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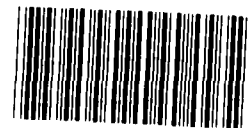
BY THE U.S. GENERAL ACCOUNTING OFFICE
**Report To The Chairman,
Subcommittee On Commerce,
Transportation and Tourism
Committee On Energy And Commerce
House Of Representatives**

**Inspection, Enforcement, And Permitting
Activities At New Jersey And Tennessee
Hazardous Waste Facilities**

Facilities where hazardous waste is treated, stored, or disposed of are subject to federal controls. This report presents data on key elements of the hazardous waste regulatory program for New Jersey and Tennessee facilities. Overall, GAO found that:

- Eleven of 14 facilities in Tennessee and 5 of 34 facilities in New Jersey are not in full compliance with ground water monitoring requirements.
- Neither state knew the extent of compliance with financial responsibility requirements which are intended to assure that when facilities close, funds will be available for proper facility closure and postclosure care.
- Infrequent followup was made and few enforcement actions were taken to ensure that violations identified through inspections were corrected during GAO's review period.
- EPA and the states have issued relatively few final permits to the estimated 7,500 facilities requiring them.

EPA recognizes that widespread noncompliance with the Resource Conservation and Recovery Act program requirements exists, and it has recently taken or plans to take actions to improve the inspection, enforcement, and permitting program. However, it was too early for GAO to assess whether these actions have been successful.



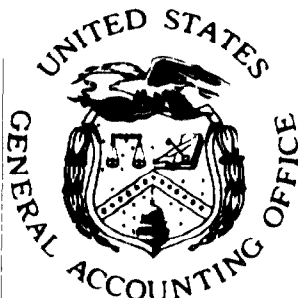
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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

RESOURCES COMMUNITY,
AND ECONOMIC DEVELOPMENT
DIVISION

B-214656

The Honorable James J. Florio
Chairman, Subcommittee on Commerce,
Transportation and Tourism
Committee on Energy and Commerce
House of Representatives

Dear Mr. Chairman:

On January 11, 1983, you requested that we review key elements of the federal hazardous waste regulatory program established by the Resource Conservation and Recovery Act (RCRA) of 1976. In September 1983, we provided you a report¹ on the results of our work performed in California, Illinois, Massachusetts, and North Carolina. This report provides the results of our work in two additional states, Tennessee and New Jersey, and identifies the corrective actions the Environmental Protection Agency (EPA) has taken in response to the deficiencies identified in this and our earlier report.

As agreed with your office, we reviewed the implementation of the regulatory program for hazardous waste treatment, storage, and disposal facilities in New Jersey and Tennessee, with emphasis on

- facility compliance with ground water monitoring and financial responsibility requirements and
- the extent, type, and frequency of inspection and enforcement activities.

As requested we also reviewed EPA's approach to and progress of the facility permitting program nationwide. Finally, we identified the actions EPA has taken or plans to take to improve the inspection, enforcement, and permitting programs.

The results of our work are summarized below; more specific information on these results is presented in appendixes III through VI. To obtain the necessary information, we performed work at EPA headquarters in Washington, D.C., EPA Regions II (New York, New York) and IV (Atlanta, Georgia), and hazardous waste offices in New Jersey and Tennessee. EPA Region II oversees New

¹Interim Report on Inspection, Enforcement, and Permitting Activities (GAO/RCED-83-241 Sept. 21, 1983).

Jersey's hazardous waste program, and EPA Region IV oversees Tennessee's program. EPA administers the hazardous waste regulatory program until states are authorized by EPA to administer their own programs. States assume the various responsibilities such as inspection, enforcement, and permitting from EPA in phases. Tennessee has administered its own inspection and enforcement program since July 1981. Since New Jersey did not obtain primary inspection and enforcement authority from EPA until February 1983, we are including information on both EPA and state activities in New Jersey. Specific information on our objectives, scope, and methodology can be found in appendix I.

Overall, we found that (1) 5 of the 34 facilities in New Jersey and 11 of 14 in Tennessee subject to ground water monitoring requirements under RCRA were not in full compliance, (2) neither state knew the extent of compliance with financial responsibility requirements which are intended to assure that when facilities close, funds will be available for proper closure and postclosure care, (3) followup on violations identified through inspections was not always performed and few enforcement actions had been taken, and (4) relatively few of the estimated 7,500 facilities nationwide needing permits had been issued permits by EPA and the states. EPA has recently taken or plans to take actions aimed at correcting these problems, but it was too early for us to evaluate how successful these actions will be.

COMPLIANCE WITH GROUND WATER MONITORING REQUIREMENTS

Under federal regulation, hazardous waste treatment, storage, and disposal facilities whose operations could result in contaminated ground water must institute ground water monitoring programs or document their eligibility to waive monitoring requirements. To claim a waiver, a facility owner or operator would have to document that there is low potential for ground water contamination. According to state records, 11 of 14 facilities in Tennessee and 5 of 34 facilities in New Jersey were not in compliance with the federal ground water monitoring requirements. State officials attributed the noncompliance to difficulty in implementing the technically complex regulations and/or the high cost to perform ground water monitoring. EPA estimates that it costs over \$10,000 to design and construct four ground water monitoring wells, the minimum requirement for complying with EPA's ground water monitoring regulations.

Noncompliance appears to be a nationwide problem based on an EPA study and regional reviews. In March 1983, EPA issued a study which concluded that there has been considerable noncompliance with ground water monitoring requirements. The study found that of the 171 facilities EPA reviewed, 109 were not in compliance. Program reviews performed by EPA in its 10 EPA regions between

December 1982 and December 1983 also indicated that noncompliance with ground water monitoring requirements is a significant nationwide problem.

To correct the deficiencies noted in these reports, EPA has taken or plans to take several actions, including inspecting all facilities which are required to monitor ground water during fiscal year 1984, implementing more extensive facility status reporting by EPA regions and the states, and developing guidance for EPA regions and authorized states calling for timely and appropriate enforcement action against all violators of the ground water monitoring requirements. (See app. III for a more detailed discussion on ground water monitoring.)

COMPLIANCE WITH CLOSURE, POSTCLOSURE,
AND FINANCIAL RESPONSIBILITY REQUIREMENTS

Federal regulations require that hazardous waste facility owners/operators demonstrate in advance their ability to finance closure and postclosure activities when the facility ceases operations and provide liability coverage for bodily injury and property damage to other parties resulting from facility operations. Closure activities include securing or removing all hazardous waste from the facility and cleaning all affected structures and equipment. Postclosure activities include ground water monitoring and maintenance of waste containment systems such as clay or synthetic liners at land disposal facilities. The financial responsibility requirements include financial assurance instruments such as trust funds or insurance policies. The amount of financial assurance required to fund the cost of closure and postclosure activities is based on the owner's or operator's estimate of the cost to conduct these activities. Facility owners/operators are required to maintain copies of their closure and postclosure plans and cost estimates at the facility. Copies of the financial assurance instruments must be submitted to EPA or the state.

Tennessee and New Jersey did not know the extent of compliance with the closure and postclosure plans and cost estimate requirements because the states were not making detailed reviews of these documents during facility inspections. According to state officials, such reviews were not made because of (1) time constraints, (2) limited staff resources, or (3) lack of guidance and training for inspectors. In addition, while most facilities were submitting the required financial assurance instruments to EPA or the states, neither Tennessee nor New Jersey was determining whether the amount of financial assurance reported was sufficient to fund closure and postclosure activities or whether the financial institutions issuing the instruments were qualified. Both states wait until learning that a facility intends to close or that it will undergo permitting before they thoroughly review facility plans, cost estimates, and financial assurance instruments. Permitting of all facilities, however, according to EPA's

draft national permit strategy, will not be completed for 5 years. In the meantime, if a facility closes without adequate financial assurance, there is no guarantee that funds will be available to conduct closure and postclosure activities. Facility permitting is discussed in more detail below.

Based on a recent survey, EPA has concluded that compliance with the closure, postclosure, and financial responsibility requirements is a problem nationwide. For example, EPA's February 22, 1984, survey report shows that of 172 facilities sampled, only 30 percent met all closure plan requirements, and 33 percent met closure cost estimate requirements. EPA, in its draft January 1984 RCRA Enforcement/Compliance Strategy, noted that if a facility closes without complying with the closure and postclosure requirements or without adequate financial assurance to meet related closure costs, the facility may become abandoned resulting in possible risks to the public health and environment as well as significant cleanup costs.

To improve compliance with closure, postclosure, and financial responsibility requirements, EPA is requiring that all closure and postclosure plans, cost estimates, and financial assurance instruments for major facilities be reviewed in fiscal year 1984. In addition, EPA plans to issue guidance to the EPA regions and states late in fiscal year 1984 on what constitutes a good closure and postclosure plan. EPA is also developing a checklist for its regions and the states to use in reviewing these plans and associated cost estimates. (See app. IV for a more detailed discussion on closure, postclosure, and financial responsibility requirements.)

INSPECTION AND ENFORCEMENT PROGRAMS

To evaluate the inspection, followup, and enforcement activities in New Jersey and Tennessee, we reviewed the inspection and enforcement files for the facilities assigned to the largest field office in each state and collected information on inspections performed through December 31, 1982. We used this cut-off date to allow sufficient time for the states to conduct followup and/or take enforcement action based on violations found during inspections.

Extent of inspection coverage

EPA inspection guidelines in effect at the time of our review called for inspection of major facilities² annually and nonmajor facilities every 2 years. Our review of inspection files for 97 facilities assigned to Tennessee's largest field office, which included 16 major facilities, showed that major facilities were inspected in accordance with the guidelines. However, we found that 27 percent (22 of 81) of the nonmajor facilities were not inspected every 2 years as called for in EPA's guidelines. Tennessee officials said that limited staff resources was the primary reason inspections of all nonmajor facilities were not conducted during the 2-year period.

Our review of inspection files for 325 facilities assigned to New Jersey's largest field office showed that 74 percent (241) of both major and nonmajor facilities had been inspected during the 2-year period. We were unable to develop separate inspection coverage statistics for major and nonmajor facilities because a reliable list of major facilities was not available from EPA or New Jersey.

Followup on violations

Our review of followup activities at the Tennessee field office showed that 4 of 13 inspections which identified violations received no follow up. According to a Tennessee official, follow-up should have been performed but was not because of a lack of a violation tracking system which would have ensured that followup occurred. The official said that he plans to implement a tracking system in fiscal year 1984. We could not determine the extent of followup activities for violations found at facilities assigned to the New Jersey field office. EPA was responsible for follow up in New Jersey during our sample period, but EPA Region II did not maintain complete records of its followup actions. Regional officials, however, told us that due to staffing limitations, little follow up was done.

