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Assessment Of EPA's Hazardous Waste Enforcement Strategy

The Environmental Protection Agency's (EPA's) Resource Conservation and Recovery Act Compliance, Monitoring and Enforcement Strategy is a plan for bringing 90 percent of the hazardous waste facilities into compliance with important hazardous waste regulations by 1989.

EPA is working to improve the clarity and enforceability of the applicable regulatory requirements. Its strategy seems to provide a detailed framework for inspection, follow-up, and enforcement at hazardous waste facilities. EPA's strategy does not, however, (1) identify the EPA and state resources, skills mix, and training necessary to achieve the compliance goal, (2) provide a means for measuring progress toward achieving the goal, or (3) provide for communicating the goal to the states, which are largely responsible for the strategy's implementation.



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UNITED STATES GENERAL ACCOUNTING OFFICE
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RESOURCES, COMMUNITY,
AND ECONOMIC DEVELOPMENT
DIVISION

B-219950

The Honorable Jake Garn
Chairman, Subcommittee on HUD-Independent
Agencies
Committee on Appropriations
United States Senate

The Honorable Patrick Leahy
Ranking Minority Member, Subcommittee on HUD-
Independent Agencies
Committee on Appropriations
United States Senate

As requested in your April 9, 1985, letter and our subsequent discussions with your office, this report summarizes the information obtained during our review of the Environmental Protection Agency's (EPA's) Resource Conservation and Recovery Act (RCRA) Compliance, Monitoring and Enforcement Strategy. This information was presented to your office in a briefing on August 7, 1985. Subsequently, your office requested that we summarize, in writing, the contents of the briefing.

Under RCRA, EPA has established facility design and operating requirements for the approximately 5,000 facilities that treat, store, or dispose of hazardous waste. The act allows states to enforce these requirements if EPA authorizes them to do so.

Concerned about reported low compliance rates with such requirements, your subcommittee was instrumental in adding funds to EPA's fiscal year 1985 budget request for the development of a compliance monitoring and enforcement policy and schedule that will ensure 90-percent compliance with groundwater-monitoring, closure, postclosure, and financial responsibility requirements within 4 years. EPA developed the strategy and sent it to your office on March 8, 1985.

As agreed with your office, our review of EPA's strategy focused on the following six questions:

- Are applicable regulatory requirements clear and enforceable?
- Are there provisions for inspection, follow-up, and enforcement?

- Are required enforcement resources identified and provided?
- Are training and skills needs identified and provided?
- Is effective oversight of EPA and state performance provided?
- Is there a framework for an effective federal/state relationship?

Also, as requested, we developed a report format that EPA could periodically submit that would allow the subcommittee to assess the current status and progress toward achieving the 90-percent compliance goal.

Our review of the strategy and supporting documents, and discussions with EPA, state, and industry officials indicates that (1) EPA is working to improve the clarity and enforceability of the applicable regulatory requirements and (2) the enforcement strategy provides a detailed framework for inspection, follow-up, and enforcement. With respect to the last four questions listed above, however, we noted that the enforcement strategy does not have the following elements:

- an analysis of the resources required to achieve the 90-percent compliance goal;
- an assessment of the training and skills mix needed to achieve the compliance goal;
- an oversight mechanism for tracking progress toward achieving the 90-percent compliance goal; and
- a means of communicating the goal to the states, as part of the framework for the federal/state relationship.

Because of the newness of EPA's strategy, we did not attempt to measure the extent to which it has been implemented. We did, however, ask officials in EPA headquarters, the three EPA regional offices, and the three states we visited if the strategy's goals are achievable.

Officials in two of the three EPA regions, and two of the three states we visited said they believe the 90-percent compliance goal may be achievable. They base this belief on the fact that the goal relates to treatment, storage, and disposal facilities' closure, postclosure, financial responsibility, and groundwater-monitoring requirements, which are all high-priority

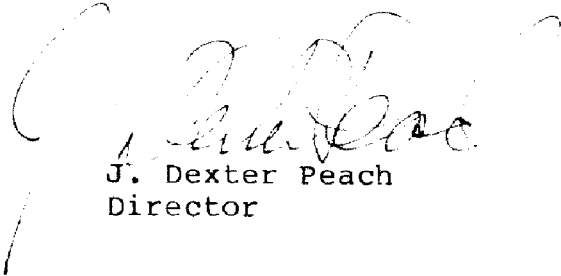
areas for regulatory enforcement. They also noted that many facilities may close rather than comply with these requirements, thus limiting the number of operating facilities that will need to be monitored.

On the other hand, officials in EPA headquarters, one region, and one state are less optimistic about meeting the 90-percent goal. For example, EPA headquarters officials said that achieving full physical compliance, particularly with groundwater-monitoring requirements, is very difficult and time-consuming. Once groundwater is contaminated, it may take years to clean up. Until then, the facility will not be in physical compliance, but on a compliance schedule. They also said that compliance is dynamic in nature because many facilities will go in and out of compliance, which will lower the percentage of facilities in compliance at any given time.

As agreed with your office, this report is in the form of a briefing document. In order to provide a timely response, we limited our review scope and did not generally verify the information provided by EPA, state, and industry officials. For this reason, we are not drawing any conclusions or recommendations but are presenting views on the questions asked.

