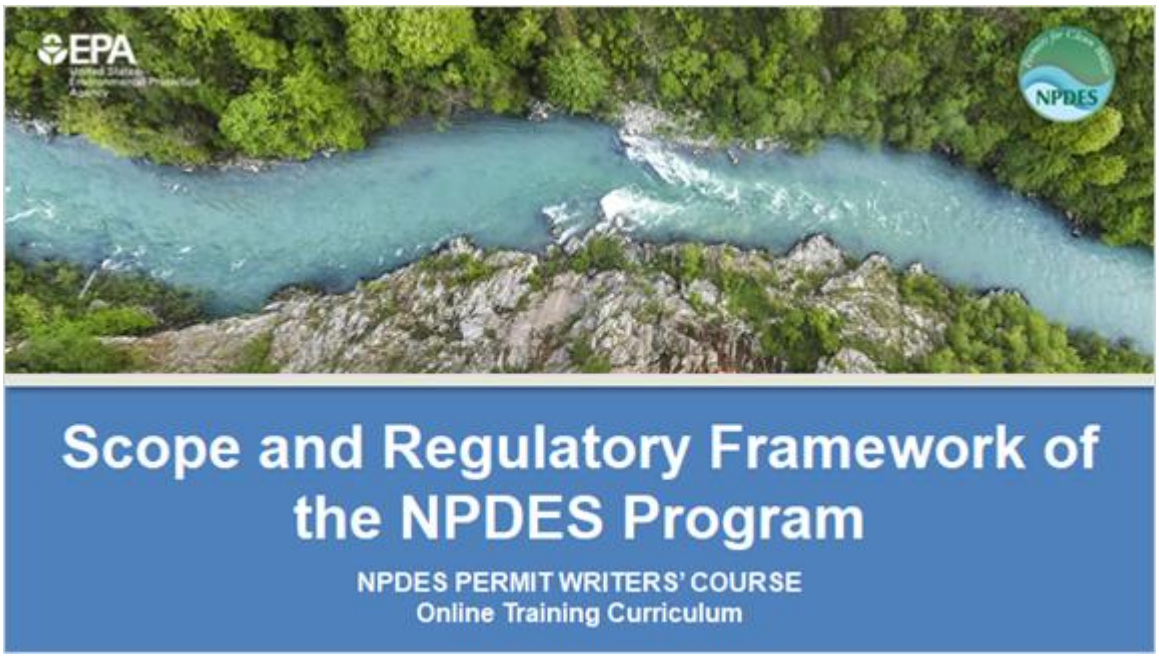
Scope and Regulatory Framework of the NPDES Program

1. NPDES Permit Writers' Course Online Training Curriculum

1.1 Scope and Regulatory Framework of the NPDES Program



Notes:

Welcome to this presentation on the Scope and Regulatory Framework of the NPDES Program. This presentation is part of a Web-based training series on the NPDES program sponsored by the Environmental Protection Agency's Water Permits Division.

You can view this as a stand-alone presentation, or, if you have not already done so, you might be interested in also viewing the first presentation in the series, which provides an overview of the Clean Water Act and the statutory history of the NPDES program.

Before we get started with this presentation, I'll make some introductions and cover one important housekeeping item.

1.2 Presenters

Notes:

First the introductions.

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 that housekeeping item. You should be aware that 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.

Now, let's begin.

1.3 NPDES Program Requirements and Guidance

Notes:

We want to start by answering the question, "Who develops NPDES program requirements and guidance?"

Congress established the principal legislation governing protection of water quality through the federal Clean Water Act. As we discussed in the first presentation of this training series, the Clean Water Act evolved over many years, and establishes the authority and framework for the NPDES permit program.

Based on the authority in the statute, EPA then promulgates regulations consistent with the intent of the Clean Water Act. EPA regulations generally provide more detail than the provisions in the Clean Water Act and contain specific requirements that carry out the intent of the Act.

Policy and guidance, often technical guidance, are further interpretations of how a regulation can be implemented. A good thing to keep in mind is that regulations are requirements while guidance is, well, guidance. Guidance often represents one or more approaches that EPA has determined to be consistent with a regulation, but is not the only way to implement the regulation.

Of course, states also have their own statutes, regulations, policy, and guidance to implement the NPDES program including state-specific requirements.

It's the permit writer's responsibility to be familiar with the applicable federal and state statues and regulations and to ensure that permits correctly and consistently implement these requirements. Use of federal and state guidance can assist permit writers in this effort.

1.4 NPDES Regulations

Notes:

Now for a very quick lesson about the federal regulations.

All federal regulations are found in the Code of Federal Regulations, which is referred to as the CFR.

There are approximately 200 volumes of the CFR and about 27 volumes are related to EPA activities.

The CFR is organized by "Title," "Part," and "Subpart." Each Title addresses a broad subject area, and the Parts and Subparts address specific areas within the Title.

For example, if you were interested in regulations concerning "Energy," they are in Title 10, "Transportation" is in Title 49 and "Wildlife and Fisheries" is in Title 50. The regulations specific to "Protection of the Environment" are found in Title 40 of the CFR, or, in shorthand, "40 CFR."

Each Title of the CFR is published one time each year. Title 40 is published late in the year and includes regulations in effect as of July 1st of that year.

So, what happens if a regulation is promulgated in August? When will it be available in the CFR? Probably not until more than a year later.

An unofficial version of the CFR, known as the eCFR, is available in "real time" at the Government Printing Office Web

site, www.gpo.gov/fdsys. The eCFR contains a version of the regulations that is current to within a few days of any promulgated changes.

Sometimes, however, you might want find out more about regulatory changes, final or even proposed. In that case, you would need to go to another publication known as the Federal Register.

1.5 NPDES Regulations (cont.)

Notes:

The Federal Register is kind of like a daily magazine, albeit a somewhat boring daily magazine.

It is published every business day of the year by the Government Printing Office, or GPO, and includes final and proposed regulations and legal notices such as Presidential proclamations, Executive Orders, and meeting announcements for all branches of government.

