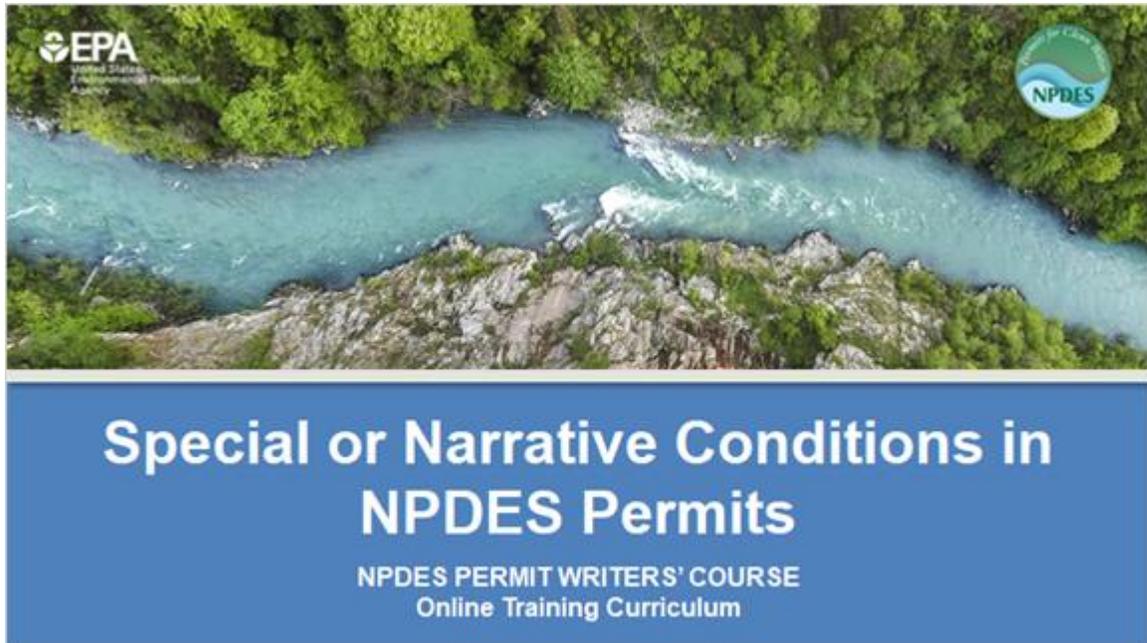


Special or Narrative Conditions in NPDES Permits

1. NPDES Permit Writers' Course Online Training Curriculum

1.1 Special or Narrative Conditions in NPDES Permits



Notes:

Hello, and welcome to this presentation on special conditions in National Pollutant Discharge Elimination System, or NPDES, permits.

This presentation is part of an online training series on the NPDES program sponsored by the Environmental Protection Agency's Water Permits Division.

Before we get started, I'll introduce your speakers for this presentation and cover one important housekeeping item.

1.2 Presenters



Presenters

- **David Hair**
Environmental Engineer
US Environmental Protection Agency
Washington, DC
- **Greg Currey**
Environmental Engineer
Tetra Tech, Incorporated
Fairfax, Virginia



Notes:

Your speakers for this presentation are David Hair, an environmental engineer with the Water Permits Division of USEPA in Washington, DC, and me, Greg Currey, an environmental engineer with Tetra Tech, Incorporated in Fairfax, Virginia.

Now for our housekeeping item. I need to tell you that all the materials used in this presentation have been reviewed by USEPA staff for technical accuracy; however, the views of the speakers are their own and do not necessarily reflect those of USEPA. NPDES permitting is governed by the existing requirements of the Clean Water Act and USEPA's NPDES implementing regulations. These statutory and regulatory provisions contain legally binding requirements. The information in this presentation is not binding. Furthermore, it supplements, and does not modify, existing USEPA policy, guidance, and training on NPDES permitting. USEPA may change the contents of this presentation in the future.

Let's get started by first considering the purpose of special, or narrative, conditions in NPDES permits.

1.3 Purposes for Special Conditions



Purposes for Special Conditions

- Address effluent guidelines narrative requirements
 - best management practices for ancillary activities [40 CFR 122.44(k)]
 - treatment practices
 - monitoring, reporting, and compliance requirements
- Address site-specific concerns
- Incorporate preventive requirements
- Incorporate compliance schedules
- Incorporate NPDES programmatic requirements (e.g., pretreatment, sewage sludge)



Notes:

Special conditions are sometimes called narrative conditions and are an important component of NPDES permits that can serve any of several functions.

First, we need to recognize that special conditions can be used to incorporate the narrative requirements of effluent guidelines into NPDES permits.

Aside from the effluent guidelines regulations, special conditions also can be used to address site-specific issues or concerns that are not addressed by effluent limitations and routine self-monitoring and reporting requirements. For example, a special condition could be used to require a permittee to gather data needed to understand how a discharge mixes with the receiving water. Collecting these data is not part of the routine monitoring and reporting required to show compliance with effluent limitations.

Special conditions also are used to incorporate preventive requirements into NPDES permits. For example, special conditions could include requirements aimed at reducing or eliminating leaks, spills, or runoff that could result in an unauthorized discharge to waters of the United States.

Schedules of compliance, which give a discharger time to come into compliance with final effluent limitations, when appropriate, also are incorporated through special conditions of the permit.

