

Water Permitting 101

ABSTRACT

The National Pollutant Discharge Elimination System (NPDES) Program has achieved significant reductions in pollutant discharges since it was established by the Federal Water Pollution Control Act Amendments of 1972. The development of this permitting program has, in turn, resulted in tremendous improvement to the quality of this country's water resources. This paper will present a brief history and introduction to the national water pollution control permitting program as administered by the United States Environmental Protection Agency (EPA) and provide an overview of the permitting activities implemented through the NPDES program today.

INTRODUCTION

Twenty-five years ago, only a third of the nation's waters were safe for fishing and swimming. Wetland losses were estimated at four hundred and sixty thousand acres annually. Agricultural runoff resulted in the erosion of two and a quarter billion tons of soil and the deposit of large amounts of phosphorus and nitrogen into many waters. Sewage treatment plants served only eight-five million people.

Over the last 25 years, the quality of rivers, lakes and bays has improved dramatically as a result of the cooperative efforts by federal, state, tribal and local governments and communities to implement the public health and pollution control programs. Today, two-thirds of the nation's surveyed waters are safe for fishing and swimming. Wetland losses are estimated at seventy to ninety thousand acres annually. The amount of soil lost due to agricultural runoff has been reduced by one billion tons annually, and phosphorus and nitrogen levels in water sources have decreased. The number of people served by modern wastewater treatment facilities has more than doubled to one hundred seventy-three-million people.

HISTORY OF WATER POLLUTION CONTROL IN THE US

Present government water pollution programs were initiated by the 1948 Water Pollution Control Act, which focused on protection of human health, not the environment. The Act allotted funds to state and local governments for water pollution control, placing emphasis on the States' role in controlling and protecting water resources, with few, if any, federal goals, objectives, limits, or guidelines.

Congress became increasingly interested in water quality degradation from 1956 through 1966, and passed four laws to strengthen the federal role in water pollution control, including the Water Pollution Control Act Amendments of 1956 and the Federal Water Pollution Control Act Amendments of 1961. These initiatives focused on giving additional funding to municipalities for constructing wastewater treatment works.

The Water Quality Act of 1965 represented a major regulatory advancement in water pollution control by requiring States to develop water quality standards for interstate waters by 1967. The Water Quality Act also called for States to develop waste load allocations to quantify pollutant loadings that could be discharged without exceeding the water quality standards. Despite increasing public concern and increased public spending, only about half of the States developed water quality standards by 1971. Furthermore, enforcement of the federal legislation was

minimal because the regulatory agencies had to prove that pollutant loadings had an impact on human health or violated water quality standards in order to take action. Additionally, there were no criminal or civil penalties to enforce the regulation.

The lack of success in developing adequate water quality standards programs, along with growing concern about the environment, prompted the President to form the United States Environmental Protection Agency (EPA) in 1970 to enforce environmental compliance and consolidate federal pollution control activities. The Refuse Act Permit Program (RAPP) was developed, under the 1899 Rivers and Harbors Act, as a new permitting program to control water pollution. RAPP required any facility discharging wastes into public waterways to obtain a federal permit specifying abatement requirements from the Army Corps of Engineers. The Administrator of the EPA endorsed the joint program with the Corps of Engineers, and on December 23, 1970, the permit program was mandated through Presidential Order. EPA and the Corps rapidly began to prepare the administrative and technical requirements for the permit program, but the effluent limits were more or less arbitrarily determined. In December 1971, RAPP was struck down by a decision of the Federal District Court in Ohio (*Kalur vs. Resor*).

Although RAPP was struck down, the concept of a permit program survived. In November 1972, Congress passed a comprehensive recodification and revision of federal water pollution control law, known as the Federal Water Pollution Control Act (FWPCA) Amendments of 1972, marking a distinct change in the philosophy of water pollution control in the United States. The Amendments maintained the requirements for water quality-based controls, but added an equal emphasis on technology-based, or end-of-pipe, control strategies. The FWPCA Amendments set ambitious goals in its Section 101(a), including:

- "it is the national goal that the discharge of pollutants into navigable waters be eliminated by 1985";
- "it is the national goal that wherever attainable an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983"; and
- "it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited".

