

December 1988

# WATER POLLUTION

## Stronger Enforcement Needed to Improve Compliance at Federal Facilities



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**Resources, Community, and  
Economic Development Division**

B-226207

December 27, 1988

The Honorable George Miller  
Chairman, Subcommittee on Water and  
Power Resources  
Committee on Interior and Insular Affairs  
House of Representatives

The Honorable Vic Fazio  
House of Representatives

As requested in your respective letters of August 7 and May 26, 1987, and in subsequent discussions with your offices, we have assessed (1) major federal facilities' compliance with the Clean Water Act and (2) Environmental Protection Agency (EPA) and state oversight and enforcement of these facilities' compliance.

As arranged with your offices, unless you publicly announce its contents earlier, we will make no further distribution of this report until 30 days after the date of this letter. At that time, we will send copies to other appropriate congressional committees; the Administrator, EPA; and the Director, Office of Management and Budget, and will make copies available to other interested parties.

This work was performed under the direction of Hugh J. Wessinger, Senior Associate Director. Other major contributors to this report are listed in appendix III.

A handwritten signature in cursive script, appearing to read 'J. Dexter Peach'.

J. Dexter Peach  
Assistant Comptroller General

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# Executive Summary

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## Purpose

Many of the nation's rivers, lakes, streams, and coastal waters are polluted, making them unusable for swimming and fishing and as drinking water sources. A major source of water pollution is discharge from municipal sewage and industrial treatment plants. The Environmental Protection Agency (EPA), through its National Pollutant Discharge Elimination System program, is responsible for regulating and reducing the discharge of pollutants from these sources. The federal government, as well as local governments and private entities, owns and operates facilities discharging both sewage and industrial waste.

As requested by the Chairman, Subcommittee on Water and Power Resources, House Committee on Interior and Insular Affairs, and Representative Vic Fazio, GAO's assessment included

- the extent to which major federal facilities are complying with priority requirements of the pollutant discharge elimination program,
- factors that affect their ability to comply, and
- how states and EPA are monitoring and enforcing federal facilities' compliance.

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## Background

The Federal Water Pollution Control Act Amendments of 1972 established the pollutant discharge elimination program to help restore and maintain the quality of the nation's waters. Under this program industrial and municipal waste treatment facilities are required to obtain permits that limit the types and amounts of pollutants that they may discharge. Permitted facilities are classified as major or minor on the basis of the risk they may pose to the environment. Major permittees have the greatest potential to affect water quality. GAO evaluated the compliance of only major federal permittees.

At the time of GAO's review, there were 150 major federal permittees, concentrated mostly in seven agencies—the Army, Air Force, Marine Corps, and Navy; the Departments of the Interior and Energy; and the Tennessee Valley Authority. Nearly 90 percent of these facilities are industrial waste treatment plants; the remaining facilities treat domestic sewage.

The national pollutant discharge elimination program requires EPA (and those states that have been delegated program responsibility) to issue permits and monitor and enforce compliance. Facility operators self-monitor their operations and submit periodic reports on compliance with their permit to their regulating authority (either EPA or the delegated

state water authority). The regulators review the facilities' monitoring reports, track their compliance, and inspect the facilities at least once a year.

Instances of severe and chronic violations of pollutant limits or reporting requirements are called "significant" noncompliance. The regulators are required to take timely and appropriate enforcement actions before facilities have been in significant noncompliance for two consecutive quarters. To meet this criterion, EPA issues negotiated compliance agreements to noncompliant federal facilities. These agreements differ from unilateral administrative orders and law suits that EPA uses against nonfederal facilities. The difference in EPA's enforcement of federal and nonfederal facilities is based on the Department of Justice's position that one executive branch agency may not issue unilateral orders to or sue another executive branch agency. Delegated states, on the other hand, can use the same enforcement procedures against federal facilities that they use against nonfederal facilities.

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## Results in Brief

Federal facilities' rate of noncompliance with priority program requirements is twice that of nonfederal industrial facilities. While agency and regulatory officials identified several underlying causes, such as the federal budget process and procurement procedures, which they believe can hinder federal facilities' compliance, GAO believes that a more fundamental barrier has been the low priority that federal facilities have assigned to compliance with pollution discharge requirements. Taking available enforcement actions on significant violations within prescribed time frames is essential to raising the priority that federal facilities place on compliance, but EPA and state regulators have rarely done so. EPA's enforcement and oversight of state enforcement have been hindered by ineffective management controls for identifying and following up on cases of untimely enforcement.

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## Principal Findings

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### Compliance Record of Federal Facilities

On average, 20 percent of the 150 major federal facilities were not in compliance with priority program requirements during any given quarter of fiscal years 1986 and 1987—twice the noncompliance rate for nonfederal industrial facilities. Furthermore, over 40 percent of all violating federal facilities were noncompliant for a year or longer. Among

federal agencies with major pollutant discharge permits, the Navy and the Department of Energy had the highest rates of noncompliance during the 2-year period, while the Army had the most facilities in noncompliance.

Regulators and agency officials identified the federal budget process and procurement procedures as the most important underlying factors affecting federal facilities' compliance. They noted that the budget process can slow the approval of funding needed for projects requiring large expenditures and thus delay facilities' return to compliance. Likewise, they said that procedures for acquiring parts or hiring contractors can delay the completion of corrective activities.

While there were cases of corrective activities requiring large expenditures and lengthy approval procedures, data from two EPA regions indicated that these were not factors in about three-quarters of the corrective activities undertaken for 1986-87 violations. Instead, correction of these violations required operating funds, which could be approved at the facility level, or only payroll expenses for regular staff duties. Similarly, data from seven case study facilities indicated that only about 15 percent of the corrective activities used funds that required lengthy approval procedures.

GAO found that a more fundamental barrier was the low priority that federal facilities gave to correcting violations. Raising the priority given to environmental compliance can help to override the effect of other underlying factors. More importantly, regulators and federal agency officials agreed that enforcement actions against noncompliant federal facilities resulted in increased priority of environmental compliance and prompt corrective actions.

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## Enforcement at Federal Facilities

During fiscal years 1986 and 1987, EPA and state regulators took timely enforcement actions against federal facilities in only 8 of 46 cases in which enforcement was required. In 31 of these cases the regulators did not take timely enforcement actions, and in the remaining 7 cases, GAO was unable to determine if the enforcement actions were timely. On average, the 31 untimely enforcement cases remained in significant noncompliance for a year without an enforcement action. Delegated states had jurisdiction over 18 untimely enforcement cases; the other 13 were under EPA's jurisdiction.

When states do not take timely enforcement actions, EPA regions have the authority to initiate enforcement. During fiscal years 1986 and 1987, however, EPA did not exercise that authority for the 18 federal facilities in delegated states. According to EPA regional officials, they do not take enforcement actions against federal facilities in such cases because they have limited tools to use against federal facilities—negotiated compliance agreements—compared with some states, which can issue unilateral administrative orders or sue the facilities.

EPA has proposed but not yet implemented a compliance strategy for federal facilities. The strategy provides some new procedures for enforcing requirements at federal facilities but reiterates using negotiated compliance agreements as the primary enforcement tool. Accordingly, GAO believes that EPA still needs to overcome regional staffs' reluctance to use negotiated compliance agreements.

Furthermore, EPA headquarters is not adequately overseeing the regions' enforcement at federal facilities in nondelegated states or regional oversight of state enforcement. Although it receives quarterly reports from regions on facilities that did not receive timely enforcement, EPA headquarters does not consistently make follow-up phone calls to the regions to discuss the cases and does not verify the accuracy of the reports. As a result, headquarters was unaware that 8 of the 31 cases with untimely enforcement had not been reported. Headquarters staff took follow-up actions for only six of the remaining cases. As a result, some federal facilities remained in significant noncompliance for up to 2 years without being issued an enforcement order.

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## Recommendations

GAO is making several recommendations to the Administrator, EPA, to strengthen the National Pollutant Discharge Elimination System program's enforcement function. They include establishing criteria to consistently follow up on federal facilities that have not received a timely enforcement action and obtaining compliance agreements for federal facilities in delegated states when they have not issued timely enforcement actions.

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## Agency Comments

During the course of the review, GAO discussed its findings with officials from the agencies involved. Factual changes based on their comments were incorporated as appropriate. At the request of the Subcommittee Chairman and Representative Fazio, GAO did not ask the agencies to officially comment on a draft of this report.

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**Abbreviations**

DMR	discharge monitoring report
DOE	Department of Energy
DOI	Department of the Interior
EPA	Environmental Protection Agency
GAO	General Accounting Office
NPDES	National Pollutant Discharge Elimination System
OMB	Office of Management and Budget
TVA	Tennessee Valley Authority



# Introduction

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Since the early 1970s, the water quality of the nation's rivers, lakes, streams, and coastal water has improved substantially in many areas and has stabilized in others. Yet many waterways continue to be polluted, making them unusable for swimming and fishing and as drinking water sources. The major sources of pollution are water runoff from agricultural and urban areas (nonpoint sources) and municipal sewage and industrial processes (point sources).

The Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1251, *et seq.*) initiated a federal program to restore and maintain the nation's waterways. The National Pollutant Discharge Elimination System (NPDES) was established to regulate and reduce the discharge of pollutants from point sources. It is administered by the Environmental Protection Agency (EPA) and states that have been delegated responsibility.

In addition to thousands of municipal treatment plants owned by local government and industrial treatment plants owned by private industry, the federal government also owns and operates facilities discharging both municipal and industrial wastes. Each federal agency is responsible for complying with applicable pollution control requirements, which include the Federal Water Pollution Control Act.

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## The Clean Water Act

The current national program for regulating water pollution was established in 1972, when the Congress substantially amended the Federal Water Pollution Control Act, commonly called the Clean Water Act. This act was further amended in 1977 to address toxic water pollutants and in 1987 to enhance EPA's enforcement authority, among other things.

The Clean Water Act requires every facility that discharges wastewater to obtain a permit that limits the amounts and types of pollutants that the facility may discharge. All permits are issued and enforced under the NPDES program. Each federal agency that has jurisdiction over any property or facility or is engaged in any activity that results in the discharge of pollutants is subject to all federal, state, interstate, and local requirements concerning the control of water pollution.

EPA classifies facilities with NPDES permits as major or minor on the basis of several factors that help to identify the risk posed to the environment. These factors include the volume of wastewater and types of pollutants discharged, the regulators' judgment, and for municipal facilities, the population served. As of March 1988, there were nearly

64,000 active permits. Table 1.1 shows the number of active major and minor permits issued to industrial, municipal, and federal facilities.

**Table 1.1: Number of Active NPDES Permits as of March 1988**

	Major permits issued	Minor permits issued	Total permits issued
Industrial facilities	3,379	43,794	47,173
Municipal facilities	3,594	11,669	15,263
Federal facilities	145 <sup>a</sup>	1,151	1,296
<b>Total</b>	<b>7,118</b>	<b>56,614</b>	<b>63,732</b>

<sup>a</sup>During the period that we collected data on federal facilities, fiscal years 1986 and 1987, there were 150 active major federal facilities.

## Management of the NPDES Program by EPA and Delegated States

The NPDES program is managed by EPA's 10 regional offices and 31 states that have been delegated authority to issue permits, monitor compliance, and enforce the permits for federal facilities.<sup>1</sup> EPA uses the same procedures to issue permits and monitor compliance of federal and nonfederal facilities. EPA, however, uses different enforcement actions against noncompliant federal and nonfederal facilities.

EPA's regional offices oversee the delegated states' activities and administer the program in those states not delegated program responsibility. EPA regions oversee state activities by making on-site evaluations of state programs and by requiring states to submit quarterly noncompliance reports. For nondelegated states, EPA regions prepare these reports, which provide information on violations by major facilities and enforcement actions taken against noncompliant facilities. All quarterly reports are submitted to EPA headquarters, which uses these reports and annual on-site visits to evaluate the regions' management of the NPDES program.

EPA headquarters is responsible for overall program implementation, which it carries out through two offices. The Office of Water Enforcement and Permits develops policy and is responsible for overall program oversight. The Office of Federal Activities is responsible for resolving compliance problems at federal facilities that cannot be solved at the regional offices and for coordinating technical and management assistance to federal facilities.

<sup>1</sup>EPA delegates authority to states to regulate federal facilities separately from the rest of the program.

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## Issuing Permits

The Clean Water Act authorizes EPA or delegated states to issue permits for the discharge of any pollutant or combination of pollutants. The discharge limitations established by the permit may be either technology-based, reflecting a level of treatment that can be achieved with a given level of technology, or water-quality-based, reflecting the level of control needed to meet water quality standards for that particular body of water. The permits are legally enforceable documents that contain discharge limitations for specific pollutants. The permits require facility operators to submit to their regulating agencies monitoring reports that list the types and amounts of these specific pollutants actually discharged at specified monitoring points.

Program regulations require that most permits be renewed and upgraded every 5 years. Six months before a permit expires, a facility is required to apply for a new permit. If the permit has not been reissued at the end of the 6-month period, it generally is extended automatically and continues as the current permit until a new one is issued.

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## Monitoring Compliance

EPA and delegated states are responsible for ensuring that facilities are complying with their NPDES permits. They accomplish this primarily by reviewing and evaluating the permittees' self-monitoring reports and by periodically inspecting the facilities.

The regulators review the facilities' monitoring reports for accuracy and completeness and identify and track permit violations noted in the facilities' reports. EPA regions and delegated states prepare quarterly reports on the compliance status of major permittees. Delegated states submit these reports to EPA regional offices. The regions combine the reports they prepared with the states' reports and submit a consolidated report to EPA headquarters. EPA uses the quarterly noncompliance reports to track violations and enforcement actions for all major facilities.

The most severe violations listed in the quarterly reports are designated "significant" noncompliance. In general, these are more severe and chronic violations of pollutant limits or reporting requirements that indicate the need for a formal enforcement action unless the problem is corrected within a fixed period of time. Violations of pollutant limits are significant only for certain pollutants.<sup>2</sup> Significant effluent violations

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<sup>2</sup>These pollutants include oxygen demand, solids, nutrients, detergents and oils, metals, organic compounds, and certain minerals and inorganic compounds.

can be either severe (exceeding average monthly permit limits by a minimum amount) or chronic (exceeding average monthly permit limits by any amount). Two severe or four chronic violations of the same pollutant limit over a 6-month period constitute significant noncompliance, according to EPA. Discharge monitoring reports that are late by 30 days or more are considered significant noncompliance with reporting requirements. When a facility is listed in significant noncompliance on the quarterly noncompliance report, this status covers the entire quarter, regardless of which month(s) the violation actually occurred.

EPA uses the significant noncompliance designation for two main purposes: (1) to track high-priority instances of noncompliance on the quarterly noncompliance report until they are resolved and (2) to identify violations for which EPA regional offices and delegated states are expected to take enforcement action in a timely and appropriate manner.

EPA also uses the quarterly noncompliance report to track permittees that are under formal enforcement orders (discussed in more detail in the next section) and have not returned to compliance with their permits. EPA considers these permittees to be in “resolved pending” status rather than still in noncompliance—i.e., these facilities are in compliance with their enforcement orders, which may contain construction or repair schedules for returning to compliance or interim effluent limits that are less stringent than the permit. However, facilities in this status have not returned to compliance with their permit requirements.

Noncompliant facilities continue to be tracked on EPA’s quarterly report for as long as they are in reportable noncompliance or under an enforcement order. An instance of noncompliance is considered resolved when a facility has remained in full compliance with its permit for at least one quarter, has had no reportable violations in the two-quarter review period, or has completed all of the requirements of a formal enforcement order, resulting in a return to compliance with its permit. After being reported as resolved, facilities are dropped from the quarterly report. (Chapter 2 discusses federal facilities in significant noncompliance and under enforcement orders in more detail.)

EPA and states are required to inspect major facilities at least once a year. Compliance evaluation inspections and compliance sampling inspections are commonly performed to meet this requirement. A compliance evaluation inspection is one method used to verify a facility’s compliance with permit requirements and compliance schedules, when

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applicable. This inspection is based on reviewing records and observing and evaluating, among other things, the treatment facilities, discharged wastewater, and receiving water. Another method, the compliance sampling inspection, includes the same activities as the evaluation inspection, plus collecting and analyzing samples of the permittee's incoming and discharged waste. The results of the chemical analysis are used to verify the accuracy of the facility's self-monitoring procedures and reports.

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## Enforcing Permits

The Clean Water Act requires EPA and delegated states to respond to NPDES permit violations by initiating appropriate enforcement actions. Regulators determine whether informal or formal enforcement actions are appropriate on the basis of the severity of the violation, the compliance history of the permittee, and other relevant factors.

Informal enforcement actions are taken at the regulator's discretion when facilities violate permit requirements. They include, among other things, telephone calls, informal letters, notices of violations, and compliance agreements. EPA uses compliance agreements only to enforce requirements at federal facilities. They are negotiated between regions and violating facilities. The agreements usually contain schedules that outline activities the facilities have to undertake to return to compliance and dates for their completion. EPA tracks compliance agreements negotiated with federal facilities on the quarterly noncompliance report in the same manner that it tracks formal enforcement actions.