Our review was performed in accordance with generally accepted government auditing standards. We did not obtain official agency comments on this report; however, we did discuss the contents with EPA and state enforcement officials and have included their comments where appropriate. The scope and methodology for the study are discussed in more detail in the enclosed briefing document.

Unless you publicly announce its contents earlier, we do not plan to distribute this report further until 30 days from its issue date. At that time, we will send copies to the Administrator, Environmental Protection Agency, and other interested parties. Copies will also be available to others upon request.

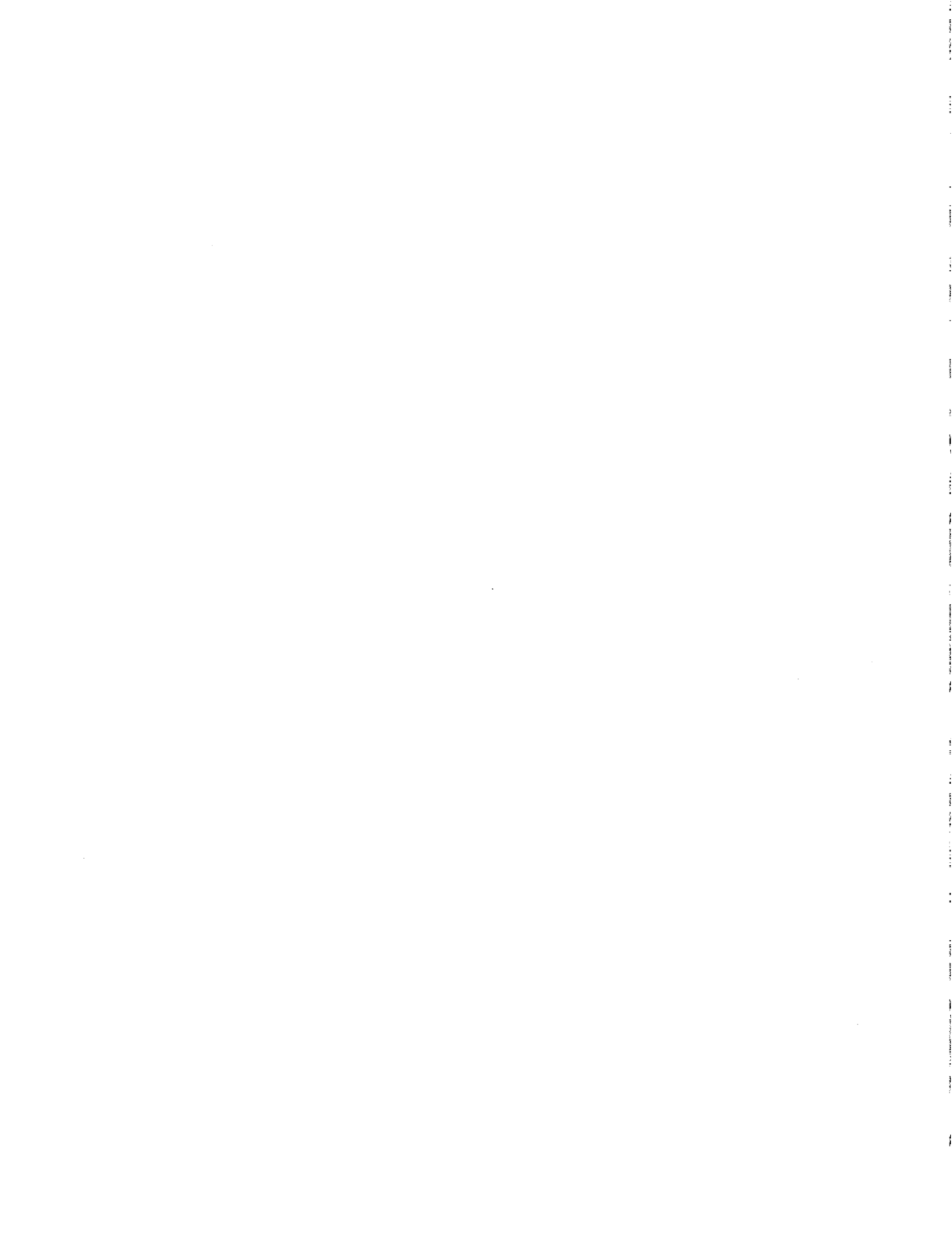


J. Dexter Peach
Director



BRIEFING DOCUMENT ON GAO'S
REVIEW OF EPA'S RCRA COMPLIANCE,
MONITORING AND ENFORCEMENT STRATEGY

DONE AT THE REQUEST OF THE CHAIRMAN AND RANKING MINORITY MEMBER
SUBCOMMITTEE ON HUD~INDEPENDENT AGENCIES
SENATE COMMITTEE ON APPROPRIATIONS



BACKGROUND

The Resource Conservation and Recovery Act of 1976 (RCRA), as amended (42 U.S.C. §6901), was enacted by the Congress because of concern about the danger to public health and the environment posed by hazardous wastes. Amendments enacted in November 1984 significantly strengthened many provisions of the act. A basic thrust of the act's hazardous waste management provisions was to establish requirements for the safe treatment, storage, and disposal of hazardous waste. Under the act, EPA has promulgated design and operating requirements for the approximately 5,000 treatment, storage, and disposal facilities. Concerned about low compliance rates with standards applicable to groundwater-monitoring, closure, postclosure, and financial responsibility at facilities, the Congress provided EPA with funds in fiscal year 1985 to develop a compliance-monitoring and enforcement policy, and a schedule to ensure 90-percent compliance with these requirements. The resulting EPA enforcement strategy was sent on March 8, 1985, to the Subcommittee on HUD-Independent Agencies, Senate Committee on Appropriations, where the requirement to develop the strategy originated. The following subsections discuss facility groundwater-monitoring; and closure, postclosure, and financial responsibility requirements, which, according to EPA's strategy, have the greatest long-term potential impact on protecting health and the environment. EPA and EPA-authorized states are responsible for assuring compliance with these requirements.