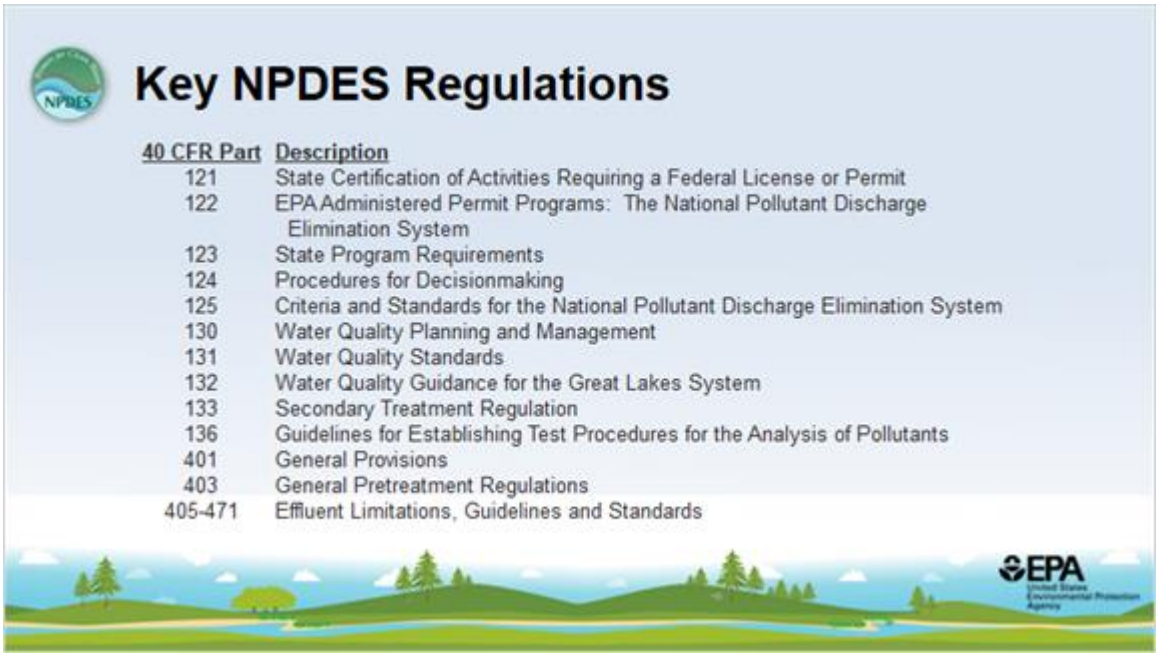
When a regulation is deemed necessary, either because of passage of a law, like the Clean Water Act, or because there is a new initiative underway, there might be an Advance Notice of Proposed Rulemaking.

EPA will publish in the Federal Register a notice that it is thinking about a regulatory change or addition. After that, EPA publishes a Notice of Proposed Rulemaking that includes a proposed regulation and a detailed preamble explaining the reason for the regulation and the impact of that regulation. EPA takes comment; develops a response to comments document; makes any necessary changes to the regulation; and then publishes the final rule. As I said before, other things like notices of national meetings are also placed in the Federal Register. At the end of the year all final rules are consolidated into the Code of Federal Regulations, or CFR.

Because there is a lot more background information (such as the preamble and response to comments) in the Federal Register than there is in the CFR, it can be useful to look back at the original Federal Register notice to learn EPA's intent regarding a specific regulation.

Like the CFR, the Federal Register, from 1994 to the present, is also available online at the Government Printing Office Website shown on the slide.

1.6 Key NPDES Regulations



Notes:

OK, let's say that you decide that you want to know all about the NPDES program, so you go to 40 CFR.

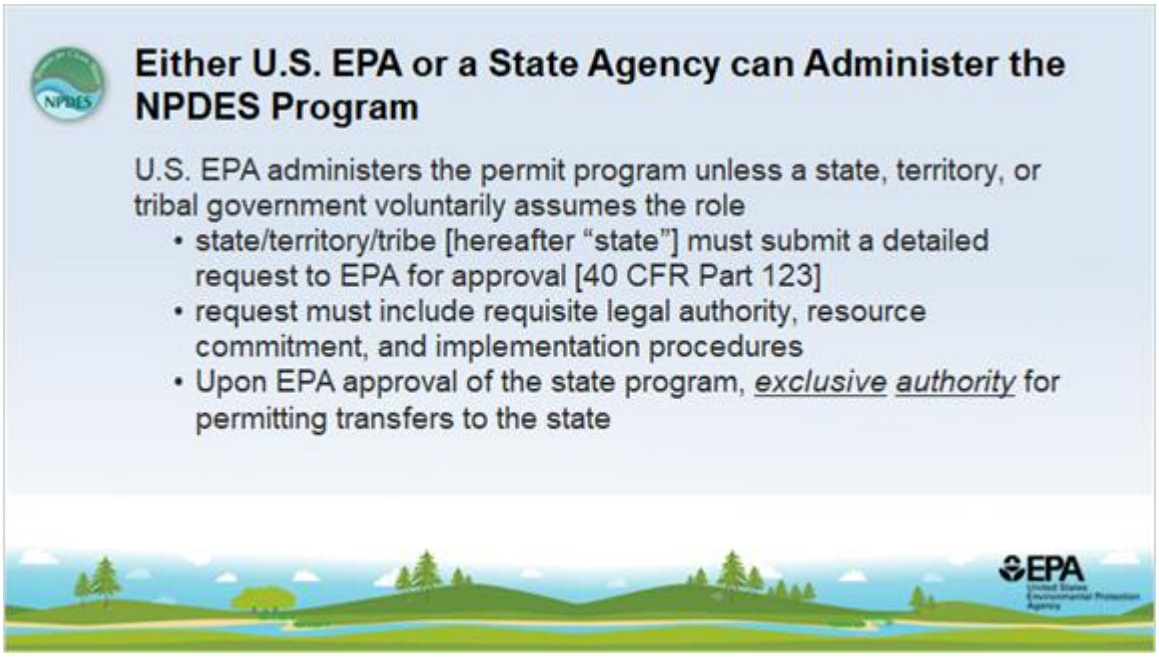
Keep in mind that Title 40 is made up of numerous volumes. So, where in 40 CFR do you need to look to find the regulations related to the NPDES program? Well, it turns out that the NPDES regulations are spread out in quite a few different "Parts" of 40 CFR. For example:

- Part 122 contains the bulk of the NPDES regulations.
- Part 124 covers most of the administrative procedures involved with issuing permits, public notices, fact sheets, hearings, and appeals.
- Part 125 includes standards and procedures for addressing, primarily, technology-based standards and effluent limitations.
- Parts 130 & 131 deal with water quality standards issues.
- Part 132 contains requirements for water quality standards and permitting in the Great Lakes Basin.

- Part 133 contains the secondary treatment regulation requirements for publicly-owned treatment works.
- Part 136 contains the analytical procedures that must be used for effluent sampling and analysis.
- Part 403 contains the pretreatment regulations and requirements for publicly-owned treatment works and industries that discharge to publicly-owned treatment works.
- Parts 405 through 471 are the technology-based standards for industrial waste water discharges.
-

Whew! Those are a lot of regulations. Let's see if we can start to boil down all of those requirements into a few slides that explain the basic regulatory structure of the NPDES program.

1.7 Either U.S. EPA or a State Agency can Administer the NPDES Program



Notes:

First, let's talk about who is responsible for drafting and issuing the permits to implement the regulations. In other words, who will a potential discharger need to deal with to apply for and receive authorization to discharge?