The FWPCA Amendments contained four other important principles:

1. The discharge of pollutants to navigable waters is not a right.
 2. A discharge permit is required to use public resources for waste disposal and limits the amount of pollutants that may be discharged.
 3. Wastewater must be treated with the best treatment technology economically achievable, regardless of the condition of the receiving water.
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1. Effluent limits must be based on treatment technology performance, but more stringent limits may be imposed if the technology-based limits do not prevent violations of water quality standards in the receiving water.

EVOLUTION OF THE NPDES PROGRAM

Title IV, Permits and Licenses, of the FWPCA Act created the system for permitting wastewater discharges (Section 402), known as the National Pollutant Discharge Elimination System (NPDES). Under NPDES, all facilities which discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit provides two levels of control: technology-based limits (based on the ability of dischargers in the same industrial

category to treat wastewater) and water quality-based limits (if technology-based limits are not sufficient to provide protection of the water body).

The first round of NPDES permits, issued from 1973 through 1976, required non-municipal (industrial) facilities to meet two technology-based standards: Best Practicable Control Technology Currently Available (BPT) and Best Available Technology Economically Achievable (BAT) with compliance deadlines of July 1, 1977 and July 1, 1983 respectively. Municipal facilities were required to meet secondary (biological) treatment standards by July 1, 1977.

EPA defined BPT as the average of the best existing performance by well operating plants within each industrial category or sub-category. BPT standards had to be justified in terms of the industry-wide cost of implementing the technology in relation to the pollutant reduction benefits. EPA defined BAT as the performance associated with the best control and treatment measures that have been, or are capable of being, achieved. For BAT, EPA must still consider the cost of attainability, however, it is not required to balance the cost of implementation against the pollutant reduction benefit.

In addition to BPT and BAT requirements, the 1972 FWPCA Amendments (Section 306) established new source performance standards (NSPS) as more restrictive requirements for new sources. EPA defined *new sources* as any facility from which there may be a discharge of pollutants that began construction following the promulgation of the proposed NSPS. The intent of NSPS was to set the most stringent limits based on the performance of the best available technologies. These limits represent state-of-the-art treatment technologies for new sources because these dischargers have the opportunity to install the most efficient production processes and the latest in treatment technologies at the time of start-up. NSPS are effective on the date of commencement of operation of the new facility, and the facility must demonstrate compliance within 90 days of start-up (40 CFR §122.29(d)).

EPA tried to set nationally uniform effluent limits for removal of traditionally regulated pollutants as a basis for technology-based limits. However, most guidelines were not in place when the first set of permits was developed. About seventy-five percent of the first round permits were issued under a small, but very powerful, part of the act which allowed the permit writer to use their Best Professional Judgment (BPJ) to establish limits. Instead of a corps of professionals combining their expertise to set national limits for an industry, a single permit writer developed discharge limits based on knowledge of the industry and the specific discharge.

Due to a lack of information on treatability of toxics, EPA did not fully address toxics in the promulgated guidelines. Furthermore, EPA failed to develop all of the required effluent guidelines within the statutory deadline. For these reasons, the Natural Resources Defense Council (NRDC) sued EPA resulting in a court supervised "consent decree" in 1976 identifying:

- the *toxic priority pollutants* to be controlled,
- the *primary industries* for technology-based control, and
- the *methods for regulating toxic discharges* through the authorities of the FWPCA Amendments.

The provisions of the consent decree were incorporated into the framework of the 1977 Amendments, formally known as the Clean Water Act (CWA), shifting the emphasis from controlling "conventional" pollutants to controlling toxic discharges. Section 304(a)(4) of the CWA designated the following as *conventional pollutants*:

- Five day biochemical oxygen demand (BOD₅),
- Total suspended solids (TSS),
- pH,
- Fecal coliform, and
- Oil and grease (O&G) (added in 1979 in 40 CFR §401.16).

Section 307(a)(1) of the CWA required the establishment of a published list of toxic pollutants or combination of pollutants often called the *priority pollutants* (listed in 40 CFR §401.15). Originally 65 toxic pollutants and classes of pollutants were identified; later this list was expanded to 126 pollutants and classes of pollutants. Substances, such as chlorine or ammonia that are not specifically listed as conventional or toxic pollutants, are called *non-conventional pollutants*.