Formal enforcement action is required by EPA policy before a facility has been in significant noncompliance for two consecutive quarters. Formal enforcement actions include administrative orders and judicial action.<sup>3</sup> Administrative orders are issued unilaterally by EPA to violating facilities. The documents contain orders to cease violations immediately or specific timetables for compliance. EPA is also authorized under the Clean Water Act to bring civil actions to enforce certain NPDES requirements. In such actions, EPA may seek civil penalties. In addition, the 1987 amendments to the act authorized EPA to assess administrative penalties for violating NPDES permit requirements.

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<sup>3</sup>EPA defines formal enforcement actions as those that require actions to achieve compliance, specify a timetable for those actions, contain consequences for noncompliance that are independently enforceable without having to prove the original violation, and subject the permittee to adverse legal consequences for noncompliance.

EPA's formal enforcement response, however, differs for federal facilities. It is EPA's policy for regions to negotiate compliance agreements with noncompliant federal facilities in lieu of issuing administrative orders. If a regional office cannot reach a negotiated agreement with a noncompliant federal facility, procedures exist for escalating the negotiation to EPA headquarters and, if necessary, to the Office of Management and Budget. Also, EPA does not sue federal facilities or assess penalties for permit violations.<sup>4</sup> Delegated states, on the other hand, can use the same enforcement procedures against federal facilities as they use against nonfederal facilities. (Chapter 3 discusses EPA and state enforcement at federal facilities.)

The differences in EPA's enforcement of federal and nonfederal facilities are based on EPA's policy to provide a uniform approach to responding to violations of environmental statutes by federal facilities and the Department of Justice's position on enforcement activities between federal agencies. EPA's enforcement policy is designed to provide a uniform approach to responding to violations at federal facilities, recognizing that each environmental statute establishes somewhat different enforcement response mechanisms. Further, EPA does not bring civil judicial suit or assess penalties against executive branch agencies because it is respecting the position of the Department of Justice that one federal agency cannot sue another. Justice also takes the position that one agency may not be ordered by another to comply without the prior opportunity to contest the order within the executive branch. Because of this position, EPA negotiates compliance agreements with federal facilities rather than issuing unilateral administrative orders.

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## Federal Facilities Regulated by the NPDES Program

Nationwide, 150 major federal facilities were owned primarily by four military and three civilian agencies during fiscal years 1986 and 1987.<sup>5</sup> The Army, Navy, Air Force, and Marine Corps account for over two-thirds of the major federal facilities. Table 1.2 shows the distribution of facilities by agency. Most of these facilities (at least 62 percent) are industrial waste treatment plants; at least 29 percent treat domestic sewage.<sup>6</sup>

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<sup>4</sup>EPA can, however, collect penalties from federal facilities operated by contractors.

<sup>5</sup>Only one major federal facility is not associated with these agencies. The city of Nogales, Mexico, discharges effluent into U.S. waters. The NPDES permit for this facility is issued to the International Boundary and Water Commission.

<sup>6</sup>We were not able to determine whether the remaining 9 percent were municipal-type or industrial facilities.

**Table 1.2: Number of Major Facilities Owned by Federal Agencies**

Federal agency	Number of major facilities
Army	51
Navy	23
Air Force	23
Tennessee Valley Authority	18
Department of Energy	14
Marine Corps	10
Department of the Interior	10
International Boundary and Water Commission	1
<b>Total</b>	<b>150</b>

Nearly 80 percent of the 150 facilities that are federally owned are also government-operated. The remaining facilities are operated by contractors. As shown in table 1.3, the Department of Energy's facilities are entirely contractor-operated. The facilities owned by the remaining agencies are predominantly government-operated.

**Table 1.3: Number of Government-Operated and Contractor-Operated Facilities**

Agency	Number of government-operated facilities	Number of contractor-operated facilities
Army	39	12
Navy	21	2
Air Force	20	3
Tennessee Valley Authority	18	0
Energy	0	14
Marine Corps	10	0
Interior	10	0
<b>Total<sup>a</sup></b>	<b>118</b>	<b>31</b>

<sup>a</sup>The number of facilities totals 149 because the Nogales facility has been omitted from this analysis.

Federal facilities discharge wastewater from a wide variety of industrial activities including weapons and explosives production, aircraft production, shipbuilding and repair, electrical power generation, fertilizer production, research and development labs, photofinishing, fish hatcheries, and hospitals. They also treat and discharge domestic sewage from locations such as military bases.

Although the treatment processes differ based on the types of wastes being treated, most treatment facilities share certain common features.

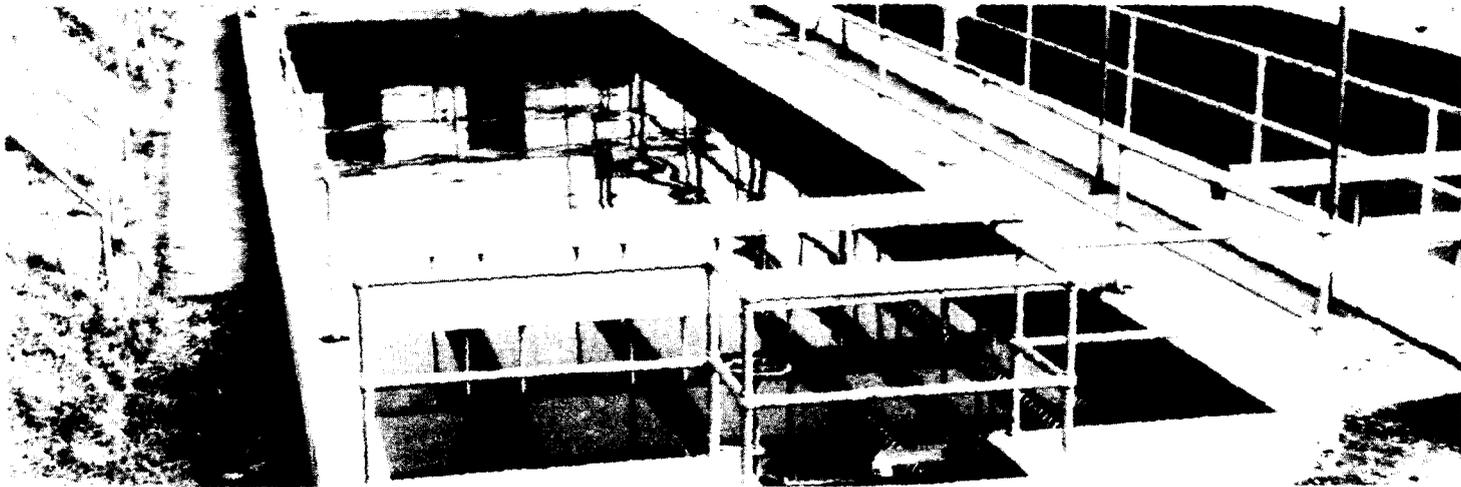
Figures 1.1 through 1.4 illustrate various stages of wastewater treatment. Incoming wastewater, called influent, is treated and then discharged as effluent through a pipe, called an outfall, into surface water. The treatment process may include separating solids from the influent. These solids, called sludge, are disposed of separately from the effluent.

**Figure 1.1: Trickling Filter Wastewater Treatment**



Wastewater is sprayed over a bed of gravel to allow bacteria to decompose some pollutants

**Figure 1.2: Settling Tank Wastewater Treatment**



Solid material sinks to the bottom of the tank, and the water is pumped to other tanks for further treatment.

**Figure 1.3: Separated Wastewater Solids, Called "Sludge," Are Being Conveyed to a Truck**



The sludge will be disposed in a landfill.

**Figure 1.4: Treated Wastewater Is Discharged Into a River**



The rocks at the outfall help add oxygen to the effluent.

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## Objectives, Scope, and Methodology

Representative Vic Fazio, in his letter of May 26, 1987, requested that we assess federal facilities' compliance with the Clean Water Act as well as EPA and state oversight and enforcement of these facilities. The Chairman, Subcommittee on Water and Power Resources, House Committee on Interior and Insular Affairs, joined the request on August 7, 1987. In discussions with their offices, we agreed to focus our review on the following objectives:

- The extent to which major federal facilities are complying with priority NPDES requirements.
- Factors that affect the ability of federal facilities to comply with priority NPDES requirements.
- How states and EPA are monitoring and enforcing federal facilities' compliance with priority NPDES requirements.

We agreed to limit our assessment to major federal facilities and, where possible, to compare federal and nonfederal industrial facilities. When federal facilities were in significant noncompliance or under enforcement orders, we considered them to be not complying with priority NPDES requirements.

We excluded municipal facilities from our comparison because federal facilities are primarily industrial-type plants and because EPA has special policies for regulating municipal facilities (the National Municipal Policy) that do not apply to federal sewage treatment plants. EPA headquarters and regional officials agreed that federal facilities could be reasonably compared to nonfederal industrial facilities.<sup>7</sup>

To address these issues, we collected information primarily at the following locations: (1) EPA offices in Regions III and IV (Philadelphia and Atlanta), (2) state water authority offices in Alabama and Virginia, (3) headquarters offices of EPA, the Air Force, the Army, the Marine Corps, the Navy, the Departments of Energy and the Interior, and TVA, and (4) seven case study facilities.

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<sup>7</sup>Officials from the Air Force, Marine Corps, and Navy commented that they believe their facilities should have been compared to municipal rather than industrial facilities. These officials explained that their facilities are more like municipal-type plants than industrial wastewater treatment plants and they typically generate and treat both industrial and domestic wastewater. They estimate that 80 percent of their installations are "municipal-type" operations. These agencies have 56 of the 150 major federal facilities. According to an EPA official, municipal facilities probably have a higher rate of significant noncompliance than industrial and federal facilities. While it appears that some of these Department of Defense facilities might have a better compliance record than municipal facilities, we did not make that determination.

EPA Regions III and IV were selected for an in-depth review of their management of the NPDES program for federal facilities because they contain 65 major federal facilities—over 40 percent of all major federal facilities. These 65 facilities represent all the federal agencies except Interior. The states in these regions represent a mix of state- and EPA-administered programs. Region III regulates federal facilities in Maryland<sup>8</sup> and Washington, D.C., and oversees state programs for Pennsylvania and Virginia. Region IV regulates federal facilities in Florida and oversees state regulation of federal facilities in Alabama, Georgia, Kentucky, North Carolina, and South Carolina. Region IV also regulated facilities in Tennessee during fiscal year 1986, prior to granting Tennessee authority to administer the NPDES program for federal facilities in October 1986. Table 1.4 shows the number of facilities in Regions III and IV that are regulated by the regional offices and delegated states.

**Table 1.4: Number of Federal Facilities Regulated by States and EPA in the Regions GAO Reviewed**

EPA region	Number of federal facilities regulated by		Number of federal facilities
	EPA	States	
III	11	10	21
IV	18 <sup>a</sup>	26	44
<b>Total</b>	<b>29</b>	<b>36</b>	<b>65</b>

<sup>a</sup>Of these facilities, 15 were regulated by EPA during fiscal year 1986 and by Tennessee in fiscal year 1987, when the state received NPDES program delegation. The remaining three facilities were regulated by EPA during both years.

We selected seven facilities for in-depth case studies:

- Anniston Army Depot, Anniston, Alabama;
- Beale Air Force Base, California;
- Norfolk Naval Shipyard, Norfolk, Virginia;
- Oak Ridge Y-12 Plant (Energy), Oak Ridge, Tennessee;
- Quantico Marine Corps Base, Quantico, Virginia;
- Sequoyah Nuclear Plant (TVA), Chattanooga, Tennessee; and
- Yosemite National Park (Interior), El Portal, California.

To the extent possible, we selected case study facilities from Regions III and IV. However, two agencies (Air Force and Interior) did not have facilities that met our criteria in these regions. We chose one case study facility from each agency to provide a variety of (1) compliance records

<sup>8</sup>Maryland received authority to regulate the NPDES program in November 1987. During the period for which we were collecting information—October 1985 through September 1987—EPA had responsibility for the program.

during fiscal years 1986 and 1987 and (2) formal and informal enforcement actions used by regulators. We selected facilities that spent between one and eight quarters out of compliance with their permits during fiscal years 1986 and 1987. Three case study facilities were issued formal enforcement actions, including a lawsuit, during the period of our review. Four of the remaining five facilities were subject to informal enforcement actions. A brief description of each case study facility and its compliance record during fiscal years 1986 and 1987 is provided in appendix I.

Within Regions III and IV, we also selected two delegated states—Virginia and Alabama—for in-depth reviews of their enforcement and compliance monitoring for federal facilities. They were selected because of their relatively large number of federal facilities—Alabama has nine and Virginia has eight major federal facilities. They were also chosen because three of our case study facilities were located in these states.

To address the first objective, on federal facilities' compliance, we gathered data on facilities that were in significant noncompliance or were under a formal enforcement order but had not returned to compliance with their permits. Specifically, we collected data for all 150 federal facilities for fiscal years 1986 and 1987 on (1) the length of time that these facilities were in significant noncompliance and/or under formal enforcement action and (2) the type of violation, such as effluent or reporting violation, that occurred. For noncompliant federal facilities in Regions III and IV, we also gathered information from regional office files on causes of the violations and corrective activities undertaken by the facilities. We also collected more detailed information on violations and corrective activities at the seven case study facilities. To compare federal facilities' compliance with nonfederal industrial facilities, we obtained data from EPA headquarters on the percentage of major nonfederal industrial facilities in significant noncompliance or under formal enforcement action.

To identify factors that affect the ability of federal facilities to comply with NPDES requirements, we gathered information on underlying problems that may have led to specific violations from interviews with officials at the case study facilities, headquarters offices of the seven federal agencies, EPA Regions III and IV, and regulatory offices in Alabama and Virginia.

To assess how EPA and states are monitoring and enforcing federal facilities' compliance, we interviewed agency officials and reviewed enforcement and monitoring documents at EPA headquarters, the two regional offices, and Alabama and Virginia regulatory offices. We also collected policy information and data about compliance, monitoring, and enforcement activities for the seven federal agencies during fiscal years 1986 and 1987. We collected data for all 150 federal facilities for fiscal years 1986 and 1987 on the type of enforcement action taken, date issued, and regulating agency that issued the action. For the seven case study facilities, we also gathered information from state officials in Alabama, California, Tennessee, and Virginia on compliance status, monitoring, and enforcement actions for those specific facilities.

We identified instances of untimely enforcement from documents at EPA headquarters and through our analysis of the nationwide data on federal facilities in significant noncompliance. We collected additional information on these instances through telephone interviews with the cognizant regulating officials in EPA Regions I (Boston), III (Philadelphia), IV (Atlanta), V (Chicago), VI (Dallas), VII (Kansas City) and IX (San Francisco) and state officials in Alabama, California, Indiana, North Carolina, Ohio, Pennsylvania, and Virginia.

In evaluating internal controls over the NPDES program, we assessed EPA's oversight of the NPDES program for federal facilities and the reasonableness of management controls over compliance and enforcement data on federal facilities for (1) EPA headquarters' oversight of regions and delegated states, (2) EPA regional oversight of delegated state programs, and (3) EPA regions' and delegated states' oversight of federal facilities.

Our work was conducted between June 1987 and September 1988 in accordance with generally accepted government auditing standards. The views of officials from EPA; Tennessee Valley Authority; the Air Force, Army, Navy, and Marine Corps; and the Departments of Energy and the Interior were sought during our review and are incorporated into the report where appropriate. As requested by Representative Fazio's office and the Chairman's office, however, we did not request these agencies to officially comment on a draft of this report.

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# Federal Facilities Are Not Fully Complying With the Clean Water Act

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Federal facilities' rate of noncompliance during fiscal years 1986 and 1987 was twice that of private industrial facilities nationwide. On average, 20 percent (30) of the 150 major federal facilities were in noncompliance with priority NPDES requirements during any given quarter of the 2-year period. Furthermore, over 40 percent of all violating federal facilities were noncompliant for a year or more. About two-thirds of the time, federal facilities were in noncompliance because of effluent violations. Among federal agencies with major NPDES permits, the Navy and the Department of Energy had the highest rates of noncompliance during the 2-year period.

The predominant causes of violations were unexpected influent into the treatment process and mechanical or chemical problems with the treatment process. Most corrective actions taken to return the facility to compliance addressed problems with treatment equipment and operating procedures.

Federal agency officials, local facility officials, and regulatory officials identified several underlying factors that they believe can affect federal facilities' compliance under certain conditions. Factors they considered the most important were the lengthy federal budget process and lengthy procurement procedures. However, our analysis of the corrective actions undertaken to address noncompliance indicated that these factors had a limited effect on federal facilities' compliance.

We believe, and facility officials generally concurred, that agencies' giving higher priority to environmental compliance can mitigate the factors that hinder compliance at federal facilities. Corrective actions to address noncompliance were quickly and more easily initiated at several case study facilities when the priority given to environmental compliance was increased. According to regulators, federal agency officials, and facility officials, two important ways of raising compliance priority are increased enforcement by regulators and agency actions that improve or emphasize environmental operations at the facility level.