The first thing to determine is whether a state is "authorized" to administer the NPDES program. This authorization (sometimes incorrectly referred to as delegation) is granted by EPA to a state, territory, or tribe if it can demonstrate that it has the legal authority, implementation procedures, and resources necessary to run the NPDES program. Regulations at 40 CFR Part 123 address the required elements necessary for a state program authorization. The distinction between authorization and delegation is important because an authorized state program is administered voluntarily under state law and there is no delegation of federal authority to that state. NPDES program authorization is no small effort, and it can take years for a state to get this approval.

If a state does not have authorization to administer the NPDES program, EPA will be the permitting authority. Where

EPA is the permitting authority, the EPA Regional office issues the permits, takes all the enforcement actions, and conducts inspections and monitoring visits as necessary.

If a state has authorization to administer the program, then that state is the permitting authority and it performs all of the day-to-day permit issuance activities. As provided in the regulations, the authorized state has exclusive authority to issue permits within its jurisdiction, and EPA cannot issue a federal NPDES permit except under very rare circumstances. One specific circumstance, is where EPA objects to a state-issued permit and the state fails to correct deficiencies identified by EPA. We discuss the permit review and objection process in more detail in the administrative process presentation of this series.

Also remember that territories and tribes are considered to be like states and, as such, may apply for NPDES program authorization. Of course, if a territory or tribe applies, it must also go through the authorization process provided in 40 CFR Part 123.

Now let's take a look at which states and territories currently have program authorization.

1.8 NPDES Program Authorizations

Notes:

As depicted by the map on this slide, currently, there are 46 states and 1 territory (the U.S. Virgin Islands) with authorization for at least the basic municipal and industrial permit program.

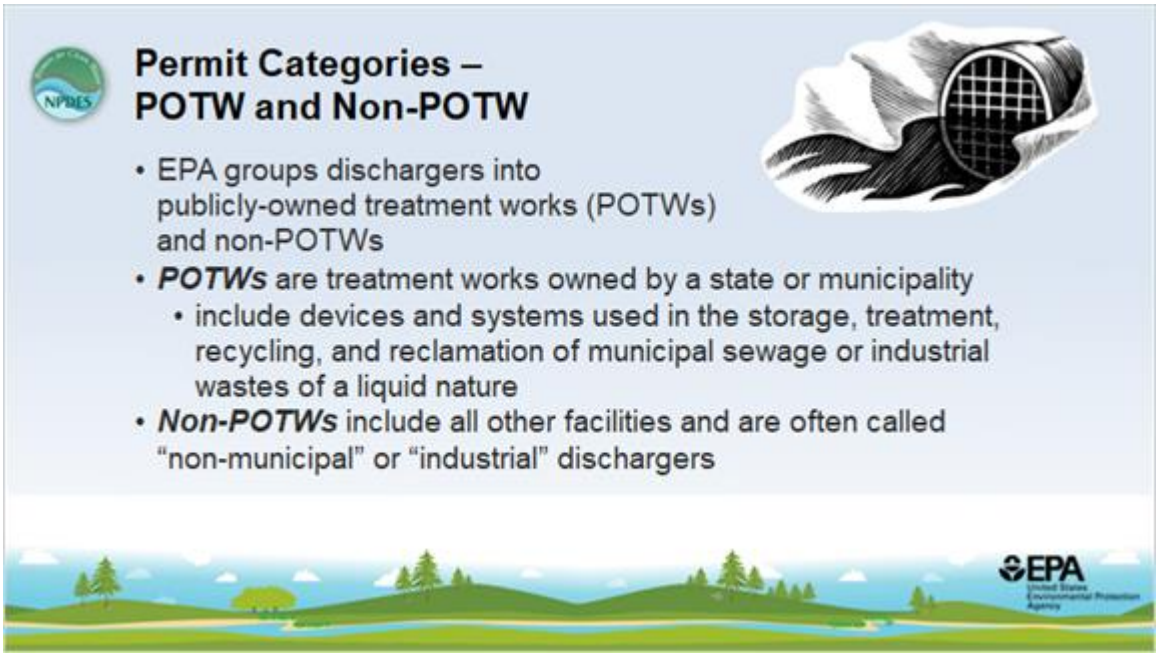
Idaho, Massachusetts, New Hampshire, New Mexico, the District of Columbia, and all U.S. territories, except the Virgin Islands, have no NPDES permitting authority. So, in these jurisdictions, the appropriate EPA Regional office

issues NPDES permits.

Now that we've discussed who issues NPDES permits, let's spend some time talking about what kinds of facilities and activities have NPDES permits and how these permits are issued, Dave?

1.9 Permit Categories –

POTW and Non-POTW



Notes:

Thanks, Greg.

Congress and EPA group and categorize dischargers and permits in several ways. The first distinction that we'll point out is the difference between a publicly-owned treatment works, or POTW, and a non-POTW. This distinction is important, not only because POTWs are unique types of treatment facilities, but also because Congress and EPA established very different technology-based performance standards for POTWs and non-POTWs.

A publicly-owned treatment works is defined in 40 CFR 403.3 as a treatment works owned by a state or municipality including any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature.

In other words, POTWs are typically local or regional municipal wastewater treatment plants, operating wastewater collection systems (or sewers) and treating the domestic sewage and industrial and commercial wastewater

generated by towns and cities.

All other facilities are non-POTWs and are often referred to as “non-municipal” or “industrial” dischargers.

1.10 Non-POTW Facilities or Activities

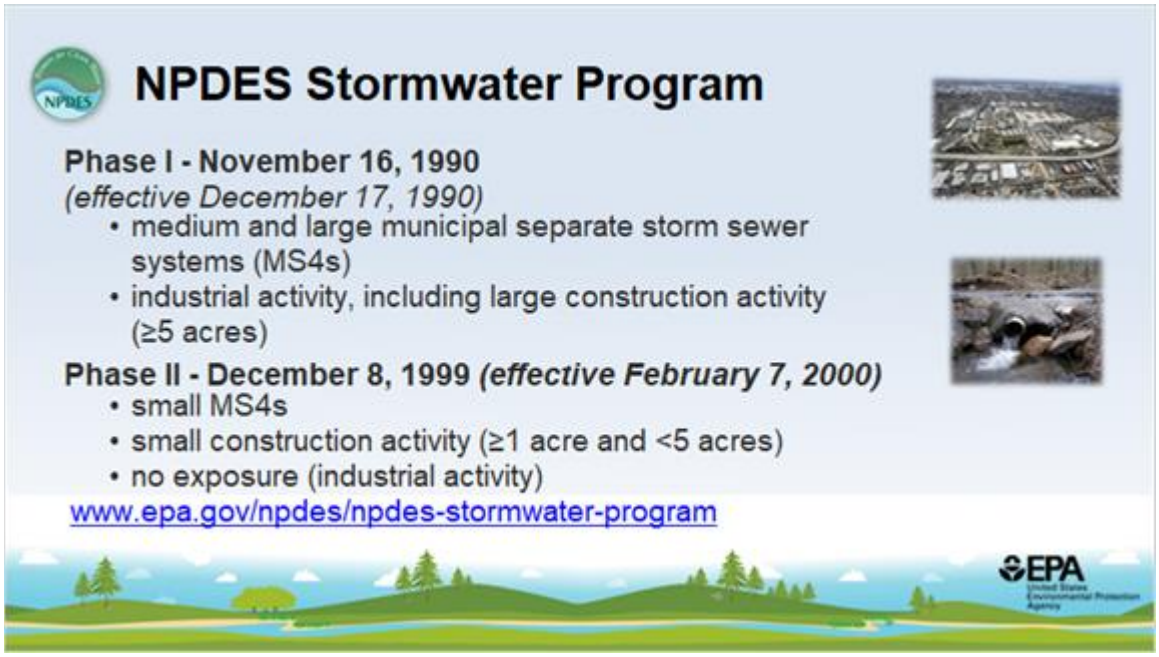
Notes:

As you can see from our list on this slide, the non-POTW category that we sometimes refer to as “industrial dischargers” includes much more than just industrial process wastewater.

