

GAO

Report to the Chairman, Subcommittee
on Oversight and Investigations,
Committee on Energy and Commerce,
House of Representatives

December 1994

ENVIRONMENTAL PROTECTION

Information on EPA's Underground Injection Control Program





United States
General Accounting Office
Washington, D.C. 20548

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

B-258213

December 5, 1994

The Honorable John D. Dingell
Chairman, Subcommittee on Oversight
and Investigations
Committee on Energy and Commerce
House of Representatives

Dear Mr. Chairman:

Liquified hazardous wastes and oil and gas wastes are often injected into underground wells and deposited below drinking water supplies into porous rock formations that are separated from the drinking water by layers of nonpermeable rock. The nonpermeable rock reduces the likelihood of waste migrating upward and contaminating drinking water. To protect drinking water supplies, the Safe Drinking Water Act requires the Environmental Protection Agency (EPA) to establish minimum requirements for state underground injection control programs to regulate injection wells used for waste disposal. In addition, under the 1984 amendments to the Resource Conservation and Recovery Act (RCRA), EPA was to prohibit, beginning in 1988, the disposal of untreated hazardous wastes into wells unless owners/operators could demonstrate to EPA that the wastes would not migrate from the injection zone as long as the wastes remained hazardous. According to EPA, untreated wastes may continue to be disposed of pending the agency's issuance of treatment standards for those specific wastes. Disposal can also continue for up to 4 years if adequate alternative treatment, recovery, or disposal capacity for a given waste or facility is unavailable.

On the basis of discussions with your office, we focused our review on certain aspects of EPA's program governing deep-well injection. Specifically, we reviewed the (1) results of EPA's efforts to implement the 1984 amendments to ban underground injection of hazardous wastes, (2) accuracy of EPA's inspection and enforcement data to ensure reliable program oversight, and (3) status of recommendations to improve the Underground Injection Control Program made in our earlier reports.¹ Because 66 percent of this nation's hazardous waste and oil and gas waste injection wells are located in the states under EPA Regions 5 and 6, including Louisiana, Michigan, and Texas, we included these regions and

¹Hazardous Waste: Controls Over Injection Well Disposal Operations Protect Drinking Water (GAO/RCED-87-170, Aug. 28, 1987) and Drinking Water: Safeguards Are Not Preventing Contamination From Injected Oil and Gas Wastes (GAO/RCED-89-97, July 5, 1989).

states in this review. (See app. I for a discussion of the scope and methodology used in this review.)

Results in Brief

EPA is progressing in implementing the 1984 amendments to ban underground injection of hazardous wastes. The number of underground wells that injected hazardous wastes declined from 189 wells in 1988, when EPA began its implementation, to 118 wells in 1993. For 103 of the 118 wells, the owners/operators successfully demonstrated that the untreated hazardous wastes would not migrate from the injection zone. However, EPA allowed 15 wells to continue injecting untreated hazardous wastes without demonstrating this because owners/operators of these wells lack sufficient capacity to treat the types of wastes being injected or because EPA has not yet established treatment standards for these wastes.

Several key data used to oversee the Underground Injection Control Program were not accurate. We found errors in several key inspection and enforcement data used by EPA to (1) determine if required inspections are conducted and enforcement is being initiated and (2) indicate program activity in general. EPA does not believe that the errors significantly compromised its ability to oversee the program. Although we generally agree, the errors did, in one instance, mask information that EPA could have focused on during its oversight reviews of the program. EPA has corrected most of these specific problems or plans to correct them by December 1994. EPA currently also has an initiative under way to determine whether these as well as other reporting data are necessary for adequate program oversight.

EPA has either implemented or is in the process of implementing most of the recommendations contained in our prior two reports. EPA strengthened its oversight of each region's underground injection control program, as we recommended. EPA is currently reviewing proposed changes to the oil and gas waste injection well program, including requiring all well operators to search for and plug any improperly plugged wells in the immediate vicinity of their wells, as we recommended.

Background

Federal regulation of underground injection began under the Safe Drinking Water Act of 1974, which requires EPA to establish minimum requirements for state underground injection control programs to regulate all injection wells used for waste disposal. EPA initially issued regulations implementing the program in 1980. According to EPA, the regulations for hazardous and

nonhazardous waste disposal wells were revised in 1988 to better protect groundwater. The act establishes joint federal and state roles in regulating injection wells. States with EPA-approved underground injection control programs have primary enforcement responsibility (primacy) under the act. In states without approved programs, EPA retains direct responsibility for implementing the program. EPA provides grants to states that have assumed primacy to help fund the issuance of permits and rules, as well as inspection, enforcement, and reporting activities. Annual funding for underground injection control programs has remained nominally constant since fiscal year 1991 at \$10.5 million. In terms of constant dollars, funding has declined.

The Underground Injection Control Program regulations establish five classes of injection wells. Class I wells are used to inject hazardous and nonhazardous wastes deep below the lowest underground source of drinking water. Currently, there are 413 operating Class I wells, including 118 wells that inject hazardous wastes, in 21 states located primarily in EPA Regions 5 and 6 along the Great Lakes and Gulf Coast. Of the 21 states, 13 have primacy, while EPA has direct implementation authority in the remaining 8 states as well as on Indian lands. Class II wells are used to inject fluids associated with the production of oil and natural gas or to store hydrocarbons. Currently, there are more than 171,000 Class II wells, most of which are located in the Gulf Coast and Great Lakes states, as well as in California. Class III wells are used for special processes, such as mining minerals. Class IV wells, which inject hazardous wastes into or above underground sources of drinking water, are illegal.² Class V wells include all other waste injection wells that do not fit in the other four classes.