Groundwater-monitoring requirements

The groundwater-monitoring requirements apply to owners and operators of landfills, waste piles, surface impoundments, and land treatment facilities that are used to manage hazardous waste.¹ EPA estimates that about 1,500 such facilities exist nation-wide. The purpose of these requirements is to determine if a facility is affecting the quality of groundwater in the uppermost aquifer² underlying the facility. The requirements call for facility owners and/or operators to install groundwater-monitoring wells, develop a sampling and analysis plan, interpret monitoring data, and maintain proper record-keeping and reporting procedures. Facility owners and/or operators instituting monitoring programs are required to enter an alternate assessment program if contamination is found. This program's purpose, according to EPA, is to determine not only

¹EPA generally defines a hazardous waste as a waste which has the characteristic of being ignitable, corrosive, reactive, or toxic.

²An aquifer is a water-bearing layer of permeable rock, sand, or gravel.

the presence of hazardous waste in groundwater as in the basic monitoring program, but also to determine its rate and extent of migration.

Closure, postclosure, and financial responsibility requirements

The closure, postclosure, and financial responsibility requirements apply to all of the approximately 5,000 facilities that treat, store, or dispose of hazardous waste, including those subject to groundwater-monitoring requirements. These requirements are designed to assure that when such facilities cease operations, their owners and/or operators have adequate plans and funds for closure and postclosure activities.³ The amount of financial assurance needed depends on the owner's and/or operator's estimate of closure and postclosure costs.

In order to meet closure, postclosure, and financial responsibility requirements, facility owners and/or operators are required to do the following:

- Develop an adequate closure plan for securing or removing all hazardous wastes and for decontaminating all equipment and facilities affected.
- Develop for disposal facilities an adequate 30-year post-closure plan for ensuring the care and maintenance of the waste containment system, such as the clay or synthetic liners, covering, and vegetation.
- Develop adequate closure cost estimates, and for disposal facilities, postclosure care cost estimates.
- On the basis of these cost estimates, execute a financial assurance mechanism to assure that funds will be available when needed to carry out closure, and if required, postclosure care and maintenance at a facility. The mechanisms could be a trust fund, surety bond, letter of credit, insurance, financial test, or corporate guarantee, which meets the regulatory specifications for the mechanism chosen.
- Maintain liability coverage for bodily injury and property damage to other parties in the event of sudden accidents resulting from facility operations.
- Establish liability coverage for bodily injury and property damage to other parties in the event of

³Closure refers to the period during which all facility equipment and structures are properly disposed of or decontaminated by removing all hazardous wastes and residues. Postclosure is the 30-year period after closure during which monitoring, reporting, and maintenance is performed.

nonsudden accidental occurrences resulting from facility operations (disposal facilities only).

MAJOR ELEMENTS OF EPA'S STRATEGY

EPA's strategy contains three basic objectives:

- (1) knowing the compliance status of the regulated community,
- (2) developing a vigorous, visible enforcement program, and
- (3) establishing an effective federal/state relationship. To achieve these objectives, EPA's strategy lists the following five major elements:

1. Improved compliance data gathering, reporting, and tracking. The strategy document recognizes problems regarding compliance data contained in EPA's hazardous waste data management system. Until fiscal year 1984, there was no centralized data reporting for this system. Since then, the source document for most of EPA's compliance/enforcement data is the Compliance Monitoring and Enforcement Log. Regional and state personnel enter the results of their inspections and enforcement actions onto this log. EPA headquarters is also in the process of setting up a separate system for tracking high-priority land disposal and incinerator facilities. EPA expects that this system should be operational in the fall of 1985, and EPA officials expect it to be more reliable and accessible to headquarters and the regions than the current data system.
2. More comprehensive inspections focused on high-priority areas. The strategy calls for EPA's inspection program to include both overall facility inspections and inspections tailored to specific high-priority areas such as groundwater-monitoring, closure, postclosure, and financial responsibility requirements.
3. Increased guidance and training for inspectors. EPA's strategy provides for improving the quality of inspections by increasing guidance and training to the regions and the states in two areas: groundwater-monitoring and closure and postclosure activities. For example, headquarters is finalizing a technical enforcement guidance document designed to clarify the groundwater-monitoring requirements for field inspectors. Training sessions are planned to introduce this document to regional and state personnel.
4. Development of a visible, vigorous enforcement program. Key aspects of this strategy element include educating the regulated community through such means as workshops and conferences, maintaining a visible enforcement presence at facilities by taking enforcement actions against violators, and escalating actions (including penalties) for facilities with serious violations.