Enforcement actions

Tennessee enforcement actions against facilities with uncorrected violations were limited because of a state policy which encouraged voluntary compliance. This policy allows up to 18 months of voluntary efforts on the part of noncomplying facilities before enforcement action is taken. As noted previously,

²According to EPA, major facilities include all land disposal facilities, incinerators, and other selected treatment and storage facilities, the total of which is to comprise approximately 10 percent of all facilities in a particular state.

inspections at 13 facilities identified violations. Some of the violations were in the areas of ground water monitoring; closure and postclosure planning and financial responsibility; and contingency planning and security, which according to EPA's violation classification guidance could cause or have the potential to cause an adverse impact on the environment or public health. These violations resulted in the state sending nine notices of violation. Notices of violation, sometimes called warning letters, are used to notify owners/operators that violations exist. No penalties were assessed. Three of the 13 facilities had uncorrected violations 25 or more months after the inspection.

As with followup activities, EPA was responsible for enforcement actions in New Jersey during our sample period and EPA's enforcement records were incomplete. Attorneys in region II's Office of Regional Counsel told us that the same staff limitations which prevented followup actions also caused slow and incomplete enforcement actions. We were told that warning letters were issued an average of 6 months after the inspection and up to a year later in a few cases. Also, compliance orders, which require compliance by a specific date and are enforceable through administrative or judicial actions, were a priority but were issued 8 to 10 months after inspections when the enforcement backlog was at its worst.

Through its regional program reviews and special studies, EPA has recognized that there has been widespread noncompliance with many RCRA program requirements. Actions EPA has taken or plans to take to improve the inspection and enforcement program in general include (1) closer oversight of state inspection, (2) improved followup and enforcement through more extensive reporting requirements, (3) establishment of criteria to evaluate state programs, (4) development of guidance on the type and timing of enforcement actions, and (5) development of an overall RCRA Enforcement/Compliance Strategy. (See app. V for a more detailed discussion on inspection and enforcement.)

PROGRESS IN ISSUING PERMITS

According to EPA, one of the most important aspects of RCRA is the requirement that owners/operators of hazardous waste facilities obtain a permit from EPA or authorized states. Facilities in operation on or before November 19, 1980, may continue to operate by complying with interim status standards until a hazardous waste permit is issued. The permit regulations incorporate the interim status standards but also include additional technical, design, and operating requirements. Progress in permitting facilities, however, has been delayed. EPA had planned that about 960 (of an estimated 7,500 permits) would be issued by September 30, 1983, but only 80 were issued. As of March 31, 1984, EPA and the states had issued 132 permits.

The permitting process has taken longer than initially expected for several reasons, including (1) incomplete permit applications and difficulty in obtaining supplemental information from facilities, (2) competing program priorities which diverted permit staff to other duties, (3) the high rate of facility withdrawals³ and closures which both require review and/or monitoring, and (4) the public hearing process review time.

To improve both the timeliness and the quality of the permitting of hazardous waste facilities, EPA is developing a national permits strategy which it plans to have fully implemented by December 31, 1984. The key aspects of the draft strategy are acceleration of EPA and state requests for permit applications from facilities, providing for more complete permit applications through early coordination of compliance inspections and permit writing; earlier public involvement for selected environmentally significant facilities; and a comprehensive management approach to permitting. EPA's goal is to complete permitting of all land disposal facilities and incinerators by 1988 and all other storage and treatment facilities by 1989. EPA is also developing class permits for specific groups of facilities which should reduce permit preparation and processing time. (See app. VI for a more detailed discussion on permitting.)

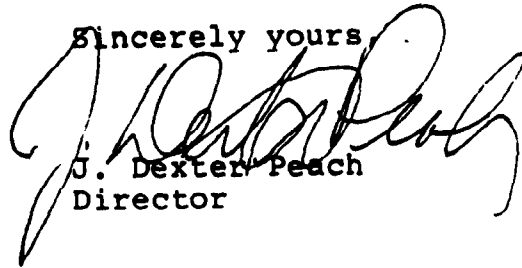
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We did not obtain agency comments on this report; however, we did discuss matters in the report with EPA, New Jersey, and Tennessee hazardous waste program officials and have incorporated their comments where appropriate.

³A withdrawal occurs when EPA or the state approves removing a facility's interim status after determining that the facility never met the criteria for regulation under RCRA. Typical reasons for allowing a facility to withdraw include not handling hazardous waste since the effective date of the regulations, handling insufficient quantities of waste, or storing waste for less than 90 days. Many facilities are choosing to withdraw after EPA and/or the state requests their permit application. EPA and/or the states are then required to evaluate these requests.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of its issuance. At that time we will send copies to interested parties and make copies available to others upon request.

Sincerely yours,

A handwritten signature in black ink, appearing to read "J. Dexter Peach". The signature is fluid and cursive, with a large initial "J" and a long, sweeping underline.

J. Dexter Peach
Director

C o n t e n t s

		<u>Page</u>
APPENDIX		
I	OBJECTIVES, SCOPE, AND METHODOLOGY	1
II	APPLICABLE FEDERAL AND STATE ROLES AND RESPONSIBILITIES	4
III	COMPLIANCE WITH GROUND WATER MONITORING REQUIREMENTS	6
	Ground water monitoring requirements	6
	Extent of noncompliance with ground water monitoring requirements in New Jersey and Tennessee	7
	EPA believes noncompliance is a problem nationwide	10
	EPA actions to improve compliance	12
IV	COMPLIANCE WITH CLOSURE, POSTCLOSURE, AND FINANCIAL RESPONSIBILITY REQUIREMENTS	13
	Closure, postclosure, and financial responsibility requirements	14
	Compliance with closure and postclosure care plan and cost estimate requirements	15
	Compliance with financial assurance requirements	17
	Recent EPA studies indicate compliance is low nationwide	18
	EPA actions to improve compliance	18
V	INSPECTION AND ENFORCEMENT PROGRAMS	20
	Enforcement options and guidance	21
	Extent of inspection coverage	21
	Followup on violations	22
	Enforcement actions	23
	EPA actions to improve overall RCRA program compliance	29
VI	SLOW PROGRESS IN PERMITTING FACILITIES	34
	Permitting process	34
	Progress in facility permitting	36
	EPA actions to expedite permitting	38

ABBREVIATIONS

EPA	Environmental Protection Agency
GAO	General Accounting Office
RCRA	Resource Conservation and Recovery Act
NJPDES	New Jersey Pollutant Discharge Elimination System

OBJECTIVES, SCOPE, AND METHODOLOGY

Our objective in this review was to obtain information on the issues contained in the January 11, 1983, letter from the Chairman, Subcommittee on Commerce, Transportation and Tourism, House Committee on Energy and Commerce, as modified by subsequent discussions with the Chairman's office. Specifically, we were asked to review the federal hazardous waste regulatory program for hazardous waste treatment, storage, and disposal facilities, with emphasis on

- compliance with ground water monitoring and financial responsibility requirements;
- the extent, type, and frequency of inspection and enforcement activities; and
- the approach to and progress of the permitting program.

The Chairman requested an interim report on June 14, 1983, and we issued the report in September 1983.¹ That report presented the results of our work in four EPA regions--Region I (Boston), IV (Atlanta), V (Chicago), and IX (San Francisco) and four states--Massachusetts, North Carolina, Illinois, and California. This final report presents the results of our work at Environmental Protection Agency (EPA) headquarters in Washington, D.C.; EPA Regions II (New York, NY) and IV (Atlanta, GA) and in two states within these regions--New Jersey and Tennessee. The primary units within these states were the New Jersey Department of Environmental Protection; Division of Waste Management and Division of Water Resources; and the Tennessee Department of Health and Environment, Bureau of Environment, Division of Solid Waste Management.

To determine compliance with the ground water monitoring; closure, postclosure, and financial responsibility requirements; and the extent, type, and frequency of inspection and enforcement activities, we reviewed regulations, files, and background and guidance documents obtained at EPA headquarters, regions II and IV, and the responsible state agencies in New Jersey and Tennessee. Regions II and IV are responsible for overseeing the hazardous waste program in 10 states, Puerto Rico, and the Virgin Islands and account for almost 19 percent of the total volume of hazardous waste generated nationwide. New Jersey accounts for approximately 7.5 percent of the nation's hazardous waste and Tennessee accounts for approximately 4.4 percent. We discussed the statutory and regulatory requirements and facility compliance with hazardous waste officials in EPA headquarters and regions,

¹Interim Report on Inspection, Enforcement, and Permitting Activities at Hazardous Waste Facilities (GAO/RCED-83-241, Sept. 21, 1983).

and in the states. We identified and reviewed statistical data available on ground water monitoring; closure, postclosure, and financial responsibility requirements; inspection and enforcement activities; and permitting. We observed five inspections of facilities subject to the ground water monitoring and/or closure, postclosure, and financial responsibility requirements in the two states.

To develop more detailed inspection, followup, and enforcement data not available from the EPA regions or the states, we visited the largest field office in both states. We visited the New Jersey Division of Waste Management's Central Region--which is responsible for 48 percent of the treatment, storage, and disposal facilities in the state--and the Tennessee Nashville Field Office--which is responsible for over 35 percent of the treatment, storage, and disposal facilities in the state. We also visited EPA Region II to obtain inspection, followup, and enforcement data for facilities in the New Jersey Central Region because EPA was responsible for conducting all followup and enforcement activities and inspection of selected facilities until February 1983 when New Jersey received interim authorization. In addition, we reviewed EPA Region II files to make sure that we had reviewed all inspection reports for the facilities in our sample because New Jersey State officials told us that their field office files might not be complete.

We reviewed inspection and enforcement files and completed data collection instruments for all inspections performed from November 19, 1980, the effective date of the interim status regulations, through December 31, 1982. Interim status regulations apply until facilities receive permits from EPA or authorized states at which time the terms of the permit govern the facilities' operations. We used the December 31, 1982, cut-off date to allow sufficient time for corrective action, follow up, and enforcement actions in response to any violations detected. We reviewed files for Tennessee facilities during August through October 1983 and files for New Jersey facilities during November through January 1984. We collected information on the number of facilities inspected and the number and type of violations identified. For the Tennessee facilities sampled, we also noted the extent of followup and enforcement actions used to obtain compliance, but we were unable to obtain this information for the New Jersey facilities we reviewed because region II's records were incomplete. For our analysis of inspection coverage, we included inspections at all facilities. For our analysis of followup and enforcement, however, we disregarded inspections at those facilities where the possibility of exemption or withdrawal from regulation under RCRA had been raised because their need to comply was in question.

To obtain information concerning the approach to and progress of the permitting program, we interviewed EPA headquarters and regional officials and state hazardous waste officials in New Jersey and Tennessee. We also reviewed permitting statutory and

regulatory requirements, guidance documents, and summary statistics.

Our work was conducted from January 1983 through May 1984. As requested by the Chairman's office, we did not obtain official agency comments on the report; however, we did discuss the matters contained in the report with EPA headquarters and regional staffs as well as New Jersey and Tennessee officials responsible for the hazardous waste program. Their comments have been incorporated in the report where appropriate. Except as noted above, our review was performed in accordance with generally accepted government auditing standards.

