



OFFICE OF INSPECTOR GENERAL

*Catalyst for Improving the Environment*

## Evaluation Report

# **Efforts to Manage Backlog of Water Discharge Permits Need to Be Accompanied by Greater Program Integration**

Report No. 2005-P-00018

June 13, 2005

**Report Contributors:**

Ira Brass  
Susan Barvenik  
Thomas Herrod  
Carolyn Bowers  
Dave Cofer  
James Haller

**Abbreviations**

ASIWPCA	Association of State and Interstate Water Pollution Control Administrators
CAFO	Concentrated Animal Feeding Operation
EPA	Environmental Protection Agency
ePIFT	Electronic Permit Issuance Forecasting Tool
FMFIA	Federal Managers' Financial Integrity Act
FY	Fiscal Year
GPRA	Government Performance and Results Act
ICIS	Integrated Compliance Information System
NPDES	National Pollutant Discharge Elimination System
OIG	Office of Inspector General
OWM	Office of Wastewater Management
PCS	Permit Compliance System
PER	Permitting for Environmental Results
TMDL	Total Maximum Daily Load
WLA	Waste Load Allocation



# At a Glance

*Catalyst for Improving the Environment*

## Why We Did This Review

The Environmental Protection Agency (EPA) has been concerned about the backlog of expired National Pollutant Discharge Elimination System (NPDES) permits for a number of years. We sought to determine:

- how successful EPA and States have been in eliminating the backlog;
- the potential environmental impact of the backlog; and
- how well measures reflect environmental impacts.

## Background

The NPDES permit program, established by Congress, regulates discharges from point sources to water bodies. The goal is to reduce the discharge of pollutants to protect and improve water quality. Permits need to be renewed every 5 years. As of June 2003, EPA reported that the backlog of expired permits needing renewal consisted of 1,120 major permit facilities, as well as 9,386 individual minor and 6,512 general minor permit facilities.

For further information, contact our Office of Congressional and Public Liaison at (202) 566-2391.

To view the full report, click on the following link:

[www.epa.gov/oig/reports/2005/20050613-2005-P-00018.pdf](http://www.epa.gov/oig/reports/2005/20050613-2005-P-00018.pdf)

## **Efforts to Manage Backlog of Water Discharge Permits Need to Be Accompanied by Greater Program Integration**

### **What We Found**

EPA and the States have had varying success in eliminating the backlog of NPDES permits requiring renewal, and more still needs to be done. The NPDES permit program is only one of many EPA programs to improve surface water quality. EPA needs to integrate its efforts to eliminate the NPDES backlog with the other programs to improve and maintain water quality based on Clean Water Act requirements.

To eliminate the NPDES permits backlog, EPA needs to address challenges involving resource constraints, increasing workload, complex permitting issues, external sources of permitting delays, and oversight limitations. EPA is now managing the NPDES permit program through the “Permitting for Environmental Results” Strategy that increases focus on environmental outcomes.

Only a small portion of waters currently identified as being “impaired” are associated with backlogged permits. While the majority of backlogged permits renewed had changes to discharge limits, the majority of the controls in the prior permits generally did not appear to change. A large number of the new permits contained limits for new parameters. Prioritizing permitting resources according to potential environmental impact could result in greater environmental benefits. The significance of the backlog could grow as a result of increased efforts in other water protection programs that may necessitate NPDES permit revisions.

EPA’s reporting on the NPDES backlog measure under the Government Performance and Results Act did not provide an accurate view of the program status or an adequate measure of environmental results. Prior to Fiscal Year 2005 revisions, the measures did not properly compare progress against baselines, and the measures focused on outputs (tasks performed) rather than outcomes (environmental results achieved). EPA had recognized these weaknesses and begun taking corrective actions.

### **What We Recommend**

EPA needs to build on the steps already initiated to reduce the NPDES permit backlog. We made various recommendations to EPA to assist the Agency in such efforts. EPA needs to take various steps to integrate the NPDES permit program with other point source programs that support the permit program. This would include creating a system for assessing the effectiveness and efficiency of its efforts related to clean water. EPA also needs to continue making improvements related to its measures, such as providing appropriate baselines. EPA provided extensive comments in response to our draft report. The Agency emphasized that through the “Permitting for Environmental Results” Strategy it is taking steps to reduce the NPDES backlog and in general improve the quality of the Nation’s water bodies. We encourage EPA to continue refining this strategy.



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

OFFICE OF  
INSPECTOR GENERAL

June 13, 2005

**MEMORANDUM**

**SUBJECT:** Efforts to Manage Backlog of Water Discharge Permits  
Need to Be Accompanied by Greater Program Integration  
Report No. 2005-P-00018

**FROM:** Dan Engelberg /s/  
Director, Water Issues – Office of Program Evaluation

**TO:** Benjamin Grumbles  
Assistant Administrator, Office of Water

This is the final report on the subject evaluation conducted by the Office of Inspector General (OIG) of the U.S. Environmental Protection Agency (EPA). The cooperation of all EPA regions and 15 States contributed significantly to this report, and their participation is appreciated.

This report contains findings that describe the issues identified by the OIG and recommended corrective actions. This report represents the opinion of the OIG, and the findings do not necessarily represent the final EPA position. Final determinations on matters discussed in this report will be made by EPA managers in accordance with established audit resolution procedures.

On January 25, 2005, the OIG issued a draft report to EPA for review and comment. A response was submitted on March 15, 2005, and an exit conference held on March 31, 2005. EPA's response emphasized the importance of the Permitting for Environmental Results (PER) Strategy established in 2004 for managing the NPDES program. EPA overall agreed that while the backlog alone may not provide an effective strategy to improve water quality, permits are a key element in the structure and implementation of the Clean Water Act. Further, EPA stated that the permit prioritization effort, under the PER Strategy, is intended to help the NPDES program strike the proper balance between the continuing effort to reduce the backlog and the need to ensure the timely issuance of the most environmentally significant permits. EPA provided comments, clarifications, and additional information on areas in the report and generally concurred, with suggested modifications, to our recommendations. EPA also provided information on ongoing activities in some of these areas. The OIG has incorporated these comments, technical corrections, and supplemental information into the final report.

## **Action Required**

In accordance with EPA Manual 2750, you are required to provide a written response to this report within 90 calendar days of the date of this report. You should include a corrective action plan for agreed upon actions, including milestone dates. We have no objections to the further release of this report to the public. This report will be available at <http://www.epa.gov/oig>. In addition to providing a written response, please e-mail an electronic version to [Brass.Ira@epa.gov](mailto:Brass.Ira@epa.gov).

If you or your staff have any questions regarding this report, please contact me at (202) 566-0830 or Ira Brass at (212) 637-3057.

# Table of Contents

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## At a Glance

## Chapters

<b>1</b>	<b>Introduction</b> .....	<b>1</b>
	Purpose .....	1
	Background .....	1
	Scope and Methodology .....	5
	Results in Brief .....	6
<b>2</b>	<b>Management of Backlog Improving, But Challenges Continue</b> .....	<b>7</b>
	EPA and States Have Been Addressing Challenges, But Further Action Can be Taken .....	7
	EPA Increasing Focus on Environmental Outcomes for Permit Issuance and Program Management .....	15
	Agency Comment and OIG Evaluation .....	16
<b>3</b>	<b>Environmental Impacts of Backlog Reduction Vary and May Be Limited</b> .....	<b>18</b>
	Backlogged Permits Do Not Appear to Be a Major Cause of Impairment .....	18
	Delays in Reissuing Permits May Have Varying Environmental Impacts .....	20
	Environmental Significance of Backlog Could Increase in Future .....	22
	EPA Should Continue Promoting Prioritization of Permit Issuance .....	25
	Agency Comment and OIG Evaluation .....	26
<b>4</b>	<b>Backlog Reporting Has Provided Inadequate Measure of Environmental Results</b> .....	<b>28</b>
	Improvements in Backlog Measurement Affected Reported Progress .....	28
	Backlog Measure Has Not Reflected Environmental Outcomes .....	36
	Agency Comment and OIG Evaluation .....	41
<b>5</b>	<b>EPA Can Take Various Actions to Reduce NPDES Permit Backlog and Improve Water Quality</b> .....	<b>44</b>
	EPA's Management of NPDES Backlog Highlights Importance of an Integrated Clean Water Program .....	44
	EPA's Steps to Improve Program Integration Need to Be Strengthened .....	46
	Recommendations .....	46
	Agency Comment and OIG Evaluation .....	49

# Appendices

<b>A</b>	<b>Details on Scope and Methodology</b> .....	<b>53</b>
<b>B</b>	<b>Definitions and Examples of Alternatives to General Permitting</b> .....	<b>57</b>
<b>C</b>	<b>Changes in Permit Limits</b> .....	<b>58</b>
<b>D</b>	<b>Factors That Indicate a Permit Likely to Have New Limits or Conditions When Reissued</b> .....	<b>59</b>
<b>E</b>	<b>Universe of Permits Counted in Backlog and Number of Current Permits</b> .....	<b>60</b>
<b>F</b>	<b>Agency Comment</b> .....	<b>61</b>
<b>G</b>	<b>Distribution</b> .....	<b>80</b>

# Chapter 1

## Introduction

### Purpose

National Pollutant Discharge Elimination System (NPDES) permits provide a regulatory approach for controlling point source discharges to surface waters. The Agency first reported the backlog as a material weakness for the NPDES program, then tracked it internally as an Agency weakness after October 2002. Expired NPDES permits may not incorporate the most up-to-date limits and conditions to protect human health and aquatic life, thereby delaying needed improvements in water quality. The Office of Inspector General (OIG) has issued two previous reports on issues relating to the backlog and reported it as an OIG Management Challenge until 2005. For this current report, we evaluated the following questions:

- How successful have EPA and the States been at managing the backlog?
- What is the potential for environmental impact of the NPDES permit backlog, including impacts on loadings reductions?
- How well does the NPDES permit backlog measure (percentage of major and minor permits backlogged) reflect environmental impacts of delayed permit reissuance or issuance?

During our work, we also collected information on successful regional and State practices that might be useful for others.

### Background

#### ***Permit Program Established***

Congress established the NPDES program through the 1972 amendments to the Federal Water Pollution Control Act. NPDES permits regulate discharges from point sources (discharging through a discrete conveyance for water, such as a pipe or man-made ditch) through enforceable provisions designed to reduce the discharge of pollutants to surface waters to protect and improve water quality. NPDES permits are issued to a variety of dischargers and can be categorized by type of discharge regulated, facility, and permit. The permit program originally focused on municipal Publicly Owned Treatment Works and non-municipal (industrial) facilities, but has been expanding to include stormwater, combined and sanitary sewer overflows, Concentrated Animal Feeding Operations (CAFOs), and sludge (biosolids).

EPA manages permits through two designations – major or minor permits – as shown in Table 1.1:

**Table 1.1: Permit Designations**

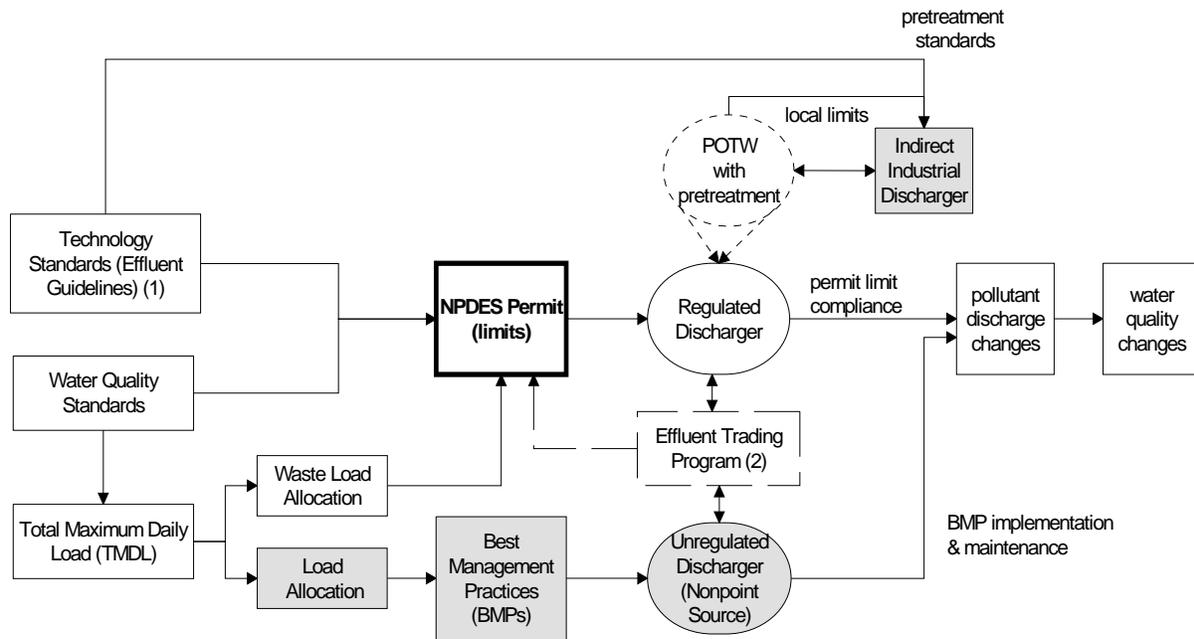
Type	Description
<b>Majors</b>	Publicly Owned Treatment Works having discharges greater than 1 million gallons per day or serving a population of 10,000 or more, industrial facilities scoring over 80 points based on rating criteria, and a limited number of discretionary majors (facilities not meeting the above criteria but designated majors by States).
<b>Minors</b>	Publicly Owned Treatment Works of less than 1 million gallons per day, and industrial facilities that fail to meet the criteria score of 80.

Individual permits are those issued to a single facility, while a general permit will result in multiple facilities within a specific category and geographic area being covered under one permit. In June 2003, according to EPA’s status reports, the total universe of facilities reviewed for backlog accounting purposes within the NPDES program was 6,675 major permits (including at least 48 general majors), 45,419 individual minor permits, and 50,587 general non-stormwater permitted minor facilities. In July 1999, EPA had estimated that Phases I and II of the National Storm Water Program would add about 400,000 facilities for general permit coverage, but general stormwater permits are excluded from the backlog definition.

Permits, the result of a regulatory process, consist of general and specific conditions, enforceable limits, and monitoring and reporting requirements. Permit limits are generally based on the more stringent limit calculated using a water quality standard, an effluent guideline (a technologically based standard), or in some cases best professional judgment. However, if the receiving waterbody has been assessed as impaired, a study is conducted to derive the Total Maximum Daily Load (TMDL) – the maximum amount of a pollutant the waterbody can receive and still meet water quality standards. Waste Load Allocations (WLAs) allocate discharge allowances within the TMDL to point sources and are incorporated in an NPDES permit to provide the discharge limit for that pollutant.

A flowchart depicting the NPDES permit process based on our project work is provided in Figure 1.

Figure 1: Stylized Flowchart of NPDES Permits and Other CWA programs Designed to Achieve Water Quality Goals



Note model does not show: monitoring, reporting, or enforcement  
 ◻ Shaded objects are not directly affected by the NPDES permit

1) Effluent Guidelines includes technology standards that address secondary treatment in POTWs as well as Best Professional Judgment limits.

2) Watershed permitting may also affect the process. This approach is shown for illustration only and may be implemented differently than shown.

Authority for the NPDES program is currently delegated to 45 States. In these States, most permits are issued by the State, and major permits (or a selection) are reviewed by the EPA region. EPA can issue a permit in authorized States directly if a State does not address objections raised by EPA where the permit conflicts with Federal requirements. In the remaining five non-delegated States, EPA regions are the permitting authority and issue the permits. The Permit Compliance System (PCS) is the data base for NPDES reporting, and includes tracking for major facilities. PCS data for minors is not as complete as for majors.

Two efforts are currently underway that address the permitting program and impact the backlog. The Office of Wastewater Management believes that ongoing efforts led by the Office of Enforcement and Compliance Assurance to modernize the PCS system will help all aspects of permit program management, including permit issuance. In anticipation of the modernized system, EPA is revising the existing PCS policy to require permit event data to be recorded for all

facilities. However, the modernization effort has encountered delays. The Office of Wastewater Management has also developed and begun implementing the “Permitting for Environmental Results” (PER) Strategy that has three primary components addressing program results, efficiency, and integrity. Office of Wastewater Management emphasizes the importance of this strategy in managing the overall NPDES permit program’s effectiveness.

### ***Backlog of Expired Permits Identified***

Under Federal regulations, permits may be issued for a period of no more than 5 years. Permits for new applications must be issued prior to a facility beginning to discharge. Once issued, a permittee submits an application to renew NPDES permits prior to expiration. If the application is received but the new permit is not issued prior to expiration, the expired permit is administratively continued and enforceable until a new permit is issued.<sup>1</sup> However, expired permits may not be modified. Based on the various inputs, EPA states that permit renewals have the potential to affect water quality in a number of ways, including more stringent technology-based limits for existing permits, limits on new parameters, water quality-based limits, whole effluent toxicity limits, best management practices, and improved monitoring requirements.

A large number of NPDES permits were expired and not reissued on a timely basis and became known as the “permit backlog.” EPA tracked the backlog as a Federal Managers’ Financial Integrity Act material weakness from 1998 to 2002, and downgraded the issue to an Agency level weakness and reported it as corrected in 2003.

EPA developed the Permit Issuance Framework in 1999 to provide interim management of the NPDES permit backlog. This document discusses causes of the backlog and goals, and provides a description of strategic initiatives for reducing the backlog. There are descriptions, desired outcomes, and short- and long-term actions developed for each of the following four initiatives:

1. Understand and better define the backlog.
2. Examine permitting efficiencies and facilitate programmatic and technical streamlining opportunities.
3. Provide funding and technical support for regions and States.
4. Encourage regions and States to share technical expertise and permitting tools.

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<sup>1</sup> An environmental group has filed a legal challenge regarding a facility in Hawaii having its NPDES permit administratively continued.

Through the recently adopted PER Strategy, EPA is also now providing for a prioritization approach for addressing backlogged permits, focusing on environmental results.

EPA defines and reports on the backlog through a measure based on the expiration date in PCS, including what types of permits and how long after expiration a permit will be considered backlogged. In its Federal Managers' Financial Integrity Act reporting, EPA recognized the need to clean up the data and process for tracking the backlog to provide a more accurate picture of the universe of permits. As backlog management evolved, EPA also reached consensus with permitting authorities to include non-stormwater general permits in the backlog inventory. The definition of the backlog has changed over time; in June 2003, the backlog definition included individual and generally permitted major facilities (including individual stormwater permits) and individually and generally permitted minor facilities with standard permits (designated CAFO, stormwater, or biosolids permits not counted). Individual permits awaiting reissuance are considered backlogged after 180 days; generally permitted non-stormwater facilities, permit applications, and permits missing expiration dates are considered backlogged immediately upon entry into PCS.

As of June 2003, out of the potential universe described above, the backlog was reported as consisting of 1,120 major, 9,386 individual minor, and 6,512 general minor nonstormwater facilities.

## **Scope and Methodology**

We conducted our field work from August 2003 to July 2004 in accordance with *Government Auditing Standards*, issued by the Comptroller General of the United States. We focused on the national backlog of permits in the NPDES program as defined by EPA from November 1998 through March 2004. We limited the review to backlog issues and only addressed overall programmatic issues; permit quality issues, and compliance and enforcement issues (including the issue of potentially expired versus administratively continued backlogged permits) were outside of the scope of this study. While addressing the backlog measure in terms of managing the program, impacts on perceptions of permittees or others regarding program management were not addressed in this study. Our review involved all EPA regions and Headquarters, as well as 15 States. During this project, we conducted literature reviews, interviewed State and EPA officials, made site visits, and obtained data through three separate surveys. Data from PCS and other EPA data systems were also used to analyze the permit backlog. The OIG has issued several reports addressing issues related to the NPDES permit program, and issues raised in those reports, as well as various other studies, were taken into account during our review. Details on our scope and methodology, including the prior reports considered, are in Appendix A.

While this report addresses a number of programmatic issues, it focuses on the backlog of permits within the NPDES program. We limited our work according to EPA's definition of the backlog, which encompassed a subset of the NPDES permitting universe. While we addressed overall programmatic changes that affected backlog management, our work did not include a complete review of the NPDES program or the PER Strategy that EPA has been using since 2004 to manage the NPDES program.