5. Establishment of an effective federal/state relationship. RCRA allows EPA to authorize states to administer their own hazardous waste programs. Under the act, states that have a program substantially equivalent to the federal program can obtain interim authorization from EPA to administer their own programs for 2 years while working toward final program authorization. As of August 1985, EPA had granted 26 states final authorization and 20 states or territories partial or full interim authorization to administer their own hazardous waste programs. States with either interim or final authorization play a major role in the enforcement program because they carry out facility inspections and take enforcement actions when necessary. States without any authorization also normally conduct inspections under written agreements with EPA, although EPA retains responsibility for taking enforcement actions. The strategy cites EPA/state enforcement agreements as a major aspect of effective federal/state relationships. These documents establish oversight criteria for (1) program performance, (2) direct federal enforcement in authorized states, and (3) state reporting. The strategy also notes that EPA has developed related criteria for measuring the quality of state programs to assure consistency of RCRA implementation on a national level.

OBJECTIVES, SCOPE, AND METHODOLOGY

In an April 9, 1985 letter, the Chairman and Ranking Minority Member, Subcommittee on HUD-Independent Agencies, Senate Committee on Appropriations, requested us to evaluate EPA's Resource Conservation and Recovery Act Compliance, Monitoring and Enforcement Strategy. They were concerned that the strategy would not ensure 90-percent compliance with groundwater-monitoring, closure, postclosure, and financial responsibility requirements by 1989--the stated goal of the strategy. They also requested that we assist them in formulating mechanisms the subcommittee could use to assess whether EPA is making annual progress toward the 90-percent goal.

Because of the newness of EPA's strategy (March 1985), we did not attempt to measure the extent to which it had been implemented, but rather, as agreed with the subcommittee's office, our work focused on determining the extent to which the strategy and supporting documents addressed the following six questions:

1. Are the applicable regulatory standards clear and enforceable?
2. Are there provisions for inspection, follow-up, and enforcement programs?

3. Are the required enforcement resources identified and provided?
4. Are the training and skills needs identified and provided?
5. Is effective oversight of EPA and state performance provided?
6. Is a framework for an effective federal/state relationship established?

Also, as agreed with the subcommittee's office, we conducted our work at EPA headquarters; EPA regions I (Boston, Mass.), IV (Atlanta, Ga.), and V (Chicago, Ill.); and the states of Alabama, Massachusetts, and Michigan. These regions and states provide geographic distribution and a mix in terms of EPA authorization of states that administer the hazardous waste program. Massachusetts has received final authorization, while Michigan has received neither interim nor final authorization. Alabama had interim authorization, but EPA rescinded the authorization in August 1984 because Alabama had insufficient resources. We also obtained the views of officials at the Association of State and Territorial Solid Waste Management Officials, the National Solid Waste Management Association, and the Chemical Manufacturers Association.

To obtain information on the six questions listed above, we reviewed the strategy and its supporting documents. We interviewed the EPA and state officials responsible for compliance and enforcement of the RCRA regulations. We reviewed EPA Inspector General reports on RCRA compliance and enforcement, EPA headquarters program evaluations of regional office performance, congressional hearing records, and other applicable reports and documents. Additionally, at the three regional offices we visited, we reviewed their evaluations of state performance as well as their assessments of states' capabilities. These assessments are conducted when a state applies for final authorization. For a list of the federal, state, and industry officials we interviewed, see appendix I.

To obtain information on how the subcommittee can monitor EPA's progress in achieving the 90-percent goal, we initially reviewed existing EPA reports. We found that the reports did not adequately track compliance status, so we developed a new report format showing compliance status broken out by the applicable requirements. We discussed the report format with EPA headquarters enforcement officials to determine the availability of required data and the feasibility of EPA's periodically submitting the report to the subcommittee.

In order to provide a timely response, we did not generally verify the information provided by the officials contacted. Also, the results of work performed and the data gathered in the region and states we visited are not projectable to others.

ARE APPLICABLE REGULATORY REQUIREMENTS CLEAR AND ENFORCEABLE?

- o Closure, postclosure, and financial responsibility requirements are generally clear and enforceable.
- o Groundwater-monitoring requirements are, in comparison, less clear and are more difficult to enforce. EPA is working on a technical enforcement guidance document that acknowledges and addresses this problem.

EPA, state, and industry officials said that the closure, postclosure, and financial responsibility requirements for operating facilities⁴ are generally clear and enforceable. The following problem areas were noted, however, by state officials.

- Little guidance exists on the extent to which facilities actually closing must be cleaned up prior to closure. For example, the extent to which owners and/or operators of surface impoundments (holding ponds) must remove layers of subsoil after draining the impoundment is not well defined.
- It is difficult for facilities to meet liability insurance requirements because many insurance companies are getting out of the environmental impairment liability business.
- It is difficult for regulators to evaluate the adequacy of facility cost estimates for postclosure care because it involves a 30-year period and is affected by inflation and other factors.
- Financial responsibility documents require special expertise to review properly, and such expertise is not always available to regulators.
- Allowing the use of the financial test that permits facilities to forego the use of a paid-in trust fund, the purchase of bonds, or other more costly financial assurance mechanisms may not be wise because even financially sound companies face significant risks in the hazardous waste industry.