APPLICABLE FEDERAL AND STATEROLES AND RESPONSIBILITIES

The Congress enacted the Resource Conservation and Recovery Act of 1976 (RCRA) (as amended, 42 U.S.C. §§6901 et seq. (1976 & Supp. IV 1980) to, among other things, regulate the management of hazardous waste and improve waste disposal practices. Under EPA's regulatory program, standards have been established for reporting, recordkeeping, performance, and facility operations for each of the approximately 52,000 generators, 12,000 transporters, and 7,500 facilities that treat, store, or dispose of hazardous waste.

RCRA requires that any person or company owning or operating a facility where hazardous waste is treated, stored, or disposed of must obtain a permit. The act also prescribes a procedure whereby facilities in operation on or before November 19, 1980, may continue operating under interim status until a final hazardous waste permit is issued. Facilities with interim status must be in compliance with interim status regulations established by EPA or authorized states until final administrative disposition of their permit application is made, at which time the facilities must be brought into compliance with the final permit regulations.

The interim status regulations include requirements for preparing for and preventing hazards; contingency planning and emergency procedures; a manifest system for tracking waste; recordkeeping and reporting; ground water monitoring; facility closure and postclosure care; financial responsibility requirements; the use and management of containers; and the design and operation of waste storage tanks, surface impoundments, incinerators, and underground injection wells. In addition, the regulations include general requirements for waste analysis, security at facilities, inspection of facilities, and personnel training. According to EPA, the final permit regulations incorporate the interim status requirements and also include additional technical, design, construction, and operating requirements.

RCRA provides that after authorization by EPA, the states may administer their own hazardous waste programs.¹ The act also allows the states to obtain interim authorization from EPA for 2 years to administer their own hazardous waste programs while working toward final program authorization.² As of April 9,

¹A state program will not be authorized if it is not equivalent to the federal program, is not consistent with the federal or other state programs applicable in other states, or does not provide adequate enforcement.

²Interim authorization will be granted only if the state program is substantially equivalent to the federal program.

1984, EPA had granted interim authorization to 43 states, the District of Columbia, and Guam to carry out inspection and enforcement activities. Of the 43 states, 22 states and the District of Columbia have been authorized to conduct some permitting activities. Most of the remaining states are carrying out various aspects of the hazardous waste program for EPA under cooperative arrangements, although EPA retains overall responsibility. New Jersey was granted inspection and enforcement authority in February 1983, and Tennessee was granted such authority in July 1981. Neither state has yet been authorized to conduct permitting activities. A total of \$42.6 million and \$44 million in grant funds were provided to all states in fiscal years 1982 and 1983 respectively, and \$42.5 million was allotted in fiscal year 1984.

RCRA also authorizes the EPA Administrator to issue compliance orders and assess penalties of up to \$25,000 for each day of facility noncompliance with program requirements. The Administrator may initiate civil actions for appropriate relief for violations of any RCRA requirement, including temporary or permanent injunctions. Where the noncompliance knowingly endangers the public health, criminal actions may also be initiated. Although regulations promulgated by an EPA-authorized state may not impose any requirements that are less stringent than the federal requirements, states are free to adopt more stringent measures. States also enforce their RCRA programs through the use of compliance orders and civil and criminal actions.

COMPLIANCE WITH GROUND WATER MONITORING REQUIREMENTS

Ground water contamination, according to EPA, is the most serious potential threat to human health and the environment posed by the disposal of hazardous waste. Despite the fact that the RCRA ground water monitoring requirements are designed to detect ground water contamination so that corrective action can be taken, we found that 15 percent of the hazardous waste facilities requiring ground water monitoring in New Jersey and 79 percent of those in Tennessee were not in compliance with the federal ground water monitoring requirements. State officials attributed the noncompliance to difficulty in implementing the technically complex regulations and/or the unwillingness of facility owners/operators to pay the high cost to install new ground water monitoring wells or perform ground water sampling. In addition, because of delays in developing inspection procedures, Tennessee did not start inspecting for and enforcing ground water monitoring regulations until 1983. Thus, many facilities were still in the process of coming into compliance at the time of our review.

EPA has found extensive nationwide noncompliance with ground water monitoring requirements and has expressed concern over the lack of enforcement actions against noncomplying facilities. To correct this problem, EPA has singled out facilities required to monitor ground water as the highest enforcement priority. EPA is requesting that its regions and authorized states conduct detailed inspections at all facilities that are required to monitor ground water during fiscal year 1984. In addition, EPA plans to issue additional technical guidance during fiscal year 1984 on the enforcement of interim status ground water monitoring requirements. EPA is also taking, or plans to take, a number of steps to improve compliance with the RCRA program. These steps are discussed in more detail in appendix V.

GROUND WATER MONITORING REQUIREMENTS

The interim status ground water monitoring requirements apply to owners/operators of landfills, waste piles, surface impoundments, and land treatment facilities which are used to manage hazardous waste. Under the interim status regulations, by November 19, 1981, owners/operators of the estimated 1,573 such facilities were to have instituted either a ground water monitoring system or were to have documented their eligibility to waive the monitoring requirements.

The ground water monitoring regulations for permitted facilities are similar to the interim status regulations and allow the use of the same ground water monitoring equipment installed to comply with the interim status standards.

EPA expected the basic ground water monitoring program to be implemented at most facilities. The purpose of this program is to determine if the facility is affecting the quality of ground water

in the uppermost aquifer¹ underlying the facility. The regulations call for installing a minimum of four ground water monitoring wells, developing a sampling and analysis plan, interpreting monitoring data, and maintaining proper recordkeeping and reporting procedures. Facility owners/operators instituting monitoring programs are required to enter alternate assessment programs, as explained below, if contamination exists.

Facility owners/operators who assume or know that monitoring will indicate contamination of the uppermost aquifer beneath the facility may implement an alternate ground water monitoring assessment system instead of the basic ground water monitoring program if EPA approves. This system's purpose, according to EPA, is to determine not only the presence of hazardous waste in ground water, as in the basic monitoring program, but also its rate and extent of migration.

Alternate assessment programs can be implemented at EPA or state insistence if contamination is known or suspected. In these cases, the regulations call for facilities to submit a plan, certified by a qualified geologist or geotechnical engineer, that specifies the number, location, and depth of wells; sampling and analytical methods for those hazardous wastes or hazardous waste constituents in the facility; evaluation procedures, including any use of previously gathered ground water quality information; and a schedule of implementation.

All or part of the ground water monitoring requirements may be waived if the owner/operator can demonstrate that there is a low potential for migration of hazardous waste from the facility to water supply wells or surface water. Although these waivers must be certified by a qualified professional, neither EPA nor the states are required to review the basis for the claim in advance. These written waivers must, by regulation, be kept at the facility, available for review during the interim status inspections.

EXTENT OF NONCOMPLIANCE WITH GROUND
WATER MONITORING REQUIREMENTS IN
NEW JERSEY AND TENNESSEE

Information obtained from the New Jersey Division of Water Resources showed that 15 percent of the facilities subject to the ground water monitoring requirements were not in compliance as of March 13, 1984. State records in the Tennessee Division of Solid Waste Management showed a 79 percent rate of noncompliance as of September 30, 1983, the latest information available at the time of our review. Information on the extent and type of noncompliance for each state is shown below.

¹An aquifer is a water-bearing layer of permeable rock, sand, or gravel.

State	No. of facilities subject to RCRA ground water monitoring requirements	Facilities in noncompliance	Type of noncompliance ^a		
			Insufficient no. of wells installed	Wells not properly constructed and located	Sampling or reporting requirements not met
N.J.	34 ^b	5 (15%)	2	3	0
Tenn.	14	11 (79%)	3	0	8

^aSome facilities were in noncompliance in more than one category; to avoid double counting, facilities were placed in their most serious noncompliance category.

^bThe number of New Jersey facilities subject to RCRA ground water monitoring requirements changed continually during the last 2 years as region II and New Jersey have investigated facilities potentially subject to these requirements. A New Jersey Division of Water Resources Assistant Director estimated that another 50 facilities may eventually be required to monitor ground water under New Jersey's Water Pollution Control Act which regulates more facilities than the basic RCRA program.

In New Jersey, 5 of 34 facilities were not in compliance. Two facilities had only three wells, instead of the minimum required four. Another three facilities had enough wells, but in the state's judgment, they were not properly constructed and located, and they were not complying with all the sampling and reporting requirements.

The New Jersey Chief, Ground Water Discharge Permits Bureau, Division of Water Resources, and the region II environmental engineer responsible for coordinating New Jersey ground water monitoring data said that noncompliance in New Jersey has often resulted from the technical complexity of the regulations. EPA has also recognized that the complexity of the regulations is a nationwide problem. In its January 1984 draft RCRA Enforcement/Compliance Strategy, EPA noted that the ground water compliance problems have been made worse by the extreme complexity of the requirements, the questions of interpretation that surface at specific facilities, and the scarcity of expertise.

In Tennessee, 11 out of 14 facilities were not in compliance. Three facilities had not installed the required wells. Instead, they requested a waiver from the regulations or petitioned to have their waste declared nonhazardous. All three requests were denied. Eight facilities had not completed the ground water sampling required quarterly for the first year and also had recordkeeping and reporting violations. The Director, Tennessee Division of Solid Waste Management and his staff, identified the technical complexity of the regulations as well as the high cost to design and install the required four wells and to

perform the first year quarterly sampling as reasons for high noncompliance. EPA estimated that it costs approximately \$3,100 to design and \$7,400 to construct the minimum requirement of four wells. The sampling costs are approximately \$2,700, according to EPA. Tennessee officials also attributed the noncompliance in their state to not inspecting for and enforcing the ground water monitoring requirements until after December 1982. They said that the reason for the late inspection start was an unforeseen delay in developing a state ground water monitoring procedures list.

State actions to obtain compliance

New Jersey's Water Pollution Control Act, enacted in 1977, authorized the state to control discharges to ground water. The state formerly relied heavily on policy statements included in the act, but in 1981 it began implementing the New Jersey Pollutant Discharge Elimination System (NJPDES) permit program authorized by the act. The permits establish the maximum allowable limits by pollutant that can be discharged. The state's system is based on the National Pollutant Discharge Elimination System established by the Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1251 *et. seq.*). While the federal system regulates only discharges into navigable waters, the New Jersey system also regulates discharges into ground water and onto land from which the discharges might reach the ground water. Ground water monitoring requirements under NJPDES are essentially the same as those under RCRA, and the state currently uses the NJPDES permit process as its primary tool for achieving compliance with the RCRA requirements. NJPDES permits specify the number of ground water monitoring wells a facility must have, its location and design, and also establish sampling parameters and frequency. If a facility is not in compliance with its permit when it becomes effective, the permit establishes a compliance schedule. The Division of Water Resources is responsible for enforcing permit conditions.

According to the Chief, Bureau of Ground Water Discharge Permits, Division of Water Resources, NJPDES permits have been drafted for most of the 34 ground water monitoring facilities. A region II environmental engineer told us that NJPDES permits are expected to be issued and effective for all facilities by September 1984. As of May 17, 1984, the New Jersey Bureau of Ground Water Discharge Permits, Division of Water Resources, had issued final NJPDES permits to four of the five New Jersey facilities in noncompliance. A NJPDES permit had been drafted for the fifth facility.

