BY THE U.S. GENERAL ACCOUNTING OFFICE

Report To The Administrator, Environmental Protection Agency

Wastewater Dischargers Are Not Complying With EPA Pollution Control Permits

The Clean Water Act's National Pollutant Discharge Elimination System limits the type and amount of pollution a municipal or industrial facility may legally discharge into the nation's waterways. Based on a review of 531 randomly selected major dischargers in six states, GAO estimated that 82 percent of these dischargers exceeded their permit limits at least once during an 18-month period and that 31 percent of the dischargers in the six states that exceeded permit limits for one or more pollutants did so by 50 percent or more for at least 4 consecutive months.

The Environmental Protection Agency (EPA) relies on self-monitoring by dischargers to detect and report noncompliance. Because such information is not always provided or is incomplete, EPA and the states are not aware of all permit noncompliance and, thus, who should be subject to enforcement action. EPA and state enforcement policies frequently allow noncompliance to continue for long periods of time. In addition, EPA and state enforcement actions have declined.

GAO makes several recommendations to the Administrator, EPA, for improving the permit program.

GAO/RCED-84-53
DECEMBER 2, 1983

UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

)URCES, COMMUNITY,
:ONOMIC DEVELOPMENT
DIVISION

B-200800

The Honorable William D. Ruckelshaus
Administrator, Environmental
Protection Agency

Dear Mr. Ruckelshaus:

This report discusses some problems the Clean Water Act's National Pollutant Discharge Elimination System is experiencing that we believe reduce its potential for cleaning up the nation's waterways. To address these problems, the report contains recommendations to you on pages 42 and 43.

As you know, 31 U.S.C. §720 requires the head of a federal agency to submit a written statement on actions taken on our recommendations to the Senate Committee on Governmental Affairs and the House Committee on Government Operations not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to appropriate House and Senate committees; Members of Congress and Senators from states mentioned in this report; and the Director, Office of Management and Budget. We will also make copies available to interested organizations, as appropriate, and to others upon request.

Sincerely yours,

J. Dexter Peach
Director

GENERAL ACCOUNTING OFFICE
REPORT TO THE ADMINISTRATOR,
ENVIRONMENTAL PROTECTION
AGENCY

WASTEWATER DISCHARGERS ARE NOT COMPLYING WITH EPA POLLUTION CONTROL PERMITS

D I G E S T

Water pollution control permits issued to municipal and industrial facilities represent the principal tool for enforcing the nation's clean water program. These permits establish limits on the concentration and quantity of specific pollutants that may legally be discharged into waterways. GAO found, however, that noncompliance with permit limits was widespread, frequent, and significant. In addition, thousands of dischargers have not been issued permits or hold expired permits. Federal funding of water quality programs has declined significantly in recent years.

The Clean Water Act established the National Pollutant Discharge Elimination System permit program in 1972. The program is managed by the Environmental Protection Agency (EPA) and, in cases where program management has been delegated to the states by EPA, by the states. As of October 30, 1982, more than 68,000 permits had been issued. Facilities receiving permits are classified as "major" or "minor" based on the volume of their discharge, the type of pollutants discharged, and--with respect to municipal treatment plants--the population the facility serves.

In view of the permit program's importance in meeting the nation's clean water goals, GAO examined the program to identify areas needing improvement.

NONCOMPLIANCE WITH PERMIT LIMITS WAS WIDESPREAD

Based on a random sample of 531 major dischargers--274 municipal and 257 industrial dischargers--in six states,[1] GAO estimated that 82 percent of these dischargers exceeded their monthly average permit limits at least

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[1]Iowa, Louisiana, Missouri, New Jersey, New York, and Texas.

once during the 18-month period ending March 31, 1982. Most exceeded their permit limits for more than 1 month, many for more than 6 months during the period.

More important, GAO estimated that 31 percent of all dischargers exceeding permit limits in the six states were in significant noncompliance at some point in time during the 18-month review period. GAO defined significant noncompliance as exceeding permit limits for one or more pollutants by 50 percent or more in at least 4 consecutive months.

To determine why municipal and industrial facilities were discharging more pollutants than allowable, GAO examined 62 of the 130 municipal and industrial dischargers in its sample which were in significant noncompliance with permit limits and reviewed prior studies concerning noncompliance. The most prevalent causes of permit noncompliance were

--treatment plant operation and maintenance deficiencies, including limited staffing, training for plant operators, and laboratory facilities;

--equipment deficiencies, such as improperly functioning chlorination systems; and

--treatment plants handling more waste than they were designed to treat. (See pp. 7 to 15.)