Finally, the special conditions section of a permit incorporates certain programmatic requirements that apply to some publicly-owned treatment works.

Throughout the rest of this presentation, we are going to take a look at various types of special conditions.

1.4 Categories of Special Conditions – All Facility Types



Categories of Special Conditions – All Facility Types

- **A**dditional monitoring or special studies
- **B**est management practices (BMPs)/pollution prevention
- **C**ompliance schedules

EPA
United States
Environmental Protection
Agency

Notes:

First, we'll consider three categories of special conditions that could be applied in NPDES permits for both publicly-owned treatment works, or POTWs, and industrial dischargers.

An easy way to remember these categories is to simply remember "ABC":

- "A" stands for additional monitoring requirements or special studies;
- "B" is for best management practices or pollution prevention requirements; and
- "C" is for compliance schedules.

1.5 Additional Monitoring/Special Studies



Additional Monitoring/Special Studies

- Supplement effluent limitations and routine monitoring
- May be used to collect data for future limitation development
- Examples:
 - sediment samples
 - bioaccumulation studies
 - ambient monitoring
 - dilution studies
 - Toxicity Identification Evaluation (TIE)/ Toxicity Reduction Evaluation (TRE)



Notes:

Let's take a closer look at "A"-additional monitoring or special studies.

As I mentioned earlier, these are special conditions that require monitoring or studies going beyond routine effluent monitoring requirements.

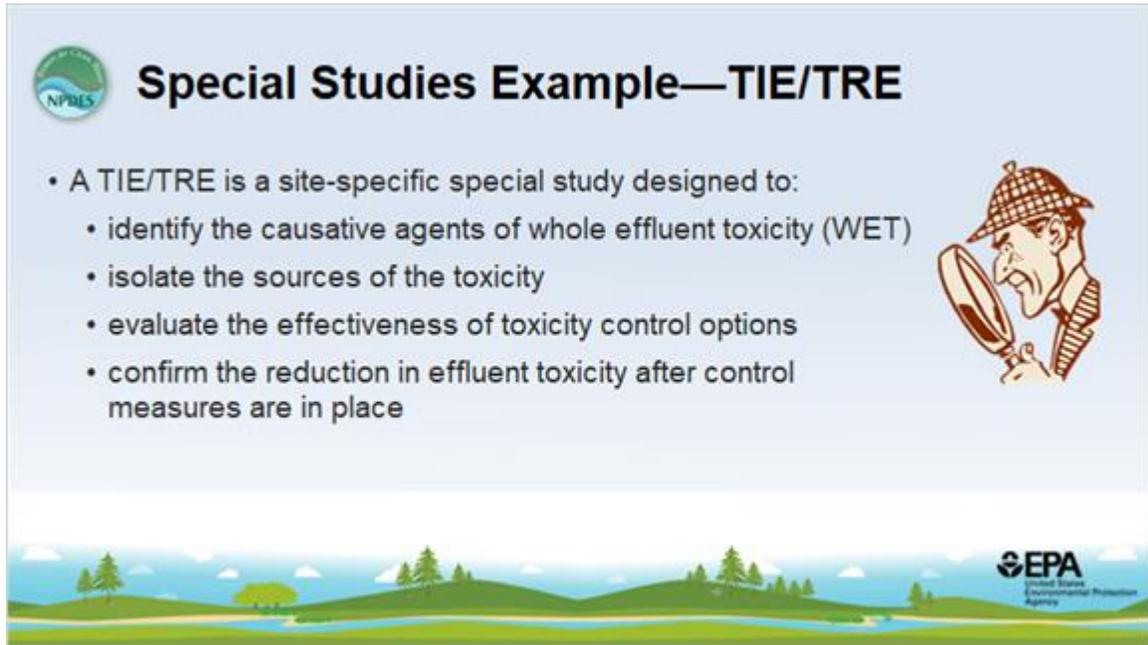
These special conditions supplement effluent limitations and routine monitoring and reporting in the permit and require the permittee to collect data that the permitting authority could use for future development of effluent limits and other permit conditions.

What kind of monitoring or special study requirements might we include as special conditions? Here are few examples:

- A permit could include special conditions for...
 - sediment sampling,
 - fish tissue sampling for bioaccumulative pollutants, or
 - ambient water quality monitoring to determine background concentrations of pollutants and the effect of the discharge on ambient pollutant levels.
- It might also include special studies, such as the example I noted before of requiring the permittee to conduct a dilution or mixing study before the permitting authority would consider a dilution allowance or mixing zone for calculating water quality-based effluent limitations.
- Another common special study requirement is a toxicity identification evaluation and toxicity reduction evaluation or TIE/TRE.

The next few slides take a closer look at a TIE/TRE as an example of a special study that might be included as a special condition in a permit.

1.6 Special Studies Example—TIE/TRE



The slide features a light blue background with a white border. In the top left corner is the NPDES logo. The title 'Special Studies Example—TIE/TRE' is centered at the top. Below the title is a bulleted list of four points. To the right of the list is a cartoon illustration of a detective wearing a brown hat and a striped shirt, holding a magnifying glass. At the bottom of the slide is a landscape illustration with green hills, trees, and a blue sky. The EPA logo is in the bottom right corner of the slide.