## **Results in Brief**

EPA and the States have had varying success in eliminating the backlog of NPDES permits requiring renewal, and more still needs to be done. The NPDES permit program is only one of many EPA programs to improve surface water quality. EPA needs to integrate its efforts to eliminate the NPDES backlog with those other programs.

As discussed in Chapter 2, EPA needs to address challenges involving resources, workload, permit complexity, external sources of delay, and oversight. In Chapter 3, we note that only a small portion of waters currently identified as "impaired" are associated with backlogged permits, and EPA needs to prioritize its efforts to allocate permit writing resources based on the greatest potential environmental benefits. Chapter 4 discusses how reporting on the backlog measure under the Government Performance and Results Act did not provide an accurate view of the program status or an adequate measure of environmental results. Chapter 5 summarizes our overall conclusions and recommendations.

EPA has been taking various actions to address the NPDES permit backlog, and needs to build on those steps already initiated. EPA is now managing the NPDES permit program through the PER Strategy, designed to increase focus on environmental outcomes. We encourage EPA to continue refining this strategy.

In a March 2005 response to the draft report, EPA provided extensive comments in response to our draft report. We summarized EPA comments, along with our evaluation of those comments, at the end of Chapters 2 through 5. EPA comments are reproduced in Appendix F.

## Chapter 2

### Management of Backlog Improving, But Challenges Continue

EPA and the States have employed different approaches with varying success in reducing the backlog of NPDES permits. The Clean Water Act requires that NPDES permits be renewed at least every 5 years. To reduce the backlog of permits requiring renewal, several challenges need to be addressed, including:

- Resource constraints
- Increasing workload
- Increasingly complex permitting issues
- External sources of permitting delays
- Communication/oversight limitations

EPA and State efforts have helped reduce the backlog through a variety of strategies, including permitting efficiencies. Additional management approaches have included focusing on significant permits. Questions remain as to whether backlog reduction will be maintained. Additional efforts are underway to address ongoing and new challenges. In 2004, EPA began implementing a PER Strategy that will help focus permitting efforts on environmentally significant permits.

#### **EPA and States Have Been Addressing Challenges, But Further Action Can be Taken**

This chapter deals with causes of the NPDES permit backlog, and management strategies and tools for better managing the backlog. EPA still needs to further address resource constraints, increasing workload, complex permitting issues, external sources of delays, and communication/oversight limitations. Chapter 3 discusses the potential environmental impact of permit backlog reduction, and how environmental significance is critical in making decisions on which permits should be addressed first. Chapter 4 addresses measures and administrative changes that may have an impact.

#### ***Resource Constraints Continue to Hamper Efforts***

Budget limitations continue to strain many States' abilities to meet permitting goals. Six of the 7 States and 2 of the 10 Regions surveyed regarding causes of the backlog indicated this concern. A second survey indicated resource constraints will continue to affect backlog management. Further, in a 2002 report, the National Academy of Public Administration found the resource gap between State expenditures and resource needs was approximately \$0.7 to \$1 billion for Clean Water Act programs. The Academy expects substantial additional State

efforts will be necessary due to incorporating TMDL-based limits in permits, since this likely will result in increased public involvement, more resistance from applicants, and the use of such innovative approaches as pollutant trading.

Regions and States have undertaken a number of strategies to address resource constraints. Following are some strategies implemented or being considered for addressing resource issues:

- Ohio had permit writers work on simple (single-discharger) WLAs while expert modelers focused on TMDLs and other complex models. This allowed simple allocations to be performed more promptly.
- Minnesota used staff work plans to better monitor productivity for permit issuance timeliness, number of permits expected, timeliness of establishing effluent limits, and other landmarks.
- Indiana is considering overtime, reprogramming funds (with EPA assistance) to pursue use of Senior Environmental Employee Position employees, shifting employees on a part-time basis, trying to identify financial resources from other areas (such as shifting Federal air funds), filling non-permit vacancies, and identifying special assistance to address resource issues.
- Illinois recently authorized a system for collecting permit fees, and Michigan was counting on fees to replace half the general fund.
- Region 10 had a 3-year plan for issuing permits. The plan describes goals for the program and a schedule to meet supporting objectives, including backlog goals; addresses disinvestments; and has a permit selection process, including priority criteria, and a two-tier priority workload list for permits to be issued.
- Region 8 provided Colorado with contractor assistance, through a national contract, to eliminate its majors backlog. (Four regions identified the use of contractor assistance as a particularly successful practice.)

There are potential drawbacks or challenges for some of these strategies, including impacts on commitments in other programs due to shifting resources (e.g., lower achievements for the other programs), and the amount of training needed for part-time or temporary reassignments.

### ***Workload Management Approaches Had Varying Success***

EPA's and States' Clean Water permitting programs have been facing a growing workload. In addition to issuing NPDES permits for traditional point sources reflected in the backlog measure, they are responsible for other duties and permits (e.g., stormwater, CAFOs, biosolids, and State-specific non-NPDES permits). Some of these other classes of permittees have been growing dramatically. EPA

and States have used different permit workload management approaches and efficiencies with varying success. We identified two categories of approaches: (1) overall permit management and prioritization of reissuance, and (2) adoption of tools to increase efficiency.

### **Permitting Strategies Address Both Overall Workload and Backlog**

EPA and States have devised general workload management approaches to address the increasing workload. These strategies are designed to improve permitting efficiency and decrease the size of the backlog, or to target their efforts toward permits or categories of permits of interest. These approaches typically group permits according to some common factor, such as location, time in the backlog, or facility type.

***Permitting According to Rotating Basins:*** Permitting according to a “rotating basin” approach uses the natural boundaries of a watershed, basin, or sub-basin to define groups of permits for permitting and manage other clean water functions. Regions identified various approaches at the State level that were successful. Approaches vary among States. For example:

- Michigan manages non-contiguous sub-basins across the State to balance the workload. Each year, all permits scheduled to be addressed that year expire at the beginning of the year, allowing Michigan to work on multiple related permits as needed.
- North Carolina uses sub-basins to manage permitting and may divide these sub-basins to even out workloads as necessary. In general, a different basin is permitted each month.

However, one of the key barriers previously identified by States to issuing all permits within a specific basin was an uneven permitting workload across basins and special Federal initiatives that divert resources from basin permitting cycles (e.g., EPA permit backlog strategy). Some States abandoned a rotating basin/watershed approach after it drove up their backlog or have not adopted it despite considering it.

***Prioritizing Within an Overarching Approach or as an Independent Strategy:*** Prioritizing permits can be particularly useful to accomplish environmental or other management goals where 100-percent permit coverage is unlikely. Permits are being prioritized for issuance by a number of different approaches and factors, including the rotating watershed/basin approach, backlog reduction, being a major permit, being a new permit, and enforcement issues. Regions also indicated that while a number of States are not using human health or environmental factors for prioritizing permits for reissuance, a number are, including such factors as: downstream drinking water sources, upstream of likely human exposure, endangered species, permit likely to have changes, and toxic discharges.

Examples of different prioritization approaches are highlighted below:

- New York established the Environmental Benefit Permit Strategy in 1994 that consists of a permit renewal process (see Chapter 4) and a formal permit prioritization process. The prioritization process scores and ranks majors and significant minor permits using 13 priority ranking factors.
- Region 10 developed a database to assist in prioritizing permitting efforts according to established criteria: priority, tribal, and general permit criteria. Priority criteria included elements such as permit facilities in the oil and gas, mining, and food packing industries; new sources; and high profile facilities.
- Region 3 developed a prioritization tool – called the “Daunting Dozen” – to focus efforts on the oldest backlogged majors in the region.
- North Carolina prioritizes permits by identifying those minor facilities that will not need significant changes or resources, and “expediting” these through issuance by staff that are new or generally have less technical experience. They assign more difficult permits to experienced permit writers.
- Washington has permit priority ranking criteria and has also been continuing to adjust its process in identifying permits with little or no changes eligible for reauthorization.

### **Tools and Efficiencies May Increase Permit Coverage**

EPA and States have developed or are considering permitting tools and efficiencies for improving permit issuance rates. Several have been successful, while others have potential risks, limitations, or drawbacks.

***Reducing Certain Activities May Reduce Workload:*** States may reduce activities that are outside of backlog accounting in order to focus permitting resources on management of the backlog. These activities include permitting of non-NPDES permits, making certain types of modifications a lower priority, or not pre-reviewing applications. Minnesota has a Customer Assistance Center that handles routine questions not requiring a permit writer to respond. However, some States have stopped doing all or part of required PCS data entry, which can result in PCS not providing accurate oversight data. Also, 7 of the 8 States responding to our questionnaire and 7 of the 10 EPA regions indicated it would be helpful in reducing the backlog if permits did not have to be reissued as frequently. However, since the 5-year permit term is dictated by the Clean Water Act, making a change would require an Act of Congress.

***Alternatives to Traditional Individual Permitting Can Increase Efficiency:*** Individual permitting alternatives, such as general permits, can increase efficiency by consolidating similar facilities under one permit. A general permit covers

multiple facilities within a specific category and geographic area (e.g., county, State). As of March 2004, about half of the facilities eligible for consideration under the backlog definition were covered by general permits. Specifically, out of a total of 100,261 facilities, 48 major facilities in Region 10 and 51,382 minor facilities nationwide are covered by general permits. However, although a greater utilization of general permits offers significant efficiency opportunities, there can be limitations and drawbacks. For example:

- Not all facilities in a State are likely to be appropriate for general permit coverage, and it may also not be appropriate for all facilities in a general category to be covered by a general permit.
- There may be insufficient resources available to take advantage of general permitting.
- If a single general permit expires and becomes backlogged there is the potential to see a large increase in the State's backlogged facilities.
- General Statewide permits may need to be managed independently in conjunction with a rotating basin management. For example, a general Statewide permit would likely permit facilities that would normally be associated with different basin permitting cycles. EPA commented that Michigan has indicated they are experiencing a lot of success with this hybrid approach. However, if general permits are issued on a per basin basis, this may require issuance of more than one general permit and processing of notices of intent at different time periods.
- General permit data is not captured well in the current PCS system, hampering oversight.

Apart from general permits, States are also using non-traditional approaches to issue permits, such as permits by rule, cookie-cutter permits, rollover permits, reauthorized permits, reduced effort permits, expedited permits, and batch permitting (see Appendix B for descriptions). In general, these approaches help to manage workload by grouping permits of similar types, needing less work or revision.

***Electronic Tools Present Opportunities:*** States and regions believe that automating permitting tasks, with tools such as electronic permitting and tracking as well as automating data entry, can improve permit issuance rates. Eight of 10 regions also indicated they would like EPA assistance in the area of electronic signatures to enable electronic permitting and Discharge Monitoring Reports. EPA and States have developed a number of electronic tools. For example:

- Mississippi's backlog decreased from 20 percent in October 2002 to 7 percent in September 2003 by using "Ensite" – an in-house computer software program – to increase permit writing efficiency.
- Michigan has a computerized NPDES Management System with several integrated electronic functions (including application logging and tracking, permit writing, public noticing, communication with supporting units, and updating PCS), resulting in such savings as reduced staff time for data entry.

However, although promising, transitioning to a new data system can have significant short-term costs. For example, Kentucky's permit backlog has increased, and the State attributes the existing increase in its backlog in part to the time and resources spent to transition to and maintain a new management system. Continuing challenges with system functionality have led to additional permit processing delays as well as shifts in staff resources.

EPA states that it is increasing outreach efforts regarding electronic tools in 2005. EPA established a Clean Water Act 104(b)(3) cooperative agreement with the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA) to collect and share good strategies and practices among States as well as participate in the PER process.

***Headquarters Initiated Tools for Addressing the Backlog:*** EPA Headquarters had proposed or introduced a number of permitting tools, although some regions indicated they were unaware of some of them. Additional tools are under development. While there were some criticisms regarding time or resource requirements, regions generally provided positive comments, indicating the various tools contributed to benefits such as consistent high quality permits, increased permit efficiency, and reduced burdens. Examples of tools include:

- A permit quality review checklist
- Permit Application Software System (e-PASS) for electronic applications
- Central Tenets of the NPDES Program
- The electronic Permit Issuance Forecasting Tool (ePIFT)
- NPDES permit writer training
- Internet accessible NPDES permits
- A permit prioritization checklist (criteria for identifying high priority permits)

As an outcome of the PER process, EPA also expects to be able to identify opportunities to further assist permitting authorities.

### ***States and EPA Must Address Increasing Complexities***

While EPA has been addressing the increasing complexity of writing permits, it needs to continue exploring ways to efficiently address this issue. Most States and regions responding to our survey identified permit complexity as a significant

contributor to the June 2003 backlog. They cited the increasing complexity of the permit process and increasing sophistication of facilities, third parties, and new or revised regulations. Adding complexity is the inclusion of limits calculated using TMDL methodologies, new water quality standards, new or revised effluent guidelines, and requirements of new or additional studies. Following are examples of steps taken to address complexity:

- EPA noted that short term modifications of standards through variances provide more time to fully study an issue. For example, Region 5 submitted information that “Ohio has a group variance for mercury that has made the stringent new water quality standards essentially a non-issue in permit renewals.”
- There has been some coordination of information development across programs that could reduce the time and resources needed to develop data for permitting. Two examples are Colorado’s coordination of permit drafting with the Assessment unit, and Region 7 working with States to coordinate TMDL and permit schedules to promptly address the most significant issues. EPA also highlighted North Carolina’s rotating basins program, indicating there has been a good use of linkages.
- Region 3 identified as a successful practice the use of a team of EPA and State staff to address the oldest backlogged major permit in the region, along with assistance from EPA Headquarters and national experts in the industry. Eight of 10 EPA regions indicated they want more technical support for permit issuance from EPA.

### ***External Backlog Causes Present Difficulties***

While individually a number of external causes of the backlog were not considered to be a significant source of delay, collectively, several States and regions noted they can be a significant problem. External causes involved permitted facilities and third parties. Examples of actions taken follow.

***Applications:*** Some permitting authorities cited delays related to submission of applications less than 180 days prior to expiration or applications that are incomplete as a significant cause of the backlog. Reminder letters can be sent out about a year prior to permit expiration to request timely submittal of permit applications for permit reissuance. One State issues penalties for permits that expire due to late applications. Region 5 indicated that in Minnesota, central review of applications helped ensure that only complete applications were sent to permit writers.

***Comments on draft or final permits:*** Public comments and hearings on permits are an important part of the process but can lead to delays in permit issuance. Some permitting authorities are focusing on increased public communications to

address these delays. EPA has begun posting major permits on the Internet. Some permit authorities are bundling public notices, although if hearings are requested delays could still occur. Michigan has improved public information by providing Internet access to all public notices and fact sheets for proposed permitting actions, access to electronic NPDES permit application forms, and listing of new and reissued general permits.

***Required consultations, in addition to public comments:*** Certain actions require consultations with other Federal agencies, State organizations, or tribes, and efforts have been made to make consultations more efficient. Region 6 has been working more with States to improve the 401 certification process. A permit quality review checklist has been developed to increase likelihood of an approvable permit by EPA, but while a modified tool is used in some Region 3 States we did not find any other implementation. EPA Region 10 indicated that additional outreach and technical assistance (explaining EPA's permitting process to tribes and the Fish and Wildlife Service) could reduce consultation time on permits.

***Permit limit calculations delayed due to delayed or expected WLAs, water quality standards, or effluent guidelines:*** Permit limits are largely derived using outputs from other programs, such as the water quality standards, effluent guidelines, and TMDL programs. However, delays in these programs can cause delays in reissuing permits. Permitting authorities may hold up issuing permits when there are pending TMDLs or water quality standards. The use of reopener clauses has allowed some permitting authorities to reissue permits without potentially delaying incorporation of WLAs until the next time the permit is reissued (possibly by up to 5 years). EPA has stated it will be working to reduce the water quality standards backlog that has delayed some new water quality standards. Permitting authorities surveyed regarding causes of the 2003 backlog generally indicated that permits were not being held up due to pending revision of effluent guidelines. However, in some cases, old, missing or outdated effluent guidelines have presented a problem for a State. The State may make complex engineering determinations to replace the effluent guidelines, and challenges may arise due to the reissued permits being more stringent than those which would be calculated using the older national guidelines.

### ***Opportunities Exist for Improved Communication***

EPA has taken a number of steps to improve communication to better address the backlog. However, additional efforts to increase communication could lead to further improvements in permit management and reducing the backlog.

EPA reports using a number of channels for communication such as: monthly calls and meetings with States through ASIWPCA; training and practitioner meetings for permit writers; a comprehensive Web site with additional training in

specific program areas; and periodic meetings between States and EPA regions, including State program reviews by regions.

There has been no annual meeting for surface water permitting as there is for other programs, such as pretreatment, TMDLs, and biosolids. A national permitting forum would be a way for all States and regions to work together to identify inconsistencies and address issues. EPA indicates a National Meeting with States and regional NPDES managers is planned for September 2005.

EPA has been working with organizations like ASIWPCA to have a better exchange of information with States. EPA regions are also working with States to improve NPDES permit backlog management. For example, in Region 5, the Streamlining Workgroup captured State challenges, proposed solutions for various levels of government, and provided a forum to exchange information on positive experiences.

While EPA maintains a potentially valuable NPDES backlog Web site with postings of backlog status reports and other background information, several States contacted were unaware about the availability of information. For example, one State was not aware of EPA's adjustment of the backlog time period to 180 days after expiration.

## **EPA Increasing Focus on Environmental Outcomes for Permit Issuance and Program Management**

Eliminating or managing the backlog is just one element of water quality management and the NPDES program. Potential environmental impacts of permitting and the backlog are described in Chapter 3. In the 1999 Guidance document, EPA outlined strategic initiatives and a multi-step process of short- and long-term actions for managing the NPDES permit backlog. EPA has been developing and implementing the PER Strategy, which consists of three primary components, described by EPA as:

- **Program Results** - To maximize benefits, permits will be prioritized by identifying environmentally significant permits within and among watersheds. This element requires identification of data to characterize the universe and a screening checklist.
- **Program Efficiency** - Best practices will be identified and shared to increase efficiencies. EPA will document research on current practices and legal authorities as well as provide support and technical assistance.
- **Program Integrity** - Tools will be used to continually assess program performance and ensure continued success. EPA is developing self-assessment questionnaires, a management report providing a snapshot of State performance over four areas, and State NPDES program profiles to be used in

conjunction with the other tools. EPA is developing performance assessment and feedback mechanisms as well as updating NPDES program oversight guidance.

EPA continues to refine and develop this strategy, which contains a Communication and Outreach element addressing training, outreach, and communication, and a cooperative agreement with ASIWPCA for a workgroup as well as regional liaisons. EPA has been actively collecting State data and using information to develop publicly available State profiles, and has also been developing NPDES management reports for the program's performance.

\* \* \*

Conclusions and recommendations for this chapter are in Chapter 5, where they are integrated with conclusions and recommendations from other chapters.

## **Agency Comment and OIG Evaluation**

EPA provided additional information and recommendations for clarifications to this chapter of the draft report. We have made revisions as appropriate to reflect this information.

EPA also stated in its comment that beginning in 2004, the PER Strategy establishes a new vision for managing the NPDES program using the PER Strategy's elements: integrity, efficiency, and environmental results. EPA requested that the report emphasize the role of implementation of the PER Strategy in addressing overall permit program effectiveness, particularly with respect to water quality improvements. We have added discussion of PER in several places to give EPA credit for actions taken. It should be noted that PER is a new approach designed to address a number of the causes of the backlog. The discussion of causes and strategies provides more historic information, and since PER was only recently implemented (in 2004), we expect it will have more significant impact in the future.

EPA also concurred with the OIG's assessment that resource constraints hamper a permitting authority's ability to meet permitting goals. EPA said that declining State resources are one of the most problematic issues facing permitting authorities. In addition, EPA commented that, as noted in the report, many permitting authorities have stepped up to the challenge using various approaches to increase efficiencies.

As is discussed in Chapter 3 in more detail, we generally agree with EPA's comment that incorporating new or revised effluent guidelines in permits that have been backlogged should be a priority, as is reflected by EPA's identification of this issue as a prioritization factor. However, the survey responses indicated that permits were not being backlogged to wait for the revision or promulgation of

an effluent guideline. Therefore, although EPA indicates incorporating effluent guidelines in a permit that is 15 years old is important, this is a different issue than anticipation of a new or revised guideline being the cause of a permit being in the backlog. Therefore, we did not modify the discussion of the significance of waiting for new or revised effluent guidelines as a cause of the backlog.