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## Federal Facilities Are Not Complying With Priority NPDES Requirements

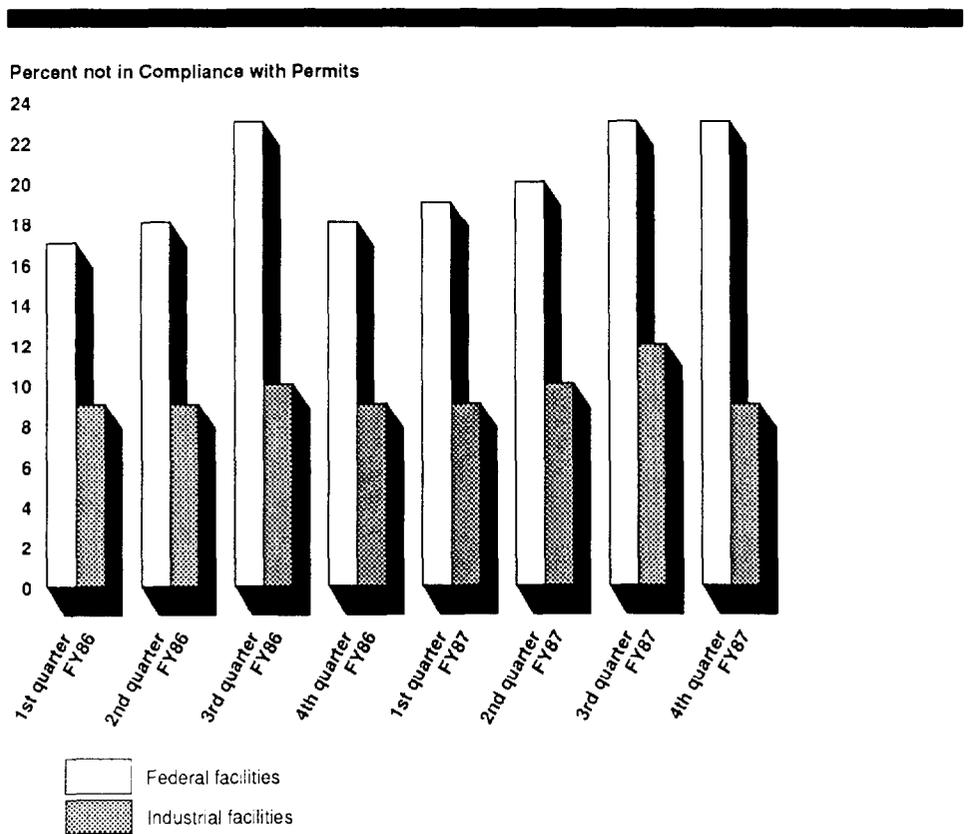
Federal facilities' compliance rate with priority NPDES permit requirements was consistently lower than nonfederal industrial facilities' during fiscal years 1986 and 1987. We defined noncompliance with priority NPDES requirements to include federal facilities in significant noncompliance (as defined by EPA) and those under enforcement orders.

**Federal Rates of  
 Noncompliance  
 Consistently Exceeded  
 Industrial Rates of  
 Noncompliance**

Major federal facilities nationwide reported consistently higher percentages of noncompliance with their NPDES permits than did major industrial facilities<sup>1</sup> during every quarter of fiscal years 1986 and 1987, as shown in figure 2.1. On average, 20 percent of the major federal facilities were not complying with priority program requirements each quarter. By comparison, an average 10 percent of the industrial facilities were not complying each quarter.

The 20-percent average noncompliance rate for federal facilities included 15 percent in significant noncompliance and 5 percent under enforcement orders. On the other hand, the noncompliance rate for industrial facilities included an average 8 percent in significant noncompliance and 2 percent under enforcement orders.

**Figure 2.1: Comparison of Major Federal and Industrial Facilities in Significant Noncompliance and Under Enforcement Orders, Fiscal Years 1986 and 1987**



<sup>1</sup>We have defined major industrial facilities to include all major NPDES permittees other than federal and municipal facilities.

## Effluent Violations Are Major Cause of Significant Noncompliance

Significant effluent violations at federal facilities exceeded significant reporting violations during fiscal years 1986 and 1987. As shown in table 2.1, federal facilities were in noncompliance for violations of effluent limits, which affect the environment, about three times more often than they were for violations of reporting requirements. Reporting violations may indicate noncompliance in a way that does not affect the environment, such as discharge monitoring reports submitted more than 30 days late, or they may mean effluent violations have actually occurred that have not been reported. Other violations included such problems as not meeting compliance schedules, construction milestones, and special report deadlines.

Table 2.1: Federal Facility Violations

Type of violation	Percentage of time that violation caused significant noncompliance
Permit effluent limits	59
Enforcement order effluent limits	7
Reporting	20
Other	14
<b>Total</b>	<b>100</b>

## Some Facilities Violated Priority NPDES Requirements for a Year or Longer

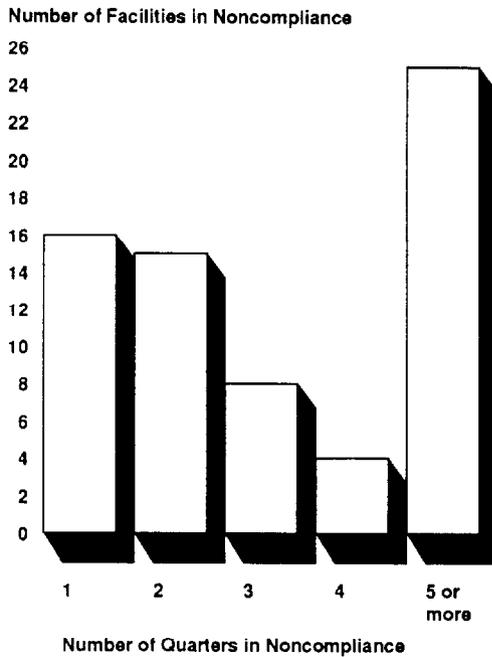
Forty-five percent (68) of the 150 federal facilities were in noncompliance for at least one quarter during the 2-year period, as shown in figure 2.2. The majority of the 68 noncompliant facilities, 71 percent, were reported in continuous noncompliance for two or more consecutive quarters. The overall average length of time in noncompliance per noncompliant facility was 11 months (3.6 quarters).<sup>2</sup> Furthermore, 43 percent of the 68 noncompliant facilities were in noncompliance for 1 year or longer during the 2-year period.

The amount of time that facilities remain in noncompliance is important for three reasons: (1) as effluent violations continue, so does the excessive level of pollutants entering surface waters, potentially harming the environment; (2) long periods of noncompliance indicate that a facility may be experiencing serious problems in returning to compliance; and (3) long periods of facility noncompliance could indicate an absence of oversight or enforcement on the part of the regulator.

<sup>2</sup>We assessed the length of time that federal facilities remained in noncompliance by counting the number of quarters that all federal facilities were reported in significant noncompliance and/or were under enforcement orders during fiscal years 1986 and 1987.

**Chapter 2  
Federal Facilities Are Not Fully Complying  
With the Clean Water Act**

**Figure 2.2: Noncompliant Federal Facilities' Cumulative Time in Noncompliance**



**Navy and DOE Facilities Had Highest Rates of Noncompliance**

The majority of Navy and DOE facilities were in noncompliance at least one quarter during fiscal years 1986 and 1987, as shown in table 2.2. In addition, the 23 Navy and 14 DOE facilities also spent the longest average time in noncompliance, more than two quarters.

**Table 2.2: Comparison of Agencies' Noncompliance**

Agency	Number of facilities	Number noncompliant at least one quarter	Percent of facilities noncompliant at least one quarter	Average number of quarters noncompliant
Navy	23	15	65	2.3
Energy	14	8	57	2.1
Army	51	24	47	1.8
Air Force	23	10	43	1.9
TVA	18	6	33	.7
Interior	10	3	30	.4
Marine Corps	10	1	10	.4
<b>Total</b>	<b>149<sup>a</sup></b>	<b>67</b>		

<sup>a</sup>The Nogales facility has been omitted from this analysis.

Additional analysis of only the noncompliant facilities shows that Air Force facilities had the longest periods of noncompliance on average (see table 2.3). Specifically, 4 of Air Force's 10 noncompliant facilities were reported in noncompliance for six or more quarters during fiscal years 1986 and 1987. The Marine Corps also shows a high average time in noncompliance, but this figure reflects the record of the Marine Corps' only noncompliant facility, Quantico Marine Corps Base. In addition, DOE's, Army's, and Navy's 47 noncompliant facilities spent, on average, more than three quarters in noncompliance.

**Table 2.3: Average Time in Noncompliance Per Noncompliant Facility**

<b>Agency</b>	<b>Average number of quarters in noncompliance per noncompliant facility</b>
Navy	3.5 (11 months)
Energy	3.8 (11 months)
Air Force	4.4 (13 months)
Army	3.8 (11 months)
TVA	2.0 (6 months)
Marine Corps	4.0 (12 months)
Interior	1.3 (4 months)

Regulatory officials told us that rates of noncompliance may vary among federal agencies in part because of the priority given to environmental compliance, which is affected by the varying missions that agencies were established to fulfill. For example, the National Park Service at the Department of Interior must maintain the ecological integrity of the nation's parks. Other agencies, such as the branches of the Department of Defense, have primary missions that are not closely related to environmental concerns.

Certain unique circumstances help to explain why some naval facilities have a high rate of noncompliance. For example, according to the Norfolk Naval Shipyard commander, the autonomous nature of ships serviced at the shipyard and the high turnover rate of ships and ship personnel make environmental compliance difficult:

- Naval shipyard personnel have no direct authority over ship personnel, who are their customers. Therefore, formal agreements must be developed and adopted by both sides to institute waste minimization practices in accordance with NPDES permit requirements.
- Unique environmental laws and regulations that apply to national defense vessels when at sea make it necessary for shipyard personnel to

educate ship personnel about the environmental requirements that apply in port. This process is necessary each time a new ship arrives to be serviced.<sup>3</sup>

All major DOE facilities are operated by private contractors. According to DOE staff, overall procedures for dealing with contractors may in part explain DOE facilities' overall high rate of noncompliance. Since 1987, in an effort to hold its contractors more accountable for environmental compliance, DOE has initiated a number of changes in facility operating and contracting procedures by

- strengthening contract language and clarifying contractors' responsibilities for environmental compliance in their contracts;
- updating a directive system that will improve the agency's ability to keep all offices, facilities, and contractors abreast of changing environmental regulations, requirements, and DOE policies; and
- incorporating environmental requirements and achievements into the award fee process, through which contractors receive payment above the minimum for outstanding performance.

Furthermore, DOE officials feel that the communication barrier between contractors and DOE management is greater than the barriers that may exist within a private company. Contractors are sometimes reluctant to notify DOE of problems that could affect the environment or of the need for additional resources to perform corrective actions. Consequently, DOE has begun to define more specifically the notification criteria and guidelines that contractors must follow to report such problems to DOE management.

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## Causes of Significant Noncompliance

The most common causes of violations identified were inadvertent discharges into the treatment process, malfunctioning equipment, ineffective performance of the treatment process, routine cleaning and maintenance that inhibited treatment, and other problems such as laboratory and sampling errors. We obtained this information from the files of federal facilities in EPA Regions III and IV, which represent about 40 percent (28) of the total federal facilities in significant noncompliance during the 2-year period we reviewed. Examples illustrating the causes of significant noncompliance were obtained from Region III and IV facilities, as well as from case study facilities located in other regions.

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<sup>3</sup>In port, unlike at sea, waste from these vessels must be transported for treatment, treated, and then discharged.

**Most Violations Caused by  
 Problems With the  
 Treatment Process**

As shown in table 2.4, about 78 percent of the time that facilities were in noncompliance, the causes of most violations were related to the treatment process—inadvertent discharges into the treatment process, malfunctioning equipment, ineffective performance of the treatment process, routine cleaning and maintenance that inhibited treatment, and flow fluctuation. Although required by their NPDES permits to submit information monthly to regulators on the causes of violations, federal facilities omitted or provided incomplete information 17 percent of the time that this information was required.

**Table 2.4: Causes of Violations at  
 Federal Facilities in Regions III and IV**

<b>Cause<sup>a</sup></b>	<b>Percent of time cause listed</b>
Inadvertent discharges into treatment process	24
Malfunctioning equipment	17
Ineffective performance of the treatment process	17
Routine cleaning/maintenance	11
Flow in excess of or below treatment capacity	9
Unknown/further testing needed	3
Other	19
<b>Total</b>	<b>100</b>

<sup>a</sup>This list includes all causes submitted to the regulators. When several causes were listed for one violation, we included all of them.

The most common causes of violations at federal facilities were overwhelmingly related to effluent violations, as would be expected since 66 percent of the time in noncompliance resulted from effluent violations during fiscal years 1986 and 1987. Inadvertent discharges into the treatment process were the most frequent cause of violations during fiscal years 1986 and 1987. Examples from Region III and IV facilities included a lime spill that occurred at one treatment plant because of operator error; accidental discharge of chromium from chromium plating tanks into the general wastewater treatment system; oil runoff entering the treatment process through sewers and interfering with a solids-settling process; and increased suspended solids caused by a period of heavy rainfall.

The second most common cause of violations was malfunctioning equipment. For example, equipment malfunction occurred at Yosemite National Park, a case study facility, when a failed pump caused violations of phosphorus limits for 6 out of 12 months in 1986. The pump fed a chemical into the treatment process that worked to eliminate phosphorus.

The third most common cause of violations was ineffective performance of the treatment process. This means that the treatment plant was not operating at full efficiency or effectiveness because of a problem with the chemical treatment process, as opposed to a mechanical malfunction. Ineffective treatment occurred at the Anniston Army Depot when cyanide formed because an effluent reacted with steel in the rinse tanks at the industrial waste treatment plant.

Other causes of violations included effluent bypass of treatment when equipment was being cleaned or repaired, waste flow through the treatment plant in excess of or below treatment capacity, and other problems such as improper sampling points and laboratory errors. For example, repairs to a trickle filter at Beale Air Force Base were undertaken at approximately the same time that pretreated industrial photolab waste began to be discharged to the plant, resulting in treatment plant overload and permit violations.

## **Actions Taken by Federal Facilities to Correct Violations**

About two-thirds of the time that facilities in Regions III and IV were noncompliant, they corrected their violations by repairing or modifying existing equipment, changing general operating procedures, or constructing or adding new equipment (see table 2.5). Although required by their NPDES permits to submit information monthly to the regulator on the compliance activities undertaken to address violations, federal facilities omitted or provided incomplete information 24 percent of the time that violations occurred.

**Table 2.5: Corrective Actions at Federal Facilities in Regions III and IV, Fiscal Years 1986 and 1987**

<b>Corrective action<sup>a</sup></b>	<b>Percent of time action listed</b>
Clean, repair, or modify existing equipment	28
Change operating procedures	24
Add/construct new equipment	14
Conduct further testing to determine cause	9
None	7
Request or obtain technical assistance	2
Other	15
<b>Total</b>	<b>99<sup>b</sup></b>

<sup>a</sup>This list includes all corrective actions submitted to the regulators. When several actions were listed, we included all of them.

<sup>b</sup>Percentages do not total 100 due to rounding.

Cleaning, repairing, or modifying existing equipment encompassed a wide range of activities: simple adjustments to pH meter recorders and replacement of pipes and valves in a wastewater treatment plant, as well as large, complex operations that required months to complete and relatively large expenditures beyond a facility's normal operating budget. For example, at the Department of Energy's Oak Ridge plant, a cleaning project to reduce mercury in plant effluents cost \$8.3 million and had to be approved by the Congress.

Twenty-four percent of corrective actions involved a change in procedures at the facility, such as a change in the treatment process or sampling procedures. Such changes in procedures usually require less than 6 months to complete. The third most frequent corrective action was addition or construction of new equipment, which can be expensive and/or time-consuming. The fourth most frequent action, conducting further testing to determine the cause of violations, usually requires 3 months or less to complete. The remaining corrective actions listed in table 2.5—requesting technical assistance and other actions, such as requesting permit modifications—can require 6 months to a year to complete.

The length of time required to conduct certain corrective actions can in some cases contribute to the relatively lengthy time that federal facilities remain in noncompliance. For example, Anniston Army Depot and the Norfolk Naval Shipyard were in noncompliance for four or more consecutive quarters during fiscal years 1986 and 1987. A total of 52 corrective actions were undertaken at Norfolk Naval Shipyard and 20 at Anniston. Thirty-one percent and 55 percent of these actions, respectively, required 1 year or longer to complete. These corrective actions were lengthy because they involved (1) contracting for design and/or construction services, (2) large-scale repairs, and/or (3) addition or construction of new equipment.

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## Factors Affecting the Ability of Federal Facilities to Comply With NPDES Requirements

Federal regulatory and agency officials identified several factors that they believe affect the ability of federal facilities to comply with NPDES requirements under certain conditions. The factors most consistently cited were (1) the federal budget process, (2) federal procurement regulations, (3) the age of federal facilities, (4) the complexity of federal facilities, and (5) staffing problems.<sup>4</sup>

Compliance data from facilities in Regions III and IV and from our case studies indicate that lengthy federal budget and procurement procedures were not involved in about three-quarters of the corrective actions undertaken at those facilities. In addition, agency and regulatory officials said most factors affect only some facilities under certain conditions. For example, age may exacerbate compliance problems in some cases, but not all old facilities have compliance problems. Likewise, complexity may increase the difficulty of locating or addressing noncompliance problems, but not all facilities are unusually complex.