Special Studies Example—TIE/TRE

- A TIE/TRE is a site-specific special study designed to:
 - identify the causative agents of whole effluent toxicity (WET)
 - isolate the sources of the toxicity
 - evaluate the effectiveness of toxicity control options
 - confirm the reduction in effluent toxicity after control measures are in place

EPA
United States
Environmental Protection
Agency

Notes:

Permits that include whole effluent toxicity limits or testing requirements often also include a requirement for the permittee to initiate a TIE/TRE if testing indicates unacceptable levels of effluent toxicity.

So, what is involved in this kind of special study?

I like to think of it as a project similar to something I was assigned back in my freshman chemistry lab in college. I can remember walking into the lab and being handed a “mystery substance.” The purpose of the lab project was to use a specific set of procedures to identify that mystery substance.

In a similar manner, a TIE/TRE is a special study used to identify the agent or agents causing toxicity in an effluent and to isolate the sources of that toxicity.

The TIE/TRE does not stop with identification, however, because it also is designed to evaluate various options for controlling the toxicity and, after one or more of those options is implemented, confirm that the desired reduction in toxicity has occurred.

1.7 Requiring a TIE/TRE through Special Conditions



Requiring a TIE/TRE through Special Conditions

- TIE/TRE requirements supplement WET limitations or testing requirements
- Special conditions could require initiation of a TIE/TRE when the results of WET tests exceed
 - WET limitations
 - WET “trigger values”
- TIE/TRE implementation might lead to information that supports future limit development (i.e., when specific toxicants are identified)



Notes:

How would a permit specify that a TIE/TRE is required? Well, through a special condition of course.

I mentioned before that special conditions are used to supplement effluent limits and routine monitoring requirements. TIE/TRE requirements supplement whole effluent toxicity limits or testing requirements by providing a way to identify the cause of toxicity and achieve compliance with whole effluent toxicity limitations and water quality standards.

A special condition could require initiation of a TIE/TRE when the results of whole effluent toxicity tests exceed a threshold level specified through either whole effluent toxicity limitations or a trigger value that is not an enforceable effluent limit.

I also mentioned that special conditions requiring additional monitoring or special studies generally are used to provide information for future permit development. How is that the case with a TIE/TRE requirement? Well, a TIE/TRE can lead to effluent limits on a specific pollutant if that pollutant is identified as the source of the unacceptable toxicity that triggered the TIE/TRE in the first place.

With that example, I think we've wrapped up our discussion of the "A" in our ABC's of special conditions. Dave, how about filling us in on "B."

1.8 Definition of Best Management Practices



Definition of Best Management Practices

Best management practices (BMPs) mean schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the U.S. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. [§ 122.2]



The slide features a light blue background with a white horizontal band at the bottom. The band contains a landscape illustration with green hills, trees, and a blue river. The EPA logo is positioned on the right side of this band. Above the landscape, there are two icons: a red oil drum with a black puddle underneath it, and a square diagram showing a cross-section of a pipe or channel with a green area representing runoff or spillage.

Notes:

Thanks Greg. I'd "B" happy to!

Moving on to the "B" in our "ABCs," let's discuss a category of permit special conditions called "Best Management Practices" or "BMPs."

40 CFR 122.2 defines BMPs as "schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the U.S. BMPs also include treatment requirements, operating procedures, and practices to control plant site run off, spillage or leaks, sludge or waste disposal, or drainage from raw material storage."

Why do we need these types of permit conditions? Well, recall that the primary objective of the Clean Water Act is to restore and maintain the chemical, physical, and biological integrity of the nation's waters.

While end-of-pipe numeric effluent limits certainly help move us toward that objective, these limits might not address certain types of activities or pollutants that could affect waters of the U.S. For example, there might be a pollutant or activity at a facility where we determine that, try as we might, it is technically infeasible to calculate a numeric limit. Or perhaps there are ancillary activities, like raw material storage or vehicle washing, that are most appropriately controlled through requirements other than end-of-pipe restrictions.

In these situations, narrative requirements, such as BMPs are often used to supplement the end-of-pipe numeric effluent limits.

1.9 Authority for Best Management Practices § 122.44(k)



Authority for Best Management Practices § 122.44(k)

- CWA section 304(e)
 - effluent limitations guidelines
- CWA section 402(p)
 - stormwater
- When numeric effluent limitations are infeasible
- When reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA



Notes:

The NPDES regulations address the use of BMPs in permits in section 122.44(k). These regulations establish four circumstances where permit writers can incorporate BMPs.

The first two provisions are drawn directly from Clean Water Act requirements: First, Section 304(e) of the Clean Water Act authorizes EPA to establish BMPs to supplement numeric limits in effluent guidelines. Where an applicable effluent guideline includes BMPs, the permit writer must include these BMPs in the facility's permit, just as he or she would include numeric limits derived from the effluent guideline. Second, Section 402(p) of the Act authorizes the use of BMPs to control stormwater discharges. Stormwater controls are frequently BMP-based due to the episodic nature of the discharges and the need for pollution prevention activities to reduce or eliminate the impacts of stormwater discharges.

40 CFR 122.44(k) also authorizes the use of BMPs for two other situations: First is where numeric effluent limitations are infeasible, and the second is where the BMPs are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the Clean Water Act.

Both of these 122.44(k) provisions give the permit writer fairly broad authority to establish BMPs, but neither provides a lot of specifics. Because the inclusion of BMP requirements under these provisions is a site-specific determination of the permit writer, it is important that the fact sheet or administrative record provide a strong rationale for the BMPs.

