally. Interference can also be caused by ignitable or corrosive chemicals, which can compromise the structural integrity of the collection system or the treatment plant itself.

Toxic or hazardous pollutants are not the only causes of Interference. An excess of conventional pollutants can also lead to Interference. For example, excessive loadings of total suspended solids (TSS) or fats, oils and greases (FOG) can cause blockages in the collection system or treatment plant, or disrupt proper biosolids management; and excessive loadings of biochemical oxygen demand (BOD) can surpass designed treatment capabilities. For more information on Interference, refer to Guidance Manual for Preventing Interference at POTWs (1987).

Interference also includes violations of biosolids requirements. Pollutants that may have been successfully removed from wastewater can nonetheless partition to the POTW’s sewage sludge. The presence of toxic pollutants in biosolids may prohibit it from being land-applied to food crops, parks, or golf courses as fertilizer or soil conditioner. EPA’s biosolids program regulates the use or disposal of sewage sludge, including establishing acceptable levels of toxic pollutants.

Discharges of pollutants to a POTW that result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems are prohibited by EPA.

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<sup>1</sup> 40 CFR 403.3(p)

<sup>2</sup> 40 CFR 403.3(k)

Hazardous Air Pollutants (HAPs) from POTWs and from industries discharging wastewater into POTWs are addressed by Maximum Achievable Control Technology (MACT) standards under the Clean Air Act. The EPA is currently conducting a risk and technology review regarding the MACT rule for POTWs that receive wastewater from Industrial Users that are subject to their own National Emission Standards for Hazardous Air Pollutants (NESHAP).

The National Pretreatment Program addresses these impacts by prohibiting industrial and commercial dischargers, known as *Industrial Users* (IUs), from discharging pollutants that will Pass Through the POTW to receiving waters, interfere with a POTW's treatment processes, or contaminate sewage sludge. The program is a cooperative effort of federal, state, and local environmental regulatory agencies.

EPA's General Pretreatment Regulations require all POTWs with design flows greater than 5 million gallons per day (mgd) and receiving industrial discharges that pass through or interfere with the operation of the POTW, or are otherwise subject to pretreatment standards, to develop local pretreatment programs (unless the state government has elected to administer the local program). EPA or a state authorized to implement a state pretreatment program may require other POTWs to implement pretreatment programs.

NPDES states must receive EPA approval before they may function as *Approval Authorities* for pretreatment purposes. States with approved pretreatment programs are responsible for overseeing and coordinating the development and approval of local pretreatment programs. (The conditions for approval are found at 40 CFR 403.10. Before this approval, EPA serves as the pretreatment Approval Authority, even where the state issues NPDES permits.) However, states may initiate pretreatment program activities even before their state program is approved. For the purposes of this manual, it is assumed that the POTW issuing Significant Industrial User (SIU) control mechanisms has an approved pretreatment program and is, thus, the *Control Authority* responsible for administering and enforcing the pretreatment program. The program implementation and enforcement responsibilities are contained in the POTW's NPDES permit, and failure to adequately fulfill such activities constitutes an NPDES violation and could subject the POTW to enforcement actions.

- *Approval authorities*: Director in an NPDES authorized State with an approved State pretreatment program, or the appropriate EPA Regional Administrator in a non-NPDES authorized state, or NPDES State without an approved State pretreatment program.
- *Control authorities*: A POTW with an approved pretreatment program, or the Approval Authority, for a POTW without an approved pretreatment program.

Today, more than 16,000 POTWs in the United States treat billions of gallons per day of wastewater, and then discharge the wastewater under the NPDES permit program to waters of the United States. Approximately 10% of POTWs have approved pretreatment programs.<sup>3</sup>

## 2. Hazardous Waste and Toxic Chemical Regulations

While the National Pretreatment Program was established under the CWA as the primary mechanism to manage the impact of industrial and commercial discharges of pollutants to POTWs, the overall regulation of hazardous and toxic chemicals falls under multiple statutory authorities. As concern about the effects of hazardous and toxic pollutants grew, Congress passed the **Resource Conservation and Recovery Act (RCRA)** in 1976 and the **Emergency Planning and Community Right-to-Know Act (EPCRA)** in 1986 to address, in part, the increasing problems the Nation faced from the growing volume

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<sup>3</sup> Information Collection Request: National Pretreatment Program, OMB Control No. 2040-0009, EPA ICR No. 002.15

of hazardous and municipal and industrial waste, and to support emergency planning and public information related to releases of toxic and hazardous wastes, respectively. The interconnected relationship between the regulation of hazardous solid waste and the Pretreatment Program is described in this section.

## **2.1. Resource Conservation and Recovery Act and the Domestic Sewage Exclusion**

*Hazardous wastes* can pose a substantial or potential hazard to human health or the environment when improperly managed. As defined by the RCRA, a solid waste is a hazardous waste if it is listed in 40 CFR part 261 subpart D, or it exhibits at least one of four characteristics (ignitability, corrosivity, reactivity, or toxicity) identified in 40 CFR part 261 subpart C.

Under the **Domestic Sewage Exclusion** (DSE) (40 CFR 261.4 (a)(1)(ii)), any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly owned treatment works is not considered a solid waste,<sup>4</sup> and is therefore not considered “hazardous waste” for the purposes of RCRA, even if they would meet the definition of hazardous waste if disposed of by other means. To ensure that the DSE did not become a loophole allowing the release of hazardous wastes into sewer systems with inadequate controls, the EPA examined the nature and sources of hazardous wastes discharged to POTWs, measured the effectiveness of EPA’s programs in dealing with such discharges, and identified a number of possible initiatives that could enhance control of hazardous wastes entering POTWs. The study’s results and recommendations were provided in the Report to Congress on the Discharge of Hazardous Wastes to Publicly Owned Treatment Works (1986), also known as “the Domestic Sewage Study.” In response to the Study, the EPA promulgated revisions to the General Pretreatment Regulations (40 CFR Part 403) and NPDES Regulations (40 CFR Part 122) on July 24, 1990 [55 FR 30082] to strengthen controls on hazardous and toxic pollutants discharged by industry to POTWs. In addition to strengthening the existing specific prohibitions, these new regulations required all IUs to report certain discharges, which if otherwise disposed of, would be considered hazardous waste. IUs must report such discharges to the POTW, the EPA and the State. Please refer to the Hazardous Waste Reporting Requirements For Industrial Users Fact Sheet for a more detailed explanation of these reporting requirements, specified under 40 CFR 403.12(j)&(p). In addition, as EPA noted in the preamble to the July 24, 1990 regulations, EPA intends to continue to review the effectiveness of these regulations, and to promulgate any additional regulations that are necessary to improve controls over hazardous waste and other industrial use discharges to POTWs [55 FR 30084].