FULL EXTENT OF NONCOMPLIANCE MAY NOT BE KNOWN

For the permit program to be successful, EPA and appropriate state agencies must know when permit limits are exceeded so that action to bring about compliance can be initiated. The reliability of the discharger self-monitoring system--on which the permit program relies--to accurately report noncompliance has been reduced for various reasons. For example,

--40 dischargers (8 percent of GAO's sample) did not submit one or more required discharge monitoring reports and 196 dischargers (37 percent of GAO's sample) submitted incomplete reports during the 18 months reviewed;

--studies by EPA in 1980 and 1982 showed that 68 percent and 58 percent, respectively, of the laboratory analyses done for municipal and industrial dischargers sampled nationwide did not report results within acceptable limits for one or more pollutants analyzed; and

--efforts by EPA and the states to verify the accuracy of self-monitoring data are being reduced or are already at low levels. (See pp. 16 to 22.)

CURRENT ENFORCEMENT PRACTICES ALLOW NONCOMPLIANCE TO CONTINUE FOR LONG PERIODS

Compliance with permit conditions is the primary goal of the enforcement system. GAO's review in six selected states showed that noncompliance with permit limits continued for extended periods before formal enforcement action was taken by EPA or the state and in some cases continued for years even after enforcement action was taken. In addition, formal enforcement actions by EPA declined 41 percent from 1980 to 1982.

Municipal noncompliance presents a unique situation. Both EPA and the states have had a general policy that exempts from enforcement municipalities that have applied for federal funds to upgrade existing or build new treatment facilities. This policy allows noncompliance to continue as long as grant funds are pending or construction is underway.

Currently, EPA cannot assess fines directly for permit noncompliance but must refer all such cases to the Department of Justice for litigation. This is a time-consuming and expensive process, particularly for small cases, and is not as effective a deterrent as the ability to assess a fine in a timely manner.

Department of Justice officials stated that, in the past, EPA referrals of cases involving permit noncompliance were not always timely and data included in the referral package were often a year or more old. Justice officials believe the situation has improved during the past year and that referrals are now more timely and better supported.

According to EPA and state officials, resource shortages have also limited enforcement efforts

by EPA and the states. This manifests itself in various ways, including limited enforcement against minor dischargers and increased emphasis on voluntary compliance. (See pp. 23 to 31.)

THOUSANDS OF DISCHARGERS HAVE NO PERMIT OR HOLD EXPIRED PERMITS

The Clean Water Act requires that every public and private facility that discharges waste directly into navigable waters must file an application and obtain a permit and that permit limits must be upgraded at least every 5 years.

None of the six states GAO reviewed had a systematic process for identifying non-filers. The states were relying on a variety of measures, like citizen complaints and information obtained from various state agencies, to identify non-filers. Most EPA and state officials GAO contacted believed that major dischargers had applied for permits and that any non-filers were small dischargers.

Large backlogs of permit applications existed. Unpermitted dischargers are not subject to the pollution limits and monitoring requirements imposed by a permit. Data GAO obtained from states and EPA regional offices showed that large backlogs of applications existed in four of six states reviewed. Many of those applications were more than 18 months old.

EPA headquarters statistics reflected more than 16,000 applications awaiting processing as of October 30, 1982, including 215 major and more than 15,800 minor dischargers. EPA believed, however, that the backlog was significantly overstated because--among other things--it included facilities not requiring a permit. However, EPA had no estimate of the actual number of applicants that needed a permit.

Another issue involves expired permits that have not been reissued. In October 1982, EPA reported that about 34,000 permits had expired or would expire before the end of 1982 and had not been reissued. Of these, 87 percent involved minor dischargers and 13 percent involved major dischargers. Fifty-four percent had expired before January 1981. If these permits were reissued, it is likely that many would contain stricter pollution limits, since the expired permits focused on the control of

conventional pollutants, like oxygen-demanding substances. New permits would include toxics, like chemicals and heavy metals. The fact that EPA has not promulgated guidelines for writing industrial permits in a timely manner has contributed to the backlog. (See pp. 32 to 40.)