1.10 BMPs in NPDES Permits



BMPs in NPDES Permits

Two methods for incorporating BMPs in a permit are:

- site-specific BMPs
 - facility-specific
 - pollutant-specific
- BMP Plan

The slide features a light blue background with a white box containing the text and list. To the right of the list is a red illustration of a factory with smokestacks and a magnifying glass over an open book. At the bottom of the slide is a green landscape with a river and trees, and the EPA logo is in the bottom right corner.

Notes:

Where the regulations require BMPs or the permit writer determines that they will be required, two approaches are available for incorporating the BMP requirements into a permit:

The first approach is to develop and require site-specific BMPs. Site-specific BMPs are used where the permit writer is aware of a specific activity, process, or pollutant at the facility and determines the preventative or corrective action(s) necessary to control the discharge or potential discharge or where the regulations specify such actions. The use of site-specific BMPs typically requires the permit writer to have a detailed understanding of the permitted facility and the activity or pollutant requiring BMP controls.

The alternative approach is to require the facility to develop and implement a “BMP plan.” A BMP plan directs the facility to evaluate the activities or pollutants that may result in a discharge and come up with the measures that it believes are most appropriate to reduce or eliminate the discharge. The BMP plan approach places the responsibility on the facility to evaluate and implement adequate BMPs.

In practice, the BMP plan is the approach most often used in NPDES permits. Why would we want the facility to have a plan versus giving the permittee specific requirements? Well, the permittee generally understands its facility and processes better than the permit writer, and should best know how to mitigate or eliminate potential problems. The facility can also weigh the costs and benefits of BMP alternatives and choose the approach that works best for its situation.

1.11 Site-Specific BMPs



The slide features a light blue background with a white text box. In the top left corner is the NPDES logo. The title 'Site-Specific BMPs' is in a large, bold, black font. Below the title is a bulleted list of three main points, with the third point having two sub-bullets. To the right of the text is an illustration of a person in a hard hat and safety vest holding rolled-up blueprints. At the bottom of the slide is a landscape illustration with green hills, trees, and a blue sky. The EPA logo is in the bottom right corner of the slide.

Site-Specific BMPs

- Generally used in conjunction with, not as a substitute for, numeric effluent limitations in permits
- Qualitative – should generally indicate how or what, not how much
- BMPs should not:
 - tell managers how to run their plants
 - require costly construction or methods where simple management practices would suffice

EPA
United States
Environmental Protection
Agency

Notes:

Where a permit writer determines that site-specific BMPs are most appropriate, there are a few things he or she should consider.

First, it's important to remember that site-specific BMPs are generally intended to supplement numeric effluent limits, not replace them. Where numeric limits are applicable and can be calculated, numeric limits should be developed.

Secondly, site-specific BMPs should specify a problem or potential problem that needs to be addressed and require the specific action or series of actions that the permit writer determines are appropriate to address the problem.

However, permit writers should be careful not to be too prescriptive or quantitative in establishing BMPs. For example, if the permit writer requires the construction of a containment wall two feet high around a facility's storage tanks and the facility builds the wall accordingly, but the wall fails to contain a spill when an accident occurs, the permittee might argue that it complied with the terms of its permit and therefore is not responsible for the failure to contain the spill.

1.12 Recommended Elements of a BMP Plan

The slide features a light blue background with a large, faint graphic of a hand holding a globe. In the top left corner is the NPDES logo. The title 'Recommended Elements of a BMP Plan' is centered at the top. Below the title is a two-column list of 10 elements. At the bottom of the slide, there is a landscape illustration with green hills, trees, and a blue sky. The EPA logo is in the bottom right corner. The text 'Guidance Manual for Developing Best Management Practices (BMP) [EPA 833-B-93-004, October 1993]' is centered below the list.

- Name and location of facility
- Statement of BMP policy and objectives
- Review by plant manager
- BMP committee
- Risk identification and assessment
- Reporting of BMP incidents
- Materials compatibility
- Good housekeeping
- Preventive maintenance
- Inspections and records
- Security
- Employee training

Guidance Manual for Developing Best Management Practices (BMP)
[EPA 833-B-93-004, October 1993]

EPA
United States
Environmental Protection
Agency

Notes:

As we noted, the most common approach to including BMPs in permits, is through the requirement for a facility to develop a BMP plan.

In 1993, EPA published the Guidance Manual for Developing Best Management Practices, which included information on BMPs that had been successfully employed by various industry sectors and guidance on appropriate content of a BMP plan.

The recommended elements of a BMP plan from the guidance are listed on this slide.

We won't cover these elements in detail in this presentation, but if you'd like to learn more, please refer to the 1993 guidance document.

OK, that ends our brief review of BMPs. Now I'll turn it back over to Greg to cover the "C" in our "ABCs," compliance schedules.

1.13 Compliance Schedules – § 122.47



Compliance Schedules – § 122.47

- Permit may, when appropriate, specify a schedule of compliance leading to compliance with CWA and regulations
- Technology-based limitations
 - generally not allowed because CWA compliance deadlines have passed for existing sources
- Water quality-based limitations
 - Star-Kist decision (1990)
 - Memorandum from Office of Wastewater Management (2007)



Notes:

Thanks, Dave. I'll "C" what I can do.