The Division of Water Resources believes that the NJPDES permit process can be as effective as enforcement action in making facilities locate and construct ground water monitoring wells properly. These are technical matters on which professional opinions can vary, and a facility might legitimately believe or at least argue that its wells are properly located and constructed. The Division can require changes in the number or placement of wells in a NJPDES permit and then take enforcement action if

necessary for failure to comply with the permit. The Division believes it can enforce RCRA requirements more easily through NJPDES permits because they contain specific directives which do not allow different interpretations. However, the Division believes that a violation clearly exists and enforcement action is appropriate when a facility takes no action. For example, a facility's failure to submit a required ground water assessment plan when its ground water monitoring indicated contamination would be referred to the Division's enforcement group.

Region II officials have allowed New Jersey to bring facilities into compliance through the issuance of NJPDES permits. According to a region II environmental engineer, the NJPDES permit process enables the state to assess each facility's ground water monitoring program thoroughly. If a facility does not comply with its permit requirements, New Jersey can take appropriate enforcement action.

Tennessee attempts to bring facilities into compliance with the ground water monitoring requirements by issuing notices of violation and placing the facilities on compliance schedules. Tennessee's written enforcement policy allows it to issue the notices of violation and offer technical assistance and guidance to violators for 12 to 18 months before initiating further enforcement action.

Other than notices of violation with compliance schedules, no other enforcement actions have been taken against the 11 facilities in noncompliance according to the Tennessee Director, Division of Solid Waste Management. Three facilities were in noncompliance because they had not installed the required number of monitoring wells; eight other facilities had not completed the required four quarters of ground water sampling.

EPA BELIEVES NONCOMPLIANCE IS A PROBLEM NATIONWIDE

Based on its nationwide study and regional program reviews, EPA has determined that there is extensive nationwide noncompliance with ground water monitoring requirements and that little enforcement action has been taken to bring about compliance.

In a report² to the Office of Management and Budget, EPA concluded that there has been considerable noncompliance with federal ground water monitoring requirements. The report was based on work performed between May 1982 and January 1983 at a sample of facilities. However, the report cautions that because sampling problems were encountered, confident extrapolations

²Evaluation of the Ground Water Monitoring Interim Status Requirements: Phase II Report to the Office of Management and Budget on Implementation of the Requirements, Mar. 10, 1983.

cannot be made from the sample to the total population of facilities.

Of the 171 facilities sampled, 109 were not in compliance. The following specific problems were noted at facilities using basic ground water detection monitoring programs.

- 36 facilities did not have adequate upgradient wells,
- 48 facilities did not have adequate downgradient wells,
- 37 facilities had problems related to sampling and analysis procedures,
- 53 facilities did not maintain required records, and
- 59 facilities did not submit required reports.

The report further showed that 64 percent (70 out of 109) of those facilities not in compliance had not received any kind of enforcement action. EPA's Director, Office of Waste Programs Enforcement, expressed concern about the continued noncompliance of facilities and the apparent lack of enforcement by EPA regions and states against those facilities.

Program reviews conducted by EPA in its 10 regions³ between December 1982 and December 1983 also indicate that noncompliance with the ground water monitoring requirements is a significant national problem. Because the extent of ground water monitoring compliance information provided in each of the program reviews varied, cumulative statistics could not be developed. The following examples drawn from reports of the reviews, however, illustrate the extensive noncompliance found. Region II was reported to have a 31 percent noncompliance rate and region VIII was reported to have a 47 percent noncompliance rate. Region IV was just beginning to receive reports from the states, but those reports indicated "serious and long-standing" noncompliance. Only a "handful" of region I's facilities were in compliance according to its program review. Of those facilities inspected in region VI, 45 percent were reported to be in noncompliance. Few, if any, of region X's facilities were in full compliance. All of the other regions, according to the review reports, had similar low compliance situations, except region VII, which had an 82 percent compliance rate. Region VII's review was performed last, in December 1983, and the compliance rate may be higher than in the other regions because of the emphasis EPA began placing on compliance with the ground water monitoring requirements.

³Annual program reviews of each EPA region were initiated in fiscal year 1983. The reviews are performed by EPA headquarters and regional staff during 1-week visits to each region.

According to EPA's Director, Office of Waste Programs Enforcement, preliminary information provided by the states showed that for those facilities inspected and found to be out of compliance, few enforcement actions were being pursued.

EPA ACTIONS TO IMPROVE COMPLIANCE

EPA's findings of widespread noncompliance and its concern over lack of enforcement action have prompted it to emphasize compliance with the ground water monitoring requirements in its guidance to the EPA regions and states as discussed below.

The fiscal year 1984 RCRA Guidance for EPA regions and states established as the top national inspection priority for fiscal year 1984 that all facilities subject to ground water monitoring requirements be inspected. The inspections are to include a detailed technical analysis of the monitoring systems and may include ground water sampling to determine the quality of owner/operator-collected data. In fiscal year 1984, EPA also plans to issue additional technical guidance on the enforcement of interim status ground water monitoring requirements.

EPA has also taken measures to improve compliance with RCRA requirements in general, including more extensive reporting requirements, increased emphasis on EPA oversight of state programs, and issuance of guidance for EPA regions and authorized states which calls for timely and appropriate enforcement action against all violators. These overall actions are discussed in more detail in appendix V.

COMPLIANCE WITH THE CLOSURE, POSTCLOSURE, AND
FINANCIAL RESPONSIBILITY REQUIREMENTS

The closure and postclosure plan and cost estimate requirements and the financial responsibility requirements are designed to assure that when hazardous waste facilities cease operations, their owners/operators have adequate plans and funds for closure and postclosure activities.¹ The financial responsibility requirements include financial assurance instruments such as trust funds and insurance policies to cover the costs of closure and postclosure care. Facility owners/operators are required to maintain copies of closure and postclosure plans and cost estimates at the facility and are required to submit copies of the financial instruments to EPA or the state.

Neither New Jersey nor Tennessee knows the extent of compliance with the closure and postclosure plans and cost estimate requirements because they have not been performing detailed evaluations of these documents during facility inspections. The extensive time required to make such evaluations and the lack of inspector training and expertise were among the reasons state officials cited why the evaluations have not been performed. In addition, while most facilities were submitting the required financial assurance instruments to cover the costs of closure and postclosure care, neither state was assuring that the amount of the financial assurance agreed with the closure and postclosure cost estimates or that the financial institutions issuing the instruments were qualified. Both states wait until actual facility closure or permitting, a process that could take up to 5 years, to thoroughly evaluate facility closure and postclosure plans, cost estimates, and financial assurance instruments.

EPA has found extensive problems with respect to facility closure and postclosure plans and cost estimates. In February 1984, EPA reported that only 22 percent of the 172 facilities sampled in a nationwide survey had met all of the closure plan and cost estimate requirements. To correct this problem, EPA is requiring its regions and authorized states to evaluate all major² facilities for compliance with the closure, postclosure, and financial responsibility requirements in fiscal year 1984.

¹Closure refers to the period during which all facility equipment and structures are properly disposed of or decontaminated by removing all hazardous waste and residues. Postclosure is the 30-year period after closure during which monitoring, reporting, and maintenance is performed at land disposal facilities.

²According to EPA, major facilities include all land disposal facilities, incinerators, and other selected treatment and storage facilities, the total of which is to comprise approximately 10 percent of all facilities in a particular state.

EPA is also developing additional guidance and is planning further training to help states review closure and postclosure plans and cost estimates. Tennessee has agreed to perform detailed evaluations at its major facilities in fiscal year 1984. New Jersey and region II have already reviewed some major facility plans and financial instruments as part of the permitting process. They have agreed to share responsibility for reviewing the remaining major facilities during fiscal year 1984 except for some land disposal facilities that will undergo permit review in fiscal year 1985.

CLOSURE, POSTCLOSURE, AND
FINANCIAL RESPONSIBILITY
REQUIREMENTS

The closure, postclosure, and financial responsibility regulations issued by EPA for both interim status and permitted facilities are similar and include requirements for financial assurance and financial liability. The 7,500 treatment, storage, and disposal facilities must demonstrate their ability to finance closure activities and provide liability coverage for bodily injury and property damage to other parties resulting from facility operations. In addition, owners/operators of land disposal facilities must also demonstrate their ability to finance postclosure activities.

In order to meet the closure, postclosure, and financial responsibility requirements, six specific actions are required of facility owners/operators:

1. Develop an adequate closure plan for securing or removing all hazardous waste and for decontaminating all equipment and structures affected.
2. Develop an adequate postclosure plan that ensures the care and maintenance of the waste containment system, such as the clay or synthetic liners, covering, and vegetation for a 30-year period (disposal facilities only).
3. Develop adequate closure cost estimates, and for land disposal facilities, estimates of the cost of postclosure care. (There is no federal requirement for submission of closure and postclosure plans or cost estimates to EPA or the state for evaluation; the plans are only required to be maintained at the facility and made available when facility inspections occur.)
4. Execute a financial assurance instrument based on closure and postclosure cost estimates. (The instrument could be a trust fund, surety bond, letter of credit, insurance, financial test, or corporate guarantee which demonstrates the firm's ability to pay for the cost of closure and, if required, postclosure care and

maintenance, and which meet the regulatory specifications for the instrument chosen. Facility owners/operators are required to submit copies of the financial instruments to EPA or the state.)

5. Have and maintain liability coverage for bodily injury and property damage to other parties in the event of sudden accidents from facility operations.
6. Establish liability coverage for bodily injury and property damage to other parties in the event of nonsudden accidental occurrence resulting from facility operations (disposal facilities only).

While the amounts of financial assurance for closure and postclosure care are based on cost estimates, the amounts of financial liability coverage are fixed by regulation: at least \$1 million for each sudden occurrence, with an annual aggregate of at least \$2 million; and \$3 million for each nonsudden occurrence, with an annual aggregate of at least \$6 million. The timeframe in which facilities must demonstrate liability coverage ranges from January 15, 1983, to January 15, 1985, depending upon size and type of facility. Because all facilities are not yet required to comply with the financial liability requirement, we did not evaluate compliance with this requirement.

The closure, postclosure, and financial responsibility regulations apply to both the owner and the operator of a hazardous waste facility. EPA considers both parties responsible for carrying out the requirements and leaves it up to the parties themselves to undertake, share, or divide the actual provision of financial assurance. Federal and state operated facilities are exempt from these requirements.

COMPLIANCE WITH CLOSURE AND POSTCLOSURE CARE PLAN AND COST ESTIMATE REQUIREMENTS

In its draft January 1984 RCRA Enforcement/Compliance Strategy, EPA outlined the importance of compliance with closure and postclosure and financial responsibility requirements. The draft strategy noted that many facilities close down, or announce their intention to close in response to regulatory or permitting requirements. The draft strategy also noted that if facilities close without complying with the closure and postclosure requirements and without adequate financial assurances to do so, they may turn into abandoned hazardous waste sites which may present risks to public health and the environment as well as significant cleanup costs.