For example, the category includes privately-owned treatment works and federally-owned treatment works, which often treat sanitary sewage, various types of industrial, manufacturing, and commercial activity, concentrated animal feeding operations, concentrated aquatic animal production facilities, pesticide applications, vessels discharges, and stormwater discharges. Each of these categories of dischargers require NPDES permits to authorize a discharge, but as you might imagine, the nature of the NPDES permit and permit conditions will be very different for each of these point source dischargers.

We’ll get into those differences in later modules in this training series, but for now, let’s focus for just a few moments on one very unique type of discharge listed here-stormwater.

1.11 NPDES Stormwater Program



Notes:

Unlike continuous discharges from industry or POTWs, stormwater discharges are intermittent, and are affected by the daily activities in and around urban and suburban populations. Rainwater and snowmelt run off the streets, lawns, and construction and industrial sites and can pick up fertilizers, dirt, pesticides, oil and grease, and many other pollutants on their way to waters of the United States.

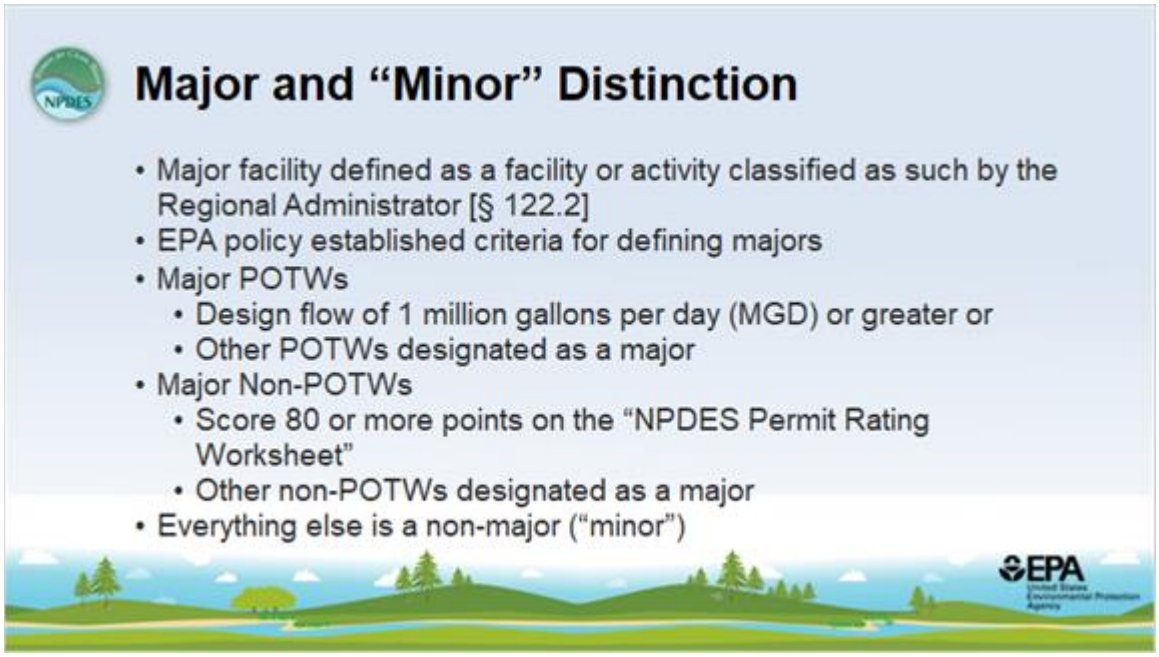
While the discharge characteristics might be different from our "traditional" NPDES dischargers, permitting authorities must still ensure that these point sources are adequately controlled through NPDES permits.

Because of the enormous scope of the stormwater universe, Congress directed EPA to develop the stormwater regulations in two phases. Phase I regulations were promulgated on November 16, 1990, and regulated larger sources including medium and large municipal separate storm sewer systems, or MS4s, and stormwater associated with industrial activity, including large construction activities that disturbed 5 or more acres.

The stormwater Phase II regulations were promulgated on December 8, 1999, and regulate smaller sources, including small MS4s and construction activities that disturb between 1 and 5 acres. The Phase II regulations also include a clarification of the "no exposure" provision provided in Phase I for stormwater associated with industrial activities.

While stormwater is an important topic, we're going to have to wrap up our discussion here and move on. For those of you that would like to know more about this topic, this slide provides the URL for EPA's very informative NPDES Web site on stormwater.

1.12 Major and "Minor" Distinction



Notes:

Another approach to categorizing NPDES permits is based on the relative significance of the permitted activity. The NPDES regulations at 40 CFR 122.2 provide a definition of a "major" facility or activity. This distinction is intended to identify the more significant potential sources of pollution and ensure that EPA and states provide additional documentation and oversight of these major facilities.

The regulatory definition, however, doesn't provide a lot of specifics. It simply says a major facility is any facility or activity classified as such by the EPA Regional Administrator, or in an authorized state, the Regional Administrator in conjunction with the Director of a state program. To provide some consistency in the designation process, EPA developed a policy in the mid-1980s to assist EPA Regions and states in determining which facilities should be classified as majors.