RECOMMENDATIONS TO THE ADMINISTRATOR, EPA

Improvements are needed to make the permit program more effective in meeting the goals of the Clean Water Act. Some improvements can be made within existing resource constraints at the federal and state levels while others could require substantial additional resources to implement. GAO recommends that the Administrator, EPA, determine to what degree limited resources contribute to continued high noncompliance and enforcement problems in the permit program and present this analysis to the Congress for its consideration in determining whether additional resources should be provided to improve the program's effectiveness. To address problems in the permit program that can be mitigated without substantial additional resources, GAO is recommending several corrective measures. (See pp. 42 and 43.)

AGENCY COMMENTS

Generally, EPA found the report to be a useful document in a number of important areas. For example, EPA stated that the report accurately reflects the current status of EPA efforts to reissue expired discharge permits and documents some of the major causes of the permit backlog problem--past delays in issuing effluent guidelines and the need for increased resources. EPA also commented that the report points out the necessity for the Agency to exercise careful and continuous oversight of its compliance reporting system. EPA did not comment on the report's recommendations.

EPA took serious issue with the fact that GAO used a different definition of significant noncompliance in its analysis than EPA uses to report compliance. EPA's analysis of GAO's data showed lower noncompliance rates than GAO's for two reasons. First, in arriving at its universe, EPA excludes permittees with enforceable interim permit limits--permittees upgrading their plants. Second, dischargers in compliance during the last month of a quarter

are not counted as in noncompliance by EPA even though they may have been in noncompliance during the first 2 months.

GAO believes its data more accurately reflect the state of compliance with discharge permits because it includes compliance data on all dischargers with permits. The GAO data also show a more useful historical perspective on noncompliance for municipal and industrial dischargers. (See pp. 10 to 12.)

The Department of Justice stated that the report presents a very comprehensive analysis of dischargers' compliance with their permits and documents evidence of major noncompliance and enforcement problems. Justice took serious issue with the report section on EPA enforcement case referrals to Justice, stating that these referrals are now more timely and better supported. GAO updated this section of the report in recognition of Justice's comments. (See p. 31.)

ABBREVIATIONS

BAT	best available technology
BPT	best practicable treatment
CSI	compliance sampling inspections
DMR	discharge monitoring report
EPA	Environmental Protection Agency
GAO	General Accounting Office
NPDES	National Pollutant Discharge Elimination System
NRDC	Natural Resources Defense Council, Inc.

GLOSSARY

Conventional pollutants	Includes BOD (biological oxygen demand), suspended solids, fecal coliform bacteria, and pH (acidity).
Effluent	The wastewater discharged by an industry or municipality.
Effluent limitations	Restrictions established by a state or EPA on quantities, rates, and concentrations of chemical, physical, biological, and other constituents discharged from point sources.
Nonpoint sources	Sources of pollution that are difficult to pinpoint and measure. Common examples include runoff from agricultural and forest lands, runoff from mining and construction, and storm runoff from urban areas.
Point sources	Specific sources of pollution that can be readily identified, such as factories and sewage treatment plants.
Pollution (of water)	Contamination or other alteration of the physical, chemical, or biological properties of water, including changes in temperature, taste, color, or odor or the discharge into the water of any liquid, gaseous, radioactive, solid, or other substance that may create a nuisance or render such water detrimental or injurious to public health, safety, or welfare.
Pretreatment	Processes used to reduce the amount of pollution in water before it enters the sewers or the treatment plant.
Secondary waste treatment	Treatment using biological processes to accelerate the decomposition of sewage. The process removes 75 to 90 percent of suspended solids.
Toxic substances	A chemical or mixture that may present a risk of injury to health or the environment.

CHAPTER 1

INTRODUCTION

Pollution reduces the recreational and economic values of the nation's waters, contaminates drinking water supplies, and poses other risks to human health and the health of aquatic life. Water pollution comes from point sources--like municipal and industrial waste treatment facilities--and from nonpoint sources, including runoff from agricultural and urban landscapes. The Federal Water Pollution Control Act Amendments of 1972 initiated a broad federal effort to restore and maintain our waterways, including the creation of a permit program under the act's National Pollutant Discharge Elimination System to regulate and reduce point-source pollution. Since 1972, the Congress has appropriated $37.9 billion to assist municipalities to build or upgrade facilities to meet the act's requirements. Industry has also expended billions of dollars on water pollution control. Construction of the needed facilities, however, is just the first step. Those facilities must continually accomplish the level of pollution reduction mandated by their permits if the cleanup is to be sustained over the long term and if waterways are to be fit for their designated beneficial uses.