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## **Chapter 3**

### **Environmental Impacts of Backlog Reduction Vary and May Be Limited**

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The overall environmental impact of the NPDES permit backlog has been limited, but there is variability across permits. Backlogged permits are associated with only a small portion of waters currently identified as being “impaired.” Further, while the majority of backlogged permits when renewed had changes to their discharge limits and a large number of the new permits contained limits for new parameters, the majority of the controls in the prior permits did not change and facilities were often already in compliance with the new limits that were reviewed. This suggests that EPA's recent steps to prioritize permitting resources according to potential environmental impact are on the right track as long as EPA obtains needed information. Although the significance of the backlog has been limited in the past, it could grow as a result of increased efforts in other water protection programs that may necessitate NPDES permit revisions.

#### **Backlogged Permits Do Not Appear to Be a Major Cause of Impairment**

A critical question about the NPDES permit backlog is how large of a role backlogged permits have played in delaying the achievement of clean water goals. Based on our review of available data, the backlog has played only a minor role in impairing waters. Our analysis indicated that backlogged permits affected only a very small portion of the 26,209 State-identified impaired waters (reported in EPA's April 2004 303(d) fact sheet). We were not able to precisely quantify the relationship of backlogged permits to impaired waters (the likelihood of a water being impaired if a discharging facility had a backlogged permit) due to several methodological issues. Therefore, directly linking impacts of backlogged permits to impaired waters was not possible in this study for several reasons, including:

- Waters listed as unimpaired that are actually unassessed; although we have not assessed it, a web-link for access to this type of data has been added to the WATERS database.
- Not all permits being georeferenced (although these are known).
- Difficulties in determining whether the pollutant of concern is discharged by the permitted facility because it may not match PCS parameters.
- Variation among State water quality standards, percent of waters assessed, and 303(d) listing process between States.

However, analysis of existing best-available data provides support for the conclusion that individual backlogged permits play a limited role in known impaired waters. NPDES permit pollution sources (point sources) are not

believed to be the primary source of water quality impairments. In FY 2002,<sup>2</sup> EPA estimated generally that about:

- 10 percent of waters (approximately 2,600) were impaired solely due to point sources.
- 50 percent (approximately 13,000) were due to a combination of point and nonpoint sources.
- 40 percent were impaired only by nonpoint sources.

The greater estimated nonpoint source contributions (associated with 90 percent of impaired waters compared to 60 percent of impaired waters associated with point source) are due to a certain extent to the large number of successes in limiting point source pollution as a result of the Clean Water Act. Over 10 years ago, in 1993 guidance, EPA stated that, “the majority of the remaining water quality impairments ... result from nonpoint source pollution and other nontraditional sources....” More recently, EPA’s FY 2005 National Water Program Guidance states that nonpoint source pollution (and other nontraditional sources), addressed under Section 319 of the Clean Water Act, is the largest single cause of water pollution. In its response to our draft report, EPA stated that conclusions cannot be made regarding impacts of point source contributions until TMDLs involving point sources are completed. However, EPA FY 2002 training material stated that it was also likely that “in many of the 50 percent of the impaired waters where both point and nonpoint sources are significant contributors, nonpoint sources contribute considerably more pollutant loads than do point sources” (see footnote 2 for citation). While we do not recommend drawing water- or facility-specific conclusions from the data at this point, available information suggests that backlogged permit impacts should be considered within both the context of point source and nonpoint source contributions to impaired waters.

In terms of overall causes of impaired waters, the permit backlog is limited. While we could not describe a relationship between the status of permits as backlogged and the likelihood of waters being impaired, we analyzed three EPA data sets that matched NPDES permits to impaired waters to look at the relative association of backlogged permits to known impaired waters. While two of the data sets are preliminary and all draw from PCS data that contain some locational data gaps, we found a small number of impaired waters (ranging from approximately 3 to 14 percent) appear to be associated with backlogged permits (see Appendix A for description and methodology). This supports our general conclusions based on an estimated 60 percent of impaired waters likely to be affected by point sources,

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<sup>2</sup> Clean Water Act Module, Watershed Academy. See <http://www.epa.gov/watertrain/cwa/cwa28.htm> (last updated October 28, 2002) and <http://www.epa.gov/watertrain/cwa/right52.htm> (last updated March 12, 2003). More recent figures show: 10% point sources only; 43% nonpoint sources only; 47% combination of point and nonpoint sources for 1998 303(d) list – see <http://www.epa.gov/owow/tmdl/tptmdl> (last updated February 16, 2005).

and the backlog of permits now being less than 20 percent of the traditional NPDES universe.

## **Delays in Reissuing Permits May Have Varying Environmental Impacts**

Analysis of data from a large subset of previously backlogged major permits indicate that delays in permit reissuance can have varied environmental impacts. When the backlog was identified as a material weakness and management challenge, while reissuance of permits was valuable for a number of reasons, an overriding concern was that expired NPDES permits may not incorporate the most up-to-date limits and conditions to protect human health and aquatic life, thereby delaying needed improvements in water quality. EPA's position is that permit renewals can impact water quality in a number of ways such as through more stringent technology-based limits for existing permits, limits on new parameters, water quality-based limits, whole effluent toxicity limits, best management practices, and improved monitoring requirements. This analysis is limited to nationally available data for numeric limits. While as discussed above, backlogged permits do not appear to be a significant cause of impaired waters, analysis of final numeric limit changes and limited examination of related discharges further supports EPA's new direction in prioritizing permits for reissuance according to potential environmental significance. Finally, building on this type of analysis would also help develop a detailed understanding of the sources of these limit changes (such as water quality standards, effluent guidelines, and TMDLs) that would assist in managing the Clean Water programs.

While a large majority of the backlogged major permits reviewed (2,166 of the 2,681, or 81 percent) had at least one limit change,<sup>3</sup> the majority of pre-existing controls on pollutants did not appear to change (about one-third of the continuing controls on discharges showed changes). However, about half of the permits also contained controls for new parameters. (See Appendix C.) Out of the 5,555 major permits recorded as current in June 2003, we analyzed about half (2,681 which appeared to have been delayed over 45 days and had a prior permit with matching limit data). For a national review, analysis was limited to the data available in a national data system (limits), and conclusions are also limited and qualified by overall PCS data concerns. (See Appendix A for methodology in selection and screening of permit data and permit limit records). By comparing prior backlogged and current permit limits, we identified changes including increasing, decreasing, and additional limits for previously controlled pollutants as well as for newly limited pollutants. Any identified change in a permit could be viewed as significant and, therefore, this analysis supports the continued

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<sup>3</sup> Limit increase, decrease, new additional limit for a previously controlled pollutant, or limit for a new parameter. Deletions of limits were not counted as a change.

timely reissuance of permits. In the analysis of numeric limits, the addition of limits for the first time for new parameters could also be of greater environmental significance than some of the other changes noted, but we were unable to quantify this impact for permit delays; the parameter may have been discharged and monitored or may only have been permitted to discharge at the time of the permit renewal. Our next step focused on limits identified as becoming more stringent due to concerns that these would have represented delayed environmental benefits, and to examine whether permit limit changes were representative of delayed environmental impacts, including benefits.

Even where PCS data show that permit limits are becoming more stringent, the impact of the permitting delays varies and not all cases may have resulted in environmental degradation. Analysis of a small subset of reviewed data, about 200 permits and approximately 1,000 total final quantity maximum and average limits<sup>4</sup> which became more stringent, showed that most related discharges were already in compliance with the revised limit. This data represents a subset of the permits identified with decreased limits overall and for quantity limits due to data constraints, so conclusions are not generalized. Facility discharges while under the prior (backlogged) permit were in compliance with the revised limits for the majority reviewed. The data illustrates both that limit changes upon reissuance of a backlogged permit is not only variable but also that it may not equate to environmental degradation due to delayed permit issuance (see Table 3.1 below).

**Table 3.1: Discharge Monitoring Report Data From Prior Permits Compared to Quantitative Limit Decreases in Revised Permits**

	<b>Backlogged Permits</b>	<b>Quantitative Maximum Limit Decreases</b>	<b>Quantitative Average Decreases</b>
<b>Discharge Monitoring Report data available from prior permit coverage period<sup>5</sup></b>	265	710	503
<b>Discharge Monitoring Report data reported under prior permit comply with revised current limit</b>	196	579	404
<b>Discharge Monitoring Report data reported under prior permit violate revised current limit at least once</b>	68 (maximum) 54 (average)	131	99
<b>Of violations identified, all violations of current limit also violated prior limit</b>	25 (maximum) 16 (average)	50	24

<sup>4</sup> This subset may not include all PCS data for decreased quantitative maximum and average limits as various types of parameters were excluded from the analysis such as flow, temperature, dissolved oxygen, and pH. The data are shown for illustrative purposes only and should not be generalized.

<sup>5</sup> These permits and limits are a subset of those identified with at least one limit decrease and of the set of changes identified for quantitative limits due to data constraints.

This analysis also supports prioritization of permit reissuance due to various indicator factors. Where discharges were above the revised permit limit, the delay in permit reissuance may be more environmentally significant. However, where the facilities' discharges were also not in compliance with the prior limits, backlog status of the permit may not be the sole factor in possible delays in environmental benefits or improvements seen from permitting activities. These might be impacted by compliance and enforcement or other issues. We did not attempt to determine why facilities met new permit conditions beforehand. However, explanations include that the facility adjusted to an upcoming change prior to permit receipt, or that the change was not significant. (See Appendix A for methodology for Discharge Monitoring Report comparison.)

Overall, the results of our analysis support the prioritization of permit reissuance according to factors indicating potential environmental significance. Our analysis indicates that environmental significance of reissuance of previously backlogged permits is variable.

## **Environmental Significance of Backlog Could Increase in Future**

EPA is making changes that will affect a number of clean water programs that support NPDES permitting and which, in all likelihood, will increase the NPDES program's importance. Consequently, this may increase the importance of the backlog in the future. Further, EPA's encouraging identification and prioritization of permitting resources for permits likely to need changes will affect the environment.

In the future, more permit limits may change on reissuance based on planned activities in supporting programs. Permit limit changes are driven by regulatory, facility, or environmental factors, many of which EPA has identified in a national review checklist (see Appendix D for additional factors identified). To better describe the future potential for environmental significance in the backlog, we reviewed information for three national programs for which we expected planning information or data to be available at the national level (water quality standards, TMDLs, and effluent guidelines) as well as two recent national initiatives (watershed permitting and pollutant trading). Although national data were not readily available to analyze individual permits, overall, we expect these programs to increase the value of permit reissuance. Currently, States may be better positioned than EPA to identify priority permits in the backlog for permit reissuance based on likely permit limit changes. Details follow.

***Water Quality Standards.*** New and revised water quality standards should increase the environmental significance of backlogged permits, since they are one of the bases for deriving permit limits. While we could not determine the current effect of delayed water quality standards on the backlog due to the backlog of water quality standards or delayed triennial reviews, information on overall program management indicates there will be changes in water quality standards that are likely to affect permits. In 2000, EPA reported water quality standards

submissions had been steadily increasing since 1996. Additionally, EPA also recently issued revised and new human health criteria, which is likely to lead to more permits in the backlog changing due to new or revised water quality standards.

EPA's 2003-2008 Strategic Plan reflects EPA's commitment to ensuring effective operation and administration of the standards program, including triennial review and revision as required by the Clean Water Act. In the 2005 national program guidance, EPA notes that it is working to increase the number of States and authorized Tribes performing triennial reviews. EPA's planned activities also indicate the potential for more water quality standards changes. According to the FY 2005 Congressional Justification, EPA will be focusing on reducing the backlog of water quality standards, establishing highest attainable uses, and strengthening the scientific foundation. The 2005 national guidance also states EPA expects to develop criteria documents for 15 pollutants by 2008, as well as develop nutrient criteria, adopt biological criteria, and provide assistance for adoption of water quality standards. Also, there are a number of emerging contaminants and issues that will need to be addressed.

***Total Maximum Daily Loads.*** More EPA-approved TMDLs addressing impaired waters are expected in the future, which will increase the environmental significance of permit reissuance through incorporation of WLAs to address point source contributions to impaired waters. While it is possible that pre-TMDL water quality-related data may be incorporated into a permit or WLAs will result in the same limit as conventional calculations, completion of future EPA-approved TMDLs is likely to be related to more permit changes. Waters not meeting water quality standards are reviewed for inclusion on the impaired waters list requiring a TMDL to address the impairment. About 9,738 TMDLs were approved from 1996 through early 2004 and, currently, about 40,000 TMDLs will need to be completed (although not all of these will be associated with point sources). There are various reasons to expect an increase in the number of TMDLs that may be associated with NPDES permits. New and revised water quality standards could drive new and revised impaired waters assessment. Also, only one-third of waters have been assessed for whether they meet designated uses, and while EPA expects the remainder to have a lower rate of impairment, more impairments may nonetheless be identified.

***Effluent Guidelines.*** Because EPA is reducing resources to the effluent guidelines program, we believe that over time this program could have a diminished impact on the environmental significance of backlogged permits and as of reissuance of permits in the program as a whole. The effluent guidelines program is the technology-based component of the clean water program; EPA identifies the pollution reduction capabilities of industries, and develops national requirements that permit writers use when writing permits. Effluent guidelines contribute a limit change where they are new or revised since an industrial permit in a covered sector was last reissued (where the technology limit is more stringent than the standards based one); the majority of effluent guidelines were

promulgated in the 1970s and 1980s and, although subsequently reviewed, few have had subparts updated according to the draft effluent guidelines strategy published in November 2002. EPA's Strategic Plan for 2003-2008 states that regulations are now in place for most major industrial classes.

EPA recently dramatically reduced the resources to the effluent guidelines program, and, according to EPA's plans, few major facilities in the June 2003 NPDES backlog are anticipated to be affected by effluent guidelines in the near term. We believe that this could result in a decline in the environmental significance of backlogged permits. Although the impact of this program in all likelihood will decline in the future, permits currently in the backlog will continue to be affected by changes in the guidelines. Several guidelines were written in the last decade and there are plans to develop new guidelines, although possibly at a slower rate.

***Watershed Permitting and Pollutant Trading.*** There are several innovative approaches within Clean Water Act programs that can increase the sources of limit changes and, therefore, the likelihood of changes needed in reissued permits. Consequently, any affected permits that are backlogged will also have a higher environmental significance. Watershed permitting and pollutant trading can provide alternative means for developing permit limits:

- EPA is promoting use of a watershed approach designed to develop NPDES permits for multiple point sources located within a defined geographic area (e.g., watershed-based individual permit, watershed general permit, integrated municipal permits).
- EPA's recent pollutant trading policy allows facilities to meet regulatory obligations by purchasing environmentally equivalent pollution reduction from other sources if consistent with water quality standards.

Using new approaches like watershed permits or trading may result in changes to permits for NPDES permitted facilities. If there are delays in reissuing affected permits and in incorporating any resulting new limits, this may result in delay in seeing benefits from these programs. Further considerations for these two programs relate to categorizing the environmental significance of permits and managing interactions between program elements. Major permits may receive permitting priority over minors because of their designation as a major and rather than because of relative environmental importance of permit reissuance. EPA supports issuance of permits within a watershed management framework, such as a rotating basin approach, in which point source permitting decisions should be made based on environmental priorities outlined in basin management plans. As part of this effort, EPA established a flexible policy allowing for a backlog where permitting authorities demonstrate progress toward implementing a watershed permitting approach. Also, pollutant trades between two facilities not being addressed in a particular permitting cycle may require a permitting authority to address permits not expected in that year's annual workload, while needing to

address major permits can require permitting outside of a planned 5-year rotating basin permitting cycle.

## **EPA Should Continue Promoting Prioritization of Permit Issuance**

EPA is developing and implementing various overall strategies to more efficiently reissue permits and, thus, ultimately reduce the potential universe of the backlog (see Chapter 2). Fewer permits in the backlog, expired for less time, would assist in reducing the potential significance of the backlog simply in terms of numbers and age of permits. However, if 100-percent permit coverage cannot be achieved and maintained while ensuring high quality permits, it is important for EPA to prioritize this work to achieve the greatest environmental benefits possible.

The continuance of current permit and priority issuance targets through 2008 shows that EPA recognizes that addressing backlogged permits is likely to remain a challenge into the future. Therefore, it is moving State and regional permit writers to focus attention on that part of the backlog that is most likely to be a problem for water quality. The principal way it is doing this is having States and regions identify “priority permits” and work toward the goal of maintaining 95 percent of them as current. However, EPA regional and Headquarters officials recognize that the number of backlogged permits could increase in response to this 95-percent goal, which would require resolution of potentially more complex issues and therefore take longer to reissue these permits.

Other considerations sometimes conflict with EPA’s encouragement of States and regions to emphasize permit writing for those facilities where a reissued permit would most benefit water quality. For example, modification of an existing, current permit may be as or more environmentally significant than reissuing a backlogged permit. In addition, some States prioritize issuance of new permits over reissuance of existing permits, in part because these facilities could not legally begin discharging without the issuance of a final NPDES permit. While the backlog ostensibly accounts for these new permits, several States and regions contacted stated that new permit applications are not recorded in PCS until a final permit is issued (see Chapter 4).

Data gaps and errors currently hamper EPA’s ability to prioritize permits based on desired characteristics. There are known data gaps in PCS, especially for minors. Other national databases are incomplete or difficult to incorporate into permitting decision making. The NPDES Permitting Division developed two web-based characterization tools to help pre-screen potentially environmentally significant permits using national information, but they are currently impacted by data limitations. EPA has asked States to develop the priority permits lists for backlog reissuance with regional input, but EPA will need to develop appropriate oversight tools to manage this effort.

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Conclusions and recommendations for this chapter are presented in Chapter 5, where they are integrated with conclusions and recommendations from other chapters.

## **Agency Comment and OIG Evaluation**

In its response to the draft report, EPA acknowledged that permits in and of themselves do not protect water quality, but are a key element in the structure and the Agency's implementation of the Clean Water Act. Overall, EPA agreed that addressing the backlog alone may not provide an effective strategy to improve water quality; the NPDES program is one part of the implementation of the Clean Water Act architecture.

EPA did not agree that the backlog reduction has had a limited impact on water quality. EPA indicated that to reach this conclusion, the report relies on an analysis of Discharge Monitoring Report results on existing limits from a small subset (12 percent of the sample) of reissued permits. EPA commented that this discussion should be augmented to reflect the variety of ways in which permit renewal has an effect on water quality (for example, more stringent technology-based limits for existing permits, limits on new parameters, water quality-based limits, whole effluent toxicity limits, best management practices, improved monitoring requirements). EPA further stated that the analysis omits very important parts of the permit program universe, such as control of stormwater and indirect discharges through the pretreatment program. EPA stated that this analysis focused on the effects of the backlog and therefore did not address the NPDES program outside of the backlog definition.

The most significant source of impairments of waters is acknowledged by EPA to be nonpoint source pollution. Our analysis also indicated the backlog of permits played a limited role as a source of impairment. Further, our review focused on the backlog and backlogged permit limits by design, and we therefore added descriptions of NPDES program areas that were outside of the scope of the project overall to address EPA's comments regarding scope of the review. We agree with EPA that there are other components of permits that were not addressed by our analysis of final numeric limits in previously backlogged permits that had been reissued. However, the analysis of permit changes was limited to where data was available in a national database and the scope of the analysis was clarified in the text. The records originally reported in the draft as not analyzed because of changes in unit codes were analyzed using a standard unit code data column from PCS, and this information was added to the analysis. This caused changes in numbers reported in the draft. We reframed the discussion of the analysis of the limits and of the associated Discharge Monitoring Report analysis to reflect the limited nature of this study. While the results may not be generalized, they illustrate examples where permit limits may not have substantially changed as well as examples of limit changes not necessarily having contributed to environmental degradation as discharge changes may not have been required. Therefore, we draw the same conclusions that EPA

should prioritize reissuance of permits within resource constraints to maximize environmental improvements. We also clarified points throughout the chapter as well as addressed any technical issues raised by EPA, as appropriate.

Several comments referred to the effluent guidelines program. Overall, EPA believed that the report should give greater recognition to the impact that implementation of effluent guidelines promulgated in the last decade or more will have on water quality as it continues to implement the NPDES program. EPA stated that permits last updated 6, 8, or 10 years ago will not reflect the improved technology-based limits that are contained in the guidelines promulgated during the 1990s and earlier in this decade. Two prominent examples of guidelines that are expected to have a substantial impact are the 316(b) rule and the CAFO regulations. EPA stated that all the effluent guidelines promulgated in the last 15 years would still be relevant today for any permits that expired before a new effluent guideline was issued. EPA also stated that permits in the backlog are of varying ages. These reasons describe why EPA considers it a priority.