## **2.2. Chemicals included on the Toxics Release Inventory Chemical List**

Section 313 of EPCRA established the **Toxics Release Inventory (TRI)** to provide information on releases of toxic chemicals to the Federal, State, and local governments and the public. Congress included many chemicals on the TRI list at the time EPCRA was enacted, and the statute provides the EPA with the authority to add or remove chemicals. States and citizens may also petition the EPA to add or remove chemicals from the list.

Chemicals covered by TRI are listed in 40 CFR 372.65. The TRI tracks releases of chemicals included on the TRI list of chemicals from TRI-covered facilities to all media (air, water, solids). EPA is authorized to add chemicals to the list if there is sufficient evidence to establish one or more of the following:

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<sup>4</sup> Refer to 40 CFR 261.2 for the definition of solid waste.

- The chemical is known to or reasonably anticipated to cause significant adverse acute human health effects at concentration levels that are reasonably likely to exist beyond facility site boundaries due to continuous or frequently recurring releases;
- The chemical is known to or reasonably anticipated to cause in humans:
  - Cancer or teratogenic effects, or
  - Serious or irreversible reproductive dysfunctions, neurological disorders, heritable genetic mutations, or other chronic health effects
- The chemical is known to or reasonably anticipated to cause a significant adverse effect on the environment of sufficient seriousness that warrants reporting because of
  - Its toxicity,
  - Its toxicity and persistence in the environment, or
  - Its toxicity and tendency to bioaccumulate in the environment.

The TRI currently tracks releases and other waste management quantities (pursuant to the Pollution Protection Act) for over 650 discrete chemicals, and chemicals included in more than 30 chemical categories. Over 20,000 facilities submit, in total, approximately 80,000 reporting forms each year. Facilities that are subject to the TRI reporting requirements are required to disclose the quantities of chemicals that they release to POTWs.

While there is overlap, the process of developing the TRI chemical list and “listed” hazardous wastes are driven by two different statutes – EPCRA and RCRA – and the approach therefore is unique to each program. For instance, while TRI is chemical-specific, RCRA hazardous waste considers the whole wastestream. Additionally, while states and citizens may petition for a chemical to be included on the TRI chemical list, RCRA regulations prescribe a specific (and different) process for establishing a chemical as hazardous. Though many RCRA hazardous chemicals may also be covered by TRI, it is best practice to consult both sources for a more complete listing of potential hazardous and toxic chemicals discharged to POTWs.

### **2.3. Clean Water Act Pollutants of Concern**

The CWA effluent limitations guidelines and new source performance standard regulations restrict three categories of pollutant discharges to waters of the United States: conventional, toxic and nonconventional pollutants. *Conventional pollutants* include the following: biochemical oxygen demand, total suspended solids, pH, fecal coliform, and oil and grease (40 CFR 401.16). *Toxic pollutants*, such as metals and toxic organic compounds, include the list of 65 pollutants groups on the **Toxic Pollutant List** at 40 CFR 401.15 and the list of 129 pollutants codified in the **Priority Pollutants List** at 40 CFR 423. All other pollutants are considered to be *nonconventional*; examples of which include chlorine, ammonia, nitrogen, phosphorus, chemical oxygen demand (COD) and whole effluent toxicity.

EPA has promulgated analytical test methods for the Priority Pollutants and other parameters at 40 CFR Part 136. These methods must be used when measuring any waste constituent for any permit application submitted to EPA or an approved NPDES state, for any reports required under an NPDES permit or pretreatment regulations requirements and other requests under CWA regulations.

In NPDES permitting, EPA and States, however, are not limited to regulating only the pollutants on the Priority Pollutant list. Thus, for example, where state statutes and regulations allow, a state can develop numeric water quality criteria for pollutants for which EPA has not yet developed national criteria recommendations when the state concludes that such criteria are necessary to protect the uses of state waters. Once developed and adopted under state law, the state permitting authority must develop NPDES permit effluent limitations necessary to implement that state-specific numeric criterion. In the absence of

a state-specific numeric criterion for a particular pollutant of concern, a state may also include a narrative NPDES permit effluent limitation to implement a narrative water quality criteria for a pollutant of concern. Further, a state could develop a site-specific numeric translation of its narrative water quality criteria to establish appropriate water quality-based effluent limits for a pollutant of concern.

As a routine matter, POTWs with an approved pretreatment program must evaluate pollutants that are introduced by industrial users. Pollutants that may need control through a POTW-issued local permit or other control mechanism include any pollutant of concern that may cause Pass Through or Interference and are also limited in the POTW's NPDES permit. For these pollutants, the POTW must develop local limits to prevent discharges to the POTW of pollutants that result in a violation of any requirement of the POTW permit. Such local limits may be numeric limit, best management practices, or narrative requirements (including restrictions on discharge flow or duration). Likewise, pollutants for which local limits were developed by a POTW should be considered to be pollutants of concern by the NPDES permit writer. This underscores the importance of full information exchange between the pretreatment and NPDES authorities in the determination of pollutants of concern.

### **3. Best Practices for Identifying Hazardous and Toxic Chemicals**

#### **3.1. Information gathering, data collection and verification**

The first step in controlling discharges of hazardous and toxic chemicals from POTWs is to ensure that the NPDES permit writer has a complete picture of industrial influent to the POTW. Initially, much of this information must be included in the POTW's NPDES permit application. All new and existing POTWs must submit Form 2A (or an equivalent state application form), which includes basic background information and discharge data for the POTW. Many POTWs will also be required to include more specific supplemental application information including additional effluent testing data, toxicity testing data, industrial user discharges, RCRA wastes and combined sewer systems. See Section 4.3.2 of the NPDES Permit Writer's Manual (2010) for a further discussion of when there may be such requirements.