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## Federal Budget and Procurement Processes Cause Delays in Correcting Some Violations

Regulators, federal agency officials, and facility officials attributed federal facilities' low compliance rate to the federal budget and procurement processes. They generally cited the federal budget process as the most important factor that affects federal facilities' ability to comply with NPDES requirements. They said lengthy budget approval procedures can delay a facility's return to compliance when large expenditures are necessary to address violations. While there are cases of corrective actions requiring large expenditures and lengthy approval procedures, we found that at the seven case study facilities 84 percent of the corrective actions did not, in fact, use funds that require lengthy approval procedures.<sup>5</sup>

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## Federal Budget Process

Federal agencies must seek congressional approval annually for planned levels of expenditures.<sup>6</sup> Such approval requires budget submittals 2 to 5 years prior to actual receipt of funds. According to facility officials, this lengthy process makes it difficult to plan funding for major compliance

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<sup>4</sup>Appendix II contains the complete list of factors that we identified.

<sup>5</sup>Information on funding for corrective actions is available only at the individual facilities.

<sup>6</sup>The Tennessee Valley Authority is an exception, since 17 of 18 of its major facilities are financed with revenues from power generation.

projects when environmental problems surface suddenly. They acknowledged that this problem exists only for corrective actions that require large expenditures.

In addition, expenditures within the facility's budget often require several layers of managerial review before approval. Although the authorization levels and types of funding for corrective actions varied at the seven case study facilities, in general, as the amount of requested funding increased, layers of management review increased and more time was required for approval. For example, within the Navy, Air Force, and Army, obtaining funding for new construction costing \$200,000 or greater takes a minimum of 5 years because of the approval process the projects must go through within the agencies. In addition, military construction projects costing greater than \$1 million must then be approved by the Congress. For example, at the Norfolk Naval Shipyard, funding for repairs costing more than \$200,000 must be approved by the shipyard commander as well as two naval offices superior to the shipyard. Other agencies also face long approval processes for funding levels that must be approved by the Congress. This process necessitates advanced planning for compliance and can lengthen the time it takes to return to compliance if unforeseen problems require large capital expenditures as a solution.

For example, funding limitations lengthened the time it took Anniston Army Depot to return to compliance. In September 1985, Anniston officials requested \$991,000 for equipment repairs and additions to address ongoing permit violations of cyanide and cadmium limits. They requested a type of funding used to pay for high priority projects that need to be completed quickly and have not been included in the regular budget submittal. The request was approved February 1987, and the upgrade was completed in December 1987. Normally, it would have taken 5 years from the request to approval of funds. Consequently, even though the facility saved over 3-1/2 years by requesting special funds, it still remained in noncompliance for violations of its cyanide and cadmium limits for all of fiscal years 1986 and 1987.

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### **Most Corrective Actions Required Only Facility Operating Funds**

Data from the seven case studies and Regions III and IV indicated that the majority of corrective actions undertaken at these facilities did not require expenditures that take a long time to approve. Most corrective actions required expenditure of facility operating funds or no additional expenditure beyond payroll expenses.

Each facility's operating funds (with the exception of 17 TVA facilities) are subject to approval by the Congress. However, once approved, the annual operating budget is allocated internally by facility officials as needed for operating and maintaining the facility. Each agency has different terms and required levels of managerial approval for facility operating funds, depending on the dollar amount and purpose. However, we are using the term "facility operating funds" to mean funds already appropriated by the Congress and allocated by each agency to a facility for operations and maintenance, the expenditure of which requires approval by officials no higher than the facility director or commander. "Outside funds" refers to funds that have to be approved within the agency, at a level higher than the facility director or commander. Furthermore, we refer to actions carried out as part of regular staff duties under payroll expense as requiring no additional funding.

At each case study facility, the majority of corrective actions required either no additional expenditure of funds or expenditure of facility operating funds only. Table 2.6 shows the total number of corrective actions undertaken at each case study facility in response to violations that occurred during fiscal years 1986 and 1987 and their sources of funding.

**Table 2.6: Funding Required for Corrective Actions at Case Study Facilities**

Facility	Number of corrective actions	Percent using no extra funds	Percent using extra operating funds	Percent using extra outside funds	Percent using procurement
Anniston (Army)	20	20	70	10	50
Norfolk (Navy)	52	46	40	13	27
Beale (Air Force)	6	67	33	0	0
Quantico (Marine Corps)	20	5	50	45	70
Yosemite (DOI) <sup>a</sup>	3	33	33	33	33
Sequoyah (TVA)	22	64	27	9	0
Oak Ridge (DOE)	33	0	85	15	15
<b>Total</b>	<b>156</b>	<b>31<sup>b</sup></b>	<b>53<sup>b</sup></b>	<b>17<sup>b</sup></b>	<b>28<sup>b</sup></b>

<sup>a</sup>Department of the Interior

<sup>b</sup>Total is percentage of total number of corrective actions.

Furthermore, corrective action data gathered from Regions III and IV show that over two-thirds of the actions undertaken did not entail lengthy budget approval procedures. On the basis of our discussion of

the cost of corrective actions with an EPA regional office official, we estimated that approximately 19 percent of the corrective actions required no additional expenditures, 53 percent required expenditure of facility operating funds, and 28 percent required expenditures that entailed lengthy budget approval procedures.

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## Procurement Can Affect Return to Compliance

Most federal agency, facility, and regulatory officials said that federal procurement procedures can also lengthen the time it takes facilities to return to compliance. As shown in table 2.6, the procurement process was used to address NPDES violations for about one quarter of the corrective actions undertaken at the seven case study facilities, although procurement did not necessarily delay compliance in every case. At two facilities procurement procedures for spare parts also affected maintaining and operating the facility effectively.

Federal procurement procedures can account for large portions of corrective action time because Federal Acquisition Regulations specify procedural steps that must be followed requiring a minimum amount of time to accomplish.<sup>7</sup> For example, acquisition of any material or service costing more than \$25,000 requires advertisement for a minimum of 30 to 45 days. All federal agencies must conform to Federal Acquisition Regulations. As a result of such regulations, according to facility officials, more expensive items often require a greater amount of time to procure when the priority of items is the same. For example, at Quantico Marine Corps Base, replacement of pumps and valves at two pumping stations was estimated to cost \$58,000 using a procurement contract for parts and labor and was scheduled to be completed in 5 months. On the other hand, replacement of one pumping station that cost \$194,000, using a procurement contract for parts and labor, required more than a year to complete.

In addition to time required for acquiring goods, hiring contractors to design and construct large projects or install large equipment can contribute significantly to the time required to correct violations. Contracting requires advertisement for services and a minimum time to receive bids and often involves a two-step process of project design followed by construction. Some facility officials believed that contracting for project execution, as opposed to time required to approve funding, is

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<sup>7</sup>The Federal Acquisition Regulations System regulates federal procurement. This system consists of government-wide regulations and agency regulations that implement or supplement Federal Acquisition Regulations.

the factor more likely to lengthen the time required to return federal facilities to compliance.

For example, at the Norfolk Naval Shipyard, contracting for the redesign and construction of an oil and water separator took a year before construction could begin because the shipyard had to obtain funding for the project. The oil and water separator had been the source of chronic oil and grease violations at the facility, with significant violations occurring throughout 1986. Ameliorative cleaning operations began in January 1987, and funding to address the problem was requested in May 1987. After an architectural engineer was hired, the design was started in August 1987 and completed in February 1988. Funding was approved and construction began in April 1988, with construction scheduled for completion in October 1988.

At the Norfolk Naval Shipyard and Quantico Marine Corps Base, centralized supply systems also affected the ability of operators to maintain an inventory of items critical to the operation of their wastewater treatment plants. For example, Quantico officials said that the time involved in obtaining replacement parts for the wastewater treatment plant caused numerous pieces of equipment to remain inoperative. Shipyard officials found that they could not rely upon the special procurement accounts set up by their Supply Department to ensure a timely supply of parts critical to the industrial wastewater treatment plant. Facility officials told us that while supply problems did not cause delays in addressing specific NPDES violations, they believed that the procurement systems increased the difficulty of maintaining and effectively operating the wastewater treatment plants. In the long term, they believed, this has the potential to affect NPDES compliance.

On the other hand, the data from the seven case study facilities indicate that procurement procedures are not used in most cases to address NPDES violations. Table 2.6 shows that only 24 percent of the corrective actions undertaken at these facilities involved procurement of equipment or contracting for large projects.

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## Facility Age May Have Indirectly Contributed to Violations at Some Locations

Some EPA and state regulatory officials and federal agency officials believe that federal facilities are generally older than industrial facilities and that age is likely to affect federal facilities' ability to comply with NPDES requirements.<sup>8</sup> They said age can increase the difficulty of compliance indirectly by causing malfunction or breakdown of treatment equipment. As discussed previously, malfunctioning equipment is the second most common cause of violations that we identified at federal facilities in Regions III and IV. In addition, older facilities often have incomplete records of all discharge pipes, underground pipes, and other information that may be necessary to correct compliance problems.

For example, the Norfolk Naval Shipyard is older than the U.S. Navy itself. Built originally in 1767, the shipyard has had numerous additions constructed since that time. It has an extensive network of underground pipes that channel both wastes from shipyard operations to permitted outfalls and rainwater runoff to storm sewer outfalls. Some blueprints of this pipe system have been lost over the years or do not exist. Thus, when unusually high levels of pollutants were detected from some of the shipyard's storm sewer outfalls, it was extremely difficult for shipyard personnel to identify the source.

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## Complexity of Some Federal Facilities Can Pose Compliance Difficulties

According to regulatory, agency, and facility officials, the complexity of some federal facilities, such as munitions factories and nuclear weapons production plants, can cause violations as well as lengthen the time to return to compliance. Complexity can be described by the size of a facility; the number of outfalls; the number, volume, and type of pollutants treated; the type of treatment process; the variability of waste flow through the treatment plant; and the uniqueness of a facility operation and/or the effluent treatment required.

For example, the DOE Oak Ridge plant had numerous NPDES violations during fiscal years 1986 and 1987. Officials at Oak Ridge attributed them to the facility's large number of permitted outfalls (more than 195) and the numerous pollutants that must be monitored and treated under the permit. National Park Service officials said the fluctuation in number of visitors to Yosemite National Park causes tremendous variations in pollutant load that, because of technological limitations in treatment methods, increases the difficulty of compliance. Staff at Beale Air Force Base told us that overall complexity of operations at the federal

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<sup>8</sup>We were not able to obtain information on the age of a sufficient number of federal and industrial facilities to determine whether federal facilities are generally older than industrial facilities.

facility itself (not just at the treatment plant) can affect compliance if the facility cannot halt its activities when environmental problems occur. For example, according to staff at Beale, the base cannot stop developing reconnaissance photographs because of waste treatment difficulties, since the Air Force considers this process to be vital to the base's mission. If problems were to arise at Beale's photowaste treatment plant, base management would have to make a critical decision as to how to continue to develop photographs while minimizing adverse effects on water quality.

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### Staffing Problems Can Affect Federal Facilities' Compliance

Regulatory and federal agency officials identified three kinds of staffing inadequacies that may affect federal facilities' compliance with NPDES requirements. First, the number of environmental staff may be inadequate. Second, the level of training and technical qualifications may be inadequate. Third, environmental staff may lack the authority to accomplish the tasks required for environmental compliance. Officials believed that staffing problems can both cause noncompliance and contribute to the length of time it takes to correct deficiencies.

The number of staff assigned to environmental compliance activities, whether at the facility level or at agency headquarters, may be fewer than needed to perform the tasks required. Several regulators believe this factor is affected by the priority of environmental compliance relative to other activities at the facility. Limited resources and low environmental priority can combine to decrease the staff available for compliance activities. At Beale Air Force Base, the waste treatment plant operator, the bioenvironmental engineer, and the environmental coordinator all believed they were short of staff. Also at Beale, the bioenvironmental engineer cited an inadequate number of staff as causing reporting problems throughout fiscal years 1986 and 1987.

Waste treatment plant operators and technicians or, in the case of contractor-operated facilities, federal officers that oversee contractors, may be insufficiently qualified to competently perform their tasks. According to agency and regulatory officials, federal guidelines do not require sufficient training or sufficiently high qualifications for these personnel. In addition, federal agencies are unable to retain highly qualified people because they cannot compete with salaries offered by the private sector. At Beale Air Force Base, report violations during fiscal year 1986 were partially attributed to poorly trained technicians. Staff at Beale told us the base experienced difficulty training and certifying

on-base lab technicians because airmen working in the lab must interrupt their jobs and training to attend military training exercises. In addition, there is high staff turnover because most personnel transfer off base every 3 years.

The level of authority (or rank, in the case of the military) of federal environmental officials relative to other facility officials may not be adequate to accomplish the tasks required for environmental compliance. Their location within the organization may make it difficult for them to communicate environmental needs to those with the power to raise the priority of environmental compliance. For example, Norfolk Naval Shipyard officials said that before the new Environmental Division was formed, four environmental staff persons within a branch of the Public Works Department were responsible for environmental compliance shipyard-wide. Yet they had no authority over most other shipyard personnel to affect their operations, nor did they report directly to the shipyard commander. The environmental specialist at Beale Air Force Base who is responsible for addressing NPDES violations also believed that his autonomy was limited in managing compliance projects. He has no control of funds or staffing levels and must bring each problem before the base civil engineer before he can act.

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### Priority Given Environmental Compliance Can Mitigate Factors Affecting Compliance

In addition to the factors discussed above, regulators, agency, and facility officials agreed that the priority of environmental compliance at federal facilities affects their ability to comply with NPDES requirements. According to many of these officials, the greater the priority given to environmental compliance, the fewer the negative effects experienced from other factors.

When the priority of environmental compliance is raised, factors that affect federal facilities' ability to comply can be lessened in a number of ways: (1) the budget process can become less of a problem when approval of needed projects is speeded up or special abbreviated procedures are used, (2) procurement may proceed more quickly, (3) age and complexity may indirectly become less of a problem if corrective actions to address related violations are undertaken, and (4) staffing levels may be increased or upgraded. Examples from the case studies serve to illustrate these effects.

Environmental compliance must compete with the mission goals of every agency since it is not directly linked with the missions of most federal agencies operating treatment facilities (except in a few cases

such as the National Park Service). Some federal agency officials said that the priority of environmental compliance was lower 5 to 10 years ago, but that it is increasingly clear that facilities must maintain compliance if they are to operate. However, most officials at the facility level said that competing demands for funds always necessitate ranking various facility goals and that the priority of environmental compliance varies according to the availability of and demand for facility resources.

Federal regulatory and agency officials suggested various actions that EPA and state regulators, federal agencies, and facility officials could pursue to increase environmental priorities. These suggestions represent the opinions of the officials interviewed, but we have included supporting evidence from the case studies whenever available.

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### **Formal Enforcement Actions by Regulators Increase Environmental Compliance Priority**

Federal regulatory and facility officials most often cited increased enforcement by regulators as necessary to raise the priority of environmental compliance at federal facilities. Regulators can increase the priority given to environmental compliance at federal facilities by issuing formal enforcement actions against them. Several of the case studies illustrate that formal enforcement actions resulted in increased priority of environmental compliance, thereby increasing corrective actions undertaken and reducing violations of NPDES permits. Virginia and Alabama State officials told us that formal enforcement actions issued against the Norfolk Naval Shipyard and Anniston Army Depot increased the priority these facilities gave environmental compliance. Virginia officials' decision to refer the shipyard to the state attorney general for civil action after 9 months of significant noncompliance prompted the shipyard to correct all significant violations within 4 months. At Anniston, after almost a year of significant noncompliance, notice of a pending administrative order from the state in June 1986 resulted in the formation of a Special Environmental Committee the same month and compliance with its administrative order by November 1987.

Virginia referred the shipyard to the state attorney general in March 1987 after it had been reported in significant noncompliance for the past three quarters. Virginia filed its complaint in court in June 1987 and issued a notice of violation later in the same month for effluent violations that had occurred in May 1987. Norfolk officials said that the state's referral of the shipyard to the state attorney general provided a partial catalyst for compliance initiatives begun at the shipyard in 1987. These initiatives had the effect of mitigating problems related to the shipyard's age, budgetary constraints, and staffing inadequacies.

The age of the Norfolk Naval Shipyard made it difficult to identify the source of violations flowing from the shipyard's old, labyrinthine storm sewer system. Continued violations and the state's pending lawsuit prompted shipyard officials to initiate an exhaustive effort to identify and repair cross-connecting pipes in March 1987. Environmental personnel dye-tested all sanitary facilities throughout the shipyard to identify the source of violations and eventually eliminated the 25 cross-connections identified.

Two additional major corrective actions were initiated in March and May 1987 at the shipyard to address problems that had been causing NPDES violations at the facility. According to the shipyard's Environmental Director, approval of funds for one of the urgently needed environmental projects was speeded up by using shipyard operating funds that could be quickly approved. Funding for the project that otherwise could have taken 2 to 3 years to obtain using centrally managed pollution abatement funds was approved in several months. Shipyard personnel also aggressively pursued other ongoing projects to enhance compliance, such as upgrading the industrial wastewater treatment plant. In July 1987 the shipyard commander issued a formal environmental policy statement that, among other things, established a permanent internal environmental audit program.

Reorganization of personnel responsible for environmental compliance had begun at the shipyard in early 1987 and culminated in October 1987 when the Navy approved the official formation of a new Environmental Division staffed with approximately 50 people. This represents nearly a threefold increase in shipyard staff over the number formerly working on NPDES permit compliance. In addition, the new planner hired to procure supplies for the Environmental Division told us that he seldom had problems with procurement because environmental activities had recently been elevated to division level and because of the perception shipyard-wide that personnel were under pressure to maintain environmental compliance.