EPA further commented that the issue of guidelines is significantly downplayed because the number of guidelines being revised or developed related to point sources is very small. EPA stated that this can be misleading because some of the recent guidelines have potential for significant impact (for example powerplant intake structures, CAFOs, centralized waste treatment, etc.). If a permit has been backlogged for a significant number of years, these new guidelines may not yet be reflected in the permit. EPA also indicated that it should be mentioned that effluent guidelines are one of the factors EPA is using for priority permits.

We agree with EPA that inclusion of new or revised effluent guidelines in permits may result in significant changes in permits, as described in a prior OIG report (see Appendix A). However, this project focuses on impacts of delayed reissuance of permit limits in backlogged permits. As EPA points out, some facilities adjust to expected effluent guidelines even before a permit is revised, reducing the significance on environmental impacts of delayed permit reissuance. Also, while inclusion of effluent guidelines in a revised permit may be significant, the impact of the program depends on how many of the backlogged permits have an associated new or revised effluent guideline to be incorporated. Therefore, we have revised the discussion to reflect potential significance of effluent guidelines where incorporated but still conclude that the number of new or revised effluent guidelines that will affect discharges of facilities with backlogged permits in the future will nonetheless determine the overall impact on the backlog.

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## **Chapter 4**

### **Backlog Reporting Has Provided Inadequate Measure of Environmental Results**

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EPA's Government Performance and Results Act (GPRA) backlog measure reporting did not provide an accurate view of the status of the NPDES permit program or an adequate measure of environmental results. These measures were not useful for making management decisions because:

- Measures incorporated data reflecting backlog definition changes and data corrections that were not accounted for in baselines.
- The measures generally were of outputs that did not necessarily reflect outcomes (environmental impact) of implemented management strategies.

The baseline and measure for the backlog have been completely revised to be consistent for FY 2005. Until that time, the failure to replace the baseline resulted in an inappropriate baseline being compared against measures. This includes the effects of program management or changes (e.g., inactivations and changes to general permitting) in the permit universe and backlog accounting. GPRA makes agencies accountable to Congress and the public on their performance by requiring reporting on goals, resource needs, and results. Other EPA GPRA measures relying on permit data are also impacted. EPA has recognized weaknesses and begun improving program oversight and modernizing the PCS database.

#### **Improvements in Backlog Measurement Affected Reported Progress**

In the FY 2005 National Program Guidance, EPA published a new combined measure for backlogged permits with a baseline from October 2002 that reflects increased accuracy and improved program measurement. An additional measure developed in conjunction with PER has also now begun tracking backlogged permits prioritized for reissuance. However, due to the refinements needed to improve the measure and program oversight, prior GPRA backlog reports showing improvements were impacted by measure changes, data corrections, and an inconsistent baseline. Overall improvements in the measure included both data cleanup as well as modifications in tracking to better reflect the program. As a result, EPA (1) changed the backlog definition, which contributed to improvements in the reported measure; (2) oversaw the data cleanup of thousands of inactive facilities in PCS that inflated the 1998 backlog measure and the permitting universe; and (3) corrected other data errors identified.

Although EPA explained the backlog definition changes in the data verification and validation section of annual plans and reports, EPA did not accordingly revise the GPRA baseline until 2005 to reflect the measure revised in 2002. Therefore,

the historic tables showing multiple years' reporting appear comparable when they need to be interpreted in the context of the then-ongoing changes. Difficulties interpreting the data may be compounded because they are represented as comparable across years; the FY 2004 Annual Plan Verification and Validation of Performance Measures states: "The data are suitable for year-to-year comparisons of officially tracked permit status."

Table 4.1 shows the actual results for percentage of currently permitted facilities as reported annually for GPRA. The GPRA reporting format for FY 2005 changed in the Annual Plan and Congressional Justification, but according to an EPA memo and National Program Guidance, the backlog is still being tracked. However, the new backlog goal reflects a combined permit measure and baseline from 2002.

**Table 4.1: Percentage of "Current" Permits (Not Backlogged) Reported Through GPRA as Compared to Original Backlog and GPRA Baseline**

Permit Type	Original Backlog in Nov. 1998	GPRA Baseline May 1999**	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
	Major	74%	73%	71%	72%	75%	83%	84%
Minor*	52%	54%	62%	70%	75%	74%	84%	87%

\* Definition of which permits are counted in the minor category has changed over time.  
 \*\* May 1999 GPRA baseline shown in GPRA reports, including the FY 2004 Annual Plan. However, the Annual Report for FY 2004 does not show a baseline.

The OIG and EPA identified the backlog as a significant management problem in FY 1998. EPA identified the backlog as a corrected material weakness in FY 2002. In the 2002 Integrity Act report, the Agency stated that, in November 1998, 26 percent of majors and 48 percent of minors did not have current permits. By the end of FY 2002 the Agency downgraded the Federal Managers' Financial Integrity Act status of the backlog based in part on the percentage of improvement reported, as indicated in the Integrity Act section of the FY 2002 Annual Report:

*Since the Agency identified this weakness in 1998, it has achieved 56 percent of targeted reduction in the backlog of major point source permits and achieved 58 percent of targeted reduction in the backlog for minor point source permits. EPA's comprehensive strategy for improving the NPDES permit program has resulted in noteworthy progress, and it establishes a management control framework for continued improvement.*

Backlog improvements have resulted from administrative changes (e.g., data cleanup, changes to the backlog definition) and continued permit issuance. The cleanup of databases improved the accuracy of the universe of permits and modifications to the backlog definition better reflect current permitting approaches – however, these are important considerations when evaluating

backlog improvements reported. The altered approaches, practices, and tools designed for permit issuance identified in Chapter 2 were beneficial, but did not explain all of the improvement in the backlog reported by EPA in 2003. Changes in the permit backlog universe reflect a more accurate accounting of the number of active permits but also change the denominator, so that the changes in the percentage of current permits over time may reflect more than simply changes in rates of permit issuance. For example, from November 1998 to June 2003 (and updating to March 2004):

- by March 2004, there were almost 600 more current majors but about 100 fewer permits in the majors universe;
- there were about 2,300 more current minors reported in June 2003, but by March 2004 there were only about 450 more current individual minors than in 1998, while the individual minors universe decreased by about 22,500; and
- there were about 3,600 fewer current facilities covered by general permits in 2003 than in October 2000, and only about 2,600 fewer current facilities reported in March 2004, but the general permitted minor universe also decreased by about 10,000 by March 2004.

Details are in Appendix E.

### ***Significant Portion of Reported Improvement Due to Definition Changes***

EPA has incorporated a number of changes (see box on next page) since the original backlog reporting in the measure and baseline established beginning in FY 2005 (to be used through 2008). EPA reported these changes in the data verification sections of the Annual Plans and Reports to develop a more accurate universe and measure. While these changes result in overall improvements to the measure, the results of these changes also include additional backlog improvements from an administrative change extending the time allowed after permit expiration before including a permit in the backlog.

Prior to January 2002, any permit expired more than 45 days was included in the backlog (allowing for data entry according to PCS data entry arrangements between States and Regions). EPA states that a focus on permits languishing in the backlog rather than those delayed weeks or months due to administrative hurdles prompted a backlog definition change. In January 2002, EPA redefined the backlog to include permits only 180 days after permit expiration. According to the Agency, the additional time was needed to allow for delays in PCS data entry; allowance for incomplete applications; draft permits requiring revisions from public comments, and other reasons extending the permit issuance process.

At the time of this change, EPA reports it was already beginning to steer toward identifying high and low priority permits, recognizing that while inventories of

the backlog were important, they may not necessarily correlate with environmental improvements. A priority permit approach (and measure) is now in place as part of PER (discussed below). While this change may more accurately reflect EPA's focus, it also contributed to an additional improvement in the backlog status in June 2003 by increasing reported current permit coverage 3 percent for individual minors and 3.6 percent for majors.

In March 2004, EPA also extended the length of time allowed before a permit application is considered backlogged from immediately to over 1 year. EPA is considering further modifying the definition to differentiate permit applications received without complete information (see external causes of the backlog discussion in Chapter 2). However, it is difficult to determine the impact of this change on the backlog because several of the States and

regions contacted indicated they have ceased recording applications in PCS. Thus, new permit applications were not always entered until a final permit was issued; while technically not an environmental impact since a point source legally cannot discharge without a permit, new permits may be important due to economic impacts. While providing the State with more control over the permitting process, if applications are not entered into PCS until a permit is final, the measure undercounts the workload the permitting authorities are processing. Although we are unable to precisely estimate the impact of the changes to the application backlog criteria, available PCS data for original permit issue date indicates approximately 125 majors and about 4,380 minors in the active universe of permits have been originally issued since November 1998, although there were many permits that did not have this data for analysis.

EPA has taken a series of steps revising and improving the backlog measure and data, which have been incorporated into a new FY 2005 measure and accompanying 2002 baseline. In one significant change, EPA amended the

#### **Changes to Backlog Definition: 1998-2004**

1. From November 1998 through December 2001, the backlog percentage was based on dividing all individual permits (non-Stormwater), individual major stormwater permits, and general (non-Stormwater) major permits expired 45 days or longer, plus the total number of permits with no issuance data and/or no expiration date, by the total number of active permits as defined.
2. As of January 2002, permits were considered backlogged if expired 6 months or greater.
3. Beginning with the September 2002 backlog reports, individual permits issued by EPA in authorized States were no longer reported as State permits but separately as EPA permits.
4. Beginning with the early Spring 2003 backlog reports, the backlog percentage was changed to reflect the current percentage rather than backlog percentage.
5. Beginning with October 2002 backlog reports, minor facilities covered by non-Stormwater general permits listed in ePIFT were included in the definition of the backlog.
6. In March 2004, applications were counted after 1 year as backlogged.
7. EPA is proposing backlog credits for incomplete applications and delays due to initial implementation

backlog definition to include general non-stormwater minor permits once consensus was reached with permitting authorities on the backlog inventory and to more accurately describe permitting of facilities as regions and States started using more general permits. In October 2002, this change increased the universe of minor facilities in the backlog reports by 64,825, of which only 8,124 were actually backlogged. While the resulting measure more accurately reflected the permitting universe, it also increased the apparent improvement in the minors backlog in 2002 because EPA started reporting on the backlog status of general permitted minor facilities but did not adjust the goal description or original baseline for the measure.

While not in the reporting tables, the information on the definition change was noted in the Data Verification Section of the reports. The FY 2003 Annual Report stated the goal for issuing minor permits was met while there was a continuing challenge in meeting the majors goal due to competing priorities and increasing complexity of permits in a watershed context. Although EPA identified these as the same goals with different targets, in actuality the goal and target for majors stayed the same while the goal and target for minors both essentially changed from FY 2002 to 2003.

However, the inclusion of generally permitted minor facilities was not clearly stated and the associated level of achievement was higher than would have been reported. While backlog tracking practices make it impractical to go back in time to adjust the 1999 baseline, EPA could have clarified that the reported values for the years preceding FY 2003 were not comparable to the new measure (see Tables 4.1 and 4.2). EPA also could have established a new GPRA baseline including the correct universe of permits from which to measure progress as was done within the Office of Wastewater Management or as shown in the backlog status reports. In the FY 2005 National Water Program Guidance, EPA has resolved this issue by combining the entire measure (including for major and minor permits) and using a combined 2002 baseline.

**Table 4.2: Different Backlog Goal Baselines for GPRA and Office of Wastewater Management**

	<b>GPRA Baseline (May 1999) for Current Permit Coverage</b>	<b>Office of Wastewater Management Baseline for Current Permit Coverage (in 2000)</b>	<b>Baseline Shown in Backlog Status Reports (in 2003)</b>
<b>Majors</b>	72%	72.1% (January 2000)	N/A
<b>Individual Minors</b>	54% *	66.7% (August 2000)	66.7% (August 2000)
<b>Minors (with non-stormwater General permits)</b>	N/A *	88.2% (October 2000)	N/A
<b>Minors: Combined Individual Minors with non-stormwater General permits</b>	N/A*	N/A	80.8% (October 2000)

\* Individual minor permits used for the baseline in GPRA for "minors."

***Properly Identifying Inactive Permits Removed Significant Number from Backlog***

Because inaccurate PCS data exaggerated the number of permits in the backlog for active dischargers, recent PCS data cleanup accounted for removal of significant numbers of permits previously counted in the backlog. The PCS data cleanup was necessary, but the backlog baselines should have been replaced with comparable data so that changes in the measure reflect programmatic improvements and not PCS data cleanup.

EPA defined the backlog to include only those applications and individual permits that are active dischargers (facility inactive code "A" in PCS). However, over time, permitted facilities discontinue discharging, or permit applications are withdrawn without a corresponding change to their PCS status. Inactive facilities and applications erroneously still coded as active inflated the November 1998 backlog for minors by almost 40 percent based on inactivations through April 2004 (see Table 4.3). We did not consider permits removed from the backlog due to inactivations to have environmental impacts.

**Table 4.3: Inactivation of Permits Backlogged in November 1998  
(November 30, 1998 - April 9, 2004)**

Permit Type	Number of permits in November 1998 reported backlog	Permits from November 1998 backlog that were inactivated *		
		I	G	Total
<b>Majors</b>	1,791	61	2	63
<b>Individual Minors</b>	30,988	12,054	276	12,330
I = Inactive (Permits for inactive facilities no longer discharging). G = General (Permits covered under general permit instead of individual). * = For facilities with both expiration and inactivation date data in PCS.				

Also, as current permits are being inactivated, States and EPA have had to issue permits for facilities in the backlog, issuing new permits, as well as renewing expiring permits at a rate high enough to still maintain and improve current permit percentage levels. The impact of inactivations is difficult to quantify, since some “current” permits are inactivated shortly before expiration or being given backlog status while others are inactivated earlier. Although the backlog measure may be appropriate for some management purposes, permit issuance statistics should also be used to track State program management that could otherwise be obscured by necessary PCS permit universe data management. EPA recognizes that permitting authorities have improved permit issuance in the face of declining resources, additional programs coming online, and other competing interests. As these may not be well reflected by the backlog measure (e.g., most stormwater permits are not included in the backlog accounting inventory), permit issuance and other measures included in the Management Report might be considered to reflect this.

EPA continues to support cleanup of PCS data. EPA has supported inactivation of non-discharging permits and assisted with the data cleanup through contractor support. EPA believes that there are still some permanently inactive facilities that have not been updated in PCS but that this is a program management issue that needs to be addressed by the permitting authorities. EPA is still providing resources to support States in completing links to PCS from State databases as well as cleaning up existing data. States have been trying to complete data links to PCS to be able to upload up-to-date information to EPA’s system instead of having to perform double data entry. EPA’s continued assistance appears beneficial, since 7 of 10 EPA regions and 4 of 8 States in our survey group indicated a desire for EPA assistance for PCS data cleanup.

EPA believes that raising awareness of the implication of “bad inventories” will prevent the reoccurrence of the 1998 situation when it was impossible to obtain reliable inventories. Initially, PCS indicated that there were about 71,000 facilities with individual permits and there was no way of knowing which facilities were inactive (they appeared as legitimate facilities). This was complicated also by anomalies in PCS where inactivated facilities are only

temporarily in non-discharge status. EPA states that the Integrated Compliance Information System (ICIS) will allow for linkages to be drawn to improve reporting abilities. EPA also provided an example of a PCS data entry agreement with one State that includes cooperating to update and maintain permit tracking for active facilities and inactivating facilities that no longer discharge.

### ***Other Data Errors Undermine Backlog Measure***

Backlog accounting is also affected by other data errors (such as PCS expiration, or issuance and effective dates missing, out of sequence or in the future). Also, lack of ePIFT guidance has resulted in a lack of uniformity in reporting generally permitted facilities as backlogged. Missing information, particularly, for minors, is a known PCS problem that will hamper environmental characterization (see Chapter 3). Further, although not impacting the backlog measure because the permit expiration date was updated, we identified 930 permits to be removed from the analysis of permit changes; these current permits appear to still have the prior permits' limits listed in PCS. This is an issue recognized by the Office of Enforcement and Compliance Assurance, and this issue limited our ability to analyze permit changes as reported in Chapter 3.

### ***Oversight Improvements Prompted Changes in Reported Backlog***

EPA Headquarters and regions, as well as States, have undertaken a number of oversight activities, including recent State profile data collection, resulting in improved information leading to necessary adjustments of backlog data. For example, EPA has identified non-standard usage of PCS requiring adjustments to backlog data in two States and a region. In one instance, EPA removed what had appeared to be about 20,000 generally permitted “facilities” from the backlog accounting universe in Region 6 where pipes were being counted instead of facilities. Also, recently EPA needed to adjust data for Minnesota and New Jersey because of non-standard use of PCS. Additionally, because “A” type permits are not currently included as a source of backlog data, the measure may be over- or underestimating CAFO permits.

### ***Backlog Measure Still Does Not Capture Some State Management Approaches***

Two overall State management approaches are also not well-represented by the backlog accounting:

- In Michigan, all permits expiring in a given year expire on the same date at the beginning of the fiscal year, resulting in a cyclical backlog pattern. Michigan finds this management approach beneficial because it allows them to address multiple, related permits as needed within a rotating basin approach. However, 180 days after the expiration date, the backlog measure shows the remainder of permits scheduled to be addressed in the year are reissued as

backlogged, which then is reduced over the course of the next 6 months. Due to adoption of a different permit management approach, the backlog measure (including 180-day delay from expiration date) does not reflect Michigan's management approach well.

- New York implemented a system of administrative renewals of expiring permits which lessened the usefulness of the backlog measure. Upon receiving "short form" renewal applications, the State administratively renewed permits, updating the issuance and expiration dates without a corresponding technical review of a full permit application. Permits requiring changes were identified as prioritized permits and any substantive changes to these permits were made by modifications following a technical review. EPA did not consider the administratively renewed permit to be backlogged because the expiration date in PCS is "current" - even though these permits are substantively no different than an expired or backlogged permit in another State. After almost 10 years, EPA Region 2 and New York recently agreed on steps to revise the State's permitting process to comply with Federal requirements (see Chapter 5 recommendations and discussion of comments for further details). While administrative renewal will no longer be allowed for four specified permit types (e.g., permits needing a new limit consistent with a wasteload allocation in an EPA-approved TMDL, etc.), the backlog status for these will not be affected until the current permit expires, sometimes years in the future. The deadline is October 2006 for full implementation of the program changes in New York. Although we cannot precisely quantify the impact this practice has had on the backlog measure, it doubtless contributed to EPA's overstating the improvement. However, the impact was not insignificant because, in June 2003, approximately 6 percent of the current major permits nationwide were in New York. In June 2003, the backlog status report indicated that 344 of 354 (97 percent) of New York's major permits were current.

## **Backlog Measure Has Not Reflected Environmental Outcomes**

In addition to inconsistent permitting strategies and inconsistent data, the usefulness of the backlog measure has been undermined because it is not closely tied to the environmental outcomes discussed in Chapter 3. Although simply having a current permit has value, the backlog measure is an output measure that should be more closely tied to the program's environmental outcome goals of reducing loadings and improving water quality. The backlog measure fails to reflect that, even assuming current or backlogged permits have a consistent meaning, they in and of themselves do not reflect environmental improvement. The 90-percent current permit target of the backlog goal does not have a clear relationship to environmental impact in terms of loadings or water quality.

EPA has developed a new measure for priority permits under its PER Strategy based, to some degree, on environmental characteristics. However, in the meantime, the backlog measure has been and is being used in management

decisions. Therefore, the backlog measure may be driving some inefficient decisions. Further, the GPRA measures designed to reflect environmental outcomes from the NPDES program (and supporting programs) are flawed due to many of the same issues affecting the backlog measure.

### ***Inconsistencies Make Backlog Measure Unclear***

Current reissued permits are not equal in terms of environmental impacts. Permits are not comparable output units in terms of environmental impact or even issuance resource requirements. Determination of environmental significance is complicated for a number of reasons. A State's permit may govern discharges of pollutants that are of concern in a downstream or adjoining State, or water quality impacts of some minor permits could be more significant than some majors, depending on discharge clusters and other factors. Water quality of waters receiving point source discharges is not determined by whether discharges are regulated by current permits; rather, it is determined by water quality monitoring and assessment.