While it is common to use an expiring permit as a template during reissuance, it is important to remember that the number and size of industrial dischargers can change dramatically within a given region over the permit term. Permit renewal applications must account for any changes; for example, required POTW NPDES permit conditions such as 40 CFR 122.42(b) require that any new introduction of pollutants, or any substantial change in the volume or character of pollutants, into the POTW from an indirect discharger must be reported to the NPDES permitting authority. (See Section 5.4 for additional discussion of this regulatory requirement.) An application that does not contain all the required information, including an accurate list of Significant Industrial Users (SIUs) and, thus, data supporting the identification of pollutants of concern, is incomplete. The conditions of any expiring EPA NPDES permit continue in effect so long as permittee has submitted a timely and complete application for a new or reissued permit. (If State law allows, States may also continue State-issued NPDES permits). The NPDES permit writer should therefore verify that the application identifies all Industrial Users (IUs) and pollutants of concern and request any missing information before developing the permit. EPA may object to a draft permit if the effluent limits fail to satisfy the requirements to control all pollutants which will cause, have to the reasonable potential to cause, or contribute to an excursion above any State water quality standard (See 40 C.F.R. 123.44(c)(8).) To assist permit writers with this process, the NPDES Permit Writer's Manual identifies a number of common omissions in applications to be aware of, described below.

### 3.2. Additional Data for Consideration

In the *NPDES Permit Writer's Manual*, the EPA has identified data elements that are commonly absent from permit applications (see Section 4.5.2, "Common Omissions in Applications"). Whole Effluent Toxicity (WET) testing data and biosolids monitoring data are two items with particular relevance to the pretreatment portions of the permit-writing process. Reviewing this data can assist the permit writer by ensuring that the application accurately reflects the full universe of industrial users within the collection system and any potential hazardous chemical discharges associated with each industry. For instance, WET test failures or low-quality biosolids may indicate the presence of toxic discharges for which inadequate controls exist.

#### 3.2.1. Whole Effluent Toxicity

Whole Effluent Toxicity (WET) refers to the aggregate toxic effect to aquatic organisms from all pollutants contained in a facility's wastewater effluent that can be measured by one of the EPA's WET tests. It is one way to implement the CWA's prohibition of the discharge of toxic pollutants in toxic amounts. WET tests were designed to measure the toxic impacts of effluents within a relatively short period of exposure and for a limited number of WET test endpoints such as an EPA WET test organisms' ability to survive, grow and reproduce (following EPA WET test methods found in 40 CFR Part 136 and also EPA's short-term chronic marine WET test methods used by states on the Pacific Ocean).<sup>5</sup> EPA WET tests are used to predict potential and post-impact toxicity to aquatic organisms.

EPA WET test results provide an important source of information in the management of a pretreatment program, providing valuable insights that cannot be gleaned by a list of reported pollutants alone, such as identifying:

- Additive or synergistic effects of many pollutants within an effluent;
- Some instances of Pass Through;
- Potential presence of unreported pollutants or permit violations due to insufficient monitoring frequencies and decisions regarding WET test choices (i.e., test type, endpoints, test species selected);
- Potential presence of pollutants for which specific analytical methods have not been conducted;
- Effects of chemicals for which the EPA has not yet established aquatic life water quality criteria; and
- Significant pollutant loading from unregulated (e.g. domestic) sources that must be taken into account when setting local limits.

For more information, NPDES WET online training is accessible through the NPDES website at <https://www.epa.gov/npdes/npdes-training> (Click on "Recorded Webinars and Training" tab and then click on the "Whole Effluent Toxicity (WET) Training" bullet).

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<sup>5</sup> EPA Whole Effluent Toxicity (WET) test methods were designed to measure short-term toxicity impacts to freshwater or saltwater aquatic organisms for a limited number of test endpoints (e.g., survival, growth, reproduction). Therefore, while WET tests are used to detect and measure toxic impacts due to pollutants which may not have established aquatic life protection criteria, WET tests can only be used within the scope and design of EPA's WET test methods. For more information see EPA's WET test methods at EPA's Office of Science and Technology (OST) website: <https://www.epa.gov/cwa-methods/whole-effluent-toxicity-methods> and other NPDES WET references and guidance at the Office of Wastewater Management (OWM) website: <https://www.epa.gov/npdes/npdes-permit-limits#wet>. Also EPA's short-term chronic marine WET test methods used by states on the Pacific Ocean is listed in this document references, see Section 7.

### **3.2.2. Sewage Sludge or Biosolids**

CWA section 405(d) requires that the 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. Sewage sludge regulations specified in 40 CFR Part 503 require monitoring of sewage sludge that is applied to land, placed on a surface disposal site, or incinerated. Unlike technology standards, which are 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. Monitoring data on sewage sludge can yield useful pollutant data from both the influent and effluent of a POTW, such as:

- A highly variable influent load of toxics or organic solids
- A significant industrial load
- A history of process upsets due to toxics, or of adverse environmental impacts due to sludge use or disposal activities
- An occurrence of Interference or Pass Through

Biosolids data will be collected electronically after December 2016; see section 4.2.3 for further details. For additional information on the part 503 regulations, refer to [A Plain English Guide to the EPA Part 503 Biosolids Rule](#) (1994).

### **3.3. Identifying Industrial Users**

In order to identify pollutants of concern, POTWs should know and characterize all IUs within their collection system and other non-domestic discharges and determine which pollutants in those discharges pose potential problems. In the NPDES application, all POTWs whether or not they have pretreatment programs are required to identify and characterize the potential pollutants they receive from Categorical Industrial Users (CIUs), SIUs, and other discharges received from hazardous waste generators, waste cleanup, or remediation sites. This needs to include any non-domestic wastewaters received by the POTW by truck or other means, as trucked and hauled wastes are already subject to both EPA's general pretreatment regulations (including the general prohibition against pass through and interference) and to any categorical pretreatment standards applicable to the wastes.