The NPDES regulations allow a permit writer, under certain conditions, to include a schedule of compliance in a permit. The schedule of compliance gives the permittee time to come into compliance with an effluent limitation rather than requiring the permittee to comply immediately upon the effective date of the permit. As long as the permittee abides by the conditions in the compliance schedule, the permittee is in compliance with the permit requirements, even though it has not yet achieved the final effluent limit.

Why do the NPDES regulations allow compliance schedules?

I am glad you asked. A permittee might need to adjust its production or treatment process or even install a new treatment process in order to comply with a new effluent limitation. The NPDES regulations recognize that these changes can take some time and that immediate compliance with an effluent limit is not always possible.

Now that we know that compliance schedules are permissible in general, let's talk about some of the restrictions on providing a compliance schedule as part of an NPDES permit.

A permit writer's ability to give a compliance schedule for an effluent limitation depends on the type of limit.

For technology-based effluent limitations, a permit writer generally cannot include a compliance schedule in a permit because the statutory deadlines for meeting the technology-based standards have passed.

Remember, the technology-based standards are secondary treatment standards for POTWs and BPT, BCT, BAT, and new source performance standards for facilities other than publicly-owned treatment works. If you want more information on technology-based standards, check out the Web-based presentations on technology-based effluent limits. You will find links to these presentations on the same Web site where you found this presentation.

For water quality-based effluent limitations, a permit writer's ability to include a compliance schedule in a permit depends on the water quality standards that are the basis of the effluent limitations and the steps that are required for compliance.

An EPA Administrator decision from 1990 and several provisions in the NPDES regulations establish when and how compliance schedules can be used. These regulatory provisions are explained in an Office of Wastewater Management Permit Review Guidance to help clarify the requirements for compliance schedules for water quality-based effluent limits.

1.14 Compliance Schedule Considerations



Compliance Schedule Considerations

- StarKist Decision (April 16, 1990)
 - require immediate compliance with effluent limitations based on WQS adopted on or before 7/1/1977
 - may allow compliance schedules for limitations based on WQS adopted or modified after 7/1/1977 only if the state has clearly indicated in its WQS or implementing regulations that it intends to allow compliance schedules



Notes:

On April 16, 1990, the Administrator issued a decision related to an appeal of an NPDES permit for a StarKist facility in Puerto Rico.

In his decision, the Administrator determined that permits must require immediate compliance with water quality-based effluent limitations that are based on water quality standards adopted on or before July 1, 1977, the original deadline for meeting state water quality standards. In other words, the permit cannot give a compliance schedule for such limits.

However, if a water quality-based effluent limit is based on water quality standards adopted or modified after July 1, 1977, and the state has clearly indicated in its water quality standards that it intends to allow compliance schedules, then the permit writer may include a compliance schedule for the limit in the NPDES permit, subject to the requirements in the NPDES regulations on compliance schedules.

Keep in mind that in cases where no compliance schedule is allowed in the permit and the permittee cannot meet the final effluent limits immediately, a compliance schedule could be put in place through a Clean Water Act section 309 Administrative Order, which is a type of enforcement action.

1.15 Compliance Schedule Considerations (cont.)

Compliance Schedule Considerations (cont.)

- **Memorandum from Office of Wastewater Management (May 10, 2007)**
 - Explains existing regulatory structure and requirements
 - Regulations require that permitting authority:
 - demonstrate that the permittee cannot immediately comply with new limit
 - justify and document "appropriateness"
 - evaluate and justify "as soon as possible"
 - include enforceable sequence of events leading to compliance (interim milestones as needed)
 - include enforceable "final" effluent limitation and date for achievement
 - not appropriate for schedule solely to provide time to develop TMDL or conduct UAA

Notes:

I mentioned that where a compliance schedule is allowed, it is subject to the requirements in the NPDES regulations, which are found in 40 CFR 122.47.

EPA Permit Review Guidance, issued in May 2007, elaborates on the conditions specified in the regulations for granting a compliance schedule.

The regulations allow a compliance schedule when it is "appropriate" and state that it must require compliance "as soon as possible."

The guidance emphasizes the importance of documenting decisions regarding the appropriateness of a compliance schedule and justifying that the schedule requires compliance "as soon as possible."

Consistent with the regulations, the guidance also discusses the need for an enforceable sequence of events leading to compliance with a final limit specified in the permit, even if compliance with the final limit is not required until a date after the permit expires.

Also, the guidance clarifies that compliance schedules cannot be granted solely for the purpose of providing time for developing a total maximum daily load or conducting a use attainability analysis.

That concludes our discussion of the “ABCs” of special conditions, which are the types of special conditions that could apply to any category of discharger.

Now, Dave, how about kicking off our discussion of special conditions that incorporate programmatic requirements for publicly-owned treatment works or POTWs?

1.16 Special Conditions – POTW Programmatic Requirements

Special Conditions – POTW Programmatic Requirements

- Pretreatment Program
- Biosolids (Sewage Sludge)
- Combined Sewer Overflows

EPA
United States
Environmental Protection
Agency

Notes:

Sure thing, Greg.

We’re going to look at three types of programmatic requirements for POTWs that could be included in the special conditions of a permit: pretreatment program requirements, biosolids-or sewage sludge-requirements, and requirements for addressing combined sewer overflows.