EPA stated in response to the draft report that it views the backlog measure as capturing program integrity rather than environmental significance. However, the backlog measure has not provided the management information that EPA intended as described in the 2004 Annual Performance Plan and Congressional Justification. EPA had stated that "Together the PCS and (e)EPIFT data are intended to measure NPDES program coverage of facilities with up-to-date permit requirements." The backlog measure assumes an equality between "current" permits and up-to-date limits. However, permits defined as "current" by the backlog measure are not necessarily consistent in containing up-to-date limits. Inconsistent meanings of the term "current permit" undermine the reported measure. For example:

- ***Modifications:*** Some current permits need modifications to reflect new information or changes in environmental or facility status. PCS modification data showed that approximately 2,000 of the 5,500 current major permits as of June 2003 had modifications based on PCS data showing records with between 1 and 7 modifications.
- ***Expired permits:*** Some apparently current permits were actually expired (up to 180 days) and therefore may have limits no longer up to date. For the June 2003 backlog, 375 of 5,555 current majors (7 percent) and 2,131 of 36,033 current individual minors (6 percent) were actually expired. Because the ePIFT data is updated quarterly for a known period of time, general permit data provided is not necessarily up-to-date.
- ***Limits not updated in a current permit:*** All limits may not be up to date upon issuance of a current permit, which is not reflected in the measure. For example, some current permits are issued before a necessary TMDL and WLA

is available to limit discharges of impairing pollutants; however, while a WLA may not be available, the Agency indicated that pre-TMDL information could be incorporated into the permit. Also, permits may be updated but not the limits in PCS. New York's administrative renewal process updates PCS dates but does not update limits in the permit. Also, permit tracking dates may be current but limits may be interim and not yet require compliance with final limits.

- **Permit quality:** Permit quality problems could include lack of or miscalculation of a limit, possibly resulting in limits that may not be as protective of water quality standards. (See next section).

However, some permits that are not current according to the backlog definition, and so do not appear to contain current limits, may not actually be causing negative environmental impacts. As noted in Chapter 3, although some facilities may not have a current permit, the facility may be discharging at rates that already comply with the revised limit once reissued. Therefore, the backlog measure of current permits may be confusing when correlated to environmental impacts.

### ***EPA Did Not Provide a Sufficiently Meaningful Explanation of Basis for Goal***

Although the 90-percent goal moves the status of the program forward from the baselines, EPA did not provide an environmentally or programmatically meaningful explanation of the basis of that goal. The level was set based on an assumption that there would not be a backlog if States and EPA maintained roughly a 20-percent rate of expiration and reissuance of permits annually; therefore, EPA assumed that a 10-percent backlog would equate to a 6-month backlog. However, the backlog measure does not reflect length of time in the backlog, and after 2002, all permits in the backlog are over 6 months old by definition. Although new permits are entering the backlog and others are being reissued, of the permits that could be analyzed, approximately 286 majors and 2,293 individual minors found in the November 1998 backlog remained in the June 2003 backlog. This issue of long-delayed permits raises the question of when and how EPA should be involved in reissuing long-delayed permits, especially those impacting impaired waters, assuming EPA has the authority to take such action.

Six of the eight States contacted believed the 90-percent goal was about right; one preferred the ability to fluctuate to a 30-percent backlog, and another believed 15-20 percent was more appropriate. EPA seems to be deemphasizing the goal's definition by amending it to exclude permits backlogged due to rotating basin approach, adjusting for incomplete applications, and considering the possible affects from a new backlog measure. Although there are also concerns that the 95-percent priority goal may deflect achievement of the

90-percent goal, EPA accepts this possibility due to the focus on addressing higher priority permits that may take longer to reissue.

EPA has already begun taking steps to improve the relevance of the backlog measure. It has, as previously described, developed the PER Strategy as well as the 95-percent priority permit goal, encouraged States and regions to use environmental significance criteria in selecting priority permits, continued to support a workgroup's efforts to develop a checklist to evaluate environmental significance, and is asking regions to approve Permit Issuance Plans for any permitting authorities at less than an overall 70-percent issuance rate. Also, in conjunction with development of the State profiles, EPA is providing a Management Report for the NPDES permit program that includes the backlog as one measure among a number of others relating to program performance.

### ***Previously Reported Backlog Measure Could Have Led to Inefficient Results***

EPA and States are using the backlog measure in a number of management decisions:

- Some States have adjusted where they allocate their resources.
- Regions are using the measure for agreement negotiations with States, and most are also using it to gauge regional progress in the NPDES program.
- Some regions are using it as an indication of the potential for environmental improvements.
- Some regions use the measure when making resource decisions regarding funding or staff allocations and in directing funding to States.

The backlog needed to be reduced for reasons including satisfying statutory requirements, improving oversight data, and addressing environmentally significant permitting issues. However, because of the uses of and attention on the measure of the backlog and its variable relationship to environmental outcomes, it may have unintended negative consequences, including the following:

- ***Reduced quality:*** Pressure to reduce the backlog by expediting permit reissuances could negatively impact permit quality. A specific review of permit quality was outside our scope. However, challenges in about a third of authorized States show concerns regarding the effectiveness of the NPDES permit program. Further, EPA itself noted in its FY 2004 Congressional Justification:

*Recently completed permit quality reviews (PQRs) have also provided clear indications that the quality of those permits that are being issued is not what it should be to ensure that permits include requirements that result in achievement of water quality standards. Failure to address these problems of timeliness and quality may lead to additional withdrawal petitions or lawsuits against state NPDES programs.*

- ***Oversight lost:*** As discussed in Chapter 2, EPA has encouraged the increased use of general permits to address the backlog. However, because PCS does not provide sufficient information to track the backlog of facilities with general permits, let alone the environmental impact, EPA essentially loses oversight data for these facilities. EPA had to develop a separate database (ePIFT) to track summary data on general permit expiration.
- ***Overall approaches can be disrupted:*** Overall permit management approaches can be disrupted by focusing only on backlog measure results. For example, while EPA is encouraging watershed or rotating basin management approaches to focus on environmental results, some States have had to address majors out of the basin sequence due to concentration on the backlog measures. Several States and regions commented that the emphasis on majors was no longer appropriate (see Chapter 3).
- ***Resources may be inappropriately redirected:*** Because the measure does not include all NPDES permits, surface water permitting, or water quality management areas, managing to the backlog could result in redirecting resources from other areas that may be achieving equal or higher environmental results. For example, neither non-NPDES State permitting nor other activities addressing nonpoint source pollution are included in the backlog measure. Other important areas within the NPDES program, such as biosolids and significant aspects of the stormwater program, are also not included in the definition. EPA regions noted areas of potential environmental significance not included in the backlog definition, such as stormwater permitting, permit modifications, permit appeals, TMDLs, biosolids, industrial pretreatment, specific types of permits, general permits, new discharger/new sources, strategy and policy, permit quality guidance, and the old backlog having environmental and/or workload impacts. One State was even considering requesting to shift Federal resources from the air program to address the NPDES permit backlog. Decisions on resource allocations and potential shifts need to be informed by the relative resulting benefits of the activity.

### ***Backlog Measure Problems Affect Other Water Program Measures***

As noted, the NPDES permit program incorporates outputs of other Clean Water Act programs, such as effluent guidelines, water quality standards, and

TMDLs. Outcome-related measures for these programs assume or require implementation through an NPDES permit and compliance with the limits. Therefore, problems with the NPDES permit program, including the backlog, can have an adverse effects on expected outcomes for those other programs. The permit backlog and data issues relating to NPDES permits can affect other program outcomes reported in GPRA. Standardizing data on pollutants for water quality standards, TMDL listings, and NPDES permits – even if only on a State-by-State basis – would provide more usable information. Two program measures dependent on permits for enforceable implementation are:

- ***TMDL measure:*** The actual accomplishment of EPA’s planned FY 2003 GPRA measure of the number of approved TMDLs being incorporated into NPDES permits was not reported due to lack of available national data. This measure would have provided context for which backlogged permits on impaired waters were having a negative impact due to delayed permit issuance, which could have incorporated an existing WLA designed to correct the impairment.
- ***Loadings reductions for effluent guidelines and NPDES program:*** The methodologies used to calculate loadings reductions from effluent guidelines for permits issued and for the permit program could be applied to the permits in the backlog to provide a similar outcome measure of estimated loadings reductions delayed due to the backlog. Although the permit and effluent guidelines programs are both designed to reduce loadings, permit limits may increase in response to increased industrial production or other factors. Reissuance of permits with increases and unchanged limits (identified in Chapter 3) should be incorporated into the overall loadings estimates or reported separately to provide accurate program outcome management information.

\* \* \*

Conclusions and recommendations for this chapter are presented in Chapter 5, where they are integrated with conclusions and recommendations from other chapters.

## **Agency Comment and OIG Evaluation**

EPA provided a number of comments regarding the discussion of the backlog measure both in its March 2005 response to the draft report and in discussion during the exit conference. Overall, with the development of the combined backlog measure and new baseline for FY 2005 through FY 2008 and the development of the PER related measure and goal for prioritized backlogged permits, EPA is addressing many of the concerns raised by the prior years’ GPRA reporting. EPA stated its intent was to give a more accurate picture of the

universe of permits and requested recognition of this or that the backlog estimate was not accurate because EPA knew of other universes that were not included.

EPA noted that the most recent Federal Managers' Financial Integrity Act (FMFIA) update recommends that the backlog no longer be an Agency weakness since mechanisms/processes are in place to assure timely water quality improvements through the NPDES program. EPA described the shift to emphasis on issuing priority permits (95 percent goal) along with the maintenance of the overall 90 percent current permits goal and the development of NPDES program profiles under the PER strategy to ensure the overall integrity/quality of the NPDES program. EPA also stated that it is important to note the ongoing efforts led by Office of Enforcement and Compliance Assurance to implement ICIS-NPDES (the replacement for PCS) will help all aspects of permit program management including permit issuance, compliance, and enforcement. EPA stated that this will further enhance their ability to improve the accuracy for GPRA reporting.

EPA also requested several adjustments to our draft report to reflect information contained in backlog and FMFIA reports concerning the manner in which the backlog was being reported. EPA stated “[a]n integral part of the backlog reduction strategy was to determine the true nature of the backlog and workload through the cleanup of PCS data and inclusion of all facilities being permitted (addition of general permits information). Due to the nature of available databases and information collected, it was not practical to retroactively update the permit universe baseline because this changes month-to-month. Adding general permittees as part of the backlog changed the measure by expanding the universe of permits. This better represents the actual universe, and EPA acknowledges these changes in FMFIA, but it does not recalculate the baseline. Each of the refinements in the baseline was documented through FMFIA reporting.”

We agree that the PCS data cleanup was necessary and recognize this change in our report as a necessary and valuable step in improving oversight of the program and management of the backlog. We also recognize that EPA has also established a new combined backlog measure and baseline in the FY 2005 National Water Program Guidance. Further, a priority permit measure has been established designed to reflect environmental factors.

While we recognize these improvements, our report also describes the historic backlog GPRA measure and reporting. Although the changes in the historic backlog data and measure are reflected in the section for “Verification and Validation of Performance Measures” of the Plan and Report documents, the associated reporting tables did not clearly represent this information. As of FY 2003 and 2004 reporting, the May 1999 baseline did not represent the same universe of permits for minors and did not reflect other significant changes such as the extension of time prior to backlog accounting and the cleanup of the PCS

data. However, progress in re-permitting facilities is overstated if measured from the original baseline due to subsequent changes in the definition of the measure. While the May 1999 baseline might not have been practical to update for the same date, it could have been replaced with a more representative baseline from October 2000. Even the new baseline data contains data that is known to need adjustment, including misreporting of 20,000 pipes as permits and different data entry approaches for two States.

In addition, while ICIS may contain improvements that will lead to great accuracy for GPRA reporting, we were not able to confirm the final required data elements. The PCS modernization effort has encountered a number of delays and cost impediments.

EPA further commented that the approach used by New York is being resolved through discussions between the State and EPA Region 2. EPA requested that the discussion section be removed and replaced with “EPA cannot recalculate the backlog because these permits are no longer expired but should work with New York to assure appropriate modifications are made and state clearly when discussing the backlog that New York has these modifications to accomplish.”

We recognize that there are ongoing activities in New York and within EPA to resolve the issues highlighted in the draft report. We have not deleted all discussion of the topic in the report as this was an issue for about 10 years and impacted the accuracy of the backlog measure at the State and national level. Although we could not precisely quantify the impact, New York’s administrative renewal process inflated the backlog measure’s report of facilities with current permits. As we had noted, based on a State audit report in 2001, New York had encountered difficulty meeting its goal of reissuing 10 percent of its prioritized permits even though at this rate it would not be able to keep up with expiring permits (assuming an average of 20-percent permit expiration annually). Other issues identified that were not directly connected to the backlog included the limited opportunity for public comment for modifications as opposed to complete permit renewals and the use of a “short form” application. While administrative renewal will no longer be allowed for four specified permit categories, the deadline for full implementation of the program changes is October 2006.

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## **Chapter 5**

### **EPA Can Take Various Actions to Reduce NPDES Permit Backlog and Improve Water Quality**

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EPA and States have taken various actions to eliminate the NPDES permit backlog, but can do more to address continuing and anticipated challenges. Further, because the NPDES permit program is not the only program involved with improving surface water quality, eliminating the backlog alone may not have a significant impact on improving national water quality. EPA and States need to balance efforts to eliminate the backlog with other efforts to improve water quality. Further, EPA needs to ensure that its efforts to reduce the backlog do not result in it quickly reissuing permits that are not as effective as they should be to improve water quality. Also, EPA needs to improve its reporting of the GPR A backlog measure. Due to the overlapping nature of the issues in Chapters 2 through 4, we are providing overall conclusions and recommendations in this chapter.

#### **EPA's Management of NPDES Backlog Highlights Importance of an Integrated Clean Water Program**

Since FY 1998, when the OIG and EPA identified the backlog of expired NPDES permits as a “management challenge” and “material weakness,” EPA oversaw a dramatic reduction in the size of the reported backlog. As a result, EPA and States are better positioned to address threats to water quality from point sources through the NPDES permit program. However, the backlog has not disappeared and some permits from the November 1998 backlog remained in the June 2003 backlog. Further, significant numbers of facilities have been added to the NPDES program in recent years, and complex permitting issues have arisen, increasing workload and the potential for a large backlog in the future.

The reduction of the backlog has also made visible other stresses on the permit program that hinder EPA's achieving clean water goals. Challenges identified in this report include inadequate funding, ineffective communications, and organizational impediments. Although an NPDES permit is a program output that conveys enforceable means of protecting water quality, the ultimate goal of the NPDES program is maintaining and improving water quality through reduced discharges from point sources. Because program outputs may only be weakly associated with desired outcomes, improvements in measures of outputs, such as the size of the backlog, may provide only a muted signal of the extent of progress toward achieving environmental goals.

The significant effort to reduce the size of the backlog, although important for improving overall management of the NPDES program, did not result in

significant water quality improvements. The backlog appears to be of limited significance as a national source of identified water quality impairments. A large majority of reissued major backlogged permits reviewed had at least one limit change or controlled a new parameter. However, reissued backlogged permit limits had varied environmental impacts based on the changes we were able to review while control of new parameters may be associated with greater environmental impacts. While we did not address the question of permit quality, our review indicated two key reasons why the backlog may not have significantly contributed to water quality impairment:

- Significant discharge reductions may not have been needed upon permit reissuance because facilities adjusted operations in anticipation of a new permit or because additional permit limit adjustments will likely occur in the future as planned activities are undertaken by EPA in supporting programs.
- A significant portion of the reported decrease in the backlog was due to administrative actions (such as removing backlogged permits by inactivating them) that, although necessary and important, did not directly affect water quality.

Now that EPA has approached its backlog target, it needs to manage NPDES permitting to not only maintain and improve on achievements but, more importantly, ensure the needed steps are taken to achieve clean water goals. An NPDES permit is the product of a series of decisions made in relation to a variety of different programs. Whether the NPDES permit program is *operating effectively* is a very different, and more complex, question than whether 90 percent of permits are current. Maintaining backlog targets involves permit streamlining and efficiencies, measurement of progress, and (more recently) issuing priority permits to achieve output goals of the NPDES program.

To be confident that the NPDES program is achieving its environmental potential in achieving water quality goals, EPA needs to use an integrated approach rather than simply increase permit outputs. EPA needs to know if the NPDES program is supported not only by timely permit issuance but strong scientific and technical bases for limits, as well as compliance with limits, to promote clean and healthy ecosystems. EPA also needs the appropriate data systems to monitor how well the program is achieving goals, and the public and Congress need the right measure to hold the Agency accountable for progress in cleaning the nation's waterways.

EPA has begun new initiatives and approaches to address some of its future challenges. Improvements in communication, training, and collaboration among EPA and States will provide an additional boost to the NPDES program. The backlog may increase in importance as the other programs that support NPDES (e.g., water quality standards and TMDLs) increase in productivity. On the other hand, as EPA and States direct more attention to reissuing on time the more

significant backlogged permits, the environmental significance of backlogged permits may lessen. Although the net result of these changes on the backlog and the environment is unclear, it could very well produce a more effective and efficient permitting program that better protects water quality.

## **EPA's Steps to Improve Program Integration Need to Be Strengthened**

In the 2003-2008 Strategic Plan, EPA states, “progress toward water quality improvements will largely depend on success in integrating programs on a watershed basis; engaging diverse stakeholders in solving problems; and applying innovative ideas such as water quality trading, to deliver cost-effective water pollution control.” Through its PER initiative, EPA has demonstrated a commitment to improving the way that EPA and States manage the NPDES program. Beginning in 2004, the PER Strategy establishes a new vision for managing the NPDES program. EPA states that the PER Strategy's elements of integrity, efficiency, and environmental results will guide management into the future. The Agency is preparing management reports of the permit program, and has developed profiles of State programs. It has also announced that it is directing resources to address backlogs of water quality standards, and taking steps directed at TMDLs and permits. The new backlog measure based on priority permit issuance begins to integrate environmental concepts into the original, simpler metric. These potentially valuable steps are based on the concept of an integrated approach to addressing the backlog and managing the program for the future.

EPA needs to build on the steps already initiated by improving management and oversight, strengthening communication and training, and improving performance measures. Although the challenges facing the NPDES program are complex and EPA has initiated actions, there are further steps that the Agency can take to reduce obstacles. Details on these issues are in Chapters 2 through 4, but the specific recommendations are presented in this chapter due to the overlapping nature of many of the issues. We believe that taking these steps will result in a stronger clean water permitting program that better protects the nation's waters.

## **Recommendations**

To address NPDES permit backlog and overall program integration with the point source programs that support the permit program to achieve improved water quality, we recommend that the Assistant Administrator for Water direct staff to:

- 5-1 Create a system for assessing the effectiveness and efficiency of the clean water program in achieving clean water goals by assessing the impacts of the activities – such as TMDLs, water quality standards, and effluent guidelines – that are designed to contribute to those goals. This would also aid the Agency in evaluating the impact of NPDES permit issuance.

EPA has already committed to doing this for the effluent guidelines program, stemming from a recommendation we made in an earlier report.

- 5-2 Determine whether recently developed management reports included in the State profiles provide the full set of oversight information for the NPDES program. These should better facilitate management decisions in relation to the program and surface water quality in general. In addition, the measures in the management report specific to backlog management should also be addressed as follows:
- a. For the priority permits measure, EPA should study the effects of this approach and evaluate the progress toward the 95-percent goal. The study should determine if achieving this measure will assist EPA in achieving its overall watershed objective. It should also collect data to evaluate the 5-year permit period for nonpriority permits and any use of a priority factor that distinguishes between major and minor permits for prioritizing permit reissuance.
  - b. For the current majors and minors measure, EPA should determine and describe the management information provided. For example, different criteria for the backlog may be appropriate to capture program integrity versus permits with current limits. Therefore, this description should consider State use of administrative renewals and other expedited reissuances, PCS data limitations, modifications, and TMDL-related permits reissued prior to the completion of a WLA. Also, in conjunction with the new focus on priority backlogged permits described in recommendation 5-2a, EPA should determine the percentage for the overall backlog where it will take action both on a national and State level.
- 5-3 For the data needed to manage the NPDES backlog and integrate management of the permits program, ensure that systematic data collection is in place. EPA should evaluate the data quality and data input that support measures and management decisions, and develop a corrective action plan if deficiencies are identified. As EPA is in the process of revising the existing PCS Policy, which establishes mandatory data elements, any data needs (e.g., minors data, identification of water quality standards limits, etc.) for PCS should be incorporated where possible.