#### **3.3.1. Categorical Industrial Users**

All CIUs need to be identified on the application. A CIU is an IU subject to national Categorical Pretreatment Standards per 40 CFR 403.6 and 40 CFR Chapter I, subchapter N. Categorical Pretreatment Standards are pretreatment standards promulgated by EPA during its development of effluent limitations guidelines (ELGs) for specific industrial categories. These standards are applicable to indirect discharges, i.e. nondomestic discharges to POTWs. ELGs include effluent limitations for direct dischargers, pretreatment standards for indirect dischargers and new source performance standards for both direct and indirect dischargers. ELGs are technology-based national standards developed by the EPA for specific industrial categories, often specific to particular industrial processes and including numerical restrictions on specific pollutants. The standards applicable to indirect dischargers are identified under each ELG as Pretreatment Standards for Existing Sources (PSES) and Pretreatment Standards for New Sources (PSNS).<sup>6</sup> CIUs can either be SIUs or Non-significant Categorical Industrial Users (NSCIUs) as defined in 40 CFR 403.3(v). Both SIUs and NSCIUs should be listed on the application.

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<sup>6</sup> Not all ELGs contain PSES and PSNS; the EPA regulates PSES and PSNS for 35 (out of 58) industrial categories.

### **3.3.2. Significant Industrial Users**

SIUs per 40 CFR 403.3(v) are defined as meeting at least one of the following criteria:

1. All users subject to Categorical Pretreatment Standards, except those designed as NSCIUs;
2. Any IU that discharges an average of 25,000 gpd or more of process wastewater to the POTW;
3. Any IU that contributes a process waste stream that makes up 5% or more of the average dry-weather hydraulic or organic capacity of the POTW treatment plant; or
4. Any IU designated as a SIU by the POTW on the basis that the IU has the reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standards or requirement in accordance with 40 CFR 403.8(f)(6).

A full list of all SIUs is required for the POTW NPDES application. As industries within a region may change or expand, it is important to verify that the list of SIUs is up-to-date and not merely a replication of a previous application. Section 4.6.1, "Permit File Review" of the NPDES Permit Writer's Manual, instructs permit writers to assemble and review any additional background information before finalizing the permit and fact sheet for the facility. Just as WET testing and biosolids data can reveal the presence of industries that must be identified, the pollutants potentially present in the effluent or sludge of a POTW can be inferred through knowledge of the industries discharging in a POTW's collection system. A POTW with an approved pretreatment program is required to make available its compilation, index, or inventory of Industrial Users, and their character and volume of pollutants, to the EPA Regional Administrator or state permitting authority Director upon request. This complete picture of the potential toxic pollutants discharged to a POTW, as extrapolated from all industries discharging in the collection system, should be used to analyze the reasonable potential for water quality standards violations.

### **3.3.3. Other Industrial Users**

In addition to knowledge of industries discharging to the POTW through the POTW collection system, trucked and hauled wastes are already subject to both EPA's general pretreatment regulations (including the general prohibition against pass through and interference) *and* to any categorical pretreatment standards applicable to the wastes. Such sources of non-domestic wastes to the POTW must also be recognized as Industrial Users. The NPDES permit should also address adequate control of discharges to the POTW from hazardous waste generators (including wastes from sites regulated under RCRA and CERCLA), and other waste cleanup or remediation sites (40 CFR 122.21(j)(7)). Regardless of the mechanism of transport (including hauled waste), the POTW must submit information about all of these wastes. The Hazardous Waste Biennial Reports may provide additional information on what hazardous chemicals generators are producing (<https://rcrainfo.epa.gov/rcrainfoweb/action/modules/br/broverview>).

### **3.4. Coordination between Permit Writers and Pretreatment Coordinators**

A POTW's approved Pretreatment Program is an excellent source of information for the POTW's NPDES permit writer to help identify potential toxic and other pollutants that might be present in the POTW's effluent. Often, the NPDES permit writer and the state pretreatment coordinator are in the same state agency, which should facilitate such coordination. POTWs with approved pretreatment programs have local pretreatment coordinators that can supply information directly or through the state pretreatment coordinator. EPA national and regional pretreatment program coordinators are also available for assistance.

However, some states have a “split authority,” where the state has NPDES authorization but not pretreatment authorization. In these cases, permit writers must take extra steps to coordinate with the EPA regional pretreatment program coordinator when assembling a complete permit application file and ultimately setting permit conditions. For instance, a POTW’s annual pretreatment report, which is submitted to the EPA regional pretreatment program coordinator and provides an updated list of the POTW’s IUs, might be accepted by the State NPDES Director as a surrogate list of SIUs for the NPDES application. To be acceptable, the contents of the list should be reviewed in order to determine if it contains substantially identical information as required by the NPDES permit application and is current to within one year of the application submittal (40 CFR 122.21(j)(6)(iii)). In these states with an authorized NPDES program but without an authorized pretreatment program, it will be necessary for the state permit writer to contact the EPA regional pretreatment coordinator to verify the qualifications and suitability of the submission. Other supporting documentation such as extra POTW effluent and sludge data for particular pretreatment program studies may also have been submitted directly to the EPA Regional Pretreatment Program Coordinator.

#### **4. Tools for NPDES Permit Writers and Pretreatment Coordinators**

The information-gathering required to support development of NPDES permits for POTWs is significant, but the advent of electronic reporting greatly facilitates this process. EPA’s recent modernization of its data systems and newly developed tools can support the NPDES permit writer in verifying application completeness and gathering the supplemental information necessary to identify pollutants of concern, conduct a reasonable-potential analysis, and then develop appropriate permit limits and conditions. These tools are described in the following subsections.

##### **4.1. Enforcement and Compliance History Online**

The EPA recently modernized and redesigned the public access data system Enforcement and Compliance History Online (ECHO) to make it easier to use and access data (<https://echo.epa.gov>). ECHO extracts EPA, state, local and tribal environmental agency compliance and enforcement records from EPA national databases, such as Integrated Compliance Information System (ICIS)<sup>7</sup>, RCRA Information System (RCRAInfo), Facility Registry System (FRS) and Toxics Release Inventory (TRI). These data are then synthesized into easy search tools, such as the Facility Search, State Dashboards and CWA NPDES Discharge Monitoring Report (DMR) Pollutant Loading Tool (described in next subsection).