New Jersey and Tennessee did not know the overall extent of compliance with the closure and postclosure care plan and cost estimate requirements because they have not been performing

detailed evaluations during interim status inspections. These detailed evaluations were only performed when facilities closed or were undergoing permitting. Permitting, however, could take up to 5 years to complete. In the meantime, facilities may go bankrupt and close without sufficient funds for closure and postclosure care.

The New Jersey Chief, Field Operations Bureau, Division of Waste Management, told us that inspectors were not required to perform detailed evaluations of closure and postclosure plans and cost estimates during facility inspections because of the extensive time such evaluations require and the belief that detailed reviews should be performed by engineers rather than inspectors who do not necessarily have engineering backgrounds. However, a New Jersey senior environmental specialist said that during interim status inspections the inspectors assure that closure plans describe how and when the facility will be closed, estimate maximum inventory of wastes, describe equipment decontamination procedures, and contain a schedule for final closure. He said that the inspectors also look for the presence or absence of cost estimates and determine whether they address the required elements, but the inspectors are not expected to assess the adequacy of the cost estimates.

The Director, Tennessee Division of Solid Waste Management, told us that Tennessee had not required inspectors to perform detailed evaluations of the plans and cost estimates because of the time required and lack of guidance and training. He also said that until fiscal year 1984, Tennessee did not have enough inspectors to perform detailed evaluations.

Based on the limited number of permit application reviews that have been conducted to date in New Jersey and Tennessee, it appears that problems exist with the plans and estimates. As of January 27, 1984, EPA had issued 17 notices of deficiency to 17 New Jersey permit applicants based on applications received in fiscal years 1982 and 1983. We were able to obtain information on problems noted in 10 of the notices. Five of the permit applications had among other problems one or more deficiencies with closure plans or cost estimates. According to a region II environmental engineer, these deficiencies included low or missing estimates of potential waste to remain at the facility after closure, a missing closure cost estimate, and inadequate explanation of how decontamination of equipment will be accomplished or how storage containers will be removed during closure.

Data provided by Tennessee showed that 14 of the 16 facilities that had submitted permit applications as of September 30, 1983, had among other things inadequate closure plans and/or understated closure cost estimates. In addition, 15 of 16 facilities in Tennessee attempting closure as of September 30, 1983, had deficiencies in their closure plans. Regions IV's financial responsibility advisor who oversees state performance in

this area said that few closure plans he has reviewed appeared adequate and that there were wide variations in cost estimates. For example, his review of one Tennessee facility's original closure plan and cost estimate identified nine deficiencies that severely affected the reasonableness of the facility's \$13,794 closure cost estimate. The revised cost estimate, although still not final, had already been increased to \$50,980.

COMPLIANCE WITH FINANCIAL ASSURANCE REQUIREMENTS

The RCRA financial responsibility regulations require that facility owners/operators demonstrate their ability to pay for closure and postclosure care where appropriate, through financial assurance instruments. Copies of these financial instruments must be submitted to EPA or the state.

As of May 4, 1984, 346 of New Jersey's 350 facilities had submitted copies of the required instruments to EPA and/or New Jersey. New Jersey plans to refer two of the four facilities that have not submitted complete instruments to the State Attorney General for enforcement action according to the Chief, Bureau of Compliance and Enforcement, Division of Waste Management. Of the two remaining facilities, New Jersey plans to issue a notice of violation with penalty to one and will await the results of a petition submitted by the other facility to be exempt from regulation before taking further action against it. The New Jersey Chief, Bureau of Hazardous Waste Engineering Review and Permits, said that the financial assurance instruments received have been reviewed for completeness and terminology in accordance with the regulations and are returned to the facility to be revised as necessary. He said, however, that reviews to assure that the amount covered in the financial instruments agree with the cost estimates and that the financial institutions issuing the instruments were qualified are made at closure or permitting only, when the closure and postclosure care plans and cost estimates on which they are based are thoroughly reviewed.

In Tennessee, as of May 2, 1984, financial assurance instruments had been received from 40 of 61 facilities subject to these requirements. These instruments were due June 1, 1983. According to the Tennessee Division of Solid Waste Management official responsible for financial assurance, enforcement action was taken against 5 of the 21 noncomplying facilities to bring them into compliance. He said that the remaining 16 facilities had applied to be exempted from regulation and no enforcement action would be taken until decisions are made on these applications. He also said that as time allows, he reviews the financial instruments to make sure that they are complete and the terminology used is in accordance with the regulations. However, he does not check to see that the amount of financial assurance agrees with the cost estimate or if the financial institutions are qualified. He performs these evaluations during permitting or closure of a

facility when the closure and postclosure care plans and cost estimates on which they are based are reviewed in detail.

RECENT EPA STUDIES INDICATE COMPLIANCE IS LOW NATIONWIDE

EPA has found widespread noncompliance with the closure, postclosure care, and financial responsibility requirements.

In the summer of 1982, EPA conducted a special nationwide survey to determine compliance with the interim status closure and postclosure plan and cost estimate requirements. The preliminary study showed a low rate of compliance. Of the 192 facilities sampled, only 1 percent were in full compliance with the closure plan requirements and only 3 percent with closure cost estimate requirements. Of the land disposal facilities, 4 percent were in compliance with postclosure plan requirements and 13 percent with postclosure cost estimate requirements.

Concern about these findings prompted a verification and update effort 1 year later, and a final report was issued February 22, 1984. The final report showed improvement but still low compliance. Of the 172 facilities also examined in the update, only 30 percent met all closure plan requirements, and 33 percent met closure cost estimate requirements. Of the land disposal facilities, 12 percent met postclosure plan requirements, and 23 percent were in compliance with postclosure cost estimate requirements.

The nationwide survey provided information on the rate of noncompliance with the major aspects of the closure and postclosure care plan and cost estimate requirements, but the survey did not provide information on the specific nature of the noncompliance. The survey reported substantial noncompliance under most categories of the regulations. The overall categories included (1) closure plan contains estimates of the maximum inventory of wastes in storage and in treatment, and description of closure activities, (2) postclosure plan contains descriptions of planned maintenance and ground water monitoring activities, (3) closure estimate adjusted for inflation and include the cost to decontaminate facility equipment during closure, and (4) postclosure cost estimate adjusted for inflation, and include cost of maintenance and ground water monitoring activities for 30 years.

EPA ACTIONS TO IMPROVE COMPLIANCE

EPA, concerned about the low compliance with the closure and postclosure care plan and cost estimate and financial responsibility requirements, began emphasizing compliance monitoring activities in these areas beginning in fiscal year 1984. In its fiscal year 1984 RCRA Guidance, EPA identified review of plans and estimate and financial instruments as one of the highest priorities of RCRA implementation and requested that EPA regions and the states perform detailed evaluations for all major facilities

during fiscal year 1984. Tennessee agreed to perform detailed evaluations during fiscal year 1984 as part of its grant agreement. New Jersey has agreed to review some, but not all of their major facility documents as part of a fiscal year 1984 supplemental grant agreement. New Jersey prefers to give priority to permitting facilities. Region II will evaluate most of the remaining major facility documents in fiscal year 1984 with the exception of some land disposal facilities. These facilities will be requested shortly to submit their permit applications and their closure and postclosure plans, cost estimates, and financial instruments will be reviewed in detail in fiscal year 1985.

In addition, EPA plans to issue new guidance on evaluating closure and postclosure care plans and cost estimates, and it is developing a checklist for its regions and states to use when reviewing plans and estimates. Other actions EPA plans to take to improve EPA oversight of state programs and improve RCRA compliance are discussed in appendix V.

INSPECTION AND ENFORCEMENT PROGRAMS

Monitoring of hazardous waste facilities through inspections, followup on violations, and use of appropriate enforcement actions represents an important aspect of the RCRA interim status regulatory system. Appendixes III and IV briefly discussed inspection and enforcement efforts in relation to compliance with ground water monitoring and financial responsibility requirements. This appendix describes Tennessee's and New Jersey's overall inspection and enforcement programs with respect to all RCRA program requirements.

EPA inspection guidance in effect during the time of our review (Nov. 19, 1980, to Dec. 31, 1982) called for all major facilities to be inspected annually and nonmajor facilities to be inspected every 2 years. The Tennessee field office we visited met the criteria for major facilities but had not inspected 27 percent (22 of 81) of its nonmajor facilities during the 2-year period. Because a reliable list of major versus nonmajor facilities was unavailable for our review period in New Jersey, we could not calculate a separate inspection coverage rate for each. The overall coverage for both major and nonmajor facilities for the New Jersey field office we visited was 74 percent.

Followup to determine if violations identified during inspections were corrected did not occur for 4 of 13 Tennessee facility inspections which identified violations of the regulations, and some violations remained uncorrected at these facilities for 14 or more months. Followup on violations at New Jersey's facilities was EPA's responsibility during our review period. We could not determine the extent of follow up because of a lack of records.

Tennessee generally relied on facilities' voluntary actions to achieve compliance with the regulations instead of using enforcement actions. For noncomplying facilities this policy allows up to 18 months of voluntary efforts to correct violations. Even so, some violations in our sample were uncorrected 25 or more months after the initial inspection without enforcement action being taken other than issuing notices of violation. As with followup, enforcement actions against New Jersey facilities was EPA's responsibility during our sample period. Again, however, EPA did not have complete records of the enforcement actions taken.

EPA has recognized that overall compliance with RCRA program requirements has been a problem. EPA identified compliance with RCRA as the highest agency enforcement priority and has implemented several changes in early fiscal year 1984 and plans other actions to improve the inspection and enforcement program. Two key actions include improved routine reporting requirements and development of interim criteria to be used to oversee the quality of state programs.

ENFORCEMENT OPTIONS AND GUIDANCE

The enforcement tools available to EPA and the states generally include the issuance of warning letters or notices of violations, administrative or compliance orders, and civil and/or criminal litigation. Warning letters or notices of violation are used to notify facility owners/operators of violations and may specify the date by which a violator must achieve compliance. They are generally used for minor violations where voluntary compliance is expected. Compliance or administrative orders require compliance by a certain date, may assess penalties, and are enforceable through administrative or judicial action. Civil actions and in certain cases criminal litigation may be pursued through the courts. Fines or penalties may or may not be sought through these actions.

EPA guidance establishes three basic classes of violations and sets forth the type of initial enforcement action that should be taken against facilities with these classes of violations. The current guidance, however, is not specific on the timing of these actions, including when to move to a more stringent enforcement action, or when EPA will become directly involved if the state does not take prompt or effective enforcement action. Specific guidance is being developed by EPA and is discussed in appendix V.

The three basic classes of violations are defined below. Most violations fall into Class I and III, and EPA is considering discontinuing Class II.

- Class I: Pose direct and immediate threat to public health or the environment.
- Class II: Noncompliance with specific requirements mandated by the statute itself and for which implementing regulations are not required.
- Class III: Violations are those procedural or reporting violations which, in themselves, do not pose direct short-term threats to the public health or environment.