The CWA adjusted technology-based standards to reflect the shift toward toxics. The conventional pollutants, controlled by BPT in the first round of permitting, were now subject to a new level of control termed Best Conventional Pollutant Control Technology (BCT) with a compliance deadline of July 1, 1984. BCT is not an additional limit, but replaces BAT for the control of conventional pollutants, while BAT remains in effect for the toxic and non-conventional pollutants. Because the CWA clarified that BAT controls cover toxic and non-conventional pollutants, the compliance deadline for BAT was extended to July 1, 1984.

The CWA recognized that the technology-based limits were not able to prevent the discharge of toxic substances in toxic amounts in all waterways. To compliment its work on technology-based limits, the EPA initiated a national policy in February 1984 to control toxics based on a water quality approach. On February 4, 1987, Congress amended the CWA with the Water Quality Act (WQA) of 1987 which outlined a strategy to accomplish the goal of meeting water quality standards set by states.

The WQA again extended the time to meet BAT and BCT effluent limits to a compliance deadline of March 31, 1989 for both. The WQA also established new schedules for industrial and municipal storm water discharges to be regulated by NPDES permits. In addition to meeting water quality-based standards, industrial storm water discharges must meet the equivalent of BAT and BCT effluent quality standards. Discharges from municipal separate storm sewer systems (MS4s) were required to have controls to reduce pollutant discharges to the "maximum extent practicable". Additionally, the WQA required EPA to identify toxics in sewage sludge and establish numeric limits to control these toxics. A statutory anti-backsliding requirement was established limiting the circumstances under which an existing permit can be modified or reissued with less stringent effluent limits, standards, or conditions than those already imposed.

SCOPE OF THE NPDES PROGRAM

Under the NPDES Program, all facilities which discharge *pollutants* from any *point source* into *waters of the United States* are required to obtain an NPDES permit. Understanding how each of the key terms ("pollutant," "point source," and "waters of the United States") have been defined and interpreted by the regulations is the key to defining the scope of the NPDES Program.

Pollutant

The term *pollutant* is defined very broadly by the NPDES regulations and litigation and includes any type of industrial, municipal, and agricultural waste discharged into water. For regulatory purposes, pollutants have been grouped into three general categories under the NPDES Program: *conventional*, *toxic*, and *non-conventional*. There are five *conventional pollutants* (mentioned

above and defined in Section 304(a)(4) of the CWA). *Toxic pollutants*, or *priority pollutants*, are those defined in Section 307(a)(1) of the CWA and include metals and manmade organic compounds. *Non-conventional pollutants* are those which do not fall under either of the above categories, and include such parameters as ammonia, nitrogen, phosphorus, chemical oxygen demand (COD), and whole effluent toxicity (WET).

Point Source

Pollutants can enter waters of the United States from a variety of pathways including agricultural, domestic, and industrial sources. For regulatory purposes these sources are generally categorized as either *point sources* or *non-point sources*. Typical *point source* discharges include discharges from publicly owned treatment works (POTWs), discharges from industrial facilities, and discharges associated with urban runoff. While provisions of the NPDES Program do address certain specific types of agricultural activities (i.e., concentrated animal feeding operations), the majority of agricultural facilities are defined as *non-point sources* and are exempt from NPDES regulation.

Pollutant contributions to waters of the United States may come from both *direct* and *indirect* sources. *Direct* sources discharge wastewater directly into the receiving water body, whereas *indirect* sources discharge wastewater to a POTW, which in turn discharges into the receiving water body. Under the national program, NPDES permits are issued only to direct point source discharges. Industrial and commercial indirect dischargers are addressed by the National Pretreatment Program.

As indicated above, the primary focus of the NPDES permitting program is municipal and non-municipal (industrial) direct dischargers. Within these major categories of dischargers, however, there are a number of more specific types of discharges that are regulated under the NPDES Program.

Municipal Sources

Municipal sources are POTWs that receive primarily domestic sewage from residential and commercial customers. Larger POTWs will also typically receive and treat wastewater from industrial facilities (indirect dischargers) connected to the POTW sewerage system. The types of pollutants treated by a POTW will always include conventional pollutants, and may include non-conventional pollutants and toxic pollutants depending on the unique characteristics of the commercial and industrial sources discharging to the POTW.