According to EPA, state, and industry officials, the groundwater-monitoring regulations, in comparison, are less clear and more difficult to enforce. They said these standards are complex, time-consuming to implement, and often require interpretation and engineering judgment on the part of the regulated community and the regulators alike. Some EPA regional officials said these factors have delayed compliance with

⁴The scope of our review did not cover the implementation of these requirements for facilities actually undergoing closure or postclosure care and maintenance.

groundwater-monitoring requirements. A December 1984 survey by the Subcommittee on Oversight and Investigations, House Committee on Energy and Commerce, found, for example, that 505 (or 41 percent) of the 1,246 facilities reported as subject to groundwater-monitoring requirements had inadequate well systems or no wells installed. Most of the other facilities had nominally adequate well systems.

On March 21, 1985, EPA published a draft groundwater technical enforcement guidance document that EPA, state, and industry officials all believe will help clarify the technical aspects of the groundwater-monitoring requirements and aid in their enforceability. The guidance document covers topics such as placement of monitoring wells, well design and construction, and sampling and analysis procedures. EPA expects to issue this guidance document in final form, in September 1985.

Although they believe that the new guidance will make the groundwater-monitoring requirements more clear and enforceable, state officials generally voiced the following concerns:

- It is not clear whether EPA will interpret the steps called for as guidance or requirements, or whether they will be applied retroactively.
- EPA guidance documents tend to remain in draft form for long periods of time, thus making it difficult for the regulated community to obtain and use the guidance.
- Compliance with all of the steps called for in the guidance may be too elaborate and costly for some facilities.

ARE THERE PROVISIONS FOR INSPECTION, FOLLOW-UP, AND ENFORCEMENT?

- o EPA's enforcement strategy and supporting documents lay out a detailed framework for inspections, inspection priorities, follow-up intervals, and escalating enforcement response when corrective action is not forthcoming.

EPA's enforcement strategy lists three major types of inspections that are conducted to determine compliance with regulatory requirements. The first is a compliance evaluation inspection, which is a general review of a facility's overall compliance status with all applicable requirements. The second is a comprehensive groundwater-monitoring evaluation, which is a more intensive evaluation of the engineering features and effectiveness of the monitoring system, and the hydrogeological conditions at the facility. In many situations, this inspection includes sampling and analysis of groundwater. The third type of inspection is a detailed record review of the facility's closure and postclosure plans and cost estimates, and financial responsibility documents. EPA's Regional Implementation Plans, developed each fiscal year, spell out priorities for the EPA regions and states to use in scheduling these inspections.

The strategy specifies that once inspections detect violations, EPA's Enforcement Response Policy and the RCRA Civil Penalty Policy are to be used to determine what follow-up and enforcement actions are appropriate by type of violation and violator. If corrective measures have not been taken, time-frames to escalate enforcement actions are established. According to the strategy, these policy documents assure that penalties are appropriate for the gravity of the violation and that the economic incentives for noncompliance are eliminated. In addition to setting criteria for what is considered timely and appropriate enforcement action, these documents establish points at which EPA should initiate action if an authorized state has failed to do so or if it has initiated an action that is inappropriate for the situation involved.

State officials we spoke with were generally supportive of EPA's framework for inspection, follow-up, and enforcement. They voiced the following concerns, however:

- EPA's financial assistance to states is predicated on conducting inspections too infrequently (this issue is discussed in more detail in the following section).
- The application of EPA's criteria for escalating enforcement actions when compliance is not achieved is not always appropriate or desirable.
- The referral of cases to states' attorneys general for prosecution is not always productive because these cases compete with many other types of cases for limited attorney general resources.

ARE THE REQUIRED ENFORCEMENT RESOURCES IDENTIFIED AND PROVIDED?

- o EPA has received budget increases for the last 2 years and has requested an increase for fiscal year 1986 for its RCRA enforcement program. We were unable to determine if the resources requested are adequate because of a lack of EPA analysis showing what resources are required to achieve the 90-percent compliance goal.
- o There is evidence of apparent resource shortages both at EPA and the states. The new RCRA amendments will require additional resources.

Funding for EPA's RCRA hazardous waste enforcement program, other RCRA programs, financial assistance (grants) to states to administer their hazardous waste programs, and EPA's total hazardous waste program is shown below for fiscal years 1983 through 1986.

Funding for the RCRA
Hazardous Waste Program
Fiscal Years 1983 Through 1986
(obligations/millions)

<u>Fiscal year</u>	<u>EPA RCRA enforcement program</u>	<u>Other RCRA programs</u>	<u>State grants</u>	<u>Total RCRA program</u>
1983 (actual)	\$ 3.1	\$ 71.5	\$44.0	\$118.6
1984 (actual)	5.5	77.3	46.9	129.7
1985 (estimated)	11.8	117.8	57.0	186.6
1986 (requested)	17.6	153.2	65.0	235.8

As the above chart illustrates, EPA has asked for and/or received budget increases for the enforcement program for the last 3 years.

The major support for EPA's budget request is a workload/pricing model. This model is based on the number and types of inspections and other enforcement activities to be conducted and the time, in workdays, that each of these activities will consume. We found, however, that EPA has no historical data or other evidence that shows what level of compliance can be expected from the number of inspections and enforcement activities contained in the model. Rather, EPA headquarters officials told us that the inspections and other activities contained in the model are the results of EPA management decisions.