##### **4.1.1. Facility Search**

The Facility Search (“Explore Facilities” graphic on the web) can be accessed from the ECHO homepage and can be used to gather a multitude of information about a particular facility or multiple facilities with similar conditions (e.g., all NPDES water permits within a given county that have not had an inspection within the last year). The tool has numerous iterations of searches that can be performed, covering all data (air, water, hazardous waste, drinking water) or just one specific parameter, any geographic locations including tribal counties and watersheds, facility characteristics such as industry type, enforcement and compliance actions, environmental conditions (non-attainment or discharges to impaired waters), and pollutants of concern from TRI. A facility-specific search is able to pull data from multiple sources to give the permit writer a complete picture of the POTWs and industries they are permitting. The ECHO

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<sup>7</sup> Access to ICIS is available to regions and states with appropriate login credentials.

Tool Guide (access: <https://echo.epa.gov/resources/general-info/tool-guide>) provides instruction to obtain frequently requested information. Sample searches that may be particularly useful include:

- Identifying other media permits held by the applicant (e.g., air, hazardous waste) as well as locate other facilities in the area of the applicant. This information is specifically required in the NPDES application form in accordance with 40 CFR 122.21(f)(6) [EPA Form 1]. NPDES permit writers may use this information to verify completeness of the application and to access information on the other media's monitored pollutants and permit compliance. In addition, information on other environmental permits held by a facility can provide information on pollutants stored, generated, and monitored at the facility.
- Determining whether a facility within one EPA program is in violation under another program. This multimedia report may assist permit writers to both support development of conditions to improve operation and maintenance of a facility, as well as identify that there may be additional potential pollutants that may "cross-media" (e.g., from air to water).
- Determining the compliance status or last inspection of facilities reporting releases of TRI chemicals.
- Displaying effluent data and violations in graphical format for a particular NPDES permit, permit parameter, or permit outfall.
- Determining violations or inspection presence in priority water bodies, including identification of facilities discharging into impaired waters (e.g., CWA 303(d) listed waters).
- Finding information on other facilities discharging to the same water body, whose presence may influence the quality of the discharge or receiving water and thus can be important information when evaluating wasteload allocations, dilution allowances, and mixing zones.

For those who are new to ECHO, there are numerous tutorials and trainings offered under “Become an ECHO Pro” (access: <https://echo.epa.gov/resources/general-info/become-an-echo-pro>), including short video tutorials (access: <https://echo.epa.gov/help/tutorials>).

#### ***4.1.2.State Dashboards***

Some of the key features of ECHO include numerous high level searches and graphics for national and state-wide data trends (found under “Analyze Trends”), such as the State Dashboards. These features can be used to identify specific facility information, such as facilities in non-compliance or facilities with enforcement actions, which can be valuable data to the permit writer. There are several dashboards for different media – air, drinking water, hazardous waste, pesticides and water. The EPA is also working on additional ECHO dashboards for pretreatment and biosolids, both of which will improve the information available to permit writers and pretreatment coordinators.

#### **4.2. The Discharge Monitoring Report Pollutant Loading Tool**

The Discharge Monitoring Report (DMR) Pollutant Loading Tool (access: <https://cfpub.epa.gov/dmr/>) is designed to help viewers determine who is discharging pollution and pollutants, locations, and quantities being discharged. Although historically this tool contained information primarily from direct discharges, data from SIUs and CIUs are now required by the Electronic Reporting Rule to be available no later than 2020. This media-specific facility information search tool specifically calculates pollutant loadings using permit and DMR data from EPA's NPDES program database, ICIS-NPDES. Data are available from the year 2007 to present. Pollutant loadings are presented as pounds per year and as toxic-weighted pounds per year to account for variations in toxicity among pollutants. Data from a single discharger can be downloaded in a spreadsheet to be graphically presented. The tool ranks dischargers, industries, and watersheds based on pollutant mass and toxicity, and presents “top ten” lists to help users determine

which discharges to flag, which facilities and industries produce these discharges, and which watersheds are impacted. Recent enhancements to the DMR Pollutant Loading Tool are listed below.

#### ***4.2.1. Whole Effluent Toxicity***

If a NPDES direct discharge permit has a WET limit or requires WET monitoring, the data should be entered into ICIS-NPDES. Historically, however, WET test results were often submitted separately from the DMR form and results had to be manually entered into the ICIS database, limiting their visibility by a wider audience. ICIS-NPDES includes approximately 900 different parameters that authorized NPDES programs and the EPA can use to collect and manage NPDES WET permit limits and monitoring data electronically. EPA's Office of Enforcement and Compliance Assurance (OECA) has recently created a set of standard reports (in ICIS-NPDES Business Objects) that focus on NPDES permittee effluent WET data, which allows for easy analysis. These standard reports include:

- Summary report: gives a summary of all the report tabs by state and major/minor status.
- Required to Report: shows what facilities are required to report from WET test results.
- Required but Haven't Reported: shows those facilities that are required to report WET test results but have not reported this data into ICIS.
- WET NPDES permit violations
- All Effluent Violations: all effluent violations for the permits that have WET violations.

Additionally, the DMR Pollutant Loading Tool was recently updated to provide public access to WET data. This feature is available using ECHO's "EZ Search" as well as the "Advanced Search." These new enhancements use the same set of ICIS-NPDES WET parameter codes. Public users can use these data to identify NPDES WET permit violations.

Since WET test results have been identified as a common omission to NPDES permit applications, a quick verification of data using either ICIS-NPDES or the DMR Pollutant Loading Tool will allow the permit writer to check whether WET data have been entered into the database. This helps ensure that the permit writer obtains relevant existing data in order to draft a permit, as well as ensuring that all relevant data has actually been entered into the database. Any NPDES WET permit exceedance may warrant further analysis to determine whether an indirect industrial discharger to the POTW is responsible. If NPDES WET permit limit exceedances are indeed caused by an industrial user, or by synergistic effect of pollutants from multiple industrial users, the permit applicant and NPDES permit writer should verify the identity of the industrial user(s) in the permit application (40 CFR 122.21(j)(6) & (7)). The permit writer should also discuss the situation with the respective pretreatment coordinator to ensure that the appropriate permit requirements including monitoring and limits are included in the permit upon reissuance.