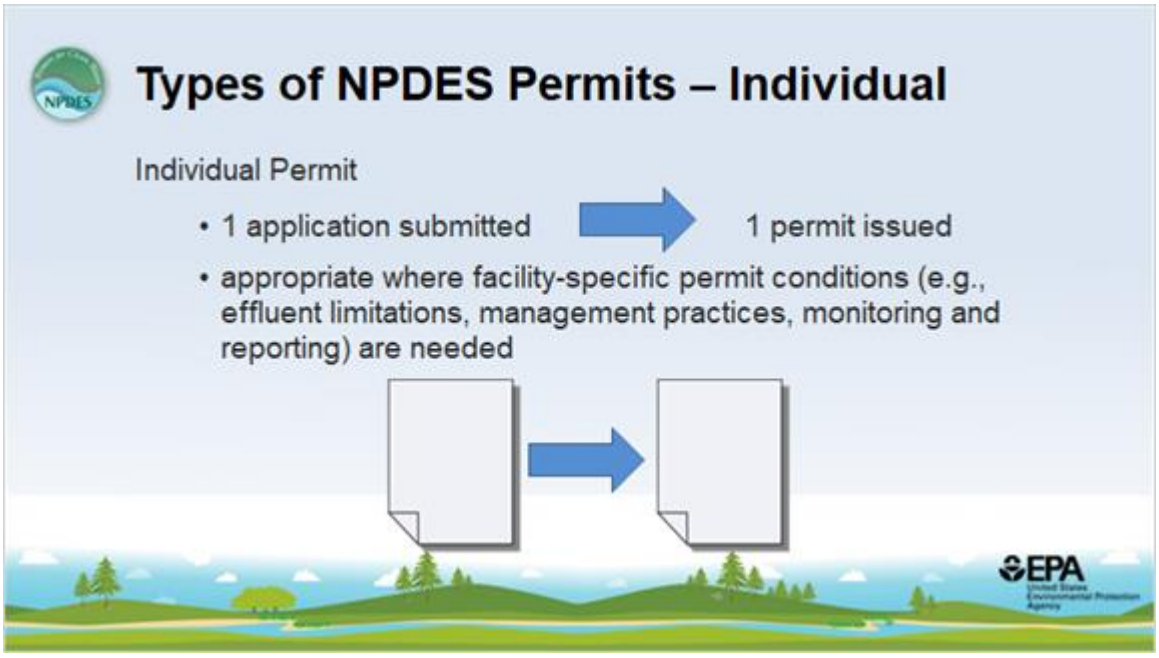
This policy states that, for POTWs, majors should include all POTWs with a design flow of one million gallons per day or greater or any other POTW that the EPA Region or authorized state, in conjunction with EPA, designates as a major facility.

For non-municipal facilities, the distinction is based on a rating sheet that evaluates the potential significance of a facility based on the nature of the discharge and the receiving water. If the facility receives a total score of 80 or more points, then it's considered a major. There are also several questions on the rating sheet that automatically trigger a major rating. For example all Phase I municipal separate storm sewer systems, or MS4s, are considered majors. The rating sheet also allows the EPA Region or authorized state to identify any facility as a "discretionary major" if it has additional reason to do so.

Any facility that is not identified as a major is typically referred to as a "minor," although this term is not defined in the regulations.

We should note here, that the distinction between a major and minor facility relates primarily to administrative, oversight, and data tracking activities. There are really no differences in the regulatory requirements related to the content or enforceability of permits issued to major and minor facilities.

1.13 Types of NPDES Permits – Individual



Notes:

Finally, we can categorize permits by the type of permit issued.

In the first presentation in this training series, we defined a permit as the government's permission to do something that would otherwise be illegal. In the case of an NPDES permit, we said that the permit provided the authorization for a point source to discharge pollutants to waters of the United States. Without coverage under an NPDES permit, this activity would be illegal. Having defined what a permit is, we can now move on and look at the types of permits that are authorized under the NPDES regulations, and it turns out that EPA and state permitting authorities can provide permit coverage to point sources in one of two ways. We can either develop a unique permit for each discharger, or we can develop an "umbrella" permit that covers a large number of similar dischargers. We call these two types of coverage individual permits and general permits.

Let's first discuss what we mean by an individual permit. An individual permit is just what it sounds like. An individual facility gets its own unique permit designed for its specific discharge or discharges. For example, let's say that ACME, Incorporated, has a process wastewater discharge to Pristine Creek. ACME completes a permit application that describes its operation and discharge, provides appropriate effluent data, and requests a permit to allow it to discharge. The permitting authority reviews the application, collects all the information it can about the facility, its discharge, and the receiving water, and crafts and issues a permit that is unique to the ACME facility, including specific effluent limitations and conditions that ACME must meet.

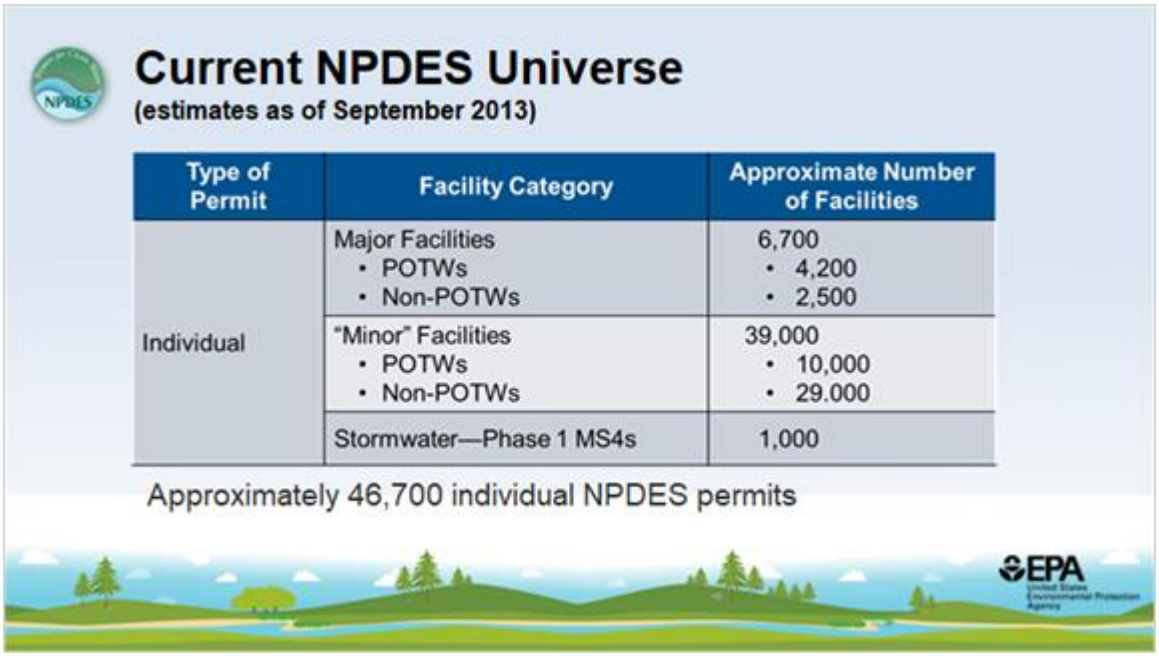
An individual permit is well suited for situations where the characteristics of the facility and the receiving water are unique, and where site-specific effluent limitations and other permit conditions are needed.

For an individual permit, the facility initiates the permitting process by first providing an application in accordance with the requirements and timelines established in the NPDES regulations. Only after receipt of a complete application, can the permitting authority prepare and issue an NPDES permit.

You can learn more about the administrative process involved in issuing an NPDES permit in a later section of this Web-based training series.