FEDERAL WATER POLLUTION CONTROL ACT

The Federal Water Pollution Control Act, as amended, known as the Clean Water Act, is the current basis for the nation's clean water program. The act sets two specific national goals. An interim goal, commonly referred to as the "swimmable-fishable" goal, is to restore polluted waters, whenever attainable, to a quality that allows for the protection and propagation of fish, shellfish, and wildlife and for recreational use by July 1, 1983. The other goal is to eliminate all discharges of pollutants into the nation's navigable waters by 1985. To achieve these goals, two basic control strategies are employed: required point-source controls for municipal and industrial dischargers and largely voluntary controls for nonpoint sources of water pollution.

Municipal dischargers were to meet secondary waste treatment requirements by July 1, 1977, and to install certain waste treatment technology by July 1, 1983. Some municipal dischargers, however, have been given extensions to the secondary treatment deadline to July 1, 1988. Industrial dischargers were to install certain types of waste treatment technology by July 1, 1977, and by July 1, 1983.

The 1977 amendments to the act reflected congressional recognition that dangerous toxic pollution--including chemical contamination of rivers and lakes--was going unabated while much attention was focused on less serious forms of pollution. The amendments therefore resulted in a much greater emphasis on the control of toxic pollutants. The Environmental Protection Agency

(EPA) was required to publish a list of toxic chemicals to be controlled under the act and, by July 1, 1980, to set effluent limitations resulting from the best available technology economically achievable for those chemicals. Industry is required to meet those effluent limitations no later than July 1, 1984.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

The National Pollutant Discharge Elimination System (NPDES) provided the first major direct enforcement procedure against polluters. It is illegal for point sources to discharge pollutants into the nation's navigable waters without an NPDES permit.

An NPDES permit specifies (1) discharge limitations for specific pollutants or substances, (2) schedules setting forth the types of actions required and time frames necessary to comply with the discharge limitations, (3) requirements for self-monitoring of wastewater flows and of specified pollutants, and (4) periodic reporting of compliance. These permits are to be renewed, and upgraded, at least every 5 years. Dischargers are subject to civil penalties of up to $10,000 a day for exceeding permit conditions. Willful or negligent noncompliance is subject to even more severe penalties, including imprisonment.

The NPDES permit program is managed by EPA, or the appropriate state agency in the case of state-managed programs. As of December 31, 1982, 35 of 56 states and territories had received NPDES delegation from EPA.

As of October 30, 1982, more than 68,000 NPDES permits had been issued, as follows:

Discharger type	Discharger classification		Total permits issued
	Major	Minor	
Municipal	3,573	12,336	15,909
Industrial	3,954	37,513	41,467
Other[a]	285	10,752	11,037
Total	7,812	60,601	68,413

[a]Includes federal, state, and public nonmunicipal facilities.

EPA classifies facilities as "major" or "minor" based on the volume of their discharges, the type of pollutants in their discharges, and the number of people served by the facility. A major municipal facility is one that serves a population of 10,000 or more or discharges one million gallons or more of wastewater per day. Industrial facilities are classified as major based on a numerical rating each facility receives. Factors considered in the rating include the facility's potential for discharging toxic

pollutants, the volume and type of wastewater discharged by the facility, the amount of traditional pollutants in the discharged wastewater, and whether the water receiving the discharges is used for drinking water. The list is updated semi-annually.

DECLINING EPA RESOURCES

Between 1971 and 1981, EPA's operating budget to develop and implement programs under major environmental legislation steadily grew, reaching $1.35 billion in fiscal year 1981. But subsequent budgets and budget proposals have reversed this funding trend. EPA's fiscal year 1982 budget was reduced 15 percent to $1.086 billion, to $1.040 billion in fiscal year 1983, and was proposed at $949 million for fiscal year 1984, a 30 percent decline over the 1981-84 period. The Congress, however, provided EPA with an additional $295 million for fiscal year 1984.

The water quality program under which the NPDES permit program is funded has been cut even more drastically than the overall EPA budget--by 52 percent over the same 4 fiscal years. For fiscal year 1984, EPA requested $152 million for water quality versus the $318 million it received in fiscal year 1981.