The shipyard's compliance record improved: no significant violations were recorded from July 1987 through the end of the calendar year. These improvements and corrective actions ultimately satisfied Virginia officials that the shipyard was doing all it could to improve compliance, and in March 1988 the state signed an out-of-court agreement with the Norfolk Naval Shipyard.

According to Alabama State officials, the administrative order they issued to Anniston in July 1986 increased that facility's priority in complying with its NPDES permit. The administrative order was issued July 23, 1986, for violations of numerous effluent limits that had been occurring for the past three consecutive quarters. On June 23, 1986, 4 days after receiving a draft of the proposed administrative order for comment, Anniston officials established a special environmental committee. The committee's goal was to locate and solve any problems that could affect the ability of the treatment plant to comply with its NPDES permit.

By October 1987, the committee had identified 369 action items and had successfully resolved 335. These tasks included educating the work force on ways to eliminate environmentally harmful practices, reducing polluted rinsewater flows throughout the depot, and using new chemicals in the operations and treatment processes. The committee's activities, along with other compliance actions, enabled Anniston to achieve compliance with its administrative order by November 1987.

Ways that EPA and state regulators can increase their enforcement presence at federal facilities are discussed further in chapter 3.

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### **Short-Term Actions That Could Improve Compliance**

According to federal regulatory, agency, and facility officials, federal agencies could take the following actions to increase the priority of environmental compliance: (1) rating facility staff and management on environmental compliance, (2) streamlining emergency funding procedures, (3) supplementing regular staffing, and (4) placing environmental responsibilities under higher ranked staff. These suggestions are aimed primarily at increasing the importance of environmental compliance at the facility level.

According to these officials, the importance of environmental compliance increases when a facility's environmental compliance record becomes a factor in the ratings of facility management and environmental compliance staff. They were not able to provide examples of how this affected compliance. However, ratings do provide one means of holding facility staff and management accountable for environmental compliance. Six case study facilities formally included the facility's environmental compliance performance as a factor in rating environmental officials. Beale officials said that environmental compliance was taken into consideration in ratings, although it is not an explicit factor.

Two regulators suggested that agencies streamline their internal budget approval processes when a facility is violating its permit. This could involve setting up special emergency funding procedures or making better use of the emergency funding procedures already in place. An example of efficient emergency funding occurred at the Yosemite National Park in 1983 when special funds were obtained from Interior's San Francisco Regional Office. A rock slide caused an emergency at the sewage treatment plant, and a special account was set up immediately to employ emergency staff for bacterial analysis of river water and to construct a temporary line for chlorinating sewage.<sup>9</sup>

To address the need for qualified staff at some federal facilities, an EPA official suggested that facilities supplement regular staff members with local community experts. These experts could become familiar with the facility's treatment plant and could provide technical assistance and training to staff. This could improve environmental compliance and facility operations in three ways: (1) serve as a form of technical assistance and training for treatment plant operators, (2) marginally increase the number of staff working on the treatment plant, and (3) promote better community relations between the federal facilities and their local communities. We are not aware of an instance in which this has been done.

According to EPA regulatory and federal facility officials, placing environmental responsibilities under the purview of higher graded or ranked staff would improve overall facility performance by increasing (1) the authority of environmental staff to better control and manage compliance and (2) the priority of compliance through contact with the facility director or commander. For example, whereas formerly the small environmental staff at Norfolk Naval Shipyard lacked the authority to change shipyard operations that were negatively affecting compliance, the new Environmental Division was given authority to cross normal organizational lines to collect information, to give guidance, and to commit shipyard resources in the event of an environmental deficiency or emergency. For example, the Environmental Division gained the authority to investigate potential environmental problems anywhere on the shipyard. They began issuing deficiency reports to any offending ships or industrial shop operations; the reports require immediate corrective action within 3 days. The Environmental Division also began submitting weekly environmental reports to the shipyard commander.

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<sup>9</sup>According to Department of Defense officials, under similar circumstances in which a natural disaster has occurred, their facilities could also use emergency funds.

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## Long-Term Actions Federal Facilities Could Take to Enhance Compliance

In addition to compliance activities undertaken when an NPDES permit violation occurs, federal facilities can plan long-term activities to maintain and improve overall compliance with NPDES requirements. These long-term activities may take the form of major upgrades of treatment plants or equipment, the institution or improvement of “best management practices” plans, and the formation of environmental audit programs. For example, in 1984 the Norfolk Naval Shipyard began upgrading its industrial wastewater treatment plant by adding a new treatment tank and modifying and enlarging existing equipment. The purpose of these changes was to improve the overall treatment quality of the industrial wastewater treatment plant.

Best management practices plans are not uncommon in NPDES permits. They are required by the regulator on a case-by-case basis, and their purpose is to prevent or minimize the potential for releasing pollutants into waterways. For example, the Oak Ridge plant’s plan outlines procedures to prevent or minimize the accidental discharge of untreated wastewater into outfalls that are for surface water runoff.

Environmental auditing includes a variety of compliance assessment techniques that facilities can use to identify actual and potential environmental problems. EPA encourages all federal agencies to institute environmental auditing programs to help achieve, maintain, and monitor environmental compliance. According to EPA, environmental auditing programs can improve agencies’ ability to identify, resolve, and avoid environmental problems. According to EPA, the Departments of Air Force, Army, and Energy and the Tennessee Valley Authority have established comprehensive, agency-wide environmental audit programs that cover all environmental media.<sup>10</sup> The Navy and Marine Corps have established partial programs. The Navy program covers predominantly hazardous waste activities. The Marine Corps has no specific procedures for determining which facilities to audit; audits are conducted at the request of the facility. The Department of the Interior has no environmental auditing program at the department level.

In addition, specific facilities have supplemented these agency-wide programs with their own environmental auditing programs that are controlled, conducted, and acted upon at the facility level. At the Oak Ridge plant, the Norfolk Naval Shipyard, and the Sequoyah Nuclear plant, formal facility environmental audit programs have been established and

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<sup>10</sup>The Army Environmental Office and the Army Materiel Command have established comprehensive audit programs. The Army Corps of Engineers, however, had no program as of October 1988.

implemented to improve overall compliance. The Quantico Marine Base and Yosemite National Park conducted audits and inspections on a yearly basis that, although not specifically focused on environmental compliance, had the potential to identify problems in this area. Anniston Army Depot and Beale Air Force Base had not established facility environmental audits at the time of our review.

The Oak Ridge plant's audits are periodically conducted by three separate offices to assess compliance with all environmental laws applicable to the plant. One of the most recent audit reports, issued in February 1986, contained 116 recommendations, 14 of which pertain specifically to surface water and NPDES compliance and 10 to sampling or lab procedures.

In the spring of 1987, the Norfolk Naval Shipyard conducted a special environmental audit in preparation for an upcoming EPA comprehensive audit inspection. The shipyard's officials considered this audit so successful that a permanent environmental audit program was established in July 1987. The environmental auditor plans to conduct an annual audit in each of four major environmental areas: water, hazardous waste management, hazardous waste cleanup, and air.

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## Conclusions

The rate of federal facilities' noncompliance with NPDES permits, particularly when compared with nonfederal industrial facilities, demonstrates a need for improvement. Federal facilities' compliance with NPDES requirements during fiscal years 1986 and 1987 revealed several trends: (1) a larger percentage of federal facilities than private industrial facilities had significant violations, (2) more than 40 percent of the violating facilities were noncompliant for a year or more, and (3) Navy and Energy facilities had the highest noncompliance rates.

Regulators, agency, and facility officials attributed compliance problems at federal facilities to several underlying factors—the federal budget process, procurement regulations and procedures, and to a lesser extent facility age, facility complexity, and inadequate staffing. While they do not contribute to every violation, these factors have at times affected compliance at some facilities.

Our analysis of federal facilities' response to NPDES violations showed that the budget process and procurement regulations did not affect the majority of corrective actions undertaken. Therefore, the effect of these

factors on compliance is probably overestimated by regulators and agency officials.

The priority given environmental compliance at federal facilities appears to be the most important factor affecting their compliance. Higher priority can improve facility compliance by mitigating the factors that can hinder compliance, increasing the number and promptness of corrective actions undertaken, and in some cases lessening the potential for violations to occur in the future.

Regulatory and agency officials most frequently suggested increasing the number of formal enforcement actions that are taken against federal facilities in order to raise the priority of environmental compliance at those facilities. However, regulators are not always taking timely enforcement actions against federal facilities, as discussed in chapter 3.

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# EPA and States Need to Improve Their Enforcement of Federal Facilities' Compliance

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NPDES program policy requires EPA and delegated states to monitor federal facilities' compliance and take timely and appropriate enforcement actions against facilities in significant noncompliance. Further, enforcement can increase the priority that facilities give to environmental activities and improve compliance. However, delegated states and EPA regions did not take timely enforcement actions against federal facilities in 31 of 46 cases that were reported in significant noncompliance during fiscal years 1986 and 1987. As a result, some facilities that had been in noncompliance with their permits for up to 2 years had no formal enforcement action issued against them.

EPA headquarters oversight of state and regional enforcement actions against federal facilities is hindered by inaccurate reports from regions and inadequate follow-up of enforcement activities. When delegated states do not take timely action against a facility, EPA has indicated it will not use its authority to initiate enforcement. During fiscal years 1986 and 1987, EPA did not exercise that authority in any of 18 instances of untimely state enforcement involving federal facilities. EPA Regions III and IV did not take enforcement actions against federal facilities in delegated states because of limits on the formal enforcement actions they can take against federal facilities.

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## Regulators Are Not Always Taking Timely Enforcement Actions

EPA policy requires NPDES regulators to respond to significant permit violations by initiating timely and appropriate enforcement actions. Specifically, program policy requires regulators to issue formal enforcement actions before facilities are listed in significant noncompliance for the same violation in two consecutive quarters. To meet this requirement delegated states must issue formal administrative orders or judicial action and EPA regional offices must negotiate compliance agreements with noncompliant federal facilities. Although a compliance agreement is not technically a formal enforcement action, EPA treats it as such for the purpose of determining whether EPA regions have issued timely enforcement actions against federal facilities.

EPA's definition of timely enforcement for significant violations is based on the date that regulators prepare the noncompliance report. The reporting system has several sources of time lags built into it. First, there is a time lag for regulators to receive periodic self-monitoring reports from facilities. Depending on the permits, facilities prepare monitoring reports on a monthly or quarterly basis and have differing periods of time to submit them to the regulators. On the basis of the permits we reviewed in Regions III and IV and California, some facilities had up

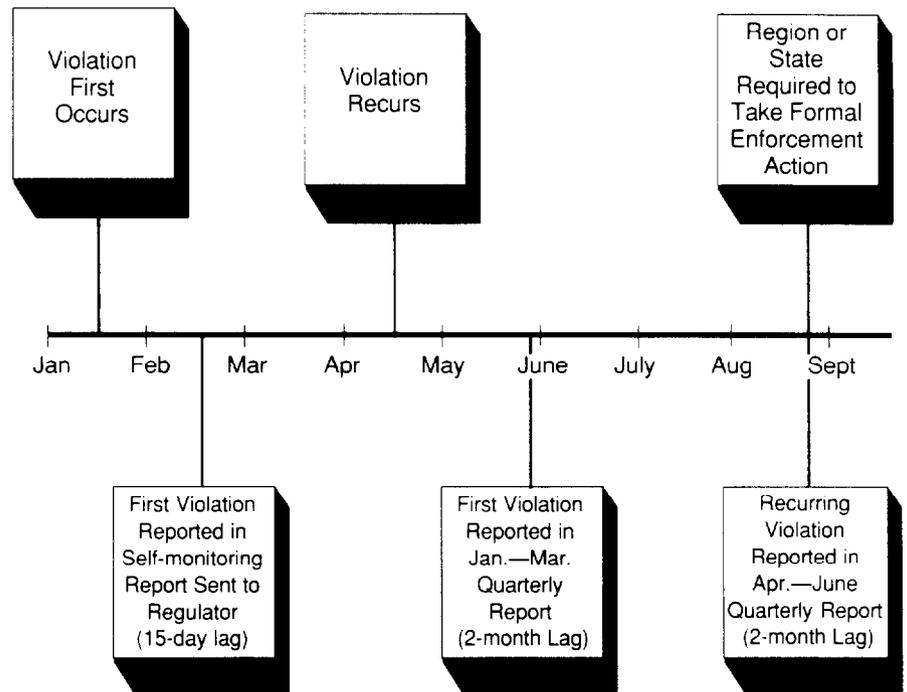
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to 28 days after the reporting period ended to submit their monitoring reports to the regulators. Second, there is a 2-month lag for regulators in EPA regions and states to prepare quarterly reports of noncompliant facilities. States submit the quarterly reports to EPA regions. Third, there is a 2-week lag for EPA regions to receive the state reports and submit a consolidated report to EPA headquarters.

An enforcement action taken during the 2-month period when the regulators are preparing the noncompliance report is considered timely. This means that to meet the timeliness criteria, regulators must take a formal action (or negotiate a compliance agreement) by the end of the eighth month that a facility is reported in significant noncompliance.

Figure 3.1 shows an example of a facility with monthly reporting requirements and 15 days to submit the reports to the regulator. If this facility had recurring violations that began in January, it would report its first violations to the regulator by February 15. These and

**Figure 3.1: Example of Reporting Time Frames and Time Lags for Regulators to Receive Information on Noncompliance**



subsequent violations would be included in the quarterly noncompliance report for January through March, which the regional office compiles by May 31. If the violations have not been resolved, the regulator must issue a formal enforcement action by August 31, when the second quarterly noncompliance report must be completed. As a result, depending on when in the first quarter the violation actually occurred, the regulator has between 4-1/2 and 6-1/2 months after first detecting a violation to take a formal enforcement action that meets EPA's timeliness criteria.

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### Regulators Did Not Take Timely Enforcement in 31 Cases

During fiscal years 1986 and 1987, EPA and states took timely formal enforcement actions against federal facilities in only 8 of 46 cases. In 31 of these cases, which were reported in significant noncompliance for two or more consecutive quarters, regulators took either untimely formal enforcement actions or no formal actions at all. In the remaining seven cases, we could not determine whether they took timely formal enforcement actions.

As shown in figure 3.2, the 31 cases of untimely enforcement actions occurred nationwide in 7 of EPA's 10 regions. Thirteen of the 31 cases were regulated by EPA regional offices. In 9 of the untimely cases, EPA took untimely formal actions. It took no formal action against the remaining four cases. The 18 cases, for which the states were the regulating agencies, were located in nine states in five EPA regions. States took untimely formal actions against 10 of its cases and no formal action against the remaining 8 cases.

On average, the 31 cases with untimely enforcement remained in significant noncompliance for the same violation(s) for 1 year. As shown in figure 3.3, the range for this average was between two and eight quarters.<sup>1</sup> The facilities regulated by EPA remained in significant noncompliance longer than those regulated by states. On average, federal facilities regulated by EPA remained in significant noncompliance for five consecutive quarters, while facilities regulated by states averaged three consecutive quarters.

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<sup>1</sup>In determining the number of consecutive quarters spent in significant noncompliance, we included time during fiscal year 1985 when appropriate.