1.14 Current NPDES Universe

(estimates as of September 2013)



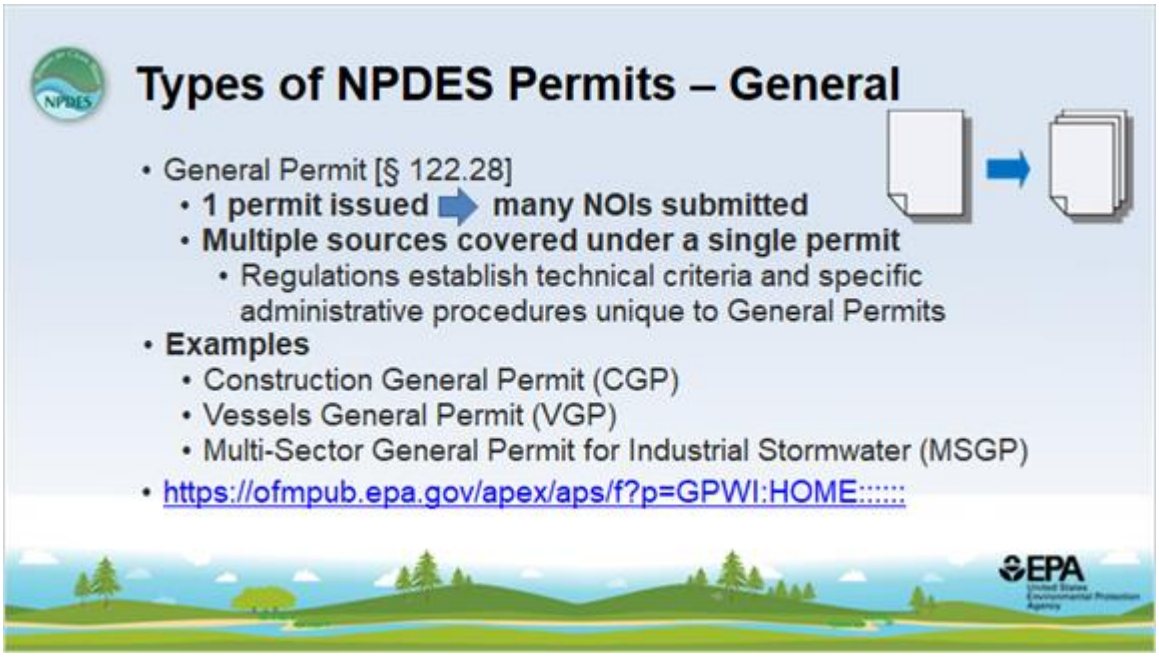
Notes:

Let's take a quick look at how the universe of individual NPDES permits breaks down.

There are approximately 6,700 major facilities, made up of 4,200 POTWs and 2,500 non-POTWs, covered by individual NPDES permits. There are an additional 39,000 "minor" facilities, made up of approximately 10,000 POTWs and 29,000 non-POTWs, covered by individual permits. Lastly, there are approximately 1,000 stormwater Phase I MS4s covered by individual NPDES permits.

Altogether, that gives us a universe of approximately 46,700 individual facilities covered by the NPDES permitting program across the United States.

1.15 Types of NPDES Permits – General



Notes:

The other type of permit available to EPA and every state NPDES permitting authority is a general permit. A general permit is a permit that covers a large number of similar facilities under a single "umbrella" permit.

For example, let's say that a state permitting authority determines that there are 100 ready-mix concrete facilities in the state, all of which require coverage under an NPDES permit to allow them to discharge. The state has two options: either issue 100 individual permits (one to each facility), or it can decide to develop a single umbrella permit that applies to all ready-mix concrete facilities.

The general permit process, therefore, begins when the permitting authority identifies a large number of very similar facilities, and determines that the permit conditions that would apply to these facilities would be virtually identical. The permitting authority then crafts and issues a general permit that can be used to cover any discharger that meets the eligibility criteria established by the general permit. Once issued, any dischargers that think they meet the eligibility criteria can submit a Notice of Intent (or other appropriate notification) to the permitting authority requesting coverage under the general permit.

After receiving the Notice of Intent, the permitting authority can either grant coverage or require the facility to apply for an individual permit if it determines that the applicant has some unique characteristics that would make it ineligible for the general permit.

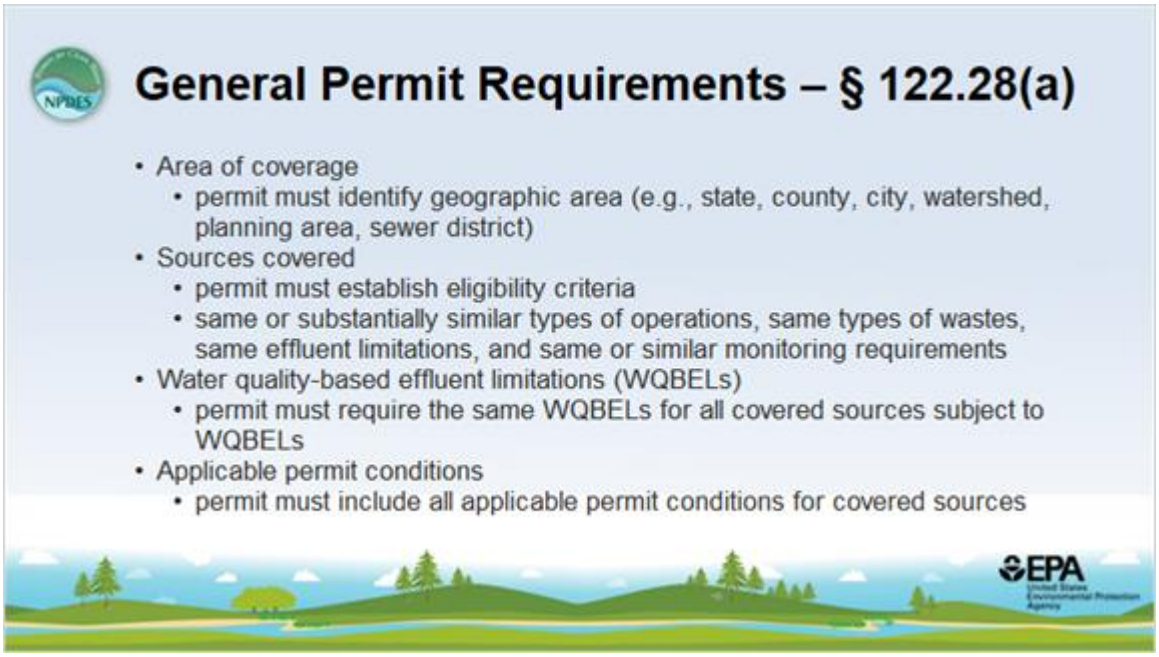
General permits developed by EPA include the Construction General Permit, which covers stormwater discharges from land disturbance at construction sites, the national Vessels General Permit, which covers discharges incidental to the normal operation of large commercial vessels, and the Multi-Sector General Permit, which covers stormwater discharges associated with industrial activity.