These classifications do not have precise differentiations, however, and depending upon the particular set of circumstances, similar violations could be placed into different classifications. Class I and II violations, according to EPA guidance, should initially be addressed with compliance orders. No other final guidance has yet been issued related to the type and/or timing of enforcement actions.

EXTENT OF INSPECTION COVERAGE

EPA inspection guidance in effect during the time of our sample period stated that state enforcement programs would be

considered adequate if they at least provide inspection of major facilities once a year and nonmajor facilities every 2 years.

Our review of 97 inspection files at the Tennessee field office showed that major facilities had been inspected in accordance with EPA's inspection guidance. Of 16 major facilities, 12 had been inspected two or more times during our 2-year sample period and the remaining four had been allowed to withdraw from regulation under RCRA or were awaiting a decision on a withdrawal request. However, 27 percent (22 of 81) of the nonmajor facilities had not been inspected. The Tennessee Director, Division of Solid Waste Management, and other state officials cited limited staff resources as the primary reason that some nonmajor facilities had not been inspected. In addition, we were told that a few facilities may not have been inspected because they have requested and may be eligible for withdrawal from regulation under RCRA, and six facilities were missing from the field offices' list of facilities.

We reviewed state and region II inspection files for all 325 facilities assigned to New Jersey's largest field office. Because a reliable list of major facilities was unavailable for our review period, we could not identify which facilities were major and which were nonmajor. We were only able to determine the overall inspection coverage rate of 74 percent (241 of 325).

FOLLOWUP ON VIOLATIONS

According to EPA, violations noted during inspections should be corrected swiftly. Followup should be performed so that appropriate enforcement action can be taken against facilities still in violation.

Our review of followup activities at the Tennessee field office showed that not all violations identified during our sampling period had received follow up. Violations were detected in 13 of 20 inspections, but no followup had occurred in 4 of these cases. The four inspections with no follow up had a total of 14 open violations as of November 4, 1983, when we discussed each case with the Tennessee Nashville Field Office Manager. At that time these violations had been detected 14 or more months previously. The average time these violations had remained open was 24 months. Eight of the violations that remained open appeared to be in the more serious Class I variety which are considered to pose a direct and immediate threat to public health or the environment. These deficiencies included noncompliance with the closure plan and cost estimate requirements, improper storage, inadequate security, and inadequate analysis of waste.

Tennessee followup was the responsibility of the individual inspector, and there were no procedures to ensure that followup was performed. Tennessee's Director, Division of Solid Waste Management, said that the four facilities should have received follow up and that a system was needed to ensure that timely

follow up is performed for all inspections where violations are detected. According to the Director, Tennessee plans to implement a tracking system during fiscal year 1984.

We could not determine the extent of follow up for violations found at facilities assigned to the New Jersey field office. As mentioned previously, New Jersey was not responsible for follow up and enforcement until February 1983. Prior to this time, region II had this responsibility. According to an attorney assigned to hazardous waste activities in the Office of the Regional Counsel, Region II, EPA did not maintain complete records of its followup actions. An Assistant Regional Counsel told us that in 1981, even though the hazardous waste workload was increasing, the Office of Regional Counsel lost about 10 lawyers, or 45 percent of its staff, due to budget reductions. He added that because of the staff reduction, little followup was done. He said, for example, that facilities were not required to submit documents such as facility contingency plans and closure plans that were found to be missing or incomplete during inspection, nor were these documents reviewed when facilities submitted them voluntarily. He said that the continuing need to issue compliance orders and warning letters against facilities where violations were noted during interim status inspections left little staff resources available for follow up on previous enforcement actions to assure compliance.

Since February 1983, New Jersey has had responsibility for following up on violations. The individual inspectors are required to issue field notices of violation at the facility for all violations. The notices specify the date by which compliance must be achieved and inspectors are responsible for follow up on these field notices of violation. Inspectors can also refer violations to New Jersey's Bureau of Compliance and Enforcement which is responsible for initiating other enforcement actions and routine reporting to EPA on facility compliance. Responsibility for follow up on these enforcement actions is shared by New Jersey's Bureau of Field Operations and the Bureau of Hazardous Waste Engineering Review and Permits depending on the type of violation. We did not evaluate these procedures, however, because they were still evolving through February 1984.

ENFORCEMENT ACTIONS

Enforcement is critical to adequate protection of health and environment. As noted in a recent joint memorandum from the EPA Assistant Administrator for Solid Waste and Emergency Response and the Assistant Administrator for Enforcement and Compliance Monitoring,

"Improper hazardous waste disposal carries with it the potential for significant harm to health and damage to the environment. Rapid and decisive enforcement action is needed to protect public health and the environment against imminent hazards and against

significant violations of existing regulatory standards. Enforcement actions must be sufficient, frequent, visible, and forceful to provide an effective deterrent, so that the regulated facilities recognize that it is in their own interest to comply."

Our review showed that the Tennessee field office generally issued notices of violation to noncomplying facilities identified during our sample period but preferred to rely on voluntary actions rather than taking further enforcement action against such facilities to achieve compliance or speedier compliance. As noted previously, violations were detected during 13 of the 20 Tennessee inspections. In total, 72 violations were identified which resulted in the state issuing nine notices of violation. No penalties were assessed. At the time of our discussions with the Tennessee Field Office Manager 13 or more months after the inspection dates, these facilities had 21 open violations.

According to Tennessee's enforcement policy, noncriminal violations may continue for 12 to 18 months before enforcement actions other than issuing notices of violation are taken. The policy stipulates that the state should "provide technical assistance and guidance to alleged violators as the initial attempt to resolve and correct violations." Even under this policy, 3 of the 13 inspections according to state records still had violations uncorrected 25 or more months after the inspection and further enforcement action should have been taken according to Tennessee's policy. It should be pointed out that followup had not been performed for two of these three inspections so Tennessee did not have the information to determine if corrective action had been taken.

The following table presents data on the 13 Tennessee inspections which identified violations during our sample period. Tennessee had not classified the violation as to their degree of seriousness, so we classified the violations in accordance with EPA guidelines. However, since the classification can vary depending on the particular set of circumstances, they are not absolute, and can only serve as an indicator of the seriousness of these violations.

Tennessee Nashville Field Office Violations
Detected During 13 Inspections
in Our Sample

<u>Violation</u>	<u>Class I</u> <u>violation/open</u>		<u>Class III</u> <u>violation/open</u>		<u>Total</u> <u>violation/open</u>	
Operating equipment and requirements	0	0	6	2	6	2
Waste analysis	8	3	0	0	8	3
Contingency plan, preparedness and prevention, security	3	1	7	2	10	3
Closure, postclosure, and financial responsibility requirements	12	4	0	0	12	4
Warning signs, labels, pre-transport packaging	0	0	0	0	0	0
Owner/operator inspections	0	0	10	3	10	3
Manifest system	1	1	5	0	6	1
Personnel training	0	0	6	2	6	2
Other recordkeeping and reporting	0	0	4	0	4	0
Storage	7	2	0	0	7	2
Ground water monitoring	2	1	1	0	3	1
Ground water contamination	0	0	0	0	0	0
Illegal disposal	0	0	0	0	0	0
Other	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	<u>33</u>	<u>12</u>	<u>39</u>	<u>9</u>	<u>72</u>	<u>21</u>

As with followup activities, EPA was responsible for enforcement actions in New Jersey. However, because region II did not have documentation on all enforcement actions taken through

December 31, 1982, we could not determine the extent and nature of enforcement actions based on the violations detected at New Jersey facilities during our sample period. A region II Assistant Regional Counsel, however, said that enforcement was slow and incomplete during this period. As stated previously, budget cuts for 1981 resulted in the reduction of 10 staff attorneys representing 45 percent of region II's Office of Regional Counsel staff. An attorney in the Office of the Regional Counsel told us that warning letters were issued an average of 6 months after the inspection and a year later in a few cases. He also said that warning letters were not sent for 10 to 15 percent of reported violations. Compliance orders, a priority, were issued 8 to 10 months after inspections when the enforcement backlog in the Office of Regional Counsel was at its worst according to the Assistant Regional Counsel. The following table presents data on 110 inspections of New Jersey's Central Region facilities where violations were detected during our sample period.

New Jersey Central Region Violations Detected
During 110 Inspections in Our Sample

<u>Violations</u>	<u>Class I</u> <u>violations</u>	<u>Class III</u> <u>violations</u>	<u>Total</u> <u>violations</u>
Operating equipment and requirements	1	2	3
Waste analysis	49	2	51
Contingency plan, preparedness and prevention, security	11	63	74
Closure and post- closure plans and financial requirements	72	0	72
Warning signs, labels, pre-transport packaging	3	25	28
Owner operator inspections	0	50	50
Manifest system	9	3	12
Personnel tracking	0	48	48
Other recordkeeping and reporting	0	12	12
Storage	35	35	70
Ground water monitoring	5	1	6
Ground water contamination	2	0	2
Illegal disposal	0	0	0
Other	<u>0</u>	<u>5</u>	<u>5</u>
Total	<u>187</u>	<u>246</u>	<u>433</u>

As with followup activities, New Jersey assumed responsibility for enforcement in February 1983. According to New Jersey enforcement policy, inspectors are to issue field notices of violation for any violation not corrected during the inspection. The inspectors can also refer a violation to the Bureau of Compliance

and Enforcement for additional enforcement action if the inspectors believe it is appropriate. The Bureau of Compliance and Enforcement issues notices of violation for very minor violations, such as failure to clearly display labels on a small percentage of storage containers. Notices of violation require facilities to report corrective action taken within 15 days and contain dates by which penalties must be paid. The notices do not always specify dates by which compliance must be achieved. The Bureau of Compliance and Enforcement issues administrative orders for violations other than those considered very minor. Generally either 15 or 30 days are allowed for compliance.

If a company requests more than 45 days to achieve compliance, the facility owner/operator is required to sign an administrative consent order. According to the Chief, Division of Waste Management, Bureau of Compliance and Enforcement, since February 1984 New Jersey RCRA enforcement actions for Class I violations must include penalties. Enforcement actions for Class II and III violations may or may not include penalties, and no penalties are assessed with field notices of violation. If a facility fails to take corrective action, the case is referred to the state attorney general. If a facility does not pay an assessed penalty, negotiation is attempted, and the case may be referred to the attorney general.

Statistics on notices of violation and other enforcement actions taken by the New Jersey Division of Waste Management against treatment, storage, and disposal facilities from February 3 through September 30, 1983, are presented below for informational purposes. In addition, five cases were turned over to the Office of Regulatory Services for eventual referral to the attorney general.

New Jersey Hazardous Waste Facility Enforcement Actions
February 1983 Through September 30, 1983

<u>Type of action</u>	<u>Number of actions</u>
Field notice of violation	7 ^a
Notice of violation	65
with penalty 40	
without penalty 25	
Administrative orders	44
with penalty 26	
without penalty 18	
Administrative consent orders	3
with penalty 1	
without penalty 2	
 Total enforcement actions	 <u>119</u>

^aSince New Jersey did not issue field notices of violations until August 1983, this figure is based on only 2 months. As of January 1984, New Jersey enforcement policy requires that field notices of violations be issued for all inspections where there is a violation not corrected during the inspection.