EPA headquarters enforcement officials said that the data required to conduct analyses aimed at establishing correlations between inspections and enforcement activities and compliance

rates has not been available because of extensive problems with their hazardous waste data management system. (These data problems are discussed in more detail under the section on EPA oversight.) They said, however, that one ongoing effort is attempting to assess the application of recently issued criteria for taking timely and appropriate enforcement action to determine if such actions result in increased compliance. This effort should be completed by December 1985.

In addition, we wanted to compare the results of the application of the workload model with the final fiscal year 1986 administration budget request. Fiscal year 1986 is the first full year to include the 1984 RCRA amendments, which place major new responsibilities on EPA, the states, and the industry. EPA officials told us that the model is used at the beginning of the budget process and is unconstrained by fiscal or political considerations. We could not make the comparison, however, because EPA applied the model before the 1984 RCRA amendments were passed. EPA officials told us that funds were added to the fiscal year 1986 budget request in recognition of the amendments but the workload model was never updated because of insufficient time. Instead, EPA estimated the more resource-intensive requirements and included these resources in the budget request. The amendments were enacted in November 1984, and the budget request was due to the President by December 10, 1984.

State officials in Alabama, Massachusetts, and Michigan told us that EPA's current workload model and related grant commitments call for inspecting major facilities once a year. Officials in all three states believe that more inspections and a greater enforcement presence is necessary to achieve compliance.

Without analytical support for the numbers and types of inspections and other enforcement actions to be taken, we could not determine if EPA is providing adequate enforcement resources. EPA's own enforcement strategy, EPA Inspector General reports, EPA headquarters reviews of RCRA programs, and studies done by other organizations all point to an apparent overall RCRA program resource shortfall.

EPA's enforcement strategy states that the 1984 RCRA amendments require that all federal, state, and locally operated hazardous waste facilities be inspected annually. EPA will conduct these inspections, thus increasing its inspection responsibilities. In addition, the enforcement strategy recognizes that the 1984 amendments greatly expand EPA and state inspection responsibilities by requiring regulation of approximately 100,000 formerly exempt small-quantity hazardous waste generators and 2 million underground storage tanks. As of June 1985, EPA regulations applied to approximately 52,000 hazardous waste generators; 12,000 transporters; and 5,000 treatment, storage, and disposal facilities. The strategy states that EPA is looking at ways of enforcing the new regulations, including

using private inspectors to supplement existing federal or state inspectors.

EPA's Inspector General reviewed the RCRA enforcement programs in four EPA regions (II, VI, IX, X) and issued four separate reports between December 1984 and February 1985. The reports contain evidence of resource shortfalls in all these regions and in some of the states reviewed. For example, in region IX, the Inspector General found that neither the region nor the states of Arizona and California had performed a significant number of required groundwater-monitoring sampling inspections in fiscal year 1984 because, according to regional and state officials, they were very resource-intensive. Regional and state personnel indicated that sufficient resources were not available to perform both the sampling inspections and other program inspection requirements.

EPA headquarters program evaluators reviewed seven regions (I, III, IV, VII, VIII, IX, X) for their performance under RCRA between December 1983 and December 1984. Some of the reviews indicate staffing problems. In region I, for example, the headquarters evaluators noted that adequate staffing appeared to be a problem in both Connecticut and Massachusetts. The headquarters review team also reported that region I had analyzed state work years that are expected to be available in the RCRA program over the next 5 years, assuming that inflation and state grant funds will not increase during this time period. The analysis shows state work years steadily declining over the next 5-year period. The report stated that the result will be a large gap between the work that headquarters currently expects will be done and the resources available to do that work in the states and regions. The clear implication, according to the report, is that congressional, EPA, and public expectations for RCRA program accomplishments and associated public health and environmental benefits will not be met.

In region III's program review report, EPA headquarters acknowledged that the region's resources would not be enough to accomplish groundwater-related inspections, enforcement, and facility-permitting actions in fiscal year 1985. The report indicated that more resources would be needed as facilities move into more extensive groundwater-monitoring and facility permitting is geared to land disposal facilities.

In region IV's RCRA program review report, headquarters officials noted that the region's oversight policy was not adequate for evaluating the quality of state programs. The report stated that mid-year and end-of-year reviews alone do not allow sufficient time for the region to perform this task. Resources and travel funds were cited as limiting factors.

The Association of State and Territorial Solid Waste Management Officials completed two studies on resource needs in the RCRA program in 1984 (prior to the passage of the RCRA

amendments). The purpose of the first study, State RCRA Program Resource Survey: Analysis of Responses, dated July 1984, was to estimate the staffing needs and availability in four major categories of RCRA activity: compliance, enforcement, permitting, and support. Twenty-five states responded to the survey; the states indicated they had a 63.5-percent resource shortfall at that time.

The purpose of the second study, EPA's View of Resource Needs for the National RCRA Program, dated October 1984, was to utilize EPA's own workload model and determine what resources EPA thinks the states need for the four major RCRA activity categories: compliance, enforcement, permitting, and support. Using EPA's own workload model, the association determined there was a 21.4-percent staffing shortfall for the fiscal year 1985 national RCRA program. Both of the studies preceded and did not include the 1984 RCRA amendments, which increase EPA and state regulatory responsibilities.