The treatment provided by POTWs typically includes physical separation and settling (e.g., screening, grit removal, primary settling), biological treatment (e.g., trickling filters, activated sludge), and disinfection (e.g., chlorination, UV, ozone). These processes produce the treated effluent (wastewater) and a biosolids (sludge) residual, which is managed under the Municipal Sewage Sludge Program. Some older POTWs have an additional concern of combined sewer overflow (CSO) systems that can release untreated effluent during storm events. CSOs were an economic way for municipalities to collect both sanitary sewage and storm water and are controlled under the NPDES program. A number of municipalities have MS4s that are also subject to NPDES requirements. Specific NPDES program areas applicable to municipal sources are:

- the National Pretreatment Program,
- the Municipal Sewage Sludge Program,
- Combined Sewer Overflows (CSOs), and

- the Municipal Storm Water Program.

Non-municipal Sources

Non-municipal sources, which include industrial and commercial facilities, are unique with respect to the products and processes present at the facility. Unlike municipal sources, at industrial facilities the types of raw materials, production processes, treatment technologies utilized, and pollutants discharged vary widely and are dependent on the type of industry and specific facility characteristics.

The operations at industrial facilities are generally carried out within a clearly defined plant area; thus, the collection systems are typically less complex than those for POTWs. Industrial facilities may have storm water discharges contaminated by manufacturing activities, contact with raw materials or product storage activities, and may have non-process wastewater discharges such as non-contact cooling water. The NPDES Program addresses these potential wastewater sources for industrial facilities. Residuals (sludge) generated by industrial facilities are not currently regulated by the NPDES Program. Specific NPDES program areas applicable to industrial sources are:

- Process Wastewater Discharges,
- Non-process Wastewater Discharges, and
- the Industrial Storm Water Program.

Waters of the United States

EPA defines the term *waters of the United States*, to include:

- Navigable waters,
- Tributaries of navigable waters,
- Interstate waters, and
- Intrastate lakes, rivers, and streams which are:
 - -used by interstate travelers for recreation and other purposes;
 - -sources of fish or shellfish sold in interstate commerce; or
 - -utilized for industrial purposes by industries engaged in interstate commerce.

The intent of this definition is to cover all possible waters within federal jurisdiction under the Commerce Clause of the Constitution. The definition has been interpreted to include virtually all surface waters in the United States, including wetlands and ephemeral streams. As a general matter, groundwater is not considered a water of the United States; therefore, discharges to groundwater are not subject to NPDES requirements. If, on the other hand, there is a discharge to groundwater that has a "hydrological connection" to a nearby surface water, the discharger may be required to apply for an NPDES permit because the discharge is then considered a water of the United States. States may choose to require NPDES permits for discharges to groundwater; jurisdiction over groundwater resources is maintained by States.

TYPES OF PERMITS

A permit is typically a license for a facility to discharge a specified amount of a pollutant into a

receiving water under certain conditions; however, permits may also authorize facilities to process, incinerate, landfill, or beneficially use sewage sludge. The two basic types of NPDES permits issued are individual and general permits.

An *individual permit* is a permit specifically tailored to an individual facility. Once a facility submits the appropriate application(s), the permitting authority develops a permit for that particular facility based on the information contained in the permit application (e.g., type of activity, nature of discharge, receiving water quality). The authority issues the permit to the facility for a specific time period (not to exceed five years) with a requirement that the facility reapply prior to the expiration date.

A *general permit* covers multiple facilities within a specific category. General permits may offer a cost-effective option for permitting agencies because of the large number of facilities that can be covered under a single permit. According to the NPDES regulations at 40 CFR §122.28, general permits may be written to cover categories of point sources having common elements, such as:

- Storm water point sources;
- Facilities that involve the same or substantially similar types of operations;
- Facilities that discharge the same types of wastes or engage in the same types of sludge use or disposal practices;
- Facilities that require the same effluent limits, operating conditions, or standards for sewage sludge use or disposal; and
- Facilities that require the same or similar monitoring.

General permits, however, may only be issued to dischargers within a specific geographical area such as city, county, or state political boundaries; designated planning areas; sewer districts or sewer authorities; state highway systems; standard metropolitan statistical areas; or urbanized areas.

By issuing general permits, the permitting authority allocates resources in a more efficient manner to provide more timely permit coverage. For example, a large number of facilities that have certain elements in common may be covered under a general permit without expending the time and money necessary to issue an individual permit to each of these facilities. In addition, using a general permit ensures consistency of permit conditions for similar facilities.