EPA ACTIONS TO IMPROVE
OVERALL RCRA PROGRAM COMPLIANCE

Through its regional office program reviews and special studies, EPA has recognized that there has been widespread noncompliance with RCRA program requirements. EPA attributes the noncompliance to several factors, including a reliance on voluntary compliance by facilities, EPA regional office reluctance to take enforcement actions in authorized states, competing priorities such as hazardous waste site cleanups (under the Comprehensive Environment Response, Compensation, and Liability Act of 1980 (CERCLA) 42 U.S.C. 9601), and significant limitations in reporting systems used to oversee state performance. EPA has taken or plans to take a number of actions to improve the inspection and enforcement program. Its primary actions include (1) overseeing state performance through more extensive routine reporting requirements, (2) establishing criteria to be used in evaluating the quality of the state RCRA program, (3) developing guidance on type and timing of enforcement actions, (4) developing a RCRA Enforcement/Compliance Strategy, (5) issuing a RCRA Civil Penalty Policy, (6) reorganizing the Office of Waste Programs Enforcement, and (7) identifying staffing/training needs and development of a workforce and training strategy.

Reporting requirements

Major changes were made to the routine reporting requirements for fiscal year 1984. EPA discontinued its Quarterly Statistical Noncompliance Report and the Quarterly Narrative Noncompliance Report and replaced them with monthly reports, including the Compliance Monitoring and Enforcement Log, the Facility Status Sheet, and the Compliance and Enforcement Report for Nonmajor Handlers. The previous reporting requirements included only limited data on the number of inspections conducted, the number of hazardous waste handlers not in compliance, and the enforcement action taken by the state to remedy the violation.

The new monthly reports are designed to provide the necessary information to EPA to oversee how well the state programs are achieving compliance and taking appropriate enforcement actions. The Compliance Monitoring and Enforcement Log collects basic data on compliance monitoring and enforcement activities for major handlers of hazardous waste and tracks enforcement actions on Class I violations. The Facility Status Sheet provides information on the status of major facilities with regard to the ground water monitoring and financial responsibility requirements. The Compliance and Enforcement Report for Nonmajor Handlers summarizes all inspections and enforcement actions pertaining to nonmajor handlers.

These reporting requirements serve to encourage states to give major facilities inspection priority because more information is required on the results of inspection and enforcement activities at these facilities. These reports also are designed to provide specific information on compliance with two key interim status requirements pertaining to ground water monitoring and financial responsibility discussed in appendixes III and IV.

Interim national criteria for a quality RCRA program in authorized states

On April 6, 1984, EPA issued a document entitled Interim National Criteria for a Quality RCRA Program in Authorized States that sets forth criteria to be used for evaluating state programs and EPA regional performance in nonauthorized states. The document clarifies program goals and performance expectations to ensure that EPA and the states have a common understanding of what must be done to effectively implement RCRA. It also sets forth general principles for how EPA and the states should respond when these criteria are either not met or are exceeded and identifies areas where EPA guidance is needed for implementing this criteria.

This interim criteria also includes reference to state compliance/enforcement strategies which will be required for fiscal year 1985. The state enforcement strategies are to include "a complete description of the state's compliance tracking and

enforcement program" and are due October 1, 1984. The state penalty policy in use is also to be included.

Guidance on type and timing
of enforcement actions

EPA issued a draft Enforcement Response Policy on February 27, 1984, to update the earlier limited guidance on enforcement actions. The guidance includes a new scheme for classifying violations into two categories and a discussion of when to use notices of violation, compliance orders with or without penalty, and judicial referrals. In addition, EPA, for the first time, provides guidance on the timing of enforcement actions and follow up, and the factors to consider in establishing priorities among violators.

RCRA draft Enforcement/Compliance Strategy

The draft RCRA Enforcement/Compliance Strategy issued in January 1984 reaffirms when the EPA regions should step-in and take enforcement action in interim authorized states. The strategy states EPA's intent to take enforcement action upon determining that the state has not taken timely and appropriate enforcement action and presents various situations where this may be appropriate. The Interim National Criteria for a Quality RCRA Program discussed above provides guidance for determining when state enforcement actions are not timely.

The strategy states that EPA regions should take enforcement action in an authorized state based primarily on the seriousness of the violation, the threat that the violation poses, the compliance history of the facility, and the nature of the state enforcement action already taken. The regions are also instructed to take into account the overall hazardous waste enforcement record of the state. The strategy notes that enforcement actions are particularly critical in states that have rarely issued orders or filed lawsuits addressing RCRA violations. The situations where EPA enforcement actions are appropriate include:

- The state requests EPA assistance because state authority is inadequate.
- The state has issued warning letters, but it has not taken second level enforcement action (compliance orders or lawsuits). If the state has issued two or more warning letters or notices of violations, and at least 60 days have elapsed from issuance of the second letter or notice, but the facility has not come into compliance, then the region should take enforcement action, unless the state can provide a convincing rationale for delays. When an imminent hazard or a significant violation has occurred, it may not be appropriate to wait this long.

- The case has been referred to the state attorney general, but the pace of state action is too slow to provide adequate resolution, and administrative action by EPA would allow the enforcement action to proceed more quickly.
- The requirements, compliance schedules, or penalties resulting from the state action are inadequate. State orders should be closely scrutinized by the regions if the state action is triggered by notice by the region that it will take action.

RCRA Civil Penalty Policy

The RCRA Civil Penalty Policy issued May 8, 1984, provides internal guidelines to aid EPA compliance/enforcement personnel in determining the appropriate amount of administrative penalties to be assessed for RCRA violations. The purpose of the policy is to assure that RCRA civil penalties are assessed in a fair and consistent manner; that penalties are appropriate for the gravity of the violation committed; that economic incentives for noncompliance with RCRA are eliminated; that persons are deterred from committing RCRA violations; and that compliance is achieved.

The penalty calculation system consists of (1) determining a gravity based penalty for a particular violation through the use of a penalty matrix which considers the extent of deviation from a statutory or regulatory requirement and the potential for harm, (2) adjusting the base penalty for special circumstances, and (3) considering economic benefit of noncompliance where appropriate. Base penalties range from \$100 to \$499 per day for a minor violation of a minor requirement to \$20,000 to \$25,000 per day for a major violation of a major requirement.

EPA reorganization

The reorganization of the Office of Solid Waste and Emergency Response enforcement staff located in the Office of Waste Programs Enforcement was approved in March 1984. The new structure established a RCRA Enforcement Division to ensure that RCRA enforcement actions were not subjugated to other activities.

Workforce development and training subgroup

A workforce development and training subgroup was established in fiscal year 1984 to identify RCRA staff and training needs and develop a workforce development and training strategy. This subgroup plans to review current staff and training levels available in the states and regions, assess future staff and training needs, rank training courses, and develop and implement training programs. The review of current EPA regional and state staff and training levels has already been completed. According to the subgroup leader, the assessment of future staff and training needs and ranking of training courses will be completed by June 30,

1984. He said that training programs are being developed and implemented on an ongoing basis.

SLOW PROGRESS IN PERMITTING FACILITIES

According to EPA, one of the most important aspects of the hazardous waste regulatory program is the final permitting of hazardous waste treatment, storage, and disposal facilities. During interim status, facilities must comply with the interim status standards. The permitting standards represent more detailed operating and technical design standards intended to provide greater assurance that the environment is adequately protected. The progress in issuing permits, however, has been slow. EPA had hoped to issue permits to 959 out of the estimated 7,500 facilities requiring permits by September 30, 1983, but only 80 were issued by that date. As of March 31, 1984, 132 permits had been issued. EPA attributes the slow progress to incomplete permit applications, competing priorities, and other factors.

Recognizing this slow progress, EPA has made acceleration of requests by EPA and the states for permit applications and permit issuance a key objective of the permit program in fiscal year 1985. EPA is developing a National Permit Strategy to improve both the timeliness and the quality of permitting. According to a draft of the National Permit Strategy, EPA's objective is to complete permitting by 1989. However, EPA estimated that more than 150 additional EPA and state permitting workyears will be required in fiscal year 1984 through 1987 to accomplish this objective. EPA is currently developing estimates on how long it will take to complete permitting based on existing permit staffing. These estimates were not available as of April 30, 1984.

PERMITTING PROCESS

In developing the interim status regulations, EPA did not believe that facilities with interim status should be expected to meet detailed operating and construction requirements. These more detailed requirements, addressing such areas as liner systems, leachate detection, collection, and removal systems, and air quality monitoring, are intended to be incorporated in each facility's final permit. EPA has said that decisions regarding technical standards and individual compliance schedules should be made only in the permit issuance process where there is opportunity for public participation and for greater interaction among EPA, the states, and the permit applicant.

The permitting process is currently a combined effort of EPA and the states. Most states either have interim authorization to issue permits or are participating in the permitting process through cooperative arrangements with EPA. As of April 9, 1984, 22 states¹ and the District of Columbia had interim authorization

¹Arkansas, California, Connecticut, Florida, Georgia, Kentucky, Louisiana, Maine, Maryland, Mississippi, Nevada, New Hampshire, New Jersey, New Mexico, North Carolina, Oklahoma, South Carolina, Texas, Vermont, Virginia, Washington, and West Virginia.

to issue permits. Most were authorized to issue permits to storage and treatment facilities and incinerators but not to land disposal facilities. Three other states had applied for various stages of interim permit authorization. Eventually EPA hopes to assume an oversight role in this area similar to its role in inspection and enforcement activities.

The permit process consists of two parts submitted to EPA and/or the states--parts A and B of a permit application--and subsequent approval of these applications. By November 19, 1980, all treatment, storage, and disposal facilities were required to submit part A of the two part application. Facilities submitting a part A generally receive interim status and are allowed to operate until EPA or the state issues them a permit. EPA and/or the states are now in the process of requesting the second half of the permit applications (part B) and issuing permits.

After notice from EPA or the state, the facility is given at least 6 months to submit its part B application, and EPA or the state is allowed 2 months to review the application and notify the facility of any deficiencies. After EPA or the state determines that the application is complete, a draft permit is prepared and 45 days are allowed for written public comment. A public hearing must be held if written notice of opposition to the draft permit is received. After the comment period has closed, EPA or the state responds to comments and issues the final permit decision. The states are only required to issue a response to comments, however, if a permit is issued. These established timeframes add to over 8 months. The actual permit process, however, takes many more months under the best of circumstances. The Director of EPA's Permits and State Programs Division estimated that permitting will require 18 months for storage and treatment facilities, 24 to 30 months for incinerators, and 36 to 48 months for land disposal facilities. These estimates are based on the limited number of permits already issued, primarily for storage and treatment facilities.

Because of the lengthy permitting process, EPA guidance gives permitting priority to those facilities posing the greatest potential hazards to public health and the environment. EPA places the highest priority on calling in permit applications from land disposal and incineration facilities. Priority is given to these facilities because of their potential to affect the environment and public health through surface and ground water contamination and air pollution. Storage facilities are generally given least priority. The initial types of facilities requested to submit permit applications were storage and treatment facilities because the applicable final regulations were the first to become effective on July 13, 1981. Since the land disposal regulations became effective January 26, 1983, land disposal facilities have been given permitting priority.