ARE TRAINING AND SKILLS NEEDS IDENTIFIED AND PROVIDED?

- o EPA's strategy does not identify the training or skills mix needed to meet the 90-percent compliance goal.
- o There is evidence of apparent training and skills shortages, particularly in the groundwater-monitoring area.

The strategy states that EPA is making a strong commitment to providing increased guidance and training to the regions and states. It does not, however, identify the training or skills necessary to achieve the 90-percent compliance goal.

There is evidence of training or skills mix shortages contained in the strategy itself, EPA headquarters reviews of regional programs, EPA congressional testimony, and our discussions with regional and state program officials.

The strategy states that some regions and states lack sufficient numbers of personnel trained in evaluating groundwater-monitoring systems. It cites the technical enforcement document discussed earlier as an effort to help alleviate this problem.

In a March 1984 EPA headquarters review of region IV's RCRA program, it reported that comprehensive groundwater-monitoring inspections were limited by the number of qualified people in the states and by lab analysis capacity.

A January 1984 headquarters report on region VII cited lack of inspector training programs in key areas (e.g., groundwater-monitoring assessment plans, groundwater-monitoring waivers, and closure plans) as a large hurdle to the development of inspector expertise.

In a December 1984 headquarters report on region VIII's RCRA program, it noted that the region had recently hired a hydrologist. However, the report stated that technical support and training are still not sufficient to meet the region's needs, especially with respect to inspections.

In April 29, 1985 congressional testimony, the EPA Acting Assistant Administrator for Solid Waste and Emergency Response said that state personnel structures often result in a state's inability to attract and maintain staff skills important to the RCRA program. He added that EPA is considering ways to solve this problem, including accelerating the temporary exchange of personnel with states.

Finally, the regions and states we visited also had skills mix and training concerns. For example, region I and Massachusetts officials said they needed more field training to enable them to go on-site and assure that monitoring wells are being drilled properly. Region IV stated that it needs trained, qualified geologists who understand the RCRA requirements.

IS EFFECTIVE OVERSIGHT OF EPA REGIONS AND STATE PERFORMANCE PROVIDED?

- o While many types of oversight are performed, EPA does not currently track progress towards meeting the 90-percent compliance goal.

EPA conducts many different types of oversight at the regional office and state level. For example, EPA headquarters conducts periodic program evaluations of regional offices, and the regions conduct mid- and end-of-year reviews of state performance against grant commitments.

The focus of this portion of our review, however, was on determining how EPA tracks progress in achieving its 90-percent compliance goal. EPA headquarters enforcement officials told us that they manually track their progress in returning approximately 1,100 of the more environmentally significant noncompliers to full compliance status. But lack of resources and data problems limit their ability to track the compliance status of all of the approximately 5,000 facilities subject to closure, postclosure, financial responsibility, and/or groundwater-monitoring requirements. They said that their primary hazardous waste information system--the Hazardous Waste Data Management System (HWDMS)--collects compliance data on all facilities subject to these requirements but the system was developed in a piecemeal manner, making data extraction extremely difficult. They also said that the data provided by some states for input into HWDMS is of questionable quality and the regional offices, because of limited resources, do not always check the accuracy of the state-furnished data.

Questionable or difficult-to-retrieve data limit HWDMS' usefulness in tracking compliance. This data problem was highlighted when the Subcommittee on Oversight and Investigations, House Committee on Energy and Commerce, asked EPA in December 1984 how many treatment, storage, and disposal facilities were in compliance with RCRA groundwater-monitoring requirements. EPA could not provide these data from HWDMS. Instead, EPA headquarters asked the regions for the data, and the regions, in turn, had to consult with the states. According to EPA headquarters enforcement officials, the report given to the subcommittee is now the best source of groundwater compliance data. When we asked EPA region V for groundwater-monitoring compliance data in June 1985, it gave us the data it gathered to respond to the subcommittee.

In addition to not tracking progress in achieving the 90-percent goal, EPA regional officials have not found HWDMS to be a useful management tool. Regional officials provided the following examples:

- Compliance data cannot be extracted from the system.

--If compliance is not achieved 90 days after a state cites a facility for a violation, EPA is to step in and take enforcement action. The regions cannot use HWDMS, however, to determine when the 90 days are up. Region V officials explained that they must visit the states to make this determination.

--Interim compliance dates for facilities with multiple violations cannot be tracked. If a facility corrects one of the violations found, there is no requirement to enter these data into HWDMS. The data are entered into HWDMS only when all the violations are corrected.

--The system is poorly documented, and many key terms essential to uniform system operation are poorly defined.

As a result of the system's inadequacies, some regions have set up their own computerized tracking system or use manual tracking systems.

In an effort to alleviate these problems, EPA is planning to establish a separate system to gather groundwater-monitoring, closure, postclosure, and financial responsibility data for all of the approximately 1,800 land disposal facilities and incinerators (about one-third of the approximately 5,000 treatment, storage, and disposal facilities). In establishing this new system, they will use the data already in HWDMS after it is checked by the regional offices and the states, plus new information furnished by the states. Automated software packages are planned to be used for extracting and analyzing the data in this new system.