Authorized states have developed general permits covering all sorts of activities including things like groundwater cleanup, hydrostatic pressure testing, small POTWs, and many more.

If you'd like to see examples of some actual general permits, EPA has developed a Web site that provides searchable access to hundreds of general permits issued by EPA and state permitting authorities. The URL for the EPA web page is provided in the last bullet on this slide.

Now let's briefly review a few of the special technical and administrative requirements related to general permits.

1.16 General Permit Requirements – § 122.28(a)



Notes:

As noted on the previous slide, the regulations addressing the use of general permits are found at 40 CFR 122.28. In 40 CFR 122.28(a), the regulations establish some constraints on when and how general permits can be used.

Specifically, the scope and use of general permits are limited by certain regulatory and practical constraints.

First, the permitting authority must define the geographic area of coverage, such as a watershed, county lines, or

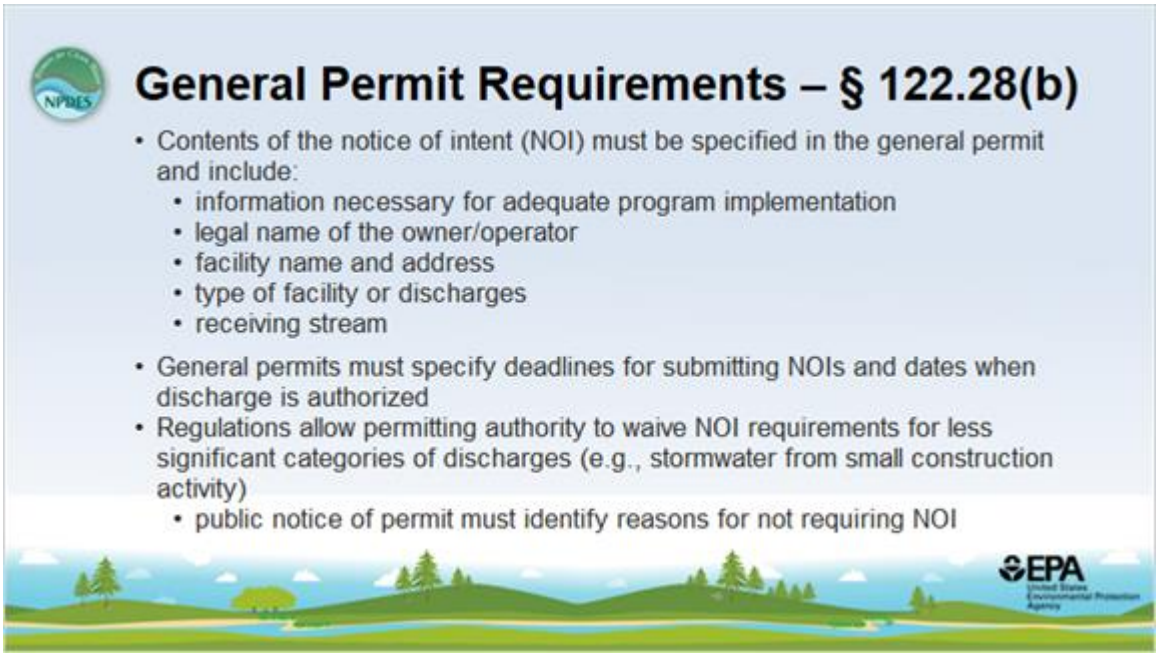
state lines.

Second, the permit must establish the specific sources and activities authorized for coverage by the general permit. These are often referred to as the “eligibility criteria” for the permit. Eligible sources are typically defined by a category of discharger (for example, ready-mix concrete or construction stormwater) which have similar operations, similar discharges and would require the same or very similar permit conditions.

The regulations also require the permit to address applicable water quality-based effluent limits in a consistent manner, and require the general permit to incorporate all terms and conditions applicable to the sources covered by the permit.

Because it’s difficult to incorporate site-specific limits and conditions in general permits, there are some situations where general permits might not be appropriate. For example, if the permitting authority determines that numeric water quality-based effluent limits or unique monitoring requirements are needed, then an individual permit is usually the more appropriate tool. Generally speaking, the more complex the discharge, the more likely an individual permit would be the appropriate permit type.

1.17 General Permit Requirements – § 122.28(b)



Notes:

The regulations at 122.28(b) provide some administrative requirements unique to general permits; most significantly, the requirements related to how a potential discharger would seek and be granted coverage under a general permit.

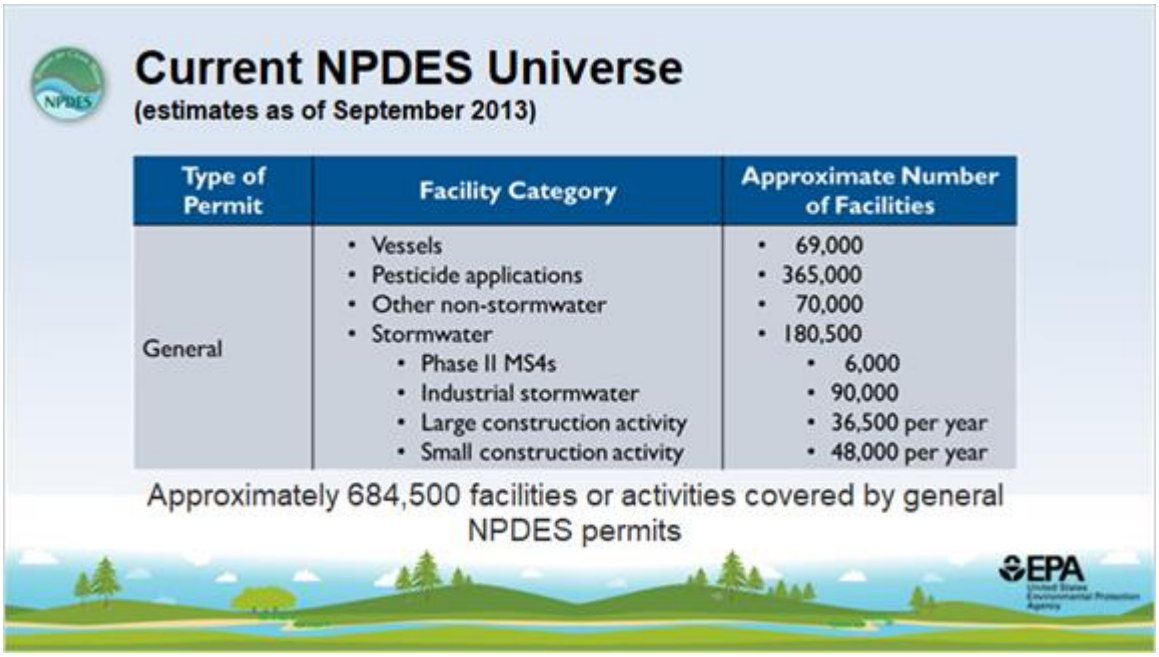
Most general permits require a prospective discharger seeking coverage to submit a Notice of Intent, or NOI. The NOI is a request indicating that a facility believes that it meets the eligibility criteria for the general permit, and providing at least basic identification, location, and descriptive information regarding the nature of the proposed discharge. The specific contents of the NOI are unique to each general permit but must include the elements listed on this slide.