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Figure 3.2: Cases With Untimely  
 Enforcement Actions

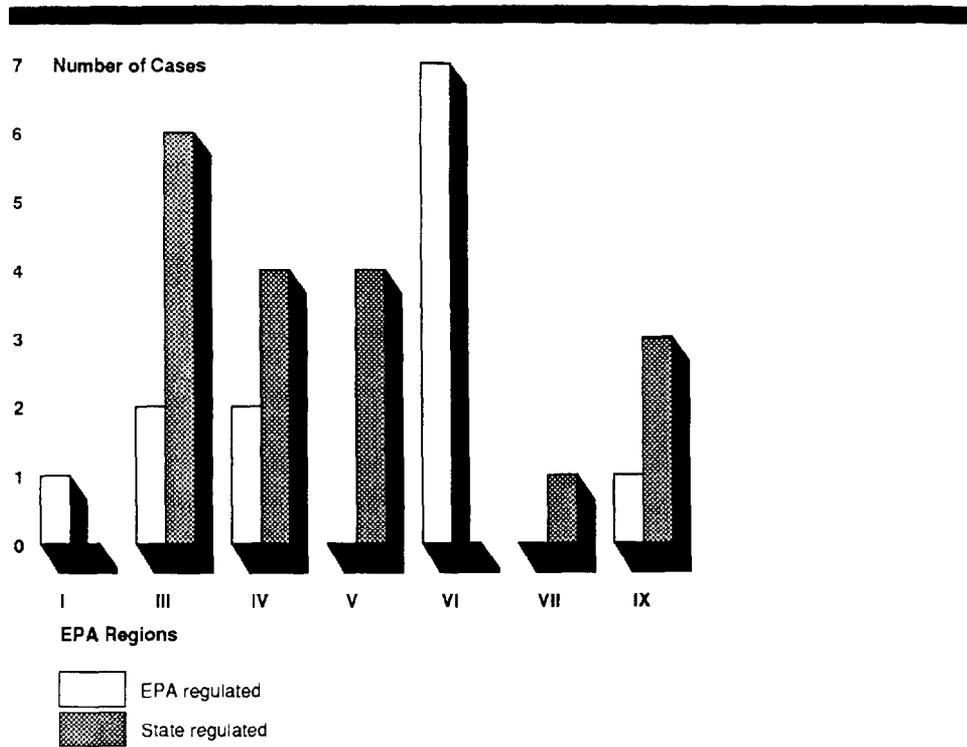
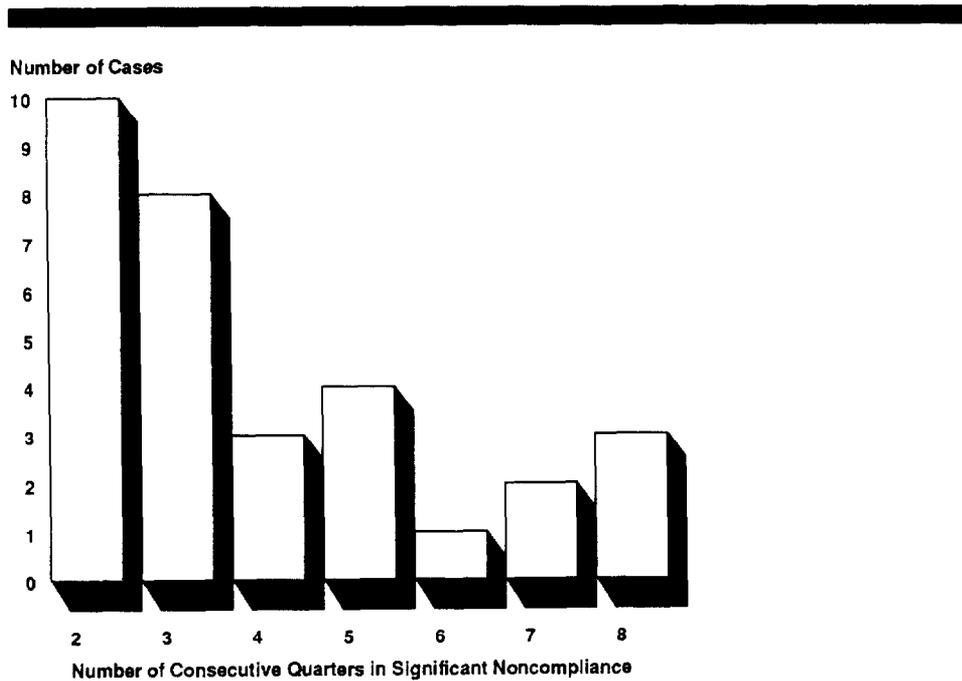


Figure 3.3: Number of Consecutive  
 Quarters Facilities Spent in Significant  
 Noncompliance for 31 Untimely  
 Enforcement Cases



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## Explanations of Why Timely Enforcement Actions Were Not Taken

When timely formal enforcement actions are not taken, EPA requires its regions and the delegated states to justify why they took informal enforcement actions or no action at all. Regulators provided a variety of reasons to explain their untimely enforcement actions. We illustrate some of these reasons in the discussion below.

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### EPA Explanations

EPA regional offices provided us several reasons for not taking timely enforcement action on the 13 cases under their jurisdiction. In two cases, EPA staff said the primary reason they were waiting was to reissue or modify the permits. For example, Fort Polk was reported in significant noncompliance with all of its permit limits for all of fiscal years 1986 and 1987. Although EPA Region VI had reissued Fort Polk's permit in April 1986, the facility was still unable to meet the permit requirements. According to an EPA official, Fort Polk officials wanted the permit requirements modified to allow them to discharge at their current level. They would then no longer be in significant noncompliance. EPA staff waited for the facility to officially request a permit modification, which it had not done as of May 1988.

According to the timely enforcement criteria, Region VI should have taken a formal enforcement action by the end of May 1986. After issuing two warning letters in fiscal years 1986 and 1987, EPA finally issued an administrative order to the facility in October 1987, nearly a year and a half after it should have under the timely enforcement criteria.

In three other cases, EPA staff said they did not take formal enforcement actions because they were waiting for the facility to obtain funding for equipment repairs and improvements. For example, Fort Sill, located in Region VI, was in significant noncompliance for all of fiscal years 1986 and 1987 for violations of a compliance agreement issued in October 1985. The facility was not able to meet the less stringent limits included in the compliance agreement because it lacked necessary treatment equipment. According to EPA's timely enforcement criteria, Region VI should have taken a formal enforcement action by the end of May 1986. Region VI sent Fort Sill four warning letters between January 1986 and March 1987. In October 1987, the facility obtained funding for the equipment out of base operating funds. The same month EPA issued an administrative order with a schedule to return the facility to compliance, nearly a year and a half after it was required to by the timely enforcement criteria.

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In another case, EPA Region I did not take a formal enforcement action against a federal facility because it was allowing a nondelegated state to enforce compliance. However, the state also took no formal actions. Loring Air Force Base, in Maine, was reported in significant noncompliance from July 1986 until September 1987 for effluent violations. Using EPA's timely enforcement criteria, Region I should have taken a formal enforcement action by the end of February 1987. At the time of our review the facility was still in noncompliance for effluent violations.

Region I officials told us that they meet with officials from Maine and the other two nondelegated states in the region on a quarterly basis to discuss the compliance status of all facilities in these states and to decide whether EPA or the state would take enforcement actions against noncompliant facilities. Region I decided to let Maine take the lead in enforcing Loring's violations. According to an EPA official, the facility needed "start-up" time because of recent construction at the treatment plant. The state, however, did not take a formal enforcement action against Loring.

According to an EPA headquarters official, EPA regions are not required to take enforcement actions if a nondelegated state is taking an action for the same violation(s). According to another official, however, if the facility remains in noncompliance for two consecutive quarters and the nondelegated state has not taken formal action, the EPA region is required to initiate enforcement actions.

In an additional case, an EPA official told us that the region did not meet its timely enforcement criteria because he did not believe that the facility's violations would do significant damage to the environment. For another case, an EPA official told us that although the region had initiated the issuance of an administrative order, headquarters told the region to cease using administrative orders. For the five remaining cases, EPA officials did not explain why they did not meet the timely enforcement criteria.

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**State Explanations**

State officials gave various reasons for the 18 untimely state enforcement cases. In six cases, the primary reason state regulators did not take timely formal enforcement actions was that they were either waiting to determine the causes of violations or waiting for plant construction to correct the violations. For example, the Tobyhanna Army Depot in Pennsylvania was reported in significant noncompliance from October 1985 to September 1986. On the basis of EPA's timely enforcement

requirements, Pennsylvania should have issued a formal enforcement action by the end of May 1986. According to a state official, the state took no formal action because the treatment plant at Tobyhanna was new and was experiencing "debugging" problems. The facility eventually returned to compliance on its own by the end of September 1986, after 12 months of significant noncompliance.

Untimely enforcement actions for 3 state enforcement cases located in Indiana and North Carolina occurred in part because state procedures made it difficult to meet EPA's timely and appropriate enforcement criteria, according to state officials. In both states the procedures to issue a formal enforcement order are lengthy because the formal orders are negotiated and because the procedures require correspondence between the state and the noncompliant facility before a formal enforcement action can be initiated.

According to a North Carolina official, state law does not allow the issuance of unilateral administrative orders. Instead, administrative orders are initiated at the request of the noncompliant facilities and are negotiated and agreed to by both the state and the facility.<sup>2</sup> According to a North Carolina official, the negotiation process can take up to 4 months for either a federal or a private facility.

For example, Fort Bragg was reported in significant noncompliance from April until November 1986. According to EPA's timely enforcement criteria, North Carolina should have issued a formal enforcement action by the end of November 1986. In September 1986 the state sent the facility an informal notice of violation. The notice informed Fort Bragg that it was out of compliance with its NPDES permit and asked the facility to request a Special Order of Consent with a compliance schedule. On September 29, 1986, the facility responded, requesting the order. The order was submitted to a central state office for processing in November 1986 and issued to Fort Bragg in February 1987, 3 months after it was required by the timely enforcement criteria. The order included a compliance schedule that calls for the construction of a new wastewater treatment facility to enable Fort Bragg to return to compliance with its permit by October 31, 1990.

In another case, Alabama state regulators did not take timely formal enforcement action because of a work backlog. The Anniston Army

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<sup>2</sup>According to a state official, if a noncompliant facility does not request a negotiated order, an enforcement action is initiated by the state.

Depot, located in Alabama, was reported in significant noncompliance from October 1985 until June 1986. On the basis of EPA's timely enforcement criteria, Alabama should have issued a formal enforcement action by the end of May 1986. According to the state official responsible for regulating Anniston, he had recently assumed his position at the time of Anniston's violations and had been trying to reduce the work backlog. He said he did not discover that the state should have initiated a formal enforcement action before the facility was in significant noncompliance for the second consecutive quarter.

The state took several informal enforcement actions, such as telephone calls and a warning letter, before issuing an administrative order in July 1986. The order included a compliance schedule that required new construction and improved management practices to correct the violations. Anniston completed the compliance schedule and returned to compliance with its permit by the end of December 1987.

In two cases, regulators did not take timely formal enforcement actions because the violations did not pose severe hazards to the environment, according to state officials. For example, according to a California regulator, the violations at Beale Air Force Base did not pose severe hazards to the environment since they were only slightly beyond the permit limits and because the receiving water was used only to collect discharge from Beale. The facility had been reported in significant noncompliance since April 1987. According to the timely enforcement criteria, the state should have taken a formal enforcement action by the end of November 1987.

After the violations, California sent a series of warning letters and made telephone calls to Beale. The state issued a unilateral cease and desist order to Beale in May 1988, 6 months after it was required by EPA's timely enforcement criteria. According to the order, Beale had until August 1, 1988, to return to compliance with its permit. However, as of September 1988, the facility was violating its permit reporting requirements; therefore, the state did not know if Beale was in compliance with its effluent limits.

For the remaining six cases, the regulators gave a variety of explanations for not taking timely enforcement actions. In one case the regulator told us that a formal order was under negotiation. In another case the regulator said that the violating facility would be shut down as soon as construction of a new plant was completed. Another regulator explained that the violations were caused by a temporary problem at the facility.

For the last three cases, regulators either overlooked the violations or gave no explanation for why they could not take timely enforcement actions.

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## EPA Regional Office Oversight of State Enforcement Is Insufficient

NPDES program policy specifies that if delegated states do not initiate formal enforcement actions before the same significant violation appears on the second consecutive quarterly report, the states should expect EPA to take a formal enforcement action against the noncomplying facility. Nonetheless, EPA took no formal enforcement action against noncompliant federal facilities in all 18 untimely state enforcement cases. EPA Regions III and IV did not take formal enforcement actions because of their perceived limited enforcement power against federal facilities.

When a delegated state has not taken timely enforcement action, the Clean Water Act authorizes EPA (1) to notify the state of the requirement to issue a formal enforcement action and (2) to take formal action against the noncompliant facility if the state has not begun action within 30 days. We found no record of any EPA region issuing such notices for federal facilities in delegated states during fiscal years 1986 and 1987. Likewise, we found no instances in which EPA took a formal enforcement action because of a delegated state's inaction during this time.

In both Regions III and IV—which had oversight responsibility for 10 cases of untimely state enforcement—EPA officials told us that they do not issue such notices to states for federal facilities, although they do so for cases involving nonfederal facilities. They do not issue notices for federal facilities because they cannot issue administrative orders or sue the facilities if states fail to enforce. Although EPA regions negotiate compliance agreements with noncompliant federal facilities in nondelegated states to meet their criteria for timely formal enforcement, they do not use them in delegated states when the state does not take timely enforcement. We believe that EPA should use compliance agreements in a consistent manner when enforcing requirements at federal facilities in nondelegated states and in delegated states that do not issue timely enforcement actions.

In Region III, EPA oversight of state enforcement includes quarterly meetings with officials from delegated states. At these meetings, EPA reviews the state's enforcement actions against all NPDES facilities,

including federal facilities, to determine if EPA should intervene. For federal facilities, however, Region III officials told us that they take no further action than what the state proposes because they cannot take formal enforcement actions against federal facilities. In Region IV, due to limited enforcement tools, no formal enforcement actions are taken when delegated states do not meet the timely enforcement criteria for federal facilities.

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## EPA Headquarters Oversight of Enforcement Timeliness Is Insufficient

EPA headquarters oversees the timeliness of enforcement actions by regional offices and delegated states through a quarterly report called the exceptions list. EPA headquarters did not effectively use the list to follow up on the 31 untimely enforcement cases we identified. EPA's activities were characterized by untimely review of the exceptions list, infrequent follow-up actions, and lack of criteria for making consistent follow-up decisions. In addition, 8 of the 31 untimely enforcement cases were not reported on the exceptions list.

EPA headquarters uses the exceptions list to track timely enforcement actions against major permittees that are in significant noncompliance. This list includes all major permittees that were in significant noncompliance for two or more consecutive quarters for the same violation but had been issued no formal enforcement action. It contains the names of violating facilities, the length of time they have been in significant noncompliance, and an explanation of why formal enforcement actions were not taken. EPA regions and delegated states prepare the list quarterly. States send their lists to EPA regional offices, and the regions submit a combined list of state- and EPA-regulated facilities to EPA headquarters. There is a 3-1/2-month lag in submitting the list to headquarters. For example, a facility that was in significant noncompliance for the second consecutive quarter during April through June would be on the exceptions list submitted to headquarters on October 15.

Once EPA headquarters receives the list, on a case-by-case basis it decides which cases to follow-up. Headquarters staff initially telephone the regions to discuss why the regulators did not meet the timely enforcement criteria. If further follow-up is needed, cases are referred to the head of the enforcement compliance branch, who makes additional telephone calls. The region is then responsible for contacting delegated states that have not taken timely enforcement actions to ensure timely state enforcement. In addition, headquarters may follow up on problems identified on the exceptions list during mid-year evaluations of the EPA regions, during visits to the regions by the Deputy Assistant

Administrator for the Office of Water, and at an annual management meeting.

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### Eight Cases of Untimely Enforcement Were Not on the Exceptions List

Only 23 of the 31 untimely enforcement cases that occurred during fiscal years 1986 and 1987 were reported on the exceptions list. The 8 unreported cases remained in significant noncompliance for three consecutive quarters on average. Three of these cases remained in noncompliance for a year or more. EPA headquarters officials told us that they were unaware of the omissions and that while they do not verify the accuracy of the information on the exceptions list against the quarterly noncompliance report, they plan to spot-check the accuracy of the data in the future.

Three unreported cases occurred in Region IV. A Region IV official from the office responsible for entering federal facilities on the exceptions list told us he was not aware of the requirement. We brought this matter to the attention of Region IV management. One unreported case occurred in Region I. Regional staff decided not to list this case primarily because a new treatment plant at the facility was expected to correct the violation. The remaining four unreported cases occurred in Regions III and VI. According to EPA staff, their omission was an oversight.

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### Regulators Provide Inadequate Justifications on the Exceptions List

Regulators do not always justify on the exceptions list why formal enforcement actions were not taken. We found that 5 of the 23 cases had no such justification for one or more quarters that they were reported on the exceptions list during fiscal years 1986 and 1987. Instead, the regulators provided other information, such as a list of violations that occurred.

In addition, in some cases regions and states provide inadequate justifications for untimely enforcement, according to EPA headquarters staff. For example, in one case the regulator justified untimely enforcement by indicating for several quarters that formal enforcement actions would be initiated or completed soon:

- for the first quarter that the facility appeared on the exceptions list, the regulator indicated that an enforcement action would be initiated in the next quarter;
- for the second quarter the regulator indicated that enforcement had not been started but was expected to be initiated by the end of the quarter;

- for the third quarter the regulator stated that a final order would be issued in the next quarter; and
- for the fourth quarter the regulator explained that a proposed final order would be issued in the next quarter.

According to an EPA official, repeatedly indicating plans to issue a formal enforcement action the next quarter is an unacceptable justification for untimely enforcement.

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### Headquarters Actions Against Exceptions List Facilities Are Inadequate

EPA headquarters follow-up of federal facilities on the exceptions list is essential to oversee timely enforcement action. We found three problems with headquarters management of untimely enforcement cases. First, its decisions to follow-up on exceptions list information are untimely. Headquarters does not consider action on cases that are reported on the list for the first time. Second, even after facilities appear on the list for a second quarter, headquarters takes infrequent actions. Third, headquarters staff have no criteria to consistently follow-up on facilities on the list. These problems in headquarters' oversight of the exceptions list allow federal facilities to remain in noncompliance for a longer time without an enforcement action, contributing to their high rate of noncompliance.