At the same time, EPA is planning changes to the overall HWDMS system aimed at improving its quality and useability of the system. When this is achieved, EPA enforcement officials say the two systems will be merged into one. At that time, EPA officials said they will feel more confident in their capability to generate an accurate report showing progress towards achieving the 90-percent goal.

IS A FRAMEWORK FOR EFFECTIVE FEDERAL/STATE RELATIONSHIPS ESTABLISHED?

- o While the strategy recognizes the importance of and spells out a framework for federal/state relationships, EPA has not communicated the 90-percent compliance goal to the states.
- o EPA regions I and V, and Massachusetts and Michigan officials believe the 90-percent goal may be achievable.
- o EPA region IV, Alabama, and EPA headquarters officials are not optimistic about meeting the 90-percent goal.

EPA's strategy and supporting documents spell out the framework that EPA believes is necessary to establish an effective federal/state relationship. These elements include (1) enforcement agreements between EPA and the state that establish mutually agreed-upon practices for state enforcement programs and that assure certain activities are conducted to accomplish this, (2) national criteria for a quality, state RCRA program that clarifies RCRA goals and provides multiyear criteria and performance expectations, (3) EPA's taking enforcement actions when authorized states ask them to do so, or when the state fails to take timely and appropriate action, and (4) cooperative agreements between EPA and the states, which require the states to, among other things, review closure and postclosure cost estimates and financial responsibility documents, and return significant noncompliers to compliance.

Our focus in examining the federal/state relationships was to determine whether the 90-percent goal was communicated to the states and to obtain EPA and state views as to whether the goal is achievable. We found that EPA did not communicate the 90-percent compliance goal to the states. State personnel and some EPA regional office personnel were not aware of the 90-percent goal when we discussed the matter with them. EPA headquarters enforcement officials said they did not communicate the goal to the states because the strategy is a long-range planning document, and most communication with the states is shorter in range. They also said that it would be difficult to hold the states accountable for not achieving the goal because of factors out of their control, such as industry resistance in coming into compliance.

When we talked to them about the goal, officials in Massachusetts and Michigan and regions I and V said they believe that the 90-percent goal may be achievable. They said that the goal relates to closure, postclosure, financial responsibility, and groundwater-monitoring requirements, which are all high-priority areas for regulatory enforcement. They also noted that many facilities may close rather than complete the necessary certification and permitting requirements, thereby limiting the number of facilities that will need to be monitored.

EPA headquarters officials are less optimistic about meeting the 90-percent goal. They explained that achieving full physical compliance, particularly in the groundwater-monitoring area, is very difficult and time-consuming. For example, contaminated groundwater may take years to clean up, and until then, the facility is not in physical compliance but on a compliance schedule. They also said that compliance is dynamic in nature because many facilities will go in and out of compliance. They added that even certain closed facilities may have to monitor groundwater and meet other postclosure care and maintenance requirements. They said, however, that if substantial compliance is counted toward the goal (e.g., facilities with only minor violations or facilities on schedules to come into compliance), then the 90-percent figure is achievable.

EPA region IV and Alabama officials said that the 90-percent goal is highly ambitious and may not be achievable. A major reason cited was the dynamic nature of facilities going in and out of compliance particularly with regard to groundwater-monitoring requirements. EPA region IV officials also cited the constantly changing RCRA regulations and the lack of regional enforcement resources.

PROPOSED REPORT FORMAT FOR ASSESSING THE
CURRENT STATUS AND PROGRESS TOWARD ACHIEVING
THE 90-PERCENT GOAL

In addition to reviewing EPA's enforcement strategy, we agreed with the subcommittee's office to develop a report format that EPA could use to allow the subcommittee to assess the current status and progress toward achieving the 90-percent compliance goal. The following compliance status report could form the basis of such a report. It includes the requirements to be tracked--those relating to closure, postclosure, financial responsibility, and groundwater-monitoring--the number of facilities subject to each requirement, the number of facilities in compliance at the end of the selected reporting period, and the percentage of facilities in compliance.

EPA headquarters enforcement officials told us that it would be possible to complete such a report but a number of questions or problems will have to be resolved. As discussed earlier, EPA's compliance data are of questionable quality. EPA officials are working toward making improvements in the data applicable to the approximately 1,800 land disposal and incinerator facilities and expect to be in a better position to generate reports on these facilities by the fall of 1985. Improvements in the data base for the remaining approximately 3,200 treatment, storage, or disposal facilities are also planned but will take longer to implement because of limited resources. In addition, definitional problems will have to be worked out. For example, a decision would have to be reached on whether only facilities in full physical compliance would count toward meeting the goal or whether facilities in substantial compliance or on compliance schedules could be counted toward meeting the goal. Also, a decision would have to be made on whether the compliance status as of the last inspection would be satisfactory for reporting purposes. Finally, a decision is needed on whether facilities that are actually undergoing closure or in postclosure care and maintenance should be included in the report.

In terms of the report format, the subcommittee may wish to further divide the requirements themselves into components. For example, the financial responsibility section could be divided into its financial liability and financial assurance requirements and EPA could report on the compliance status for each.

Compliance Status Report

	Facilities subject to requirements	Number of facilities in compliance	Percentage of facilities in compliance
Closure plan and cost estimate requirements			
Postclosure plan & cost estimate requirements			
Financial responsibility requirements			
Groundwater-monitoring requirements			

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