#### ***4.2.2. TRI Interface***

The DMR Pollutant Loading Tool now extracts wastewater pollutant discharge data from EPA's Toxics Release Inventory (TRI) as far back as 2007. Users can search TRI data ([https://cfpub.epa.gov/dmr/tri\\_search.cfm](https://cfpub.epa.gov/dmr/tri_search.cfm)) to find the facilities with the largest toxic discharges to surface waters or POTWs. Users can also visually compare the DMR data search results against TRI data search results (<https://cfpub.epa.gov/dmr/dashboard.cfm>). See Figure 2 for the types of wastewater streams that the TRI Program and DMR data describe. The tool clearly labels the source of data when displaying search results, but does not mix TRI or DMR data when calculating pollutant discharges.

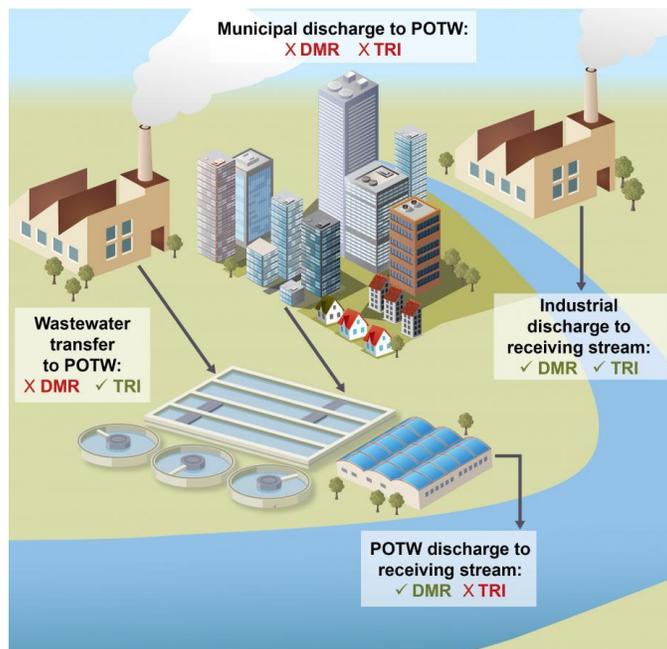


Figure 2 Wastewater discharges described in DMR versus TRI.

NPDES permit writers and pretreatment coordinators should review TRI information concerning discharges to POTWs. Some of these chemicals may be regularly assessed by the POTW's Pretreatment Program (e.g., metals), whereas others are only occasionally analyzed (e.g., volatile organics and pesticides). Reviewing TRI data for toxic chemical releases to a POTW may help identify sources of pollutants of concern not previously realized. This comprehensive knowledge of pollutants sent to a POTW may assist in identification of a cause of POTW plant operation inhibition or Pass Through of pollutants. POTW operators should coordinate with their pretreatment program staff to ensure that adequate testing and control of these pollutants are in place to prevent Pass Through or Interference.

Because the TRI report identifies facilities discharging to POTWs, it can serve as an additional source of information on the IUs discharging to the POTW when drafting and reviewing a POTW NPDES permit or identifying industrial contributors needing a State or local industrial user permit. As all pretreatment control authorities must identify IUs that qualify as SIUs (application requirement at 40 CFR 122.21(j)(6) and in 403.8(f)) and control those facilities through its pretreatment program (definition at 40 CFR 403.3(v)), information from the TRI can assist the NPDES permit writer in ensuring that all SIUs are accounted for on the application, and assist pretreatment coordinators with identifying potential unpermitted users.

Users of the TRI report are cautioned that all industries reporting discharges to POTWs should not necessarily be assumed to be SIUs. However, POTWs and states with approved pretreatment programs should already be aware of, and have evaluated, their status per required procedures to "identify and locate all possible IUs which might be subject to the POTW Pretreatment Program" (40 C.F.R. 403.8(f)(2)(i) and 403.10(e)). Additionally, the TRI report may identify industrial dischargers to POTWs not having an approved local pretreatment program, which may indicate that one should be developed and that those dischargers require State SIU permits either initially or in perpetuity.

#### **4.2.3. Sludge/Biosolids (Pending)**

Data on the quality of biosolids produced by the POTW can also reveal the occurrence of pollutant Interference or Pass Through. As part of the NPDES Electronic Reporting Rule (e-Rule), the EPA is

working on a new module within ICIS-NPDES for biosolids reporting. After December 21, 2016, all NPDES regulated entities in states where the EPA is the authorized NPDES biosolids program (currently 42 of 50 states and all other tribal lands and territories) must electronically submit their Sewage Sludge/Biosolids Annual Program Report to the EPA. A workgroup is developing the data entry form and a Biosolids Dashboard from which facility data can be downloaded.

### **4.3. EPA Geospatial Program and GeoPlatform Mapping**

The EPA has several water applications that use geospatial data currently available to the public, including "Ask Waters," Nitrogen and Phosphorus Pollution Data Access Tool (NPDAT), DWMAPS, and MyWATERS Mapper. These applications can be used to assist the NPDES permit writer with obtaining general water quality data and help to identify other facilities discharging to the same watershed. Geospatial maps are also used by NPDES permitting authorities to visually assess information provided in NPDES application forms to verify and supplement data found in the permit application. In addition, EPA's Office of Enforcement and Compliance Assurance (OECA)'s Office of Compliance (OC), is piloting inspection targeting maps within the EPA GeoPlatform (<http://intranet.epa.gov/gis/>) that overlay multiple data layers including information from TRI, ICIS, EJSCREEN, CWNS, ATTAINS and other sources, visually connecting TRI industrial users and the POTWs to which they discharge. OECA/OC performed these pilots with Regions 4 and 5 to help identify POTWs with high industrial flow, and to target locations for Pretreatment Program oversight inspections. Benefits from this pilot have included the identification of previously unregulated industrial users subject to pretreatment standards and the identification of POTWs recommended by the EPA to develop pretreatment programs.

These particular pilot programs are not currently publicly available, but the methods and results can be replicated by anyone with the appropriate georeferenced data. For additional information, contact Seth Heminway ([Heminway.Seth@epa.gov](mailto:Heminway.Seth@epa.gov)).