PROGRESS IN FACILITY PERMITTING

Although EPA had hoped with state assistance to issue 959 of the estimated 7,500 permits needed through the end of fiscal year 1983, 80 were issued. As of March 31, 1984, an additional 52 facility permits or a total of 132 had been issued. The following tables present national data on permit issuance targets and accomplishments through fiscal year 1983 and for fiscal year 1984.

Cumulative Permit Issuance Statistics
through Fiscal Year 1983

<u>Type of facility</u>	<u>Permit issuance targets</u>	<u>Permits issued</u>
Land disposal	0 ^a	2
Incinerator	159	6
Storage and treatment	<u>800</u>	<u>72</u>
Total	<u>959</u>	<u>80</u>

^aLand disposal permit applications could not be requested until January 26, 1983, the effective date of the interim final land disposal regulations. Since facilities are allowed at least 6 months to submit the applications, the first applications were not due until July 1983, at which time processing could begin. As a result, EPA established no permit issuance target for fiscal year 1983.

Permit Issuance Statistics for
Fiscal Year 1984

<u>Type of facility</u>	<u>Permit issuance targets</u>	<u>Permits issued through March 31, 1984</u>
Land disposal	13	1
Incinerators	59	1
Storage and treatment	<u>539</u>	<u>50</u>
Total	<u>611</u>	<u>52</u>

EPA has identified several reasons for the slow permitting progress, including (1) incomplete permit applications submitted by facilities and difficulty in obtaining supplemental information from applicants, (2) competing priorities which diverted permit

staff to other duties, (3) a high rate of facility withdrawal² from regulation or closure, (4) the lengthiness of the public hearing process, and (5) more workdays needed to process and issue permits than originally estimated.

According to EPA, some of the greatest delays in permit processing come from incomplete permit applications. According to EPA almost all applications submitted to date have been deficient and must be returned to the applicant one or more times. In addition, EPA found that applicants have not always resubmitted complete applications in a timely manner. The time it takes to obtain the additional information necessary to complete an application can significantly add to the 6 months allotted by EPA for facilities to develop their initial applications and, therefore, delays the permit process.

Competing priorities have also affected permitting progress. Although the annual RCRA Guidance for EPA regions and states suggests that 50 to 60 percent of EPA regional and state resources be devoted to permitting, a recent survey by EPA's Office of Solid Waste reported that only 42 percent of EPA and state RCRA program resources were being used for permitting activities. Instead, some permitting resources were routinely diverted to compliance, enforcement, and program management activities.

The high rate of facility withdrawal and closure after permit applications are requested, estimated by EPA to be about 44 percent, has also affected EPA's and the states' ability to meet past targets. Since permit applicants are allowed 6 months to submit the application from the time it's requested, the states and/or EPA often did not learn that a facility intended to withdraw until shortly before the application was due. As a result, the states and/or EPA used its resources to review the facility withdrawal request or closure plan.

According to EPA, the public hearing process can be extremely lengthy. Often controversial issues such as transportation of wastes and the location of facilities which are not part of the permit itself can delay the process. EPA estimates that public participation adds 2 to 3 months time to the permitting process for all permits and even more time for controversial facilities.

EPA has also found that more workdays than anticipated are required to issue permits. In response to the permitting experience obtained during fiscal years 1982 and 1983, primarily

²A withdrawal occurs when EPA or the state approves removing a facility's interim status after a determination that the facility never met the criteria for regulation under RCRA. Typical reasons for allowing a facility to withdraw include not handling hazardous waste since the effective date of the regulations, handling insufficient quantities of waste, or storing waste for less than 90 days.

for storage and treatment facilities, EPA increased its estimates for the number of workdays required to issue a permit. EPA revised its workload factors as shown below. The major change was to the time required to process a storage or treatment facility permit--close to a 50-percent increase.

EPA Estimates of Workdays Needed to
Issue a RCRA Permit in Fiscal Years 1983 and 1984

<u>Facility type</u>	<u>1983 workload model</u> (workdays)	<u>1984 workload model</u> (workdays)
Storage/treatment	87	120
Incinerators	305	295
Land disposal	381	395

EPA ACTIONS TO
EXPEDITE PERMITTING

Actions EPA has taken or plans to take to expedite the permitting process include: (1) issuance of enforcement guidance concerning how to respond to deficient applications, (2) development of permit regulations for specific classes of facilities, and (3) development of a National Permit Strategy.

In September 1983, based on EPA recognition that some permit applications have not been submitted by the deadline specified or did not contain all of the information required, EPA issued enforcement guidance. This guidance specified that a warning letter should be issued which requires submission of a complete application by a date generally not to exceed 30 days after date of issuance of the warning letter. The warning letter is to state that failure to submit a complete permit application by the date specified in the warning letter may result in (1) the assessment of a civil penalty against the applicant and (2) initiation of procedures to terminate the facility's interim status. It should also state that a closure plan (and postclosure plan, where required) and a statement of the owner's/operator's intent to cease handling hazardous waste may be submitted in lieu of a complete permit application.

EPA is developing class permits for specific groups or classes of facilities that are less likely to threaten public health or the environment in recognition of the expense involved in preparing and processing permit applications. According to the EPA Permit Policy Program Manager, class permits are expected to reduce permit preparation and processing time, but no estimates have been developed on the amount of time that may be saved. EPA believes it will be able to develop class permits reflecting the standard accepted practices for the storage and treatment of hazardous waste in tanks, piles, and containers. Class permit

regulations for onsite storage³ by generators are expected to be promulgated late in fiscal year 1985. EPA expects them to become effective the second quarter of fiscal year 1986. By this time, however, many states will have been authorized to issue permits and they may or may not choose to adopt similar regulations.

EPA is developing a National Permits Strategy to improve both the timeliness and the quality of the permitting process. EPA's ultimate objective, as set forth in the draft strategy document, is to complete permitting of all land disposal facilities and incinerators by 1988, and all other storage and treatment facilities by 1989. The purpose of the strategy is to put in place an approach that will achieve this objective and more quickly provide maximum environmental benefits from the permit process. The key aspects of this strategy, which EPA plans to issue in final form by June 1984 to be implemented by the EPA regions by December 31, 1984, are

- acceleration of requests for permits;
- improve applications through coordinated compliance inspections and permit writing;
- earlier public involvement activities for selected environmentally significant facilities;
- and a comprehensive management approach, including EPA regional and state strategies, dedicated resources, and evaluation and tracking.

A summary of each of these aspects of the draft National Permits Strategy follows.

Acceleration of requests
for permit applications

EPA proposes to accelerate requests for part B permit applications because of the immediate, environmentally beneficial actions that such acceleration could yield. These actions include

- earlier decisions on the part of facility owners/operators to close if they expect difficulty complying with the permit regulations or do not intend to upgrade their facilities,
- stimulation of applicant decisions to begin improvements necessary to meet final permit standards, and

³Onsite storage refers to storage of hazardous waste at the facility at which it was generated rather than shipping the waste offsite.

--earlier identification of facilities that intend to withdraw so that allocation of permit resources can be based on a more valid number of facilities.

According to EPA, it is placing the highest priority on accelerating requests for and processing of land disposal and incinerator permit applications because these facilities pose the greatest potential threat to human health and the environment. EPA anticipates that permit applications for all outstanding land disposal and incineration facilities will be requested before the end of fiscal year 1985.

Improve applications through
coordinated compliance
inspections and permit writing

As a routine part of the permit process, joint site visits by enforcement personnel and permit writers will be performed within 30 days of the permit application request. The purpose of this visit is twofold: to bring interim status facilities into compliance with interim status standards and to provide technical and process assistance to the applicant who must complete a permit application.

According to the draft strategy, the joint inspection/permit site visit should be announced in the application request letter. Facilities should be advised that the permit writer will be available after the inspection to discuss the application process and the information required for a complete permit application. During the site visit, permit writers should focus the applicant's attention to aspects of the application that will take the most time and that have been found lacking in previous applications.

Public involvement activities
earlier and expanded

EPA regions and the states are encouraged to identify selected facilities for which an aggressive program of involving the public in permitting decisions will be appropriate. According to the draft permit strategy, effective public involvement must take place early enough in the decisionmaking process to ensure that concerns of the public can be addressed while preparing the draft permit so that public involvement is a positive, not a disruptive force. Public involvement that takes place at the time of the public hearing is often too late, occurring when negotiations are complete, data have been gathered, and the draft permit has been written.

The strategy notes that not all permits will receive the same level of public involvement and that for certain kinds of facilities a maximum amount of public involvement will be desirable. Public involvement activities could take place while facility owners/operators are in the process of preparing their

applications. Applicants can then begin to negotiate with the community over some of the significant public concerns and improved applications should result.

Comprehensive management approach

The EPA regions and states are to prepare multi-year strategies to demonstrate how the national schedule, priorities, and policies will be reflected in the implementation of RCRA permit programs within each region and state. The EPA regions are also responsible for planning for a smooth transition as permitting responsibility is transferred from the regions to the states. A particular concern is that delays may be incurred if the state and region have failed to coordinate ongoing regional permit processing activities.

To effectively implement the permits strategy, the regions are to ensure that resources are appropriately directed to permitting and are to monitor progress toward goals. The work programs developed as part of the annual state grant process must be designed to carry out this strategy.

The final element of the comprehensive management approach set forth in the draft National Permits Strategy is tracking of important permit applications to keep attention and effort focused on their processing. Nationally, approximately 500 facilities that are of environmental concern or are publicly controversial will be selected by the regions and states within 90 days of issuance of the 1985 RCRA Guidance/Implementation Plan. Dates will be projected for milestones such as application request, application receipt, completeness determination, public notice of draft permit, and permit issuance. Facilities choosing to close are to be monitored against a similar set of closure milestones.

A preliminary evaluation of progress and problems with implementing this strategy will be carried out by January 1985, and a more comprehensive evaluation is planned for the fall of 1986. The results of the preliminary evaluation will be considered in developing the fiscal year 1986 RCRA Implementation Plan (formerly called RCRA Guidance). Adjustment in the schedule for processing storage and treatment facility permits may be necessary.

To carry out this strategy and complete permitting by 1989, EPA estimates that additional EPA and state resources will be needed for permitting activities. EPA estimates that substantial increases in permitting resources from the approximate 830 work year level in January 1984 would be required in fiscal years 1984-87 as shown below:

EPA Estimates of Workyears Needed for
Permitting Activities in Fiscal Years 1984 through 1989

<u>Fiscal year</u>	<u>Work years needed</u>
1984	999
1985	1,109
1986	1,251
1987	1,147
1988	727
1989	7

As of April 30, 1984, EPA was refining this estimate to more evenly distribute resource requirements between fiscal years and was also developing permit estimates based on resources continuing at current levels, according to the EPA Permit Policy Manager.

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