Section 106 funds under the Clean Water Act provide grants to states which are delegated the responsibility for NPDES permitting, monitoring, and enforcement, as well as other water quality activities. The section 106 and related state expenditures for permit activities declined significantly from fiscal year 1981 to 1982, as follows:

Fiscal year	Program activities			
	Issuance	Enforcement	Monitoring	Total
	(millions)			
1981[a]	$26.3	$22.4	$29.5	$78.2
1982[b]	20.3	20.9	23.9	65.1
Reduction	$ 6.0	$ 1.5	$ 5.6	$13.1
(percent)	(22.8)	(6.6)	(19.0)	(16.8)

[a] 47 states reporting.
[b] 43 states reporting.

In the 21 states and territories where EPA carries out permit program activities, resources have also declined. For example, EPA enforcement activities were funded at $19.2 million in fiscal year 1981, $17.6 million in fiscal year 1982, $13.5 million in fiscal year 1983, and EPA requested $13.6 million for fiscal year 1984. Permit issuance resources have been fairly constant at an $11 million level for fiscal years 1981, 1982, and 1983; for

fiscal year 1984, EPA requested $13.4 million. Of the $295 million in additional funds provided by the Congress to EPA for fiscal year 1984, $2.2 million was allocated to permits issuance. No additional funds, however, were allocated to water enforcement activities.

OBJECTIVES, SCOPE, AND METHODOLOGY

The objectives of this assignment were to examine the status of certain major aspects of the NPDES permit program, including:

--Is noncompliance with permit limits widespread and, if so, what are the causes of noncompliance?

--What measures are employed by EPA and the states to monitor compliance with permit limits and what assurance is there that noncompliance is reported?

--What enforcement actions against noncomplying permittees are available, used, and with what results?

--What controls exist to assure that all point sources of water pollution apply for and receive permits and have permit limits upgraded when required?

Our work was performed at EPA headquarters in Washington, D.C.; in three EPA regions--region II (New York), region VI (Dallas), and region VII (Kansas City); and in six states: Iowa, Louisiana, Missouri, New Jersey, New York, and Texas. Four of the states (Iowa, Missouri, New Jersey, and New York) have been delegated responsibility for administering the NPDES Program. EPA administers the program in Texas and Louisiana.

The EPA regions and states were not selected scientifically. They were selected, however, to provide a broad geographic distribution. In addition, the six states accounted for about 21 percent of the more than 68,000 permits issued as of October 30, 1982, including 23 percent of all major dischargers. The six selected states also represented a mix of EPA- and state-managed permit programs.

To assist in providing a broad, nationwide perspective on the NPDES Program, we obtained and reviewed pertinent studies and held discussions with officials of various environmental, public interest, and trade organizations, including the Association of State and Interstate Water Pollution Control Administrators; Chemical Manufacturers Association; Citizens for a Better Environment; Conservation Foundation; Environmental Defense Fund; Interstate Sanitation Commission of New York, New Jersey, and Connecticut; Natural Resources Defense Council; Public Interest Research Groups of New Jersey and New York; and Trial Lawyers for Public Justice.

We also reviewed two prior GAO reports[1] that discussed various aspects of the NPDES permit program.

The methodology used during our review varied on an issue-by-issue basis. To assess the extent of noncompliance with NPDES permit limits, we examined the discharge monitoring reports (DMRs) for a random sample of 531 major permittees in the six states reviewed, for the 18-month period ending March 31, 1982. The results of the sample in each state were weighted because the universe sizes varied from state to state. We concentrated on major dischargers because they receive the bulk of monitoring and enforcement efforts by EPA and the states.

We analyzed the DMR data to determine (1) the number of dischargers in noncompliance with one or more permit limits during the period and (2) the frequency of noncompliance. We also developed a list of municipal and industrial dischargers in each state which were in significant noncompliance during the period. We defined significant noncompliance as exceeding one or more permit limits by 50 percent or more for at least 4 consecutive months during the 18-month period reviewed.

We selected 62 of the 130 dischargers--34 municipal and 28 industrial--determined to be in significant noncompliance and, through discussions with EPA and state officials, attempted to identify the most prevalent causes of permit noncompliance. We also reviewed selected studies on the causes of treatment plants being unable to meet permit limits performed by us, EPA, and the Natural Resources Defense Council.

To determine whether it is likely that noncompliance with permit limits is communicated to the states and EPA, we examined the extent to which the 531 dischargers included in our sample did not submit or submitted incomplete DMRs during the 18-month review period. We identified the types of compliance monitoring activities undertaken by EPA and the states and examined records on the results of compliance sampling inspections in two states to determine how much noncompliance those activities disclosed. We also reviewed the results of nationwide performance evaluations by EPA of laboratories that provide data for DMRs.