To address the national NPDES permit backlog GPRA measures and management, we recommend that the Assistant Administrator for Water direct staff to:

- 5-4 Ensure that the measure is clearly defined and the baseline is appropriate for the 2005-2008 GPRA measure (code 59) reported in the FY 2005-2008

Management System Matrix in the national guidance document. Specifically, EPA should:

- a. Clarify that the units of the baseline and measure include Federal as well as State permits.
- b. Determine the appropriate date and data for the baseline from which to measure changes.
- c. Not selectively remove permits from the measure without clearly explaining why permits are being removed and the effect on the measure.
- d. Provide a footnote for the baseline and measure describing the impact of New York's permit management approach on the measure. This note may also be appropriate for backlog status reports posted on the internet. EPA could include reporting department-initiated modification rates until revisions in the administrative reissuance process to exclude certain permits would be reflected in the backlog. When this occurs is dependent on the expiration date of the permits, which may be several years in the future of permits.

5-5 Determine whether EPA has the authority to reissue NPDES permits, particularly for facilities contributing to impaired waters, if the responsible State has not reissued a permit already expired for an extended length of time.

5-6 Report an outcome measure for backlogged permits by applying the existing methodologies used to develop GPRA measures of loadings reductions for the NPDES permit program and effluent guidelines program. EPA should report the counterpart to the reported loadings reductions achieved by reporting the delayed loadings reductions associated with the applicable permits in the backlog. EPA should also review the loadings reduction models to ensure actual permit results, including reissued permits with limits that remain the same or allow increased discharges over previous levels. In a prior OIG report (Effectiveness of Effluent Guidelines Program for Reducing Pollutant Discharges Uncertain, Report No. 2004-P-00025 ), we also recommended that EPA develop effluent guidelines performance measures based on actual discharges rather than estimates. Finally, EPA should consider providing guidance to States about how to utilize the delayed loadings reductions calculated for backlogged permits (described in this recommendation) when they prioritize permits for reissuance.

To address the NPDES permit program and backlog management on a State level, we recommend that the Assistant Administrator for Water direct staff to:

- 5-7 Work with Region 2 officials to complete review and revision of New York's NPDES permit program according to the milestones shown in a July 2004 letter. In addition to New York's agreement not to renew permits identified within four categories expected to require changes, EPA should take additional actions. First, EPA should also track department initiated modification rates of permits in the State. Second, EPA should work with the State to identify appropriate permits for prioritization of reissuance/modifications, including those identified within the four categories shown in the July 2004 letter. Finally, EPA should ensure that all appropriate categories for excluding permits from the renewal process are represented, including categories that may be appropriate for the future (e.g., permits that may be associated with new or revised water quality standards). EPA could consider a general statement regarding identification of other permits with permit limit or condition changes needed.

## **Agency Comment and OIG Evaluation**

Overall, EPA agreed that addressing the backlog alone may not provide an effective strategy to improve water quality. The NPDES program is one part of the implementation of the Clean Water Act architecture. EPA acknowledged that permits in and of themselves do not protect water quality, but are a key element in the structure and the Agency's implementation of the Clean Water Act. However, the Agency requested that discussion of water quality impacts due to permit renewal be augmented to reflect the variety of ways in which permit renewal has an effect on water quality (for example, more stringent technology-based limits for existing permits, limits on new parameters, water quality-based limits, whole effluent toxicity limits, best management practices, improved monitoring requirements). EPA also recommended that the report recognize that overall program integrity (issuing permits as required by statutes) and pursuit of environmental improvements are both important.

In response to our draft report's statement on a need for proper balance for water quality programs, EPA stated that one dimension is the proper balance between the continuing effort to reduce the backlog as a program management goal and the need to ensure that the most environmentally significant permits are issued in a timely fashion. The permit prioritization effort initiated in 2004, under the PER Strategy, is intended to help the NPDES program strike the proper balance, and discussion of the prioritization effort would help clarify this issue. From the perspective of the Office of Water, sustaining an effective permitting program as the TMDL and standards programs continue to evolve is essential to the protection of water quality.

We acknowledge EPA's comments that the NPDES program is just one aspect of the Clean Water Act programs and that, while key components in addressing point source pollution, permits do not in and of themselves address water quality. As a result, addressing the backlog alone may not have significant impacts on overall water quality. We agree with EPA's comments regarding other aspects of permit renewals that have potential impacts and included information in Chapter 3. We also agree with EPA's comments regarding the backlog measure reflecting program integrity efforts and added information in Chapter 4. Further, we agreed with EPA's comments on balancing reduction of the backlog with the need to address environmentally significant permits. Information addressing the PER Strategy and prioritization measure has been added throughout the report.

EPA also provided comments regarding the draft recommendations. EPA indicated that it will be able to address the intent of the recommendations via its prospective approach to managing the NPDES program as embodied in the PER Strategy and the Office of Water Strategic Plan. EPA stated that a number of the steps suggested have already been initiated. EPA also provided specific comments that have been incorporated to clarify recommendations and, in some cases, resulted in re-numbering of the recommendations due to deletion or combining.

As EPA informed us that permit-specific information is not submitted for each permit on the priority permit list, we have modified the draft recommendation 5-1 but still encourage the use of information to help evaluate the effectiveness of "feeder programs." Information on which programs are or are not generating outputs leading to permit limit changes on a State basis could generate valuable management information from the permit program for those feeder programs. We encourage EPA to continue to use PER and its integrity component as well as other data sets available to assess the effectiveness of feeder programs – such as water quality standards, effluent guidelines, and TMDLs – on NPDES permit limit changes and discharges. EPA should prioritize permits for reissuance and continue taking whatever steps feasible to better integrate the various programs on a watershed basis in order to ultimately improve surface water quality as described by EPA in the 2003-2008 Strategic Plan.

EPA recommended that several of the recommendations that relate to measures in the Management Report should be consolidated. We agreed and consolidated draft recommendations 5-9 and 5-10 regarding measures in the final recommendation 5-2.

EPA commented that draft recommendation 5-3, which addresses data issues, be revised. EPA stated that "[b]ecause we have revised ICIS and Ask WATERS to address our needs, the issue that remains is data quality and data input. We suggest this be reworded to focus on this." We agreed that the recommendation should be clarified to address data elements and not data systems and revised the recommendation accordingly.

Draft recommendation 5-4 dealt with GPRA reporting. EPA recommended that we state that the GPRA baseline needs to reflect a PCS retrieval correction for a Region 6 Oil and Gas Permit that inadvertently counted pipes, inflating the number of permits. With the correction, the baseline is expected to decline by about 20,000 permits. For the issues related to New York, EPA suggested this be reworded to capture that permits which should have been modified in New York be added to the priority permit list for New York. We agree with EPA that the baseline for the revised 2005 backlog measure may not be accurate and revised the recommendation to reflect the need for an accurate baseline.

EPA agreed with draft recommendation 5-5 and indicated they were already taking action. EPA is holding a conference in September and has had monthly conference calls all year. Regarding draft recommendation 5-6, EPA requested the recommendation be deleted since States request training and help determine location and frequency, and because EPA provides several types of training. EPA is also in the process of developing online training modules for deriving water quality-based effluent limits and may consider adding other aspects of the NPDES program to the web-based tool. Based on the information provided in comments, the exit conference, and other followup regarding ongoing activities, we deleted draft recommendations 5-5 and 5-6.

EPA provided no comments on draft recommendation 5-7 and it is unchanged.

Regarding draft recommendation 5-8, EPA reported that Region 2 and New York are addressing the issue as a result of the PER review. EPA requested that this recommendation be deleted as New York has agreed and is revising this program in response to a letter from Region 2. Due to the importance of proper implementation of the NPDES program in delegated States and about 10 years passing before final EPA review, we are not deleting the recommendation but are revising it to reflect the milestone dates agreed to by the State and Region 2. EPA should continue efforts to meet milestones described in a July 2004 letter from New York to Region 2. The milestones are based on a draft work plan to be submitted by February 2005 with associated interim approval milestones; by September 1, 2005, EPA is expected to approve the program and public participation should be initiated in New York. Program changes should be finalized and implemented by New York as of October 1, 2006.

Regarding recommendations 5-9 and 5-10, which we consolidated into recommendation 5-2, EPA also requested that draft recommendation 5-10 be revised. EPA requested that the aspect regarding major and minor permits be deleted since EPA combined its goal for 2005. While we recognize that EPA combined the measure, as the distinction between major and minor permits may impact prioritization of reissuance, we did not delete this aspect of the recommendation. EPA suggested that the recommendation for an evaluation should be combined to capture whether they are measuring the right things to achieve the watershed objectives and have the right emphasis. EPA also

suggested that we consider instead that EPA may want a backlog goal focused on 10 years for non-priority permits and retain the priority permit goal for environmental significance and evaluate if it is working. Finally, EPA suggested that we might also want to include if EPA should consider areas needing a TMDL or standards to be more clearly excluded from the backlog so as to not create a disincentive for more holistic approaches. We revised the recommendation to reflect that prioritizing permits for reissuance should support EPA's watershed initiative. This is important because of a continued need for additional overall integration of programs such as water quality standards and permits and allocation of associated resources according to water quality impacts and not based solely on the backlog measure. We did not further revise the recommendation although we generally agree that EPA may want to consider different approaches for non-priority permits, such as a process for streamlined renewal, but recognize that the possibility of changes within a 10-year period may require adjustments of permits to reflect new environmental requirements; the ability to reopen a 10-year permit could be critical. EPA may want to evaluate supporting programs before considering a 10-year permit period.

Finally, EPA recommended that draft recommendation 5-11 include the statement "or include loadings in permit prioritization." We generally agreed with EPA's recommendation, but added it as a separate action and not as an alternative. We also clarified the wording of the recommendation. EPA's current loadings methodologies allow for an estimate of the amount of loadings reductions delayed that are associated with backlogged permits. This information may be useful to the Agency and States in prioritizing permit modifications and reissuance efforts.

## ***Details on Scope and Methodology***

### **Surveys and Field Visits**

Separate survey instruments were developed to obtain information regarding the NDPEs permit backlog. A total of no more than nine States received each set of questions. Information on selection criteria and participation is presented below for collection of causes of the June 2003 backlog and backlog management by States and EPA:

- **Causes of Backlog - State and EPA:** We collected this data to obtain information on the causes affecting the largest percentage of the national backlog, and it was not generated to represent an individual State's or EPA region's high backlog percentages. All EPA regions with backlogged permits in the status report as of June 2003 received this question as well as nine States (Illinois, Louisiana, Mississippi, Missouri, Nebraska, New Jersey, Ohio, Pennsylvania, and West Virginia). State selection was based on individual permit backlog statistics on a State basis (regardless of the percentage of current permits in the State); several States were excluded because they are not authorized for the program. Seven States responded (Illinois and Louisiana did not submit a response), and completed surveys were aggregated and analyzed.
- **EPA and State Management of Backlog:** A separate backlog management survey was sent to eight states (Colorado, Indiana, Kentucky, Michigan, New York, North Carolina, Washington, and West Virginia), and a version specific to EPA sent to all EPA regions. Originally, we selected nine States using criteria designed to identify States representing a range of experiences (successes or challenges) in managing the backlog. However, Oregon was removed from the selection based on ongoing studies in the State. The selection was made based on backlog changes shown in the status reports between April 2001 and 2003. Several States were not considered for selection because the State was not authorized for the program or because of the size of the permit universe. Completed surveys were aggregated and analyzed. We also conducted on-site interviews during field visits to five of the States (Colorado, Michigan, New York, North Carolina, and Washington) identified for the management questionnaire and five of the regions (Regions 1, 3, 6, 8, and 10).

### **Data Analysis in PCS and Other EPA Systems**

We also used PCS data to analyze the permit backlog based on the permit's backlog status as of June 2003, with some updates as of March 2004. We consulted the Government Accountability Office report *Assessing the Reliability of Computer-Processed Data* (GAO-03-273G, October 2002, external version 1). We used the same definition and data set used and reported on by EPA in the backlog status reports. However, in analyzing permit limit changes, we used the original permit backlog delay allowance of 45 days to generate data for the June 2003 backlog analysis. Permit limit data and discharge monitoring report data were downloaded at a later date

and analyzed in IDEA software. The last modified permit limit in the prior permit was compared to the original limits in the new current permit. Limit analysis did not include flow data or records with changes in unit codes. Records in the prior and current permit were matched using a key made of elements from PCS:

*Permit Number + Pipe Discharge Number + Report Designator +  
Limit + Parameter + Monitoring Code + Season Number*

In a final step, we compared available data for these limits showing the time frame for the limit (e.g., monthly, weekly, or daily limits). Because this data is not required, we can only provide information where these were not identical if provided. This may contribute to some additional uncertainty in identifying limit changes in reissued permits.

We also analyzed current permit records with final limits that did not match against a ghost permit record following the same data screening process. These records were not analyzed for limit changes but were analyzed to identify why the record did not match: no prior permit; a new parameter was being limited; or the monitoring location, pipe discharge number, or season code did not match.

PCS is an official EPA database used for enforcement and reporting purposes. However, based on data concerns raised in prior OIG, EPA, and Government Accountability Office reports on PCS, we performed targeted data reliability testing. Although some errors were identified, they did not appear to significantly affect the overall analysis, particularly when other existing data sources and questionnaire information were also used. The data we considered to be most unreliable for a particular analysis has been eliminated throughout the analysis. PCS data in this analysis was generally limited to permit expiration dates and facility data, and for majors limits and a small set of discharge monitoring report data. We also reviewed Water Enforcement National Data Base (WENDB) elements (EPA identifies as core information necessary to use PCS to conduct oversight of the effectiveness of the NPDES program). We believe that, overall, the reliability of screened data in conjunction with other data is sufficient for the level of conclusions drawn. A review of permit quality (calculation of permit limits) or compliance and enforcement information was outside the scope of this study. We also did not perform data quality reviews on discharge monitoring report data.

Because prior permit tracking dates are overwritten in PCS when permits are reissued, we used the permit limit start and end dates of “ghost” permits (also known as “prior” permits) in PCS for this analysis. When multiple permit limit start and limit end dates were identified in a single permit’s data due to interim limits and modifications, we placed the permit in the lowest age category (newest) identified. However, we used the data for each record as presented in PCS and the associated age category without any adjustment as described above to identify permits in the lowest age category. This may contribute some additional uncertainty to identification of permit limit changes for the backlog (permits not reissued for over 45 days).

We obtained discharge monitoring report data for quantity maximum and average limits that decreased when they were reissued for the time period of the limit start and end date for the limit in the prior permit. Any limits where data were available in PCS for both the prior and current

permit and which indicated a change in the timeframe of the limit (e.g., daily, weekly, or monthly) were removed from the analysis. Each value obtained was compared to the prior limit as well as the current limit. At this detailed level of analysis, we also adjusted the backlog definition date from 45 days to 180 days for those permits issued after January 2002 to match EPA's definition changes for the backlog.

To estimate the number of impaired waters associated with a backlogged or expired permit, we used different data sets of expired permits identified on impaired waters. The preliminary Office of Water data analysis identified backlogged permits as of March 2004 (expired in September 2003). The Office of Enforcement and Compliance Assurance analysis used expired permits data extracted in February 2004. Due to the different focus on expired and backlogged permits in the two data sets, the time frames are slightly different. We analyzed both sets of data to develop a range of estimates. First, we estimated the number of waters associated by point sources according to available estimates using the April 2004 303(d) listing of 26,209 impaired waters (60 percent of these is approximately 15,725 water segments). We divided the number of waters estimated by EPA to be affected by point sources by the total number of expired permits identified on impaired waters in the different data sets. This provided a range of estimates of impaired waters that could be associated with expired or backlogged permits. We also calculated a higher number of waters per backlogged permit because the data sets showed less than 15,725 permits (current or expired) as being on impaired waters. Therefore, we calculated a higher estimate of impacted impaired waters by dividing the estimated number of waters impaired by point sources by all known individual permits and multiplying the resulting ratio with the number of backlogged permits. We recognize that this range may be an over- or under-estimate because general permitted facilities are not included in EPA's analysis, some waters may not be affected by point sources, and not all permits have been georeferenced. If the backlogged permit already incorporates a TMDL WLA, or if there is no approved TMDL WLA for that permit, the backlog status of the permit is not likely to be a contributing factor for the impairment because resolution of the impairment is dependent on the TMDL. EPA comments indicate that TMDL WLAs are not needed before a permit limit may be developed. If they are available, they are to be considered.

## Prior Reports

The OIG has issued several reports addressing issues related to the NPDES permit program, including:

- *Congressional Request Regarding EPA Clean Water Enforcement Actions*, Report No. 2005-S-00001, October 18, 2004.
- *EPA Needs to Reinforce Its National Pretreatment Program*, Report No. 2004-P-00030, September 28, 2004.
- *Effluent Guidelines Program for Reducing Pollutant Discharges Uncertain*, Report No. 2004-P-00025, August 24, 2004.
- *EPA Should Take Further Steps to Address Funding Shortfalls and Time Slippages in Permit Compliance System Modernization Effort*, Report No. 2003-M-00014, May 20, 2003.

The OIG also issued two reports in 1998 that specifically addressed the backlog issue by identifying a number of NPDES permits that had not been issued or reissued in a timely manner:

- *Kansas National Pollutant Discharge Elimination System Program*, Report No. E1HWF7-07-0022-8100089, March 31, 1998.
- *Region 10's National Pollutant Discharge Elimination System Permit Program*, Report No. E1HWF7-10-0012-8100076, March 13, 1998.

Further, since 1998, the OIG has reported the NPDES permit backlog as a Management Challenge for the Agency.

We also identified a number of State-specific reports addressing NPDES permitting and backlog issues. Examples follow.

- A Minnesota report, *Progress Report, Wastewater Point Source Permitting, Compliance and Enforcement*, February 2003.
- A New York State Auditor's report, *Clean Water Permit Process*, Report 2001-S-18, March 13, 2003.
- A National State Auditors Association Joint Performance Audit, *Water Quality*, August 2001.

## ***Definitions and Examples of Alternatives to General Permitting***

<b>Permitting by Rule</b>	Provides for automatic coverage of facilities, but is time-consuming to complete (used mainly for stormwater permitting but is being considered for other discharge types in several States).
<b>“Cookie Cutter” Permits</b>	Use basically the same permit format with small variations.
<b>Reauthorized Permits</b>	Require identification by ranking of permits that will have no substantive changes upon reissuance (no changes to previous permit except for submittal dates, and new cover page with new signature and effective and expiration dates).
<b>Reduced Effort Permits</b>	Wisconsin has been working on guidance for permits that can be reissued without an in-depth review because the discharge is not causing or does not have the potential to cause a significant environmental problem based on determining factors (e.g., low environmental concern, strong compliance history, and no significant changes in facility operations). EPA Region 5 identified this practice as a particularly successful State activity for addressing the backlog.
<b>Expedited Permits</b>	Require identification of permits with simple or no changes that can be addressed by less experienced staff.
<b>Batch Permits</b>	Minnesota identified and “batched” similar types of permits in the backlog, which streamlined the process by using common boilerplate language and application of laws, rules, and standards. Region 5 also identified processing certain permits in Indiana in batches as a particularly successful practice.
<b>Roll-over Permits</b>	An identification by certification of no change could allow permit issuance without pre-permit inspection.

## Changes in Permit Limits

	Permits (% of total), Based on 2,235 Permits, Except Based on 2,681 Where New Parameters Also Counted	Records
Facilities/records with a current (major) permit and a previous backlogged permit in matching analysis (only in exceptions analysis)	2,476 plus 205 (only in exceptions analysis equals 2,681)	51,569* (plus exceptions analysis records for new parameters equals 59,381)
Facilities/records with a limit change or new parameter	2,166	17,717
Facilities/records with a limit change	1,748	9,905
Facilities/records with a decreased limit	1,080	3,631
Facilities/records with a new parameter	1,384	7,812
Facilities/records with a limit increase	1,079	3,959
Facilities/records with additional new limits for previously controlled pollutant	1,110	3,936
Facilities with no new limit or new parameter and records with no limit changes (not corresponding to the more limited permits)	515	39,870 records with no limit changes
Could not be matched and were not a new parameter (not included in the total number of analyzed records)	1,353 permits (permits may have records in matching or exceptions analysis)	12,926 records (not included in 52,634 total above)

\* Total number of records in analysis except for records with deleted limits (after removing likely errors and flow parameters).