### **4.4. Census and Industry Databases**

U.S. Census data and private business registry databases can also supplement and verify information reported on the NPDES application. In the absence of adequate information provided on the application of CIUs and SIUs within a POTW's collection system, private databases of industry information can provide a wealth of data on industries operating within a geographic area. The name of registered companies, their industry sector, sales volume and number of employees can be pulled from these databases, from which a permit writer can glean overall production levels. Higher production levels imply higher pollutant loadings. Production information can be compared to U.S. Census population data and the compliance history of the facilities in the geographic area.

This information can be useful in identifying potential facilities for further inspection, based on the size of a city's industry sector relative to its population, as well as help identify the source of reported violations. For instance, if a POTW reports BOD levels in ECHO that are higher than the background levels expected for the population of the city it serves, one plausible explanation is that there are significant industry loadings. Querying databases for a list of its largest food processors, an industry known to contribute heavily to BOD levels, may help pinpoint the culprit. Similarly, if a POTW reports an exceedance for metals in its sludge, a search for all manufacturers that might discharge metals into their wastestream can reveal potential sources of the violation.

## **5. Best Practices in the Permitting Process for Controlling Hazardous and Toxic Chemicals**

### **5.1. Applying Data Collection and Analysis to Permit Writing**

With information obtained from the NPDES permit application and other sources, and verified through the online databases and tools described above, the permit application file should be complete and the process of drafting the permit can begin. With a complete list of pollutants or pollutant parameters, the permit writer must consider limits based on both the technology available to control the pollutants (i.e. Technology-Based Effluent Limits or TBELs) and limits that are protective of water quality standards of the receiving water. Where TBELs for POTWs at 40 CFR 133, the Secondary Treatment Regulations, alone will not achieve the applicable water quality standards, the permit writer will need to conduct a reasonable potential analysis (RPA) in accordance with 40 CFR 122.44(d)(1) in order to determine if the pollutants cause or contribute to an excursion of a downstream water quality standard (WQS) (CWA 301(b)(1)(C)) and determine whether the pollutant will cause Pass Through or Interference. Based on this analysis, the permit writer should determine the need for chemical-specific Water Quality Based Effluent Limits (WQBELs), WET limits, and monitoring provisions for the POTW.

### **5.2. Chemical-Specific Limits and Monitoring for POTW NPDES Permits**

A reasonable-potential analysis is used to determine whether a discharge, alone or in combination with other sources of pollutants to a water body, could lead to an excursion above an applicable water quality standard. The regulation also specifies that the reasonable potential determination applies not only to numeric criteria, but also to narrative criteria. A permit writer can conduct a reasonable-potential analysis using effluent and receiving water data and modeling techniques or using a non-quantitative approach. Chapter 6 of the NPDES Permit Writer's Manual provides an overview of the need for and development of WQBELs and the Technical Support Document presents recommendations for calculating WQBELs for toxic pollutants. For each pollutant of concern, the permit writer should conduct a RPA and determine the need for chemical-specific WQBELs.

If the permit writer is not able to decide whether the discharge causes or has the reasonable potential to cause or contribute to an excursion above water quality criterion, he or she may determine that effluent monitoring should be required to gather additional data. For example, despite requirements for industrial users to notify the POTW of any substantial changes to discharges, some facilities might install new process technology, change the production and discharge levels of chemical compounds, or use new chemicals in their processes. In these cases, new toxic pollutants might be introduced into the POTW. Review of the priority pollutant scans from the application would characterize their presence and determine if these priority pollutants are being introduced into a POTW. Any changes from previous scans may identify such concentration changes before problems with Pass Through, Interference or sludge quality occur or are detected by other analytical means, and may warrant monitoring requirements.

### **5.3. WET Limits and Monitoring for POTW permits**

EPA WET tests are primarily designed to protect the receiving waters from the aggregate toxic effect of a mixture of pollutants in the effluent. The EPA's NPDES WET program contributes to identifying sources of toxicity within complex effluents as well as potential synergistic effects. Based on the collected WET test results on permitted effluents, if the permit writer determines that the discharge will cause, have the reasonable potential to cause, or contribute to an in-stream excursion for a numeric or narrative aquatic life protection criterion for WET, then the permit writer should establish an appropriate effluent limitation for WET to ensure compliance with the criterion [40 CFR 122.44(d)(1)(iv)&(v)]. The POTW may then

need to develop local limits for its IUs to ensure that the POTW will not violate the limitations. If the permit writer determines there is no reasonable potential for an excursion, then the permit writer may well still wish to consider including WET monitoring requirements that are representative of the effluent.

During the permit cycle, when a WET test result indicates an excursion of state WET WQS and/or an exceedance of NPDES WET permit limits, a Toxicity Identification Evaluations (TIE) can assess the source of toxicity and a well-developed Toxicity Reduction Evaluation (TRE) plan can reduce, eliminate or abate the source of toxicity to bring the discharger back into compliance. The Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants (1999) provides further information on conducting a TIE/TRE.

#### **5.4. Reporting Requirements in a POTW Permit**

NPDES permit writers must ensure that the provisions of standard conditions in 40 CFR 122.42(b) are included in all POTW NPDES permits. As noted above, some of these provisions require the POTW to notify the NPDES and Pretreatment Authority when there is (1) any new introduction of pollutants, or potential introduction, into the POTW from an industrial user which would be subject to CWA 301 or 306 if it were directly discharging those pollutants, and (2) any substantial change in the volume or character of such pollutants. The notification shall include information on the anticipated impact of the change on the quantity or quality of the effluent to be discharged from the POTW, as well as the characterization of that discharge from the IU. The NPDES permit writer should then evaluate this information and conduct a reasonable potential analysis to determine if new limits or monitoring need to be included in the POTW's permit. The permit writer should work with the pretreatment coordinator to then evaluate this information to determine any additional pretreatment conditions necessary to prevent Interference and Pass Through.

In addition, all POTWs – with or without an approved pretreatment program – are required to identify the character and volume of pollutants introduced by any SIUs subject to Pretreatment Standards [40 CFR 122.44(j)(1) and 403.8(f)]. In order for a POTW to identify their SIUs, they must be aware of all their IUs, and know which meet the definition of SIU. The permit writer must include language for this Special Condition in the POTW NPDES permit. POTWs with pretreatment programs are required to submit additional information in accordance with 40 CFR 122.44(j)(2) and 40 CFR Part 403.