With respect to enforcement, we reviewed present and past EPA enforcement strategies and identified the available enforcement tools. Using selected dischargers that we found in significant noncompliance with permit limits, we identified for how long noncompliance continued before enforcement action was taken, what factors precluded taking formal enforcement action, and what resulted when enforcement action was taken.

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[1]More Effective Action by the Environmental Protection Agency Needed To Enforce Industrial Compliance With Water Pollution Control Discharge Permits (CED-78-182, Oct. 17, 1978); Costly Wastewater Treatment Plants Fail To Perform as Expected (CED-81-9, Nov. 14, 1980).

We discussed with EPA and state officials the programs they have established to identify dischargers who should but do not apply for a permit. We also developed information on the estimated 16,000 applicants who were not issued permits and attempted, through discussions with EPA and state officials, to determine the reasons these permits were not issued.

Since about 34,000 permits had expired but had not been re-written at the time of our review, we developed nationwide and regional statistics on the backlog. Through discussions with EPA and state officials, we identified the major factors contributing to creating the backlog. We also examined the potential impact of not reissuing expired permits in a timely manner.

Our review was performed during the period from July 1982 to January 1983 in accordance with generally accepted government auditing standards.

CHAPTER 2

NONCOMPLIANCE WITH PERMIT LIMITS IS WIDESPREAD

We reported in 1978 that significant noncompliance with permit limits existed at major industrial facilities and in 1980 that significant noncompliance with permit limits existed at major municipal facilities. Our current review showed that noncompliance with permit limits remains widespread, frequent, and significant. Based on a random sample of 531 major dischargers--274 municipal and 257 industrial dischargers--in six states, we estimated that 82 percent of these dischargers exceeded their permit limits at least once during an 18-month period. We also estimated that 31 percent of the dischargers exceeding permit limits were in significant noncompliance with permit limits. We defined significant noncompliance as exceeding one or more permit limits by 50 percent or more in at least 4 consecutive months during the 18-month review period. About 69 percent of the dischargers in significant noncompliance were municipal dischargers and 31 percent were industrial dischargers. The causes of noncompliance varied considerably, and correcting some of the problems can be costly and time consuming. The federal water pollution control program has achieved positive results to date. However, significant noncompliance will prevent the nation from deriving the expected amounts of pollution reduction from the billions of dollars invested in municipal and industrial treatment facilities, and some of our waterways may not be available for their intended uses.

EXTENT OF NONCOMPLIANCE

NPDES permits prescribe limits on the allowable concentration and quantity of specific pollutants in the effluent discharged from municipal and industrial waste treatment facilities into receiving waters like rivers, lakes, streams, and the coastal oceans. The permits also require dischargers to report to the permitting agency (EPA or the state) on compliance with those limits at set intervals. We reviewed discharge monitoring reports submitted by 531 major municipal and industrial dischargers in six states for the 18-month period ending March 31, 1982, to get a picture of the extent of noncompliance.

How widespread was noncompliance?

Based on our random sample of the 531 dischargers in six states, we estimated that 82 percent of the major dischargers in those states exceeded their permit limits at least once during the 18-month review period. Overall, municipal noncompliance was 86 percent and industrial noncompliance was 79 percent. The following table summarizes the results of our review.

Summary of Permit Noncompliance in Six Selected States
October 1, 1980 - March 31, 1982

Discharger type	Universe size	Sample size	Estimated number of dischargers with at least one instance of noncompliance	
			Number	Percent
Municipal	814	274	698	86
Industrial	715	257	563	79
Total	1,529	531	1,261	82

The extent of noncompliance varied by state and by type of discharger. In Iowa, 95 percent of municipal dischargers sampled exceeded their permit limits at least once during the 18-month period; in Texas the level of noncompliance was 80 percent. Likewise, the extent of noncompliance by industrial dischargers ranged from 89 percent in Missouri to 76 percent in New Jersey and New York. Details on the levels of noncompliance by municipal and industrial dischargers in the six states appear in appendix I.

How frequent was noncompliance?

While 444 of 531 dischargers exceeded their permit limits at least once during the 18-month period covered, most dischargers exceeded their permit limits for more than 1 month. We analyzed the noncompliance in terms of allowable concentration limits and quantity limits.