1.17 National Pretreatment Program



The slide features a light blue background with a white box containing text. At the top left is the NPDES logo. The title 'National Pretreatment Program' is in large, bold, black font. Below the title are two main bullet points, each with sub-bullets. At the bottom of the slide is a decorative banner with a green landscape, a blue river, and the EPA logo on the right.

 **National Pretreatment Program**

- Major goal is controlling discharges in order to:
 - prevent interference with POTW processes
 - prevent pass through of pollutants
 - protect sludge management options
- Additional programmatic goals
 - encourage recycling and reclamation
 - ensure POTW personnel health and safety



Notes:

The national pretreatment program was established in the Clean Water Act to control the discharge of pollutants from sources connected to the sanitary sewer systems of POTWs. We refer to these types of sources as “indirect dischargers,” since they do not discharge directly to waters of the United States.

As we discussed in a previous presentation in this series, POTWs generally use physical and biological treatment to treat domestic wastewater. Physical treatment (such as screens and settling basins) and biological treatment (such as activated sludge or trickling filters) are very effective at removing the pollutants associated with domestic sewage. However, POTW treatment systems usually are not designed to treat or remove toxic or non-conventional pollutants such as heavy metals or toxic organic compounds. Not only are these types of pollutants incompatible with POTW treatment processes, they might also interfere or inhibit the biological processes, reducing the treatment effectiveness of the POTW.

The pretreatment program was established to protect POTWs from these incompatible pollutants, and to require indirect dischargers to “pretreat” their wastes before discharging them into the sanitary sewer system.

This slide summarizes the specific goals of the national pretreatment program, which are established in the General Pretreatment Regulations found in 40 CFR Part 403. These goals include:

- preventing “interference” with the POTW treatment processes, including the proper operation of the collection system;
- preventing the “pass through” of incompatible pollutants into waters of the U.S. due to the inability of the POTW treatment process to effectively remove these pollutants;
- protecting the POTW’s biosolids (in other words, the sewage sludge generated by biological treatment processes) from becoming contaminated with toxic pollutants;

- protecting recycled or reclaimed waters from contamination; and
- ensuring that the discharges of toxic or flammable materials into the sanitary sewer don't result in unsafe conditions that might endanger the health and safety of POTW employees.

1.18 Pretreatment Regulatory Requirements



Pretreatment Regulatory Requirements

- General Pretreatment Regulations for Existing and New Sources of Pollution [40 CFR Part 403]
 - National Pretreatment Standards
 - Prohibited Discharges [§ 403.5]
 - Categorical Standards [§ 403.6]
 - PSES and PSNS found in 40 CFR Parts 405-471
 - requirements for POTW and state, territorial, or tribal programs
 - industrial and POTW monitoring and reporting requirements



Notes:

The General Pretreatment Regulations at 40 CFR Part 403 contain several elements that establish how the control of indirect dischargers should be implemented.

First, the regulations establish national standards of performance applicable to non-domestic indirect dischargers. These pretreatment standards include the General and Specific Discharge Prohibitions found at 40 CFR 403.5, and the Categorical Standards incorporated at 40 CFR 403.6.

The General and Specific Prohibitions are applicable to all non-domestic indirect dischargers, and are intended to prevent the discharge of pollutants to a POTW collection system that could cause interference and pass through or otherwise damage or endanger the POTW, its employees, the public, or waters of the United States.

The Categorical Standards section of the pretreatment regulations incorporates, and requires compliance with, the provisions of Pretreatment Standards for Existing and New Sources that are found in the Effluent Limitations Guidelines and Standards sections of the regulations. As we discussed in another presentation in this training series, many of the effluent guidelines found in 40 CFR Parts 405 through 471 contain PSES and PSNS requirements that must be met by indirect dischargers subject to these standards prior to the discharge to the POTW collection system.

In addition to the national pretreatment standards, the pretreatment regulations establish programmatic requirements for POTWs and for states, territories, or tribes authorized to administer the national pretreatment program.

The General Pretreatment Regulations also establish minimum monitoring and reporting requirements for indirect dischargers subject to certain performance standards and for POTWs that are required to implement pretreatment programs.

1.19 Pretreatment Program Development



The slide features the NPDES logo in the top left corner. The main title is "Pretreatment Program Development". To the right of the text is a cartoon character holding a blue book. The bottom of the slide shows a landscape with green hills, trees, and a blue sky, with the EPA logo in the bottom right corner.

- Who is required to have a pretreatment program?
 - POTWs > 5 MGD with dischargers subject to standards
 - POTWs \leq 5 MGD with past problems
 - unless state assumes total responsibility for program implementation [§ 403.10(e)]

Notes:

At this point, you may be thinking “This pretreatment discussion is certainly riveting, but what does it have to do with NPDES permit special conditions?” An excellent question.

Well, the answer is: in most cases the pretreatment program is implemented by a POTW, and it's the NPDES permit issued to that POTW that requires it to develop and implement the program.

With a few exceptions, which we'll get to in a moment, the General Pretreatment Regulations require that a POTW with a design flow greater than five million gallons per day and that receives discharges from industrial users subject to national pretreatment standards must develop and implement a pretreatment program. In addition, the NPDES permitting authority can require a smaller POTW to develop a pretreatment program if it believes that the POTW might have operational or performance problems due to indirect dischargers.