**Note:** Permits and records may overlap. Included in the table are 9,061 records in 1,113 permits that had changes in parameter units between the prior and current permit that were analyzed using standard limit data. About 8 percent of analyzed records (including up to 5 limits per record) indicated a change in the unit of time for reporting, which should be considered as an uncertainty in conclusions drawn from this data.

### **Limit Changes Identified:**

**Decrease:** A negative value is obtained if the prior limit is subtracted from the current limit.

**Increase:** A positive value is obtained if the prior limit is subtracted from the current limit. An increase may be a more stringent discharge limit in the case of select parameters such as dissolved oxygen, temperature, and pH.

**Stay the same:** There was no change in the permit limit between the prior and current permit limits.

**Additional new limit:** A permit limit record consists of up to five limits per record (row). A new additional limit was identified where a controlled pollutant also had a different limit type that was blank (or a monitoring limit), which became a final limit in the current permit.

**New parameter with a final limit:** These are final limits in a current permit for a parameter that did not have a final numeric limit in the prior permit.

**Deletion of limit:** The deletion of a limit was not considered a change.

## ***Factors That Indicate a Permit Likely to Have New Limits or Conditions When Reissued***

General categories of factors in addition to those identified in EPA's draft checklist that regions note as likely to cause a permit to have a new limit or condition when reissued.

<b>Receiving waters</b> (e.g., dilution, changes in flows, watershed planning)
<b>Water quality standards</b> (e.g., downstream State considerations and new designed uses)
<b>Study data</b> (e.g., mixing zones and effluent monitoring results)
<b>Reasonable potential analysis</b>
<b>Sanitary Sewer Overflow conditions</b> after EPA actions
Implementing <b>Toxicity Identification Evaluation/Toxicity Reduction Evaluation results</b> after Whole Effluent Toxicity (WET) testing failures
<b>New regulations</b> implementing Clean Water Act section (e.g., 316(b), addressing cooling water intake structures for new facilities)
<b>Lower detection limits</b> due to new, EPA-approved analytical methods
<b>Oldest backlogged permits</b> that are usually delayed due to old issues

***Universe of Permits Counted in Backlog  
and Number of Current Permits  
(Selected Dates, 1998-2004)***

		November 1998 (except as otherwise noted)	June 2003	March 2004	Change in Current and Universe of Permits from November 1998 to:	
					June 2003	March 2004
<b>MAJORS:</b>	<b>Current</b>	5,017	5,555	5,606	+538	+589
	<b>Universe</b>	6,808	6,675	6,700	-133	-108
<b>INDIVIDUAL MINORS:</b>	<b>Current</b>	33,714	36,033	34,167	+2,319	+453
	<b>Universe</b>	64,702	45,419	42,179	-19,283	-22,523
<b>ALL MINOR FACILITIES:</b>	<b>Current</b>	87,790 *	80,108	81,195	-3,682	-2,595
	<b>Universe</b>	103,711 *	96,006	93,561	-7,705	-10,150

\* "All Minor Facilities" data generated October 2000, not November 1998.

## ***Agency Comment***

### **Memorandum**

**SUBJECT:** Draft Evaluation Report: "Efforts to Manage Backlog of Water Discharge Permits Need to Be Accompanied by Greater Program Integration."

**FROM:** Benjamin H. Grumbles  
Assistant Administrator

**TO:** Dan Engelberg  
Director of Program Evaluation, Water Issues  
Office of Program Evaluation  
Office of Inspector General

Thank you for your memorandum dated January 25, 2005, transmitting the draft report on the subject evaluation, No. 2002-000221. The draft report provides a useful overview of the substantial efforts by EPA and the States during the last seven years to respond to the backlog of NPDES permits that developed during the 1990's.

We have a number of recommendations for changes to the draft report that we believe would improve its clarity and accuracy. The Office of Water's key recommendations are summarized here, while more detailed suggestions are provided in the attachment.

**1) Implementation of Permitting for Environmental Results (PER) Strategy** - Beginning at the outset of 2004, the PER Strategy establishes a new vision for managing the NPDES program. It is the PER Strategy's elements of integrity, efficiency, and environmental results will guide our management into the future. In order to convey to the reader a more complete picture of the NPDES program, the report should emphasize the role of implementation of the PER Strategy in addressing overall permit program effectiveness, particularly with respect to water quality improvements. The implementation of the Strategy is likely to have impacts in the area of permit issuance efficiency and the environmental importance of those permits that are renewed. This discussion should be moved up front and included in the "At a Glance" section and Chapter 1.

**2) Impact on Water Quality from Permit Renewal, and Balance in the Permitting Program and between Related Water Quality Programs** -- The conclusion in the "At a Glance" section and discussed at some length in Chapter 3 that the backlog reduction has had a limited impact on water quality is one that we believe needs to be reexamined. To reach this conclusion, the report relies on an analysis of DMR results on existing limits from a small subset (12% of the sample) of reissued permits. The discussion in this area should be augmented to reflect the variety of ways in which permit renewal has an effect on water quality (for example, more

stringent technology-based limits for existing permits, limits on new parameters, water quality-based limits, whole effluent toxicity limits, best management practices, improved monitoring requirements). Overall, we agree that backlog alone may not provide an effective strategy to improve water quality as is stated later in the report. The NPDES program is one part of the implementation of the Clean Water Act architecture. We acknowledge from the outset that permits in and of themselves do not protect water quality, but are a key element in the structure and the agency's implementation of the Clean Water Act.

Further, the draft report raises the question of the proper balance for water quality programs in several places. One dimension is the proper balance between the continuing effort to reduce the backlog as a program management goal and the need to ensure that the most environmentally significant permits are issued in a timely fashion. The permit prioritization effort initiated in 2004, under the PER Strategy is intended to help the NPDES program strike the proper balance, and discussion of the prioritization effort would help clarify this issue.

The draft report also raises questions about the right balance between the various water quality programs (principally TMDL and water quality standards). State and regional authorities are given flexibility in timing of permit re-issuances while TMDLs, new standards, or new approaches (for example, watershed-based permitting) are being completed. From the perspective of the Office of Water, sustaining an effective permitting program as the TMDL and standards programs continue to evolve is essential to the protection of water quality.

We believe the analysis of potential impacts to water quality would be better framed using the chart in Appendix C. The analysis examines permit limits and changes to limits over time, but omits very important parts of the permit program universe, such as control of storm water and control of indirect discharges through the pretreatment program. The overall discussion should address the limitations of the analyses in more detail.

**3) Impact from Implementation of Effluent Guidelines** - The report should give greater recognition to the impact that implementation of effluent guidelines promulgated in the last decade or more will have on water quality as we continue to implement the NPDES program. Permits that were last updated 6, 8 or 10 years ago will not reflect the improved technology-based limits that are contained in the guidelines promulgated during the 1990's and earlier in this decade. Two prominent examples of guidelines that are expected to have a substantial impact are the 316(b) rule and the CAFO regulations.

**4) Backlog, Permit Universe and FMFIA Reports** - Several adjustments should be made to reflect information that was contained in Backlog and FMFIA reports concerning the manner in which the backlog was being reported. An integral part of the backlog reduction strategy was to determine the true nature of the backlog and workload through the clean up of PCS data and inclusion of all facilities being permitted (addition of general permits information). Due to the nature of available databases and information collected, it was not practical to retroactively update the permit universe baseline because this changes month-to-month. Adding general permittees as part of the backlog changed the measure by expanding the universe of permits. This better represents the actual universe, and EPA acknowledges these changes in FMFIA, but

it does not recalculate the baseline. Each of the refinements in the baseline was documented through FMFIA reporting.

The most recent FMFIA update recommends that the backlog no longer be an agency weakness since mechanisms/processes are in place to assure timely water quality improvements through the NPDES program. These include the shift to emphasis on issuing priority permits (95% goal) along with the maintenance of the overall 90% current permits goal and the development of NPDES program profiles under the PER strategy to ensure the overall integrity/quality of the NPDES program.

It is also important to note the ongoing efforts led by OECA to implement ICIS-NPDES (the replacement for PCS) that will help all aspects of permit program management including permit issuance, compliance and enforcement. This will further enhance our ability to improve the accuracy for GPRA reporting.

We recommend that the report recognize that overall program integrity (issuing permits as required by statutes) and pursuit of environmental improvements are both important.

**5) Recommendations Section** - Regarding the recommendations, we will be able to address the intent of the recommendations via our prospective approach to managing the NPDES program as embodied in the PER Strategy and the Office of Water Strategic Plan. A number of the steps suggested in Chapter 5 have already been initiated. In the case of the New York State Department of Environmental Conservation (NYSDEC) system, we are able to report that Region 2 and NYSDEC are addressing the issue as a result of the PER review. After discussing the issue with NYSDEC, the Region sent a letter stating that NYSDEC needs to modify their system to address the issue. Finally, we believe a number of the remaining recommendations should be consolidated.

The attachment provides specific comments on each of the chapters of your draft report for your consideration. If you have questions about any of our comments, please contact Linda Boornazian, Director, Water Permits Division, at (202) 564-0221 or Tom Laverty, Chief, State/Regional Branch at (202) 564-7974.

Attachment - Chapter-by-Chapter General and Specific Comments on the -

**Draft Evaluation Report: "Efforts to Manage Backlog of Water Discharge Permits Need to Be Accompanied by Greater Program Integration." Assignment No. 2002-000221  
January 25, 2005**

**At a Glance**

General Issues

This section makes many very broad statements that seem generally connected to the idea of integration and looking holistically at water quality management. Given this broad discussion, we recommend including the fact that we have undertaken a very holistic approach to dealing with management of the NPDES program. As discussed in the memo transmitting these comments, we feel the Permitting for Environmental results (PER) strategy is the correct approach for dealing with backlog as part of a much larger program management approach that focuses on performance. This holistic approach has included looking at the water quality standards program, technology standards program, water quality assessment program, permits program, and enforcement program together. This has provided a much better data set from which to make decisions about appropriate approaches to water quality management.

Specific Issues

In the 3rd paragraph of this section, the statement is made that "the backlog could grow in importance if supporting programs are strengthened." Given the focus of this report, and the data collected and analysis performed, it is not clear that this very broad generalization can be supported.

In the 4th paragraph, the report indicates that GPRA reporting has provided a misleading view. We do not think this is accurate. When definitions were changed we always provided explanation for the changes. Baselines were changing due to cleanup, migration to general permits, and new permittees coming on line. Year-to-year measures reported in our Annual Report are covered in more detail later in our comments.

**Chapter 1 - Introduction**

General Issues

The first sentence does not accurately reflect current work within the NPDES program. Specifically, it can be read to completely ignore the large amount of work being done as part of the Permitting for Environmental Results (PER) program. We recommend the Introduction be

changed to reflect the fact the analysis done for this report "focused" on the issue of backlog, and therefore, did not fully consider the impact of ongoing work being done as part of the PER program.

### Specific Issues

In the section devoted to Background, the first sentence is inaccurate; the Federal Water Pollution Control Act was "originally" established in 1956. We suggest changing the sentence to read, "Congress established the NPDES program through the 1972 amendments to the Federal Water Pollution Control Act.

In the section devoted to "Backlog of Expired Permits Identified," the first paragraph needs to explain the re-issuance process. The explanation should include requirements in 40 CFR 122.21 related to applying and re-applying for a permit, as well as section 122.6 that deals with continuation of permits and the link to re-applying.

In this same section, in the next to last paragraph, mention is made to the changes to the definition of backlog. This issue also comes up later in the report. We recommend noting that each time a definition changes was made, the change was noted in the FMFIA report and in the report we recognized the need to clean-up the data and process for tracking backlog. It should also be noted that we reached a consensus with permitting authorities only as backlog management evolved that facilities covered by non-storm water general permits should be included in the backlog accounting inventory. With the implementation of PER, the definition of backlog now includes facilities covered by individual (majors and minors) and non-storm water general permits. The report should state that capturing these permittees in the backlog accounting provides a better measure of the permit issuance realities faced by a permitting authority. Because our tracking effort has understandably evolved over the years, the report should further note that it is not practical to go back in time and make adjustments to the baseline rather we should continue to improve explanations in the annual reports and make adjustments to the GPRA measures where feasible. It should also state that Regions and States started using more general permits so a more accurate picture of facilities without current permits would not be accurate if only individual permits were counted.

EPA's intent was to give a more accurate picture of the universe of permits. This report should recognize this or one could say that the backlog estimate wasn't accurate because we knew of other universes that weren't included.

The level of backlog has two perspectives: good program management and quality of permit. Permittees have complained to us (most recently in a meeting for performance track facilities in September, 2004) when their permits are not issued in a timely manner because it promotes the notion that the permitting authority is not responsive or sends a negative message to their community or their stockholders or board of directors. Permit quality reflects the appropriate level of control has been included in the permit to maintain or improve water quality, including necessary water quality controls or technology-based controls (effluent guidelines). The second point is discussed fairly well, but the first is not recognized.

## Chapter 2 - Management of Backlog Improving But Challenges Continue

### General Issues

EPA concurs that resource constraints hamper a permitting authority's ability to meet permitting goals. Declining State resources are one of the most problematic issues facing permitting authorities and, as noted in the OIG report, many permitting authorities have stepped up to the challenge using various approaches to increase efficiencies.

EPA is working to help States improve efficiencies and integrity through the use of permitting tools and working as facilitator, developer, and collaborator on electronic applications to assist permitting authorities improve the quality of permits while improving efficiencies. We are increasing our outreach efforts regarding electronic tools in 2005. EPA established a Clean Water Act 104(b)(3) cooperative agreement with the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA) to collect and share good strategies and practices among states as well as participate in the PER process.

Regarding communications, EPA uses several channels:

- ASIWPCA Monthly Calls
- Permit Writers Courses (Five per year in different locations based on consultation with states and regions to determine locations with greatest need)
- Permit Writer Practitioner Meetings (every two years)
- Permittee Training Courses with Water Environment Federation (3 to 4 per year)
- Comprehensive web site ([www.epa.gov/npdes](http://www.epa.gov/npdes)) with additional training in specific program areas
- Periodic meetings between states and EPA regions, including state program reviews by the regions
- Participation in meetings with States through ASIWPCA
- National Meeting with States and Regional NPDES managers is planned for September

As an outcome of the PER process, EPA will be able to identify opportunities to further assist permitting authorities to improve their permitting programs. In particular, the priority permits program addresses some of the concerns of the OIG, where permits are linked to environmental or other administrative criteria.

Based on this information, we believe that Recommendations 5 and 6 in Chapter 5 should be removed because these actions are underway and already mentioned as important in an earlier chapter.

### Specific Issues

In the first 2 paragraphs under the Resource Constraints section, there is reference to survey results. In the first paragraph, the results were from 6 of the 7 states and in the second paragraph the results were from 6 of 8 states. We assume this is based on respondents as

opposed to actual population surveyed. We suggest explaining why different numbers of states were surveyed given the methods section indicated that 15 states were surveyed.

In the section: Workload Management Approaches, under "Alternatives to Traditional Individual Permitting," the fourth bullet can be read to discourage using statewide general permits when a rotating basins approach is used. Why do you feel this is inappropriate? The State of Michigan has indicated they are experiencing a lot of success with this hybrid approach.

In the section: States and EPA Must Address Increasing Complexities, in the first bullet there is some discussion of variances. Variances by definition are short-term modifications of water quality standards. Therefore, the variance does not "remove" the issue; the variance provides time to more fully study particular issues.

In the section: States and EPA Must Address Increasing Complexities, in the second bullet we suggest you look into North Carolina's rotating basins program. It has been in existence for a long time and has made good use of linkages.

In the section: Difficulty in Addressing Major External Backlog Causes, the last sentence of the fourth paragraph needs more explanation.

The last paragraph has a discussion of effluent limitations guidelines that should be modified. More specificity would be helpful in explaining why there is a link between effluent limitations guidelines and backlog. We believe the existing discussion is inaccurate in cases where a permit has not yet incorporated an effluent guideline. Given the backlog may include permits of varying age, the discussion may include all the effluent guidelines promulgated in the last 15 years and would still be relevant today for any permits that have been expired because a new effluent guideline was issued. This is why we consider it a priority. Further, in another section of this report, the issue of guidelines is significantly downplayed because the number of guidelines being revised or developed related to point sources is very small. This can be misleading because some of the recent guidelines have potential for significant impact, for example powerplant intake structures, CAFOs, centralized waste treatment, etc. If a permit has been backlogged for a significant number of years, these new guidelines may not yet be reflected in the permit. Finally, the last sentence of this paragraph does not seem to make sense. We are unsure about the point you are making here because effluent limitation guidelines are technology-based not water quality-based. It should also be mentioned that effluent guidelines are one of the factors EPA is using for priority permits.

Also, there are two places (p. 14 and p. 22) where the report speaks of the effect of "delayed" water quality standards. Does this mean the time lapse between the adoption of new or revised WQS and the implementation of new WQBELs in the permits or does it mean the backlog of standards submissions without EPA action (i.e., the WQS backlog)? We think it may be the latter based on the sentence on p. 14 ("EPA has stated that it will be working to reduce the water quality standards backlog that has delayed some new water quality standards"). If so, please edit the sentence on p. 22 as follows: "While we could not determine the current effect of the water quality standards backlog on the NPDES backlog..."

The section devoted to "Other Issues Also affect Backlog" seemed to restate a lot of issues already covered, so may not be necessary. However, under this section it should be noted that primarily states and authorized tribes issue WQS, and EPA approves (or disapproves) those, therefore the words "approval of" should be inserted into the following sentence as shown in bold: "Issues noted by State officials included ...awaiting approval of water quality standards..."

We recommend the section for EPA Increasing Focus on Environmental Outcomes for Permit Issuance and Program Management be expanded and moved forward. It seems to be significantly downplayed at the end of this section.

### **Chapter 3 - Current Impact of Backlog on Water Quality Appears Limited, but Can Grow in Importance**

We recommend changing the title of Chapter 3 to "Current Impact of Backlog on Water Quality May Be Limited, But Can Grow in Importance." Another option for a title may be, "Many Changes in Renewed Permits, For More Stringent Limits However Impact May Not Be Significant." In the situation where limits were tightened, the environmental impact may not be significant because dischargers were already meeting these limits. This is due to the fact as States adopt new water quality standards, TMDLs address more point sources, and effluent guidelines are incorporated, and the issue of current and appropriate controls based on these other factors increases in significance. Focusing on priority permit issuance along with a base of overall permit issuance rate addresses results while maintaining a check on program responsibilities. States are asking for a five year extension to permits if they are not priority permits which would require a change to the statute. The longer permit term would alleviate the backlog somewhat, however, the workload is more involved for the more complex permits.

OIG's finding that facilities are discharging well below their permits is the intended result of the Effluent Guidelines and the Water Quality-Based Permitting programs. Permit limits to meet technology standards are set based on proven technologies that are generally affordable, so they are installed. Water quality-based limits are set to protect water quality standards. The water quality-based limits are meant to provide a safety range to prevent environmental harm; because discharges can vary throughout a day or month; and samples are not taken continuously. In most cases, the water quality-based limits are set based on data provided by the permittee for the effluent along with other data from the permittee or other sources for the receiving water. These data sets are usually very incomplete (do not include data for every day of discharge). The process for setting the limits considers the uncertainty due to the incomplete data sets and the variability of the discharge, and establishes a limit that will ensure water quality standards will be protected. Also, in the case of effluent guidelines, the process for issuing the guidelines is often lengthy. The extended amount of time provides industries with significant advance notice that new limitations will be put in place and industries often respond by installing technology in anticipation of the guideline.

As numeric criteria are further reduced (e.g., for mercury and nutrients); however, it is likely that users will have to install additional treatment to reduce discharges. This will have a beneficial impact and lead to observable loadings reductions.

This section also looks heavily at permit limits and changes to limits over time, but misses some very important parts of the permit program universe, such as control of storm water and control of indirect discharges through the pretreatment program. Storm water is currently addressed through best management practices (BMPs), and the pretreatment program is administered at the local level and not reflected in PCS and discharge monitoring (DMR) data. The fact these are not included should be recognized in the discussion. Further, we feel that reframing the existing section may be helpful in making it easier to understand, and the reframing should use the chart in Appendix C. Overall it looks like a significant number of permits (86%) had some form of change. Over half added new parameters which could also be significant. According to the report, for records "that could be matched", 20 % of the permits included adjustments to existing limits. For decreases (57%), these changes may not have resulted in improved water quality because new levels were already being achieved. Increased levels would be considered significant to permittees because it reduces the potential liability (61%). This could be followed by factors addressing environmental significance. A discussion of the percentage of permits that may have included effluent guidelines could also be included. This overall discussion would also need to address the limitations of the analyses in more detail. The current report does not include some key points, for example it does not recognize that changes to monitoring requirements can have significant water quality impacts. Currently the analysis assumes that if the limits have not changed, there has been no change to the permit, and this may not be true.