To address an introduction of new pollutants from an IU after the NPDES permit has been issued to the POTW, notification requirements of 40 CFR 122.42(b) must be included in the POTW NPDES Permit. Particularly where the NPDES and Pretreatment program authorization is split (where the state has NPDES authorization but not pretreatment authorization), the notification should be provided to both the state NPDES authority and EPA Regional Pretreatment Coordinator so that each may consider the appropriate action to be taken in response to the respective program requirements.

During the permit process, it is a best practice for the permit writer to work with the pretreatment coordinator to evaluate a POTW's pretreatment program and/or determine the need for a POTW to develop a program.

#### **5.5. Evaluation of the Need for a POTW Pretreatment Program**

The need for a POTW to develop a pretreatment program is outlined in 40 CFR 403.8(a) and applies to POTWs (1) having a combined design flow of greater than 5 MGD and (2) receiving flow subject to pretreatment standards or receive pollutants which pass through or interfere. Alternatively, the Approval Authority can require a POTW to develop a program where it is deemed necessary. For example, regardless of the design flow, if the nature or volume of the industrial user influent has the potential to cause treatment process upsets, violations of POTW effluent limitations, or contamination of municipal

sludge, the Approval Authority can require a POTW to develop a pretreatment program in order to prevent Interference or Pass Through at the POTW. It is important to evaluate this provision each time the permit is renewed and consider whether the conditions from the previous permit still apply. If a POTW did not need a pretreatment program in the 1980s when the regulations were first promulgated, consider the likelihood that local conditions have changed and new industries have emerged. Re-evaluation of this provision is vital to ensure new toxic and hazardous discharges are being adequately addressed.

### **5.6. POTWs without Approved Pretreatment Programs**

For POTWs that are not required to have pretreatment programs, or do not yet have one, the Approval Authority must assume direct oversight of the IUs. This role includes implementing the IU control mechanisms, monitoring and inspections, receiving and reviewing reports and enforcement actions. In addition, POTWs that have experienced existing or past Interference or Pass-through are required by 40 CFR 403.5(c)(2) to develop and enforce local limits to ensure that the POTW complies with its NPDES permit or sludge use or disposal practices. During the permitting process, the NPDES permit writer and pretreatment coordinators should evaluate whether this POTW should also develop a POTW Pretreatment Program to have the authority and capability to enforce these limits.

Under the authority of section CWA 402(b)(1)(C) and 40 CFR 403.8(e), the Approval Authority may modify, or alternatively, revoke and reissue a POTW's permit in order to put the POTW on a compliance schedule for the development of a POTW Pretreatment Program. Such permit schedule, or even an enforcement order schedule, should be particularly considered where the addition of pollutants into a POTW by an IU or combination of IUs presents a substantial hazard to the functioning of the treatment works, quality of the receiving waters, human health, or the environment.

### **5.7. POTWs with Approved Pretreatment Programs**

For POTWs with a pretreatment program, as a best practice, the EPA recommends that a periodic evaluation of local limits be conducted in a timely manner to address new NPDES permit limits and new water quality standards. More detailed evaluations should be conducted on an “as needed” basis.

The NPDES permit must include language that instructs the POTW to evaluate the need to develop or revise local limits following NPDES permit issuance or reissuance [40 CFR 122.44(j)(2)(ii)]. By reviewing information described for the permit development process, the NPDES permitting authority might impose new effluent limits or monitoring requirements; accordingly, this may identify pollutants for which the POTW should set, revise or maintain local limits. As identified in the Section 5.4, new pollutants might also be introduced during the NPDES permit cycle (e.g., from an existing IU changing process chemicals or production and associated levels, or a new type of IU may begin discharging to the POTW); accordingly, the NPDES permitting authority may require new WQBELs for which the POTW would reevaluate its local limits. EPA's Local Limits Development Guidance provides detailed recommendations on how to meet this requirement as well as when additional circumstances merit further reviews. For example, when POTW plant conditions have changed, the EPA suggests a re-evaluation be conducted that includes an in-depth look at all the data, criteria, and assumptions on which local limits are based to determine whether any changes affecting the local limits have occurred.

The POTW is also encouraged to conduct periodic sampling for its local limits assessment as it seeks to implement a proactively protective pretreatment program, instead of only reacting when Interference and Pass Through violations have occurred.

## 6. Conclusion

The advent of electronic reporting and its application to novel electronic tools, which have improved access to discharge information, such as geographic information systems, has opened new avenues for examining the efficacy of a POTW's NPDES permit and pretreatment program, targeting gaps in enforcement and compliance, and anticipating emerging trends and changes in a region's industrial wastes. The use of these tools to their full extent is encouraged in order to prevent the introduction of hazardous and toxic chemicals into POTWs and, ultimately, waters of the U.S. The POTW's NPDES permit should fully examine indirect industrial discharges during the permit development process and NPDES permit writers should communicate frequently with their pretreatment coordinators to ensure pollutants are kept out of our nation's waters.

For more information, please contact Jan Pickrel (pickrel.jan@epa.gov).

## 7. Reference Documents

A Plain English Guide to the EPA Part 503 Biosolids Rule, EPA-832-R-93-003, September 1994.

Guidance Manual for the Control of Wastes Hauled to Publicly Owned Treatment Works, EPA-833-B-98-003, September 1999.

Guidance Manual for Preventing Interference at POTWs, EPA-833-B-87-201, September 1987.

Local Limits Development Guidance, EPA 833-R-04-002A, July 2004.

NPDES Permit Writer's Manual, EPA-833-K-10-001, September 2010.

Report to Congress on the Discharge of Hazardous Wastes to Publicly Owned Treatment Works, EPA 530-SW-86-004, February 1986.

Technical Support Document for Water Quality-based Toxic Controls, EPA-505-2-90-001, March 1991.

EPA NPDES WET documents can be accessed at the Office of Wastewater Management's NPDES website: <https://www.epa.gov/npdes/npdes-permit-limits#wet>.

EPA's WET test methods promulgated at 40 CFR Part 136 can be accessed at the Office of Science and Technology's website: <https://www.epa.gov/cwa-methods/whole-effluent-toxicity-methods>.

EPA's WET test methods used by states on the Pacific Ocean: "*Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms*", First Edition, EPA-600-R-95-136.