Major Components of a Permit

All NPDES permits, at a minimum, consist of five general sections:

1. *Cover Page* - Typically contains the name and location of the permittee, a statement authorizing the discharge, and the specific locations for which a discharge is authorized.
2. *Effluent Limits* - The primary mechanism for controlling discharges of pollutants to receiving waters. Permit writers spend a majority of their time deriving appropriate effluent limits based on applicable technology-based and water quality-based standards.
3. *Monitoring and Reporting Requirements* - Used to characterize waste streams and receiving waters, evaluate wastewater treatment efficiency, and determine compliance with permit conditions.

4. *Special Conditions* - Conditions developed to supplement effluent limit guidelines. Examples include: best management practices (BMPs), additional monitoring activities, ambient stream surveys, and toxicity reduction evaluations (TREs).
5. *Standard Conditions* - Preestablished conditions that apply to all NPDES permits and delineate the legal, administrative, and procedural requirements of the permit.

Every permit contains these five basic sections, but the contents of sections will vary depending on whether the permit is issued to a municipal or industrial facility and whether the permit will be issued to an individual facility or to multiple dischargers (i.e., a general permit).

OVERVIEW OF THE PERMITTING PROCESS

While the limits and conditions in an individual NPDES permit are unique to the permittee, the process used to develop the limits and conditions and issue the permit generally follows a common set of steps. The order of these steps may vary depending on whether the permit is an individual or general permit. A general description of permitting process for individual and general permits is presented below. Additionally, the future consideration of permitting on a watershed basis is discussed.

Individual Permits

As specified in 40 CFR §124, the major steps for a permit writer to develop and issue an individual NPDES permit are:

1. Receive application from permittee.
2. Review application for completeness and accuracy.
3. Request additional information as necessary.
4. Develop technology-based effluent limits using application data and other sources.
5. Develop water quality-based effluent limits using application data and other sources.
6. Compare water quality-based effluent limits with technology-based effluent limits and choose the more stringent of the two as the effluent limits for the permit.
7. Develop monitoring requirements for each pollutant.
8. Develop special conditions.
9. Develop standard conditions.
10. Consider variances and other applicable regulations.
11. Prepare the fact sheet, summarizing the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit including public notice of the draft permit, and other supporting documentation.
12. Complete the review and issuance process.
13. Issue the final permit.
14. Ensure permit requirements are implemented.

The NPDES permitting process begins when the operator of the facility (permittee) submits an application. After receiving the application and making a decision to proceed with the permit, the permit writer reviews the application for completeness and accuracy. When the application is complete, the permit writer, using the application data, begins to develop the draft permit and the justification for the permit conditions (referred to as the fact sheet or statement of basis).

The first major step in the development process is deriving technology-based effluent limits. Following this step, the permit writer derives effluent limits that are protective of state water quality standards (i.e., water quality-based effluent limits). The permit writer then compares the technology-based effluent limits with the water quality-based effluent limits and applies the more

stringent limits in the permit. The decision-making process for deriving limits is documented in the permit fact sheet. It is quite possible that a permit may have limits that are technology-based for some parameters and water quality-based for, others. For example, a permit may contain an effluent limit for TSS based on national effluent limit guidelines (technology-based), a limit for ammonia based on prevention of aquatic toxicity (water quality-based), and a BOD₅ limit based for part of the year on effluent limit guidelines (technology-based) and for the remainder of the year on water quality considerations.

Following the development of effluent limits, the permit writer develops appropriate monitoring and reporting conditions, facility-specific special conditions, and includes standard conditions that are the same for all permits.

After the draft permit is complete, the permitting authority provides an opportunity for public participation in the permit process. A public notice announces the permit and interested parties may submit comments regarding the draft permit. Based on the comments, the permitting authority then develops the final permit, with careful attention to documenting the process and decisions for the administrative record, and issues the final permit to the facility.

General Permits

The process for developing and issuing general NPDES permits is similar to the process for individual permits, however, there are certain differences in the order of events. The permitting authority first identifies the need for a general permit by collecting data demonstrating that a group, or category, of dischargers has similarities that warrant a general permit. In deciding whether to develop a general permit, permitting authorities consider the following:

- Are there a large number of facilities to be covered?
- Do the facilities have similar production processes or activities?
- Do the facilities generate similar pollutants?
- Do only a small percentage of the facilities have the potential for violations of water quality standards?