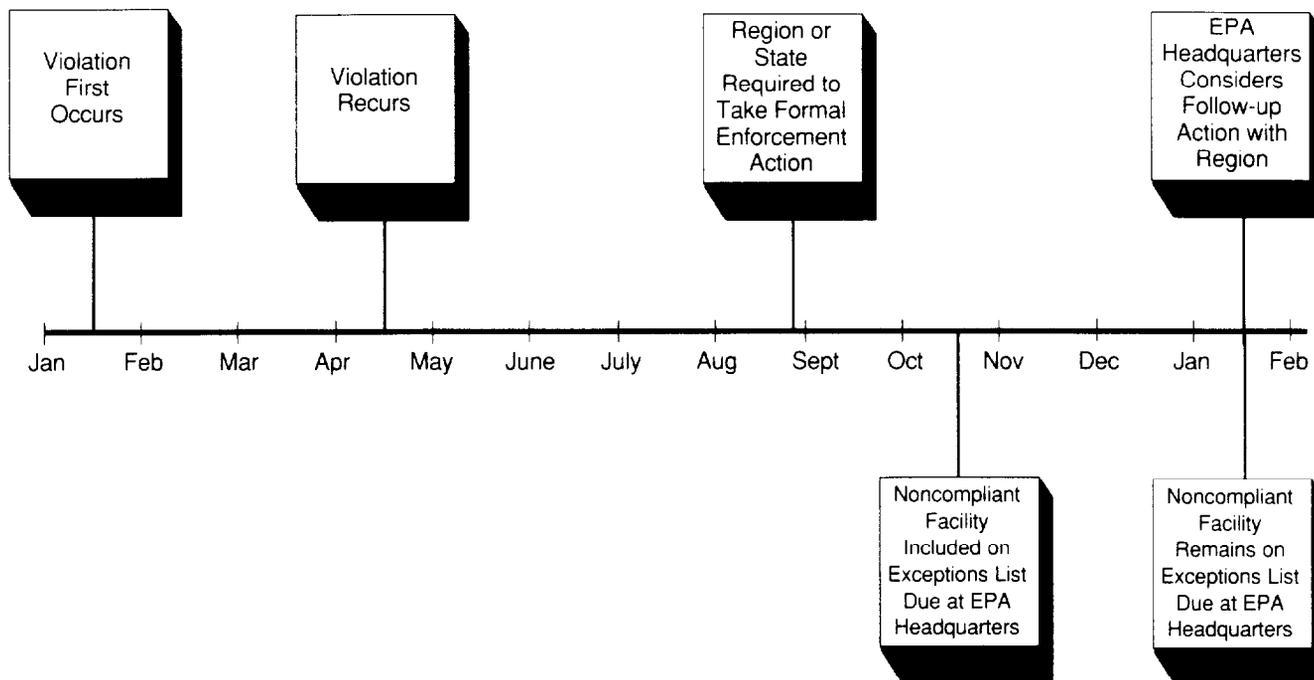
Although EPA headquarters reviews the exceptions list on a quarterly basis, it makes untimely follow-up decisions for cases on the list. Headquarters takes no action when facilities are reported on the exceptions list for one quarter. Action is considered only if facilities remain on the list for two or more quarters. For example, as shown in figure 3.4, the time lag in reporting noncompliant facilities means that EPA headquarters does not consider follow-up action until a facility has been in significant noncompliance for a year or longer.

Even after facilities appear on the exceptions list for a second quarter, headquarters takes follow-up actions infrequently. We found 15 cases that were reported on the exceptions list for two or more quarters. EPA headquarters made follow-up phone calls for only six of these cases.<sup>3</sup> Follow-up consisted of initial telephone calls to the regions by staff from the enforcement branch and in some cases additional telephone calls by the head of the enforcement branch.

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<sup>3</sup>EPA headquarters provided documentation on follow-up calls it made for four of these six cases. For the remaining two cases, staff were not able to provide documentation.

Figure 3.4: Example of the Time Frame for EPA Headquarters' Follow-Up When Formal Enforcement Action Has Not Been Taken



In addition, headquarters staff have no criteria to consistently follow-up on facilities appearing on the exceptions list. According to an EPA official, follow-up decisions are made on a “case-by-case” basis, and no standard criteria are used. There are no written guidelines or specific requirements for follow-up action. As a result, according to EPA staff, follow-up action based on the exceptions list is not necessarily consistent every quarter.

## EPA Reluctant to Use Enforcement Tools Against Federal Facilities It Manages

EPA’s enforcement policy for noncompliant federal facilities requires regional offices to use negotiated compliance agreements instead of unilateral administrative orders and judicial actions, which it uses for nonfederal facilities.<sup>4</sup> The schedules that we analyzed showed that, on average, the agreements negotiated in Regions III and IV allowed federal facilities over 2 years to return to compliance. During fiscal years 1986

<sup>4</sup>The differences in types of enforcement tools that EPA uses against federal and nonfederal facilities and the reasons for these differences are discussed in chapter 1.

and 1987 EPA regional offices took enforcement actions against noncomplying federal facilities at a lower rate than states. The lack of a clearly defined policy, plus regulators' belief that available enforcement tools have limited effectiveness at federal facilities, may explain why EPA took enforcement actions at a lower rate than states.

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### Federal Facilities in Regions III and IV Spent Over 2 Years on Compliance Schedules

Federal enforcement actions often contain schedules of activities required to return the facilities to compliance and deadlines for completing the activities. During fiscal years 1986 and 1987, EPA regions issued or negotiated 16 enforcement orders and agreements with federal facilities. Nine of the actions were undertaken by Regions III and IV; we analyzed the length of the schedules for four of them.<sup>5</sup>

The schedules we analyzed showed that, on average, federal facilities in Regions III and IV spent 25 months on compliance schedules. The schedules ranged from 8 months to 4 years, which means these facilities could remain in noncompliance with their permits for that length of time.

Compliance agreements were obtained for a variety of deficiencies that led to effluent limit violations at the facilities. These deficiencies included, among other things, lack of equipment needed to control violations and defects in existing equipment. For example, on December 12, 1985, EPA obtained a compliance agreement from the Aberdeen Proving Ground, located in Maryland, for effluent violations that began in July 1985. The compliance agreement contained separate schedules to procure, construct, or repair six pieces of equipment by October 1, 1986. The schedules include milestones for awarding contracts, beginning construction, completing construction, and achieving compliance.

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### Enforcement by EPA Affected by Unclear Policy

Nationwide data on NPDES enforcement actions show that EPA regional offices took formal and informal enforcement actions against noncomplying federal facilities at a lower rate than states. On average, EPA took 1.5 formal and informal enforcement actions per facility found to be in significant noncompliance compared with 2.7 actions per facility by states. Two factors may have contributed to EPA's lower enforcement rate: the absence of a clearly defined federal facility enforcement policy by EPA and regional staffs' reluctance to act against federal facilities because of a belief that their enforcement tools are not effective.

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<sup>5</sup>Two of the nine orders did not contain compliance schedules, and three additional ones were missing from regional files.

EPA's absence of a clearly defined enforcement policy is illustrated by different regions' having different views on what enforcement actions they can take against federal facilities. For example, Region III staff told us they were informed by EPA headquarters during 1986 not to issue administrative orders to federal facilities. Headquarters officials, however, stated that they never told regions to stop issuing these orders. On the other hand, Region IV staff told us they could issue administrative orders to federal facilities but chose not to.

EPA is revising its federal facilities compliance strategy for all environmental programs. According to EPA, this strategy will provide a comprehensive and consistent nationwide approach to addressing federal facilities' compliance problems. However, as of late September 1988, the revised strategy had not been issued. EPA officials do not know when the final policy will be issued.

EPA's former policy encouraged the use of compliance agreements as a formal enforcement tool for federal facilities, although regional offices could issue administrative orders to federal facilities if initial negotiation efforts failed. The proposed compliance strategy reiterates using negotiated compliance agreements as the primary enforcement tool at federal facilities. The strategy, however, provides specific guidelines for their use. For example, according to the proposed strategy,

- noncompliant federal facilities will generally have 30 days in which to respond in writing to the terms of the compliance agreements drafted by EPA before a formal dispute resolution process begins;
- compliance agreements should be negotiated within timely and appropriate time frames, or EPA may take further formal enforcement action to enforce compliance; and
- EPA will take direct action against noncompliant federal facilities when states do not take timely and appropriate enforcement action.

According to a 1987 EPA study, EPA regional staff stated that the length of time it is taking to review and revise the compliance strategy has hampered effective regulation of federal facilities.<sup>6</sup> In addition, staff from one regional office stated that the lack of a uniform federal facility management policy has resulted in federal facilities' not recognizing EPA's enforcement authority and has delayed their return to compliance.

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<sup>6</sup>EPA surveyed staff from all of its environmental programs, including NPDES, on its management of federal facilities' compliance under those programs and published the results in a paper entitled EPA Management of the Federal Facilities Compliance Program.

In addition, regional staff may be reluctant to act against federal facilities because of a belief that their enforcement tools are not effective. For example, staff in Region III believe that, without the threat of unilateral enforcement action by the regulators, federal facilities do not have sufficient incentive to comply with environmental laws.

### Some States Are Reluctant to Use Their Full Range of Formal Enforcement Actions

Unlike EPA, delegated states can use a range of formal enforcement actions against federal facilities. According to EPA's policy, delegated states should use their enforcement authority against federal facilities in the same manner and to the same extent as any nonfederal facility. Available formal enforcement actions include unilaterally issued orders (such as consent orders or cease and desist orders) and lawsuits. Some states, however, are reluctant to sue federal facilities. In addition, we found that federal facilities spent over 2-1/2 years, on average, on compliance schedules contained in formal enforcement orders issued by delegated states in Regions III and IV.

### Some States Are Reluctant to Take Judicial Action Against Federal Facilities

As shown in table 3.1, EPA's enforcement tools for federal facilities are limited to issuing negotiated orders. Enforcement tools in Virginia and Alabama are not so limited. According to state regulators, because of differing state laws, formal state enforcement procedures in the two states vary. Although Virginia cannot assess administrative penalties against federal facilities and Alabama does not as a normal procedure issue unilateral orders to them, regulators in both states can file suits against federal facilities.<sup>7</sup> However, we found that officials in Virginia and Alabama are reluctant to take judicial action against federal facilities.

**Table 3.1: Enforcement Actions Against Federal Facilities by EPA and Two States**

Regulator	Issue unilateral orders	Issue negotiated orders	Assess penalties	File suit
EPA	No	Yes	No	No
Virginia	Yes	Yes	No	Yes
Alabama	No <sup>a</sup>	Yes	Yes	Yes

<sup>a</sup>As a normal procedure, Alabama does not issue unilateral orders. If the facility chooses not to negotiate, the state can issue a unilateral order.

<sup>7</sup>In Alabama, a compliance schedule is negotiated at a "show cause" meeting between the state and the facility. If facility officials choose not to attend the meeting, the state drafts a unilateral order.

2-1/2 years, on average, to attain compliance once a formal enforcement action was taken.

For example, Virginia issued the Sewells Point Naval Complex a special order on January 30, 1987, for effluent violations beginning in April 1986. The order contained schedules specifying milestones for projects, including construction of storage sheds, renovation of laboratories, and construction of hazardous material storage facilities. The schedules included milestone dates for design, procurement, construction, and completion of projects by January 1, 1996.

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### **Regulators in Regions III and IV Are Monitoring Federal Facilities' Compliance**

EPA and delegated states monitor federal facilities' compliance with their NPDES permits by reviewing and evaluating self-monitoring reports submitted by the facilities and by periodic inspections. EPA's quality assurance program for facilities' laboratory testing provides an additional check on the accuracy of the facilities' self-reported data. Both states and EPA in Regions III and IV are using the required procedures to monitor federal facilities' compliance.

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### **Regulators Are Reviewing DMRs and Tracking Compliance**

In Alabama, Virginia, and EPA Regions III and IV (which regulated facilities in two states and the District of Columbia), staff manually reviewed federal facilities' discharge monitoring reports and maintained records of violations during fiscal years 1986 and 1987. Facilities were listed on the quarterly noncompliance report if necessary.

We checked a random sample of facilities to see if an accurate decision had been made to place them on the quarterly noncompliance report on the basis of the records of violations compiled from the facilities' self-monitoring reports. We found that federal facilities in Regions III and IV were accurately placed on the quarterly noncompliance report with few exceptions.

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### **EPA and States Are Inspecting Most Federal Facilities Annually**

The Clean Water Act authorizes EPA and delegated states to inspect NPDES permittees. EPA policy requires all major NPDES permittees to be inspected at least once a year. As shown in table 3.2, EPA Regions III and IV, Alabama, and Virginia inspected most federal facilities during fiscal years 1986 and 1987.

Region IV did not inspect one facility during fiscal year 1986; however, that facility was inspected by the nondelegated state of Florida. Region

Nationwide during fiscal years 1986 and 1987, states issued, on average, fewer formal enforcement actions per federal facility in significant non-compliance than EPA, even though states have more formal enforcement tools to use against federal facilities. States issued, on average, 0.42 formal actions, while EPA issued, on average, 0.5 formal actions per noncompliant federal facility. States took only 3 judicial actions during this time (including Virginia's lawsuit against the Norfolk Naval Shipyard); the remaining 12 formal enforcement actions issued by states during fiscal years 1986 and 1987 were administrative.

According to enforcement officials in Virginia and Alabama, states are reluctant to take judicial action against federal facilities even though they are authorized to do so. According to the director of enforcement for Virginia's NPDES program, court action against federal facilities is usually a last resort. Court action, according to this official, is used less frequently against federal facilities than nonfederal facilities for two reasons: (1) the process is more complex procedurally because it involves two government entities and (2) state regulators believe that they are less likely to win in court against a federal facility.

Alabama is also reluctant to sue federal facilities. According to an official at the Alabama Department of Environmental Management, a lawsuit is not an effective solution for compliance problems because it is expensive and time-consuming. Alabama considers it more important to spend resources helping facilities return to compliance than to punish violators. In addition, the official added that in Alabama it takes fewer resources to negotiate compliance schedules than to litigate.

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### **Federal Facilities in Regions III and IV Spent Over 2-1/2 Years on Compliance Schedules**

States issue enforcement orders that contain schedules of activities required for facilities to return to compliance. Between fiscal years 1986 and 1987, delegated states issued 12 formal enforcement orders nationwide. Ten of the orders were issued by delegated states in Regions III and IV; we analyzed the length of the schedules for seven of them.<sup>8</sup>

We found that, on average, federal facilities in these delegated states spent 32 months on compliance schedules. The schedules ranged from 4 months to 9 years for federal facilities to return to compliance with their permits. As a result, these federal facilities were allowed over

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<sup>8</sup>Two of the 10 orders did not contain compliance schedules, and an additional 1 was missing from the state's files.

**Chapter 3  
EPA and States Need to Improve Their  
Enforcement of Federal  
Facilities' Compliance**

III did not inspect five facilities during fiscal year 1986; however, three of these were inspected by the region 2 months prior to fiscal year 1986. During fiscal year 1987, Region III missed three facilities, but it inspected two of these facilities during the second month of fiscal year 1988. According to a Region III official, although the region tries to inspect all major facilities annually, sometimes scheduling problems prevent it.

During fiscal year 1987, Alabama missed four facilities. Three of those were inspected during the first week of fiscal year 1988. Virginia did not inspect one facility in fiscal year 1986 and two in fiscal year 1987. However, the facility missed in 1986 and one of the two missed in 1987 were inspected by Virginia's Department of Health. The department conducts the same type of inspections as the Water Control Board and sends copies of the report to the board.

**Table 3.2: Inspections of Federal Facilities by Four Regulators**

Regulator	Number of major federal facilities regulated	Number of major federal facilities inspected	
		FY 86	FY 87
Region III	10	5	7
Region IV	3	2	3
Alabama	9	9	5
Virginia	8	7	6

**DMR Quality Assurance**

EPA has established a quality assurance program for laboratory testing as one means of verifying the accuracy of the self-reported data that facilities submit to NPDES regulators. This program evaluates the ability of facilities' laboratories to accurately analyze waste constituents. Under this program, EPA annually requires all major facilities to analyze liquid samples for pollutants limited by their permit. Facilities are rated on the percentage of pollutants for which they calculate correct concentrations (within an acceptable range).

For fiscal years 1986 and 1987, federal facilities in Regions III and IV averaged near the national average for correct analyses, which was about 87 percent for both years for federal and nonfederal industrial facilities combined. During fiscal year 1986, federal facilities in Regions III and IV correctly analyzed 87 percent and 90 percent, respectively, of the pollutants in the samples. Similarly, in 1987 federal facilities in

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Regions III and IV correctly analyzed 91 percent and 85 percent, respectively, of the pollutants.

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## Conclusions

Timely enforcement action on significant NPDES permit violations is essential to raising the priority given to compliance by federal facilities and improving their compliance record. However, despite an overall poor compliance record by federal facilities, EPA and state regulators are not taking timely enforcement actions to return them to compliance. Untimely enforcement actions coupled with the length of time it takes facilities to complete necessary corrective actions have resulted in some federal facilities' violating their permits and polluting the nation's waters for years.

EPA headquarters oversight of enforcement timeliness for federal facilities is not as effective as it could be. Management controls do not include criteria for consistently following up on facilities that have not been issued an enforcement order, allowing some facilities to remain in significant noncompliance up to 2 years without being issued an enforcement order. Furthermore, EPA headquarters controls do not include verification of the accuracy and completeness of information received from regions on facilities that have not been issued timely enforcement actions.

EPA's enforcement at the regional office level is hindered by the absence of a clearly defined enforcement policy for federal facilities and regional staffs' reluctance to use available enforcement tools at federal facilities. While EPA has developed a proposed enforcement strategy for federal facilities that was in draft form as of September 1988, EPA headquarters still needs to overcome regional staffs' reluctance to effectively enforce requirements at federal facilities if this policy is to succeed. Although regional staffs believe the tools that they can use to take enforcement actions against federal facilities, such as informal actions and negotiated compliance agreements, have limited effectiveness, they are the only tools available and should be used.