### Specific Issues

In the section, Impact of Delay in Reissuing Backlogged Permits Doubtful, the issue of "new" pollutants not previously limited seems to be given little attention. As one example of why "new" pollutants are important we can consider nutrients. Nutrients and the impact of nutrients on attainment of water quality standards is clear because large numbers of listed waters are impacted by nutrients. We suggest moving the paragraph that starts with "Our conclusions are limited to those limits we could match from a prior to current permit" to the beginning of the section to highlight the scope of the analysis that was undertaken here.

There are 3 places (p. 17, p. 21, p. 22) where the report speaks of the increase in productivity of the WQS program or the increasing number of water quality standards. We are not sure what this really means. However, on page 22 there is a discussion of an increase in the number of standards submissions from 1996 to 2000 and revisions in human health criteria that would likely lead to new or revised WQS as well as discussion of "EPA's planned activities also indicate the potential for more water quality standards changes" and then it lists several items from the FY2005 Congressional Justification (i.e., focusing on reducing backlog of WQS, establishing highest attainable uses, and strengthening the scientific foundation). If this is what is meant by the discussions on p. 17 and p. 21, it would be helpful to move the discussion on page 22 forward in the document to provide context prior to the statements on pp.17 and 21.

Comments/questions on "Delay in Reissuing Permits Had Uncertain Effect on Discharges" subsection -

The narrative mentions in passing numbers of permits with new limits (either additional limits on previously included parameters or for entirely new parameters) but does not at any point discuss

the potential significance of these new limits for water quality. Given that over half (up to as many as 90%, depending on the overlap between the 803 with additional limits and the 1,384 with new parameters) of the 2,456 permits had such new limits, it would appear that this aspect is quite significant.

By discussing only cases in which facilities were meeting revised permit limits prior to reissuance and cases in which facilities were violating both prior and revised limits, the narrative suggests that the cases in which discharges met the prior limits but not the revised limits, thus requiring a discharge reduction, were entirely insignificant. In fact, such cases are an important reason for reissuing permits on a regular basis.

The term "record" is not clearly defined. It would be helpful to include a general description of the permit-pipe schedule-parameter-numerical limit hierarchy in the chapter itself. Additional explanation is needed for the first sentence of the last paragraph on p. 18, which parenthetically mentions numbers of maximum and average records, implying that there are records that are distinctly maximum and records that are distinctly average.

The beginning of the DMR analysis discussion mentions 488 "identified" permits, but does not explain the criteria for selecting these 488 from the 2,456 discussed above. What were these criteria?

The analysis looking at DMR data included 307 permits of the original 2,456 permit sample. While there is a tacit implication in the narrative that the observations from this sample apply to all backlogged permits, is there any information you could provide to apply the findings to remaining permits.

The last paragraph of the subsection states, "We were unable to conduct a similar analysis for those 1,384 facilities where the new permit controlled a new pollutant." First, this seems to imply that each permit controls only one pollutant. Because this is not the case, and the permits for those 1,384 facilities almost certainly also contained limits for pollutants that had previously been controlled, why were the facilities rejected from the analysis, rather than analyzing the set of limits/discharges that were common between the backlogged and reissued permits?

Can the information in Table 3.1 be broken into mutually exclusive categories as follows for Quantitative Maximum Limit Decreases (and, therefore, similarly for Quantitative Average Decreases)?

Of the 797 limits analyzed,

- 56 had discharges that would violate the revised limit, all of which were also violations of the prior limit
- $797 - 178 = 619$  had no discharges that would violate the revised limit
- $178 - 56 = 122$  had some discharges that met the prior limit but would violate the revised limit

If not, what are the problems with this type of break-out?

**Comments/Questions on Appendix C** (given the link to this part of Chapter 3 we decided to include our comments on the appendix here)

We feel the order in which the categories are listed could be changed to better group related categories; a better order may be:

- Facilities/records with a current (major) permits and a previous backlogged permit in matching analysis
- Facilities/records with a limit change or new parameters
- Facilities with no new limit or new parameter and records with no limit changes
- Facilities/records with a limit change
  - o Facilities/records with a decreased limit
  - o Facilities/records with a limit increase
  - o Facilities/records with additional new limits for previously controlled pollutant [assuming this is a subset of records with a limit change]
- Facilities/records with a new parameter
- Could not be matched and were not a new parameter

What is the overlap between the 1,384 facilities with new parameters and the 803 facilities with additional new limits for previously controlled pollutants? (Alternatively, how many facilities had any type of new limit?)

Why do the 8,643 records with limit changes and the 7,812 records for new parameters not add up to the 14,146 records with a limit change or new parameter? At the record level, these categories would seem to be mutually exclusive because a limit is either new or changed not both.

How many records have both a decreased limit and a limit increase? (since  $4,549 + 5468 > 8,643$ , there are apparently some) Presumably, these are cases with a decreased concentration and increased quantity (due to increased total flow), or vice versa (due to decreased total flow). How many are in each of these two categories?

Are the 34,930 records listed as having no limit change identical in the prior and reissued permits, or does this number include the 12,926 records that were not matched and not a new parameter and/or the 9,061 records with changes in units? (How many records in reissued permits were identical to the corresponding records in prior permits?)

In the section, Backlogged Permits Have Not Been a Major Cause of Impairment, the first paragraph seems to have some contradictory ideas. In one sentence, it is noted that "based on our review, the backlog has played only a minor role in preventing impaired waters from meeting their designated uses." Then in a later sentence, it is noted, "overall, we cannot precisely quantify the relationship of backlogged permits to impaired waters due to several methodological issues including." We suggest that the two sentences be combined to say that directly linking backlogged permits to impairments is not possible for the following reasons:

Please list methodological issues in Page 20 of report and also add:

Impairments may be caused by a combination of sources and the relative loadings from these sources. These include permutations involving a single point source discharger, multiple point source dischargers, and non-point sources. To add to this, each type of source may contribute different loadings for each impairment scenario. In addition, the complexities of the assimilative capacity of the water body, pollutant synergies, and other factors make it very difficult to make direct linkages to the backlog. Therefore, keeping backlog rates as low as possible is desirable even when direct and compelling evidence is not available.

Later in this same section, point sources are deemed to not be responsible for the majority of waters identified as impaired. This is not a factual statement that can be made until the TMDLs are complete for those that have a point source in them. It is true that a direct cause effect relationship cannot be established; ten percent are designated as "impaired solely due to point sources," and 50 percent are impaired "due to a combination of point and nonpoint sources." Thus the data indicate point sources contribute to 60 percent of the impaired waters. Further, a citation for these data needs to be provided and we recommend noting that the values presented are rough estimates (given the rough estimate we also recommend rounding the values in parentheses).

The next paragraph in this section states that the results are heavily impacted by the "approach used and the assumption employed," but does not provide any methodology that describes approaches or assumptions. Therefore, it is not possible to determine the basis for these results. Also, the paragraph ends by stating, "Moreover, an existing approved WLA is also necessary for reissuance of the backlogged permit to directly address the impaired waters." Permits are often issued prior to the development of a TMDL; please see 40 CFR 122.44(d) that deals with water quality -based permits and development of permit limits. Also, the 1991 Technical Support Document for Water Quality-based Toxics Control for detailed discussion of process for developing limitations. We provide similar comments on this issue in our comments on chapter 4.

For table 3.2, it would be helpful to have an explanation why OW data and OECA data are compared for different periods of time.

Under the section dealing with Environmental Significance, specifically dealing with Watershed-based Permitting and Trading, we feel more explanation is needed for the sentence, "Delay in incorporating these new limits may result in delay in seeing environmental benefits from these programs." Also, in this same paragraph, we believe clarification of the last sentence is necessary, perhaps to read "not being addressed in a particular rotating basin permitting cycle"?

## **Chapter 4 - GPRA Backlog Reporting Provides Inadequate Measure of Environmental Results**

We suggest changing the above title to "GPRA Backlog Reporting Needs to Be Supplemented with Environmental Results Measures."

Progress Shown by EPA's Backlog Measure Unreliable

We suggest that this title be changed to "EPA's Backlog Measure Considered in the Context of Backlog Definition Changes"

We have always explained the reasons for the changes (administrative) in our Annual Reports. We will, however, make adjustments to performance measures and improve explanations for changes.

Because the backlog measure is an important measure of program activity, many permitting authorities had varying opinions on possible definitions when tracking first began. EPA has made some changes to the definitions after considering factors that were not evident when tracking first began. Data cleanup, factoring in permit applications, and other elements have steadily improved the reliability of the backlog measure.

Also, we suggest that the report consider that backlog reduction for a permitting authority has entailed:

- Issuing new permits (including ones in new program areas)
- Issuing permits that are expiring and adding new requirements
- Issuing permits that are backlogged and integrating new requirements

Thus, backlog reduction involves the combination of keeping up with the existing permit issuance workload, new universes (e.g., CAFOs, Storm Water), while issuing backlogged permits. The fact that many permitting authorities have been able to improve their record in the face of declining resources should not be characterized as being overstated.

Accordingly, we suggest that the "measure initially overstated the actual magnitude of the original backlog and now overstates the magnitude of improvements" should be revised to include thoughts concerning the fact that issuance continued as the universe of permits expanded and work was underway to significantly clean up the database. While the measure has expanded the universe of permits to better represent the actual universe and EPA acknowledges these changes in FMFIA, it did not recalculate the base. It should also be recognized that many permitting authorities have improved permit issuance in the face of declining resources, additional programs coming online, and other competing interests."

We also request the following sentence "However, a significant portion of the backlog reduction from minors and some portions for majors reported by EPA came from administrative changes rather than dramatically increased efficiency" be replaced with..."Backlog improvements have resulted from a combination of administrative changes (e.g., data cleanup,

changes to definitions) and increased permit issuance rates. The cleanup of databases and definitions that reflect the permit issuance work load are important considerations when evaluating backlog improvements." We should recognize program integrity as well as environmental significance as goals.

#### Significant Portion of Improvement Due to Definition Changes

The most significant improvement involves the change in the definition of backlog to include facilities covered by individual and non-storm water permits. Other factors cited cannot be considered significant. We suggest including the discussion of this section within the context of the section above.

In anticipation of the implementation of ICIS-NPDES, EPA is in the process of revising the existing PCS Policy, which establishes mandatory data elements. The revised Policy will require permit event data to be recorded for all facilities.

The GPRA and OWM baselines may not be consistent because they are from different time frames. Also, we now use a baseline (FY 2005 Annual Report) based on the 2002 data, which includes both individual and general permittees. We will also improve the explanations for the FY 2006 Annual Report and refine the baselines.

We request that the report delete the analysis and the Table 4.2 from the report.

In FY 1998, the OIG first identified the NPDES permit backlog as a significant management problem in its Audit Report "Region 10s National Pollutant Discharge Elimination System Permit Program."

At that time, the NPDES inventory and the permit backlog were not systematically tracked nor was there consensus regarding definitions for backlog. Further, there was no clear guidance or existing benchmarks to determine an "acceptable" rate of backlog.

Initially, the Permit Compliance System indicated that there were about 71,000 facilities with individual permits. EPA recognized that permitting authorities may have also failed to update PCS, leaving many facilities that were inactive or out-of-business to appear as active entities. At that time, there was no way of knowing which facilities among the 71,000 were inactive (they appeared as legitimate facilities). Also, please note that PCS has anomalies where inactivated facilities are only temporarily in a non-discharge status and other facilities become covered by general permits. ICIS will allow for linkages to be drawn to improve our ability to report

When the backlog tracking began, EPA counted all facilities covered by individual permits showing up as active in PCS as part of the backlog because there was no other alternative. This definition has not changed; however, this is a program management issue that needs to be addressed by the permitting authorities. We believe there are still some permanently inactive facilities that have not been updated in PCS.

Raising awareness of the implication of "bad inventories" will prevent reoccurrence of the 1998 situation when it was impossible to obtain reliable inventories. We continue to allocate funds to encourage permitting authorities to clean up data in PCS.

As an example, an excerpt from a PCS data entry agreement for the State of Pennsylvania and EPA Region 3 now includes the following:

*"Cooperate in updating and maintaining permit tracking for all active facilities that have been identified by EPA as part of the current permit backlog and making facilities that no longer discharge inactive."*

We believe that our approach has been reasonable for managing the backlog data process. We suggest incorporating our observations into this section.

### **Change in the backlog data-entry time lag from 45-days to 180 days**

As noted above, there was no consensual definition for the backlog when the project first began. Initially, EPA contemplated considering a permit as backlogged if the permit expiration date was expired at the time of the PCS end-of-month download. EPA understood that there is an acceptable data entry delay following the physical issuance of the permit. In general, PCS data entry arrangements between Regions and States allow between 5 and 30 days for data entry depending on data element type. Thus, the original 45-day assumption addressed data entry lag considerations.

In January of 2002, EPA chose to increase the lag-time to 180-days. EPA believed that this lag-time allowed for consideration of factors beyond the data-entry lag-time to include:

- Allowance for incomplete applications that extended permit issuance time frames;
- Draft permits requiring revisions as a result of public comments;
- Other reasons that extend the permit issuance process.

The rationale for this increase is presented in a memorandum from Michael Cook, OWM Director. The memorandum focused on targeting permits languishing in backlog as opposed to those that have been delayed a few weeks or months due to administrative hurdles. The allowance for the six-month backlog accomplished this. We suggest you include this information in the report.

At the same time of this memorandum, OWM was already beginning to steer towards an approach that identified high-and low-priority permits. OWM recognized early on that inventories of the backlog, while important, may not necessarily correlate with environmental improvements. This effort has led to the priority permit approach now in place as part of PER.

## **Oversight Improvements Prompted Changes in Reported Backlog**

Over the course of backlog tracking, we have adjusted inventories for two States (e.g., New Jersey, Minnesota). These adjustments were possible through our consistent reporting of the backlog data that we believe encourage States and Regions to refine the numbers.

## **Backlog Measure Does Not Reflect Environmental Outcome**

EPA has now implemented a prioritization scheme designed to link permits with environmental outcome.

### Specific Issues

In the first section, under the second bullet, it states "by March 2004 there were only about 450 more individual minors than in 1998, while the individual minors universe decreased by about 22,500." Looking at the data in appendix E, it seems that the word "current" was left out of the first clause, which should read, "by March 2004 there were only about 450 more current individual minors than in 1998."

The approach used by New York DEC is highlighted. Please note that this is being resolved through discussions between the state and EPA Region 2. We have attached a letter from Region 2 to the State that describes what is being done. We believe this section should be removed and replaced with EPA cannot recalculate the backlog because these permits are no longer expired but should work with New York to assure appropriate modifications are made and state clearly when discussing the backlog that New York has these modifications to accomplish.

Under the section devoted to "Inconsistencies Make Backlog Measure Unclear," the first bullet deals with modifications. It is not clear what is meant by "had records with between 1 and 7 modifications." Does this mean the permit was modified?

The section for "Limits not updated in a 'current' permit" includes the same mistake made earlier concerning TMDLs and NPDES permit limits. TMDL WLAs are not needed before a permit limit may be developed. If they are available, they are to be considered. (See 122.44(d) and 1991 Technical Support Document for Water Quality-based Toxics Control).

In the section for "Backlog Measure Problems Affect Other Water Program Measures" - the NPDES permit backlog doesn't have a direct impact on the WQS program, but it can have an impact on the implementation of the WQS program. Therefore, we would edit the following sentences as shown in bold: "Outcome-related measures for these programs assume or require implementation through a NPDES permit and compliance with the limits. Therefore, problems with the NPDES permit program, including the backlog, can have an adverse effect on the implementation of those other programs."

## **Recommendations:**

In general, we feel many of these can be combined and some dropped because they refer to things that the program is currently doing.

**5-1** Evaluate the effect that "feeder" programs - such as water quality standards, effluent guidelines, and TMDLs - have on NPDES permit limits and discharges, and take whatever steps feasible to better integrate the various programs in prioritizing permits for reissuance to ultimately achieve surface water quality improvement.

This should be deleted. We are addressing this as part of the Priority Permits Strategy. We state that short-term delays in issuance are allowed and will not be counted in the backlog in connection with a watershed approach

**5-2** Determine whether recently developed management reports provide adequate oversight information through the measures by determining which management questions are answered for the NPDES program to better facilitate management decisions in relation to the program and surface water quality in general.

This was the intent with PER, therefore, we suggest combining with the evaluation in #10.

**5-3** Determine where EPA data systems (such as PCS) do not support the measures needed to evaluate NPDES program performance and develop a corrective actions plan to address the measures or data availability.

Because we have revised ICIS and Ask WATERS to address our needs, the issue that remains is data quality and data input. We suggest this be reworded to focus on this. If you need confirmation of specific items please let us know.

**5-4** Manage and report GPRA information on progress addressing the NPDES backlog and issuing permits from baselines consistent with the current backlog measure baselines (and data), as well as internal management baselines. In addition, clarify in reporting where measures have changed across reported years, and what the measure describes in terms of program performance and goals. EPA should also provide department-initiated modification rates information instead of, or in addition to, the traditional backlog measures used to track New York State's permit backlog.

We recommend that the IG state that the GPRA baseline needs to reflect a PCS retrieval correction for a Region 6 Oil and Gas Permit that inadvertently counted pipes, inflating the number of permits. With the correction, the baseline is expected to decline by about 20,000 permits. For the issues related to New York, we suggest this be reworded to capture that the permit modification in New York that should have been made to permit be added to the priority permit list for New York.

**5-5** Develop and implement a plan to improve communication with States and regions on NPDES permitting issues; options include a periodic national NPDES conference and a password-protected web site for States and regions to discuss issues and have responses from EPA headquarters.

Please delete. We agree and are already doing this. As discussed in our comments on Chapter 2, we are holding a conference in September and have had monthly conference calls all year. We also have specific calls on draft policy and guidance or issues with states only.

**5-6** Offer NPDES permit writer training based on a determination of State needs, potentially at a national meeting.

Please delete. States request training and help determine location and frequency and we provide several types of training for permit writers.

**5-8** Work with Region 2 officials to complete review of whether New York's administrative renewal process for NPDES permits satisfies Federal requirements, especially as to use of the short form. If the Region does not reach a decision by June 30, 2005, Office of Water should conduct its own review and reach a decision, providing milestone dates for completion of review.

Please delete. See response to 5-4. New York has agreed and is revising their program after Region 2 sent them a letter stating the need to revise the program.

**5-9** Provide a description of what management information is provided by the backlog measure and the supporting data, addressing State use of administrative renewals and other expedited reissuances, PCS data limitations, modifications, and permits that will need TMDLs to address water quality.

Please delete or combine with 5-10.

**5-10** Prepare criteria for a study to evaluate the effectiveness of the prioritization approach for NPDES permits and the 95-percent goal of reissuance of priority permits. This study should also include data collection to evaluate the 5-year permit period and the appropriateness of distinguishing between major and minor permits for reissuance purposes. In addition, it should also provide feedback on the overall backlog measure in terms of what levels will be acceptable to EPA if there is an overall increase in backlog numbers nationally or on a State basis.

We combined our GPRA goal of majors and minors for 2005 so this part should be deleted. The recommendation for an evaluation should be combined to capture whether we are measuring the right things to achieve the watershed objectives and do we have the right emphasis. This backlog measure captures program integrity rather than environmental significance. Because your report just looked at environmental significance, do we really need to look at it again? You may want to consider instead that we may want a backlog goal focused on 10 years for non-priority permits and retain the priority permit goal for environmental significance and evaluate if it is working. You may also want to include if we should consider

areas needing a TMDL or standards to be more clearly excluded from the backlog so as to not create a disincentive for more holistic approaches.

**5-11** Determine whether permit-related loadings measures should have a counterpart measure for backlogged permits reporting estimated delayed loadings reductions, and review loadings reduction models to ensure inclusion of actual permit results, including revised permit limits that remain the same or allow increased discharges over previous levels.

We suggest adding to the end of this recommendation the idea "or include loadings in permit prioritization."

## ***Distribution***

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