The remaining steps of the permit process are the same as for individual permits. The permitting authority develops the draft permit and fact sheet, issues a public notice, addresses public comments, documents the issues for the administrative record, and issues the final permit. After the general permit has been issued, facilities that wish to be covered under the general permit generally submit a Notice of Intent (NOI) to the permitting authority. The permitting authority may then either request additional information describing the facility, notify the facility that it is covered by the general permit, or require the facility to apply for an individual permit.

Watershed Permitting

Recently, EPA has focused on the goal of integrating the NPDES program further into the concept of watershed planning. This process involves examining the core functions of the NPDES program, as described in this paper, and assessing how to adapt the program to better promote community-based water resource management rather permitting on a source-by-source basis. EPA is gaining insight into the best way to refine the NPDES framework to make decisions based on a watershed analysis and to engage local leadership in planning and non-point sources in pollution control, while maintaining a strong baseline individual and general permitting program.

EPA is exploring models for a watershed permitting program that would allow for local

leadership in conducting watershed planning and selecting appropriate management options to meet watershed goals and CWA requirements. For example, a local water quality authority, with jurisdiction over thirty individual discharges across three watersheds and some non-point source control authority, could receive three watershed permits rather than 30 individual source permits. The watershed permits would set ambient water quality requirements that the water quality authority must meet using a combination of point and non-point source controls selected through a local watershed planning process. Additionally, the permits may contain individual point source effluent limits that meet technology-based requirements and certain water quality-based requirements not addressed in the watershed plans.

Watershed permitting may present EPA, states, and communities with a unique framework to achieve the goals of the CWA and objectives of local watershed management initiatives. By focusing on ambient or watershed goals in a watershed permit, regulatory agencies, regulated dischargers, and non-regulated sources may meet otherwise unattainable watershed objectives with potential cost savings relative to source-by-source permitting.

ROLES AND RESPONSIBILITIES OF THE FEDERAL AND STATE AUTHORITIES

EPA is authorized under the CWA to directly implement the NPDES Program. EPA, however, may authorize States, Territories, or Tribes to implement all or parts of the national program. States, Territories, or Tribes applying for authorization may seek the authority to implement the base program (i.e., issue individual NPDES permits for industrial and municipal sources) and additional parts of the national program including:

- Permitting of federal facilities;
- Administering the National Pretreatment Program; and/or
- Administering the Municipal Sewage Sludge Program.

If the State, Territory, or Tribe only has partial authority (e.g., only the base NPDES permits program), EPA will implement the other program activities. For example, a State may have an approved NPDES Program, but has not received EPA approval of the State's Municipal Sewage Sludge Program. The EPA Region would be responsible for ensuring conditions to implement the Standards for the Use or Disposal of Sewage Sludge (40 CFR §503) were included in NPDES permits issued to POTWs in that State. EPA may issue a separate NPDES permit with the applicable sewage sludge standards and requirements, or may negotiate with the State on joint issuance of NPDES permits. The same process also applies where a State, Territory, or Tribe has not received approval for administering the National Pretreatment Program or permitting of federal facilities.

In general, once a State, Territory, or Tribe is authorized to issue permits or administer a part of the program, EPA no longer conducts these activities. However, EPA must have an opportunity to review each permit issued by the State, Territory, or Tribe and may formally object to elements that conflict with federal requirements. If the permitting agency does not address the objection points, EPA will issue the permit directly. Once a permit is issued through a government agency, it is enforceable by the approved State, Territorial, Tribal and Federal agencies (including EPA) with legal authority to implement and enforce the permit, and also enforceable by private citizens (in federal court).

If the State, Territory, or Tribe does not have approval for administering the NPDES program, EPA will operate the NPDES program. When EPA issues the permit, Section 401(a) of the CWA requires that EPA obtain certification from the State where the discharge will occur to ensure that the discharge will be in compliance with effluent limits, the State's water quality

standards, and "any other appropriate requirement of State law." Section 401(d) requires the State to list in the certification the conditions that must be included in the permit to implement the certification.

CONCLUSION

From the 1948 Water Pollution Control Act to the 1977 CWA to the WQA of 1987, the NPDES permitting program evolved from environmental legislation to control water quality degradation. Improvements to the quality of water in this country can be directly linked to the implementation of the NPDES program and the control of pollutants discharged from both municipal and industrial point sources into waters of the United States. Individual and general permits set technology-based and water quality-based effluent limits to maintain environmental standards that ensure safe water for the enjoyment of all.

REFERENCES

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