Now to that exception: if an NPDES-authorized state chooses to permit and oversee indirect dischargers at the state level, rather than requiring POTWs to administer the pretreatment program, the regulations at 40 CFR 403.10(e) allow the state to use this approach. Currently, five states-Vermont, Connecticut, Alabama, Mississippi, and Nebraska-have chosen this approach.

Except in these five “403.10(e) states,” the NPDES permit issued to these pretreatment POTWs is what drives development and implementation of the pretreatment program.

1.20 NPDES Permits Drive the Pretreatment Program



The slide features a light blue background with a white box containing text. At the top left is the NPDES logo. The title is in bold black font. Below the title are two columns of bullet points. At the bottom of the slide is a decorative graphic of a green landscape with trees and a blue sky, and the EPA logo is in the bottom right corner.

NPDES Permits Drive the Pretreatment Program

- Adequate legal authority
- Maintenance of industrial user inventory
- Development and implementation of local limits
- Individual control mechanisms be issued to all Significant Industrial Users (SIUs)
- Compliance monitoring activities
- Swift and effective enforcement
- Data management and recordkeeping
- Reporting to the approval authority (EPA or state/territory/tribe)
- Resources
- Public participation

EPA
United States Environmental Protection Agency

Notes:

OK, we have established that these pretreatment special conditions are necessary. Now, what does it mean to the permit writer developing a permit for a pretreatment POTW?

Well, usually it means that the permit will include a page or two of detailed requirements laying out what a POTW must do to develop and implement an acceptable pretreatment program. These requirements, summarized on this slide, are often in the form of boilerplate language developed by EPA or state pretreatment specialists.

Whether you're considering including new pretreatment requirements, or simply carrying forward the requirements from a previous permit, it is always advisable to consult with your state or EPA pretreatment coordinator to make sure you're including the appropriate requirements.

Once the pretreatment conditions are incorporated in the final effective NPDES permit, the POTW is legally obligated to carry out its pretreatment program in accordance with the permit conditions. Failure to fully implement

the pretreatment program (for example, failing to issue discharge permits to indirect dischargers) would constitute a violation of the POTW's NPDES permit and could be grounds for enforcement.

That finishes our discussion of the pretreatment program. Now let's take a look at special conditions related to municipal sewage sludge, or biosolids.

All yours, Greg.

1.21 Permits for Municipal Sewage Sludge (Biosolids)

Permits for Municipal Sewage Sludge (Biosolids)

- Any CWA section 402 permit issued to a POTW should contain requirements for sewage sludge use and/or disposal
- 40 CFR Part 503 requirements should be incorporated into a permit for:
 - incineration
 - land application
 - surface disposal

EPA
United States Environmental Protection Agency

Notes:

The Clean Water Act requires that NPDES permits include sludge, or biosolids, use and disposal requirements.

These requirements are found in the Code of Federal Regulations at 40 CFR Part 503 and they include specific pollutant and performance standards, as well as monitoring, reporting, and recordkeeping requirements for sludge that is incinerated, land applied, or disposed of in a sludge-only landfill.

Interestingly, although the Act requires permits to incorporate these requirements, they are also self-implementing. In other words, if the Part 503 requirements apply to a facility, the facility must comply with them even if they are not incorporated into that facility's NPDES permit.

I should mention here that only a handful of NPDES permitting authorities have received authorization to implement the biosolids program. Most states have their own state biosolids programs, but if the state has not

been authorized to implement the Clean Water Act biosolids program, implementation of the program is EPA's responsibility through its Regional offices.

1.22 Permits for Municipal Sewage Sludge (Biosolids) (cont.)



Permits for Municipal Sewage Sludge (Biosolids)
(cont.)

- Other entities may be delegated responsibility to comply (40 CFR Part 503 standards and requirements might not all be placed in the POTW permit)
- Permits must contain:
 - additional standard conditions
 - special conditions specific to each use or disposal method

The slide features a light blue background with a white border. At the top left is the NPDES logo. At the bottom right is the EPA logo. The bottom of the slide has a decorative landscape illustration with green hills, trees, and a blue sky.

Notes:

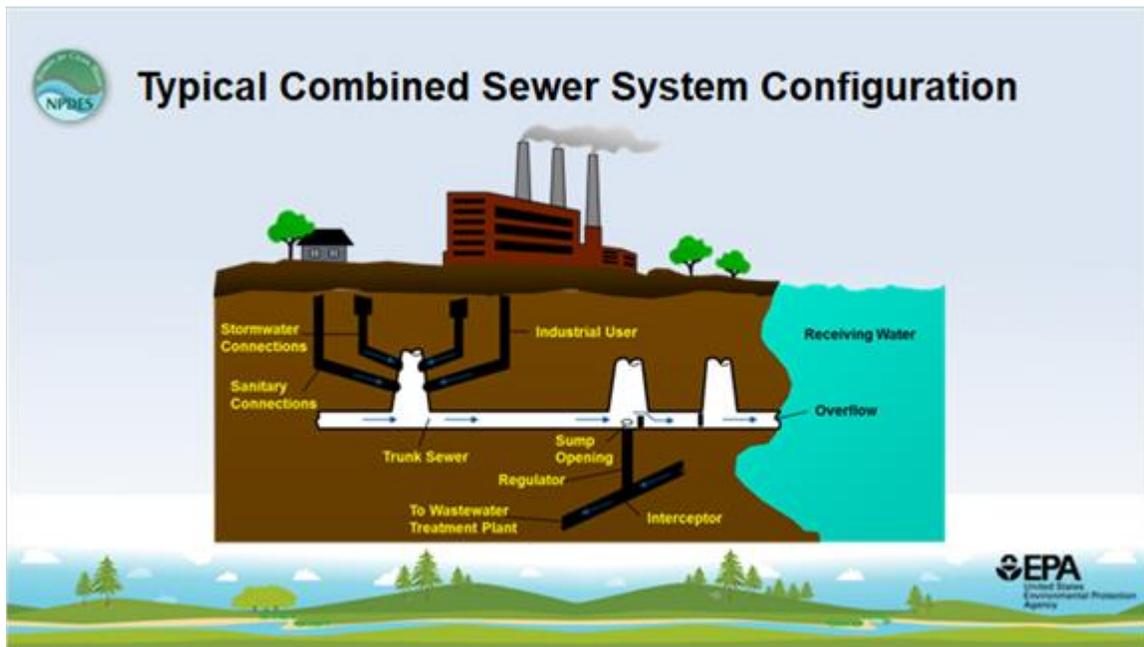
You might assume that sewage sludge requirements apply only to municipal wastewater treatment plants, but in fact, these requirements apply to any entity that is considered a “treatment works treating domestic sewage.” This designation can include publicly owned treatment works; privately-owned treatment works, such as those that serve a condominium complex or a trailer park; or a sludge processor that composts or treats sludge.

It is also important to note that the requirements do not apply to the end users of biosolids (for example, farmers or land developers that use biosolids as a fertilizer or soil conditioner).

NPDES permits for a treatment works treating domestic sewage include general conditions and conditions for each use or disposal method outlining the sludge standards and monitoring, reporting, and recordkeeping requirements.

OK, Dave, I think we're ready for our final type of special condition.

1.23 Typical Combined Sewer System Configuration



Notes:

The last type of municipal special condition that we'll discuss deals with a unique type of POTW collection system, which we call a combined sewer system or CSS.

These systems were designed and constructed to collect and transport both sanitary sewage and municipal storm water in a single collection system. Most combined sewer systems were built in the late 1800s and early 1900s in the northeastern, Great Lakes, and Pacific Northwest regions of the United States and were intended to simply collect and discharge the sanitary sewage and stormwater to a river or lake to get it away from population centers.

While this approach may have made sense at that time, we now understand that the discharge of inadequately treated sewage and stormwater can result in serious damage to the environment and cause human health impacts. EPA has determined that there are approximately 772 U.S. cities that have combined sewer systems.

Most current combined sewer systems are configured so that, during dry weather conditions, the collection system contains only sanitary sewage and diversion structures within the system divert the sanitary wastewater to a POTW for treatment and discharge. However, during periods of rainfall, the POTW cannot handle the increased flow of both sewage and stormwater, and the combined flow is directed to the receiving water through a combined sewer overflow, or CSO, discharge point.

These CSOs could receive some treatment (primary treatment and/or disinfection) prior to discharge, but the discharge might still contribute to water quality problems in the receiving stream.

In the early years of the NPDES program, EPA and states chose a variety of approaches for dealing with CSO discharges, but there was very little consistency and many CSOs were authorized with few controls.

Realizing that CSOs were a significant source of pollution, in 1994 EPA issued the “Combined Sewer Overflow Policy,” which was intended to provide a consistent path forward for correcting problems caused by CSOs.

1.24 Overview of CSO Control Policy Approach



Notes:

This slide provides a summary of the 1994 CSO policy and outlines the types of NPDES permit conditions that EPA expected NPDES permitting authorities to incorporate into permits for CSO facilities. The intent was that, over a cycle of approximately three permit re-issuances, the POTW would implement short and long-term controls necessary to address the CSO discharges.

In the Wet Weather Water Quality Act of 2000, Congress included a provision requiring EPA and state permitting authorities to fully implement the 1994 EPA policy.

If you are developing an NPDES permit for a POTW that has CSOs, you should work closely with your state and EPA staff who specialize in CSO permitting to ensure that any appropriate CSO special conditions are incorporated in the NPDES permit.

1.25 Documentation



Documentation

- Document in the fact sheet or statement of basis:
 - appropriate statutory or regulatory citations for special conditions
 - purpose and basis for requiring special studies or best management practices
 - explanation of how any compliance schedule provisions are consistent with regulations, including demonstration that permittee cannot immediately comply and evaluation of "appropriateness" and "as soon as possible"
 - basis for inclusion of pretreatment program requirements, sewage sludge program requirements, or combined sewer overflow program requirements



Notes:

As always, we'll end this presentation with a discussion of the importance of documenting your permitting decisions.

Special conditions are often crafted specifically for one permit due to unique circumstances at a facility. Because the conditions are case-specific, permit writers should clearly explain the rationale and legal basis for each special condition.

Of particular importance is the justification for any compliance schedule included in the permit. Because a compliance schedule delays implementation of an otherwise applicable standard, the permit writer should establish the need for, and basis of, the terms of the schedule and ensure that the justification is consistent with the requirements of 40 CFR 122.47 as discussed in the 2007 memo from EPA's Office of Wastewater Management.