Of our sample, 48 percent of the municipal and industrial dischargers exceeding the concentration limits of their permits did so for more than 6 months during the 18-month period; 23 percent of these dischargers exceeded those limits during more than 12 months. Of the dischargers exceeding quantity limits, 42 percent exceeded the limits during more than 6 months and 17 percent of these dischargers exceeded the limits during more than 12 months of the 18-month period. Municipal dischargers exceeded their permit limits more frequently than industrial dischargers. For example, about 59 percent of the municipals exceeded their concentration limits for more than 6 months while only 33 percent of industrials exceeded those limits for more than 6 months in the 18-month period reviewed.

The following table summarizes the frequency of permit noncompliance in the six states reviewed. Details on the frequency of permit noncompliance in individual states appears in appendix I.

Frequency of Noncompliance
One or More Permit Limits
October 1, 1980 to March 31, 1982

Discharger type	Sample size	Frequency of noncompliance in months: 1 to 3 C[a]	1 to 3 Q[b]	4 to 6 C	4 to 6 Q	7 to 9 C	7 to 9 Q	10 to 12 C	10 to 12 Q	Over 12 C	Over 12 Q	Total C	Total Q
Municipal	274	59	44	35	29	30	20	35	13	70	33	229	139
Industrial	257	72	63	42	24	22	19	13	15	20	14	169	135
Total	531	131	107	77	53	52	39	48	28	90	47	398	274

[a]C=concentration.
[b]Q=quantity.

How significant was noncompliance?

According to EPA, any instance of noncompliance with an NPDES permit is noncompliance with the Clean Water Act for which the permittee is strictly liable. Still, we wanted to determine what percent of the dischargers in noncompliance with their permit limits at some point during the 18-month review period could be considered in significant noncompliance. We considered a discharger in significant noncompliance when concentration or quantity limits were exceeded by 50 percent or more for at least one permit parameter in at least 4 consecutive months during the 18-month period. We used this definition in our 1980 report on municipal treatment plant operation and maintenance, at which time EPA characterized it as conservative. At the time our current review began, EPA had not finalized its definition of significant noncompliance.

Based on these criteria, our review showed that 88 of 238 municipal dischargers that exceeded their permit limits were in significant noncompliance. Forty-two of 206 industrial dischargers that exceeded their permits were in significant noncompliance. Overall, we estimated that 31 percent of dischargers in the six states sampled that exceeded their permit limits during the 18-month period were in significant noncompliance.

Levels of significant noncompliance varied in the six states. Significant noncompliance for municipal dischargers ranged from a high of 47 percent in New York to a low of 19 percent in Texas. For industrial dischargers in our sample, significant noncompliance ranged from a high of 32 percent in New Jersey to a low of 11 percent in Texas.

The following table summarizes the significant noncompliance with permit limits in the six selected states. Details on individual states appear in appendix II.

Summary of Significant Permit Noncompliance
in Six Selected States
October 1, 1980 - March 31, 1982

Discharger type	Universe size	Sample size	Estimated number of dischargers in significant noncompliance	
			Number	Percent of total noncompliers
Municipal	814	274	265	38
Industrial	715	257	121	21
Total	1,529	531	386	31

AGENCY COMMENTS AND OUR EVALUATION

EPA responded to our draft report on August 18, 1983. (See appendix III.) To evaluate our data on noncompliance, EPA had requested and was granted a 21-day extension to the 30-day comment period we generally provide.

EPA said the draft report pointed out the necessity for EPA to exercise careful and continuous oversight of its compliance reporting system and that our comments would help refine the system. EPA said, however, that it had serious concerns with the compliance section of the report because EPA's analysis of our data showed the noncompliance rates to be from 7 to 12 percentage points lower than our rate.[1] EPA disagreed with our definition of significant noncompliance and said its data showed slow but continuous improvement in compliance rates during the period covered by our study and since that time.

Because EPA had not defined the term significant noncompliance when this review began, we used a definition we previously applied in our November 1980 study on municipal treatment facilities: exceeding the permit limits for one or more pollutants by 50 percent or more in at least 4 consecutive months during the review period. In October 1982, EPA informally provided the regions and the states with a definition of significant noncompliance: exceeding the monthly average permit limit by more than 40 percent for conventional pollutants and 20 percent for toxic pollutants in any 2 months of a 6-month period.

[1]EPA's 7 to 12 percent refers to the 29 percent noncompliance rate shown in our draft report. We revised our overall rate to 31 percent to reflect weighting of our sample results. Weighting is necessary when universes vary in size.