The general permit must also provide information specifying when and how the NOI must be submitted to the permitting authority and when the facility is authorized to commence discharge. For example, the general permit might establish that a facility must submit an NOI at least 30 days prior to the planned commencement of discharge, and must receive written acknowledgement of coverage prior to discharge. Alternatively, the permit might establish that discharge is authorized within two weeks of submission of the NOI unless the discharger is notified otherwise.

The regulations also provide a mechanism for authorizing coverage under a general permit without the need for an NOI; however, this is intended for non-significant dischargers, and the public notice for the general permit must identify the reasons why the permitting authority believes an NOI is unnecessary.

1.18 Current NPDES Universe

(estimates as of September 2013)



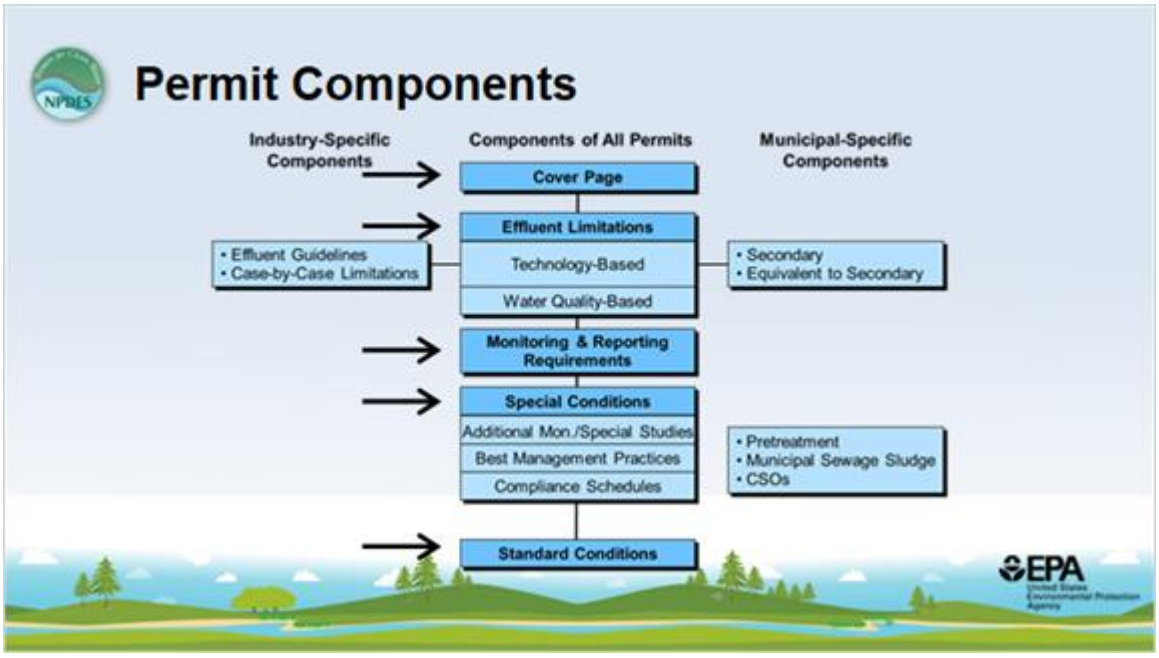
Notes:

This slide shows the number of facilities covered by general permits, and, as you can see, the general permitting program vastly expands our count of the number of facilities that EPA and states cover under NPDES permits.

I won't bother going over the specific breakdown among types of discharges, but you can see from this slide that we estimate that the general permitting program adds approximately 684,500 sources covered under NPDES permits.

Along with the 46,700 facilities covered under individual permits, that brings our grand total to approximately 731,200. Whew….permit writers certainly have their work cut out for them!

1.19 Permit Components



Notes:

So far, we've considered distinctions among various permittees and what types of permits are available to them. Now let's take a look at the components that make up a typical NPDES permit.

This graphic provides the basic structural outline and the five major components of an NPDES permit. There are a couple of important things to point out before we get started. First, while there are significant differences in the issuance processes for individual and general permits, they usually have the same basic structure and components. Therefore, this graphic could apply to either type of permit. Second, the specific permit components and nomenclature shown on this slide are not all part of the NPDES regulations. This is simply an outline of a "typical" NPDES permit. Some state permitting authorities use different terminology, and they might organize their permits in very different ways. Ultimately, our primary concern isn't how a permit is organized, it is that the permit contain all of the limitations, terms, and conditions required by the Clean Water Act and NPDES regulations.

Now that we've cleared that up, for the purposes of our permitting guidance and this training course, we'll use the structure shown on this slide to organize and explain the NPDES permit requirements. So let's look at each component and see what type of information it contains.

First, we have the permit cover page. The cover page typically indicates who is issuing the permit, who is receiving the permit, describes and identifies the discharge points and locations, identifies the statutes and regulations that authorize the permit, and frequently provides the issuance, effective, and expiration dates of the permit. All very important information, but typically established in boilerplate language and in a format developed by each EPA Region or authorized state.

The second major component of the permit is the effluent limitations section. This is a very important section of the permit and will include limitations based on consideration of technology-based and water quality-based requirements. How these limitations are developed is the subject of detailed presentations that are also provided in other sections of this Web-based training series.

The third section of the permit comprises monitoring and reporting requirements. This section tells the permittee when, where, how, and how much monitoring it must conduct and how to report the results.

The fourth major component of the permit is the special conditions section. Special conditions are typically non-numeric, or narrative, requirements of the permit. These narrative requirements might include special monitoring and studies, best management practices, compliance schedules, or incorporation of special program requirements such as pretreatment or biosolids for municipal discharges. While these requirements are narrative statements, they often contain core activities required by the NPDES regulations or Clean Water Act and are just as important and enforceable as numeric effluent limitations.

And last, but not least, are the permit standard conditions. Standard conditions include the important boilerplate requirements that must be included in all NPDES permits. While we show this as a separate permit section, many states distribute the boilerplate requirements to other permit components where they apply.

1.20 NPDES Program Updates

Notes:

With that, we'll close our discussion of the scope and regulatory framework of the NPDES program by reminding everyone that this is a very dynamic program. Over the past few years, EPA has been tasked with incorporating a variety of new types of point sources, such as stormwater, vessels, and pesticide applications, into its regulatory framework. In addition, EPA has and will be revising requirements for current and new types of point sources and these regulatory changes may significantly impact how NPDES permits are developed.

To keep up with these changes, we invite everyone to visit the NPDES web site on a regular basis and check out what's new.