Regional staffs also have been reluctant to take follow-up action when states do not obtain timely enforcement actions at federal facilities. During the 2 years of our review, no EPA region used available follow-up mechanisms—that is, issuing notices to delegated states and compliance agreements to federal facilities. EPA headquarters needs to improve its oversight of regional and delegated state enforcement activities at federal facilities.

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## Recommendations

To ensure that NPDES regulators take timely and appropriate enforcement actions, we recommend that the Administrator, EPA, take the following actions:

- Direct the Office of Water to set criteria for following up with regions on a quarterly basis on the appropriate compliance strategy to use against all federal facilities for which timely enforcement has not been taken.
- Establish management control procedures to ensure that regions are submitting accurate information for all federal facilities on which timely enforcement has not been taken.
- In conjunction with issuing the compliance strategy for federal facilities, take steps necessary to overcome EPA regional staffs' reluctance to enforce federal facilities in nondelegated states. Steps that should be considered include conducting training or issuing special guidance that (1) emphasizes to regional staffs the importance of obtaining compliance agreements before federal facilities are reported in significant noncompliance for two consecutive quarters and (2) emphasizes to regional office program managers the need to ensure regional staff compliance with this EPA policy.
- Instruct regions to treat noncompliant federal facilities in delegated states the same as nonfederal facilities by issuing notices to the states when they fail to take timely enforcement actions against federal facilities. If the delegated states do not act after receiving these notices, EPA regional offices should enter into compliance agreements with the noncompliant federal facilities.

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# Noncomplying Federal Facilities: Seven Case Study Profiles

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## Department of Army: Anniston Army Depot, Anniston, Alabama

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### Background

The Anniston Army Depot is one of the United States' largest ammunition storage facilities. EPA issued the depot's first NPDES permit in 1974 and reissued it in 1979. Alabama's Department of Environmental Management, the NPDES delegated agency, issued the depot permits in 1985 and 1986 and modified the latest permit in December 1987. The depot's NPDES permit allows it to discharge wastewaters generated by rebuilding Army vehicles and equipment, electroplating, sanitary sewage, and various other aqueous wastes. The depot has a sewage treatment plant and an industrial treatment plant. The sewage plant treats the depot's sanitary waste as well as the pretreated wastewater from the industrial treatment plant. During fiscal years 1986 and 1987, the depot's wastewater treatment facility discharged into Coldwater Creek; the discharge was rerouted to Choccolocco Creek after November 1987.

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### Compliance Record

The depot violated at least one permit limit for effluents in every month of fiscal years 1986 and 1987. The most frequent violations, cadmium and total cyanide limits, were exceeded for 17 and 24 months, respectively. Other recurring violations were excessive total suspended solids for 15 months at the sewage treatment plant and for 20 months at the industrial wastewater facility, high concentrations of oil and grease for 9 months, and excessive phenol levels for 14 months.

During fiscal years 1986 and 1987, Alabama sent 15 warning letters to the depot concerning the effluent violations. On July 23, 1986, the state issued the depot an administrative order to correct violations at both treatment plants. Since the majority of the violations were caused by malfunctioning equipment or improper treatment procedures, most of the activities that the depot undertook to return to compliance involved equipment repairs or additions and changes in treatment procedures, such as installing an upflow sand filter or training operators in proper sampling procedures. In addition, the depot formed an Environmental Committee in June 1986 to locate and solve problems in all areas that could affect the ability of the treatment plants to comply with the permit. The members met weekly through October 1987, and of the 369 action items identified during this time, 335 were successfully resolved.

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## Department of Air Force: Beale Air Force Base, California

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### Background

Beale Air Force Base was established in 1942 as a military camp and began Air Force operations in 1948. Its missions include reconnaissance flights, pilot training, and early detection and warning of ballistic missile attack. California first issued an NPDES permit for Beale's wastewater treatment plant in 1974, renewing it in 1979 and again in 1986. The wastewater treatment plant was constructed in the 1940s and serves a population between 5,000 and 6,000. It treats domestic waste from the housing and office areas, oil and grease and photo waste from industrial areas, storm water, and some infiltration from groundwater. The plant discharges into Hutchinson Creek and onto a golf course for irrigation.

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### Compliance Record

Throughout fiscal years 1986 and 1987, Beale violated both reporting and effluent requirements. It was reported in significant noncompliance for cyanide violations from April through September 1987. Reporting violations included late submission of discharge monitoring reports, missing lab results, and incomplete sampling. According to a Beale official, the reporting violations resulted mainly from poorly trained technicians and an inadequate number of staff at Beale. The effluent violations included permit limit violations of biochemical oxygen demand, boron, cyanide, pentachlorophenol, residual chlorine, and the presence of surfactants in receiving waters. Officials at Beale could not identify the exact causes of the effluent violations.

In December 1985 and 1986 and June 1987, California sent the facility letters regarding sampling, reporting, and monitoring deficiencies. In May 1988 California issued a unilateral cease and desist order to Beale with a schedule to return to compliance with its permit by August 1, 1988. In June 1988, Beale continued to violate its permit effluent limit. The July and August self-monitoring reports on Beale's noncompliance were sent to the regulator incomplete or late. As of September, however, California had not placed the facility in significant noncompliance for insufficient reports.

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Department of Navy:  
Norfolk Naval  
Shipyard, Portsmouth,  
Virginia

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Background

The Norfolk Naval Shipyard overhauls U.S. Navy ships and submarines. The shipyard was first issued an NPDES permit by EPA in 1974 and is currently regulated under a permit issued by Virginia in 1985. The permit limits discharges from drydock facilities, runoff from the storm sewer system, and wastes from an industrial wastewater treatment plant that treats contaminated rinsewater from the shipyard's industrial operations, such as its electroplating shop. The industrial wastewater treatment plant began operating in 1977, and the first major improvements to the plant are scheduled to be completed in 1990. Treated wastewater is discharged into the Elizabeth River.

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Compliance Record

The shipyard was reported in significant noncompliance from April through December 1986. The most frequent violations were pH, copper, zinc, chromium, total suspended solids, oil and grease, and unauthorized discharges from the storm sewer system. For the most part, violations were caused by equipment malfunctions, inadequate cleaning practices, and cross-connections between the shipyard's drain pipes and sewage pipes.

Virginia sent four letters of violation notifying the shipyard of its significant noncompliance status before referring the shipyard to the state attorney general in March 1987 for civil action. In June 1987 the state issued a notice of violation for continued NPDES violations.

Subsequent to the referral, the shipyard undertook corrective actions, such as establishing a new Environmental Programs Division and a comprehensive environmental audit program, developing an environmental protection manual, and adopting a formal policy requiring support of the environmental program shipyard-wide. Prior to and subsequent to the referral, the shipyard completed or initiated several major activities to reduce violations, such as constructing and repairing equipment. As a result of these new and ongoing corrective actions, the shipyard was able to achieve and maintain substantial compliance with its permit by

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August 1987. In March 1988 Virginia officials agreed not to sue the Department of Navy as a result of these improvements.

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## Department of Energy: Oak Ridge Y-12 Plant, Oak Ridge, Tennessee

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### Background

The Oak Ridge Y-12 plant was originally constructed in 1943 as part of the Manhattan Project. Currently, the plant produces nuclear weapons components and supports Department of Energy weapons design laboratories. Martin Marietta Energy Systems has operated Oak Ridge since April 1984 for DOE under an operating contract administered by DOE's Oak Ridge Operations office. This office is the permittee for the Oak Ridge NPDES permit; however, Martin Marietta's contract requires it to manage, operate, and maintain the facility in a manner that satisfies environmental protection requirements.

Oak Ridge received its first NPDES permit from EPA in 1975; the permit was renewed in 1985. Tennessee began administering the permit at the beginning of fiscal year 1987. The current permit specifies 16 outfalls with effluent limits for pollutants from disposal of reactive metals, steam plant ash discharge, cooling tower discharge, oil, and treated wastes from nine industrial waste treatment facilities. An additional 195 outfalls, some of which send wastewater to a treatment facility prior to discharge, and several miscellaneous source discharges are monitored periodically under the permit. Wastes are discharged into two small streams and a creek that flows into an abandoned quarry.

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### Compliance Record

Oak Ridge had several effluent violations, primarily of pH and mercury limits, during fiscal years 1986 and 1987 and was reported in significant noncompliance from July through September 1987. The mercury violations were caused by a remedial cleaning operation.

Oak Ridge was issued no formal enforcement actions during fiscal years 1986 and 1987; however, two revisions were made to a compliance agreement that EPA had issued to Oak Ridge in April 1985. The compliance agreement contained schedules for eliminating certain waste discharges and construction schedules, two of which were revised during

1986. In addition, Tennessee issued two notices of violation to Oak Ridge in 1987, seeking corrective measures for violations of its NPDES permit and of the Tennessee Water Quality Control Act. In response, Oak Ridge informed the state in March 1987 that it had submitted a fiscal year 1990 budget line item for modifications to its wastewater treatment facilities to address these problems. Oak Ridge officials said that if the project is supported by DOE headquarters and the Congress, it could probably attain compliance by the summer of 1993.

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## U.S. Marine Corps: Quantico Mainside Wastewater Treatment Plant, Quantico, Virginia

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### Background

The Quantico Mainside plant treats approximately 1.2 million gallons of sewage per day from the Quantico Marine Corps Base (population approximately 10,000) and from the town of Quantico (population 621). The plant was originally constructed in 1938 and most recently upgraded in 1977 and 1988. The plant had previously been issued two NPDES permits by EPA Region III; however, the current permit was issued by Virginia in 1986. The wastewater treatment plant has one outfall, which discharges into the Potomac River.

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### Compliance Record

The Quantico Mainside plant was reported in significant noncompliance from January to June 1987. Delays in cleaning and repairing large equipment used in the treatment process resulted in chronic violations of total suspended solids and phosphorous limits. In response to these violations, Virginia issued three notices of violation to Quantico in June, August, and September 1987.

In June 1986 the plant was placed under a special order that included more stringent phosphorous limits while Virginia officials determined if the plant discharged directly into the Potomac River or into a bay and then the river. In July 1987 Quantico and state officials began negotiating to modify the 1986 special order for effluent limits and establish a

schedule for equipment repairs needed to correct the significant non-compliance violations. In December 1987 Virginia issued a consent order to Quantico that specified two levels of interim effluent limits that become progressively stricter as scheduled equipment replacement and repairs are conducted. The last scheduled repairs are due to be completed by September 30, 1989.

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## Tennessee Valley Authority: Sequoyah Nuclear Plant, Soddy Daisy, Tennessee

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### Background

The Sequoyah Nuclear Plant was designed to supply low cost electric energy. The plant has two pressurized water reactors, which began operating during 1981 and 1982. The Tennessee Valley Authority (TVA) voluntarily shut down the reactors in August 1985 due to inadequate documentation, as required by federal regulations. In May 1988 TVA restarted one of Sequoyah's reactors. Sequoyah is permitted to discharge sanitary wastewater generated by its 3,600 employees, reactor cooling water, and other miscellaneous wastewater into Chickamauga Lake, which is on the Tennessee River. Sequoyah's most recent permit issued by EPA in 1983 regulates four sewage treatment plants and 15 outfalls. Only one outfall actually discharges into the lake.

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### Compliance Record

During fiscal years 1986 and 1987, Sequoyah violated its permit limits on total residual chlorine, total suspended solids, pH, biochemical oxygen demand, fecal coliform, and water temperature. Sequoyah was in significant noncompliance for total suspended solids limits from January through June 1987. Many of these violations were due to equipment failures or ineffective treatment procedures. Activities the facility undertook to return to compliance involved minor equipment repairs and treatment or operational procedure changes.

EPA administered Sequoyah's NPDES permit until October 1, 1986, at which time the responsibility was transferred to Tennessee. During fiscal years 1986 and 1987, neither EPA nor Tennessee issued any enforcement actions for Sequoyah's violations. According to an official with the state's Department of Health and Environment, no formal enforcement

actions were issued because the facility had returned to compliance in May 1987.

Due to equipment and operation problems causing excess sewage flows at the plant, Sequoyah plans to tie into the city of Soddy Daisy's sanitary system. Under this arrangement all sewage, except for that coming from the power-generating area, will be diverted to the city's system.

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Department of the  
Interior: Yosemite  
Wastewater Treatment  
Facility, El Portal,  
California

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Background

In 1976 EPA issued the facility its first NPDES permit to regulate a single outfall that discharges into the Merced River. Construction on the Yosemite wastewater treatment plant was completed in 1977. The facility operates year round and serves a population of 1,000 permanent residents and a seasonal population of 100,000 during the summer. The plant treats domestic sewage generated by the permanent and seasonal residents and services of the Yosemite National Park Valley.

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Compliance Record

During fiscal years 1986 and 1987, the Yosemite wastewater treatment plant violated pH and fecal coliform limits for 6 months and phosphorous limits for 8 months. The facility was in significant noncompliance for only the phosphorous limits. The violations were caused by equipment failure, and the facility responded by installing new equipment to eliminate future violations. In August 1986 California issued an informal enforcement letter informing the facility that it was in noncompliance. By October 1986 and for the rest of fiscal year 1987, Yosemite was no longer in significant noncompliance.

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# Factors That Affect Federal Facilities' Compliance

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Through discussions with federal regulatory, agency, and facility officials and review of an EPA study, we identified factors that they believed can hinder the ability of federal facilities to comply with NPDES requirements. We discussed with officials representing 23 federal and state offices whether these factors caused violations, caused a delay in returning to compliance after a violation, or both and whether they considered these factors unique to federal facilities as compared to industrial facilities. The information in tables II.1 and II.2 reflects the responses of all officials interviewed; however, at times some officials withheld comment on certain factors when they felt unqualified to give an opinion.

Table II.1 summarizes the responses received from regulators, federal agency officials, and federal facility officials on whether each factor affects federal facilities' compliance. The responses are divided into three categories: (1) yes, which combines the responses of those who said factors affect compliance to a great extent or some extent; (2) no, which includes responses that the factors affected compliance to little or no extent; and (3) no comment, which includes responses of those who felt unqualified or unable to give an opinion.

We also obtained more detailed information from officials on those factors that they agreed could hinder compliance. Table II.2 shows the percentage of responses with regard to the effect of the six most important factors on federal facilities' compliance. Responses indicate whether officials (1) believe the factor causes noncompliance, (2) believe the factor delays a return to compliance after a violation has occurred, or (3) felt unqualified to comment on their effect.

**Appendix II  
Factors That Affect Federal  
Facilities' Compliance**

**Table II.1: Summary of Factors Affecting  
Federal Facilities' Compliance**

<b>Do these factors affect federal facilities' compliance?</b>	<b>Percent of regulators that said:</b>		<b>Percent of federal agency officials that said:</b>		<b>Percent of federal facility officials that said:</b>	
Budget process	Yes	100.0	Yes	88.9	Yes	83.3
	No	0	No	11.1	No	16.7
	NC <sup>a</sup>	0	NC	0	NC	0
Procurement procedures	Yes	62.5	Yes	44.4	Yes	66.6
	No	37.5	No	44.4	No	16.7
	NC	0	NC	11.1	NC	16.7
Priority	Yes	87.5	Yes	77.8	Yes	66.7
	No	0	No	22.2	No	33.3
	NC	12.5	NC	0	NC	0
Age of facility	Yes	50.0	Yes	55.6	Yes	50.0
	No	50.0	No	44.4	No	50.0
	NC	0	NC	0	NC	0
Complexity of operations	Yes	62.5	Yes	66.7	Yes	50.0
	No	37.5	No	33.3	No	33.3
	NC	0	NC	0	NC	16.7
Staffing problems	Yes	62.5	Yes	88.9	Yes	33.3
	No	37.5	No	11.1	No	50.0
	NC	0	NC	0	NC	16.7
Stringent permits	Yes	25.0	Yes	55.6	Yes	83.3
	No	75.0	No	33.3	No	16.7
	NC	0	NC	11.1	NC	0
Inadequate funding	Yes	87.5	Yes	77.8	Yes	66.7
	No	12.5	No	22.2	No	33.3
	NC	0	NC	0	NC	0
Lack of guidance from federal agencies	Yes	50.0	Yes	66.7	Yes	16.7
	No	25.0	No	33.3	No	83.3
	NC	25.0	NC	0	NC	0
Lack of communication to management	Yes	87.5	Yes	66.7	Yes	50.0
	No	0	No	33.3	No	50.0
	NC	12.5	NC	0	NC	0
Lack of EPA enforcement authority	Yes	37.5	Yes	22.2	Yes	0
	No	50.0	No	66.7	No	83.3
	NC	12.5	NC	11.1	NC	16.7

<sup>a</sup>NC - no comment

**Appendix II  
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**Table II.2: Effects of Factors on Federal  
Facilities' Compliance**

<b>Factor</b>	<b>Percent of Officials that said:</b>		
	<b>Factor causes violations</b>	<b>Factor delays compliance</b>	<b>No coment</b>
Budget process	19	62	33
Procurement process	8	54	46
Priority	28	22	61
Age of facility	42	25	50
Complexity of operations	43	43	57
Staffing problems	40	27	53

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