In 1984, RCRA was amended to require EPA, in a series of stages, to prohibit (with some exceptions) the land disposal of certain untreated hazardous wastes listed in the Code of Federal Regulations as of November 1984.³ As required by the 1984 amendments, beginning in August 1988 EPA began banning underground injection of untreated hazardous wastes specified in the regulations. EPA allows the continued disposal of these wastes only if they are treated to standards set by EPA. Untreated wastes can be disposed of only if (1) treatment standards for specific wastes have not yet been set, (2) the well owner/operator submits and EPA approves a petition

²Class IV wells, however, are considered legal when used to inject contaminated groundwater that has been treated and is reinjected into the same formation from which it was withdrawn pursuant to RCRA or the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund).

³40 C.F.R. part 261.

demonstrating that untreated wastes will not migrate from the injection zone while they remain hazardous,⁴ or (3) there is insufficient treatment capacity. If the latter occurs, EPA can grant an exemption for treatment for up to 4 years. The agency continues to develop treatment standards for hazardous wastes newly listed since 1984.

In 1987, we reported on Class I hazardous waste injection wells and concluded that few have resulted in confirmed cases of drinking water contamination. While two documented cases were found, these occurred before the states implemented EPA's 1980 regulations that prohibited the practices that led to the contamination. In 1989, we reported on Class II wells and concluded that these wells have resulted in some cases of drinking water contamination primarily because wastes migrated through improperly plugged wells near Class II injection wells.

Results of EPA's Efforts to Implement the 1984 Amendments Banning Underground Injection of Hazardous Waste

The national inventory of Class I active hazardous waste injection wells with permits declined from 189 wells in 1988 to 128 wells in 1993. Of these 128 wells, 10 only inject nonhazardous wastes. EPA has approved "no-migration petitions" for 103 of the 118 wells that inject hazardous wastes. Of the remaining wells, 2 are allowed to continue to inject hazardous wastes because of a lack of treatment capacity, and 13 inject hazardous wastes for which treatment standards have not yet been set. Up to 149 additional Class I nonhazardous waste wells that inject diluted wastes may be required to obtain no-migration petitions by 1996 because a federal appeals court determined that EPA's regulations governing dilution as a method of treatment were not sufficient to minimize threats to health and the environment.⁵

EPA granted the two wells that continue to inject untreated hazardous wastes a 2-year variance in August 1992 because insufficient treatment capacity existed for brominated wastewaters generated from the production of ethylene dibromide and methyl bromide. The owner/operator of the wells has requested a case-by-case extension from EPA because it still has insufficient treatment capacity. EPA has yet to issue a final decision on this but indicated its intent to approve the extension. As of October 1994, a decision was expected on this matter shortly. EPA cannot grant extensions of more than 1 year plus 1 additional year for a total of 2 years to allow these wells to continue to inject untreated hazardous wastes until treatment facilities are installed.

⁴Referred to as the no-migration petition demonstration process.

⁵*Chemical Waste Management v. EPA*, 976 F.2d 2 (D.C. Cir. 1992).

EPA has yet to develop treatment standards for the wastes injected at 13 wells. The majority of these injected wastes are benzene and methylethylketone, which were listed as hazardous wastes by the agency after 1984. The agency plans to develop treatment standards for these two wastes by 1996. In the meantime, owners/operators of the 13 wells have submitted no-migration petitions to EPA, primarily in anticipation of their wastes being banned from underground injection without prior treatment.

EPA Regions 5 and 6 are reviewing these petitions. However, the owner/operator of 4 of the 13 wells withdrew its petition to inject wastes containing benzene in 1990 after EPA and the state agency noted long-standing concerns with overpressuring within the injection zone caused by continued injection by these 4 wells, another Class I injection well and Class II injection wells. EPA and state agency officials were concerned that overpressuring might fracture the confining formation resulting in wastes migrating to underground sources of drinking water. According to a Texas Underground Injection Control permits section official, state agency staff are proposing to renew the four wells' permit for a 3-year term rather than the normal 10 years and impose lower injection pressure and more frequent monitoring requirements. The state will continue to negotiate with the owner/operator to discontinue underground injection into the overpressured formation by using another formation or by constructing treatment facilities. The owner/operator will then plug and abandon the existing wells. The owner/operator of the other Class I well within the area plugged and abandoned its well in August 1994 and no longer contributes to overpressuring. The state has also imposed a moratorium on drilling new Class II saltwater disposal wells in the area. The owner/operator of another of the 13 wells also withdrew its petition in 1991 after EPA determined that 11 nearby wells were inadequately plugged. According to the EPA Region 5 Land Ban Coordinator, the owner/operator constructed a waste treatment facility and discontinued injecting untreated benzene wastes as of August 1994.

EPA estimates that up to 149 additional Class I wells may be required to obtain no-migration petitions by January 1996. EPA, in its May 1990 rulemaking for listed wastes, determined that most characteristic hazardous wastes—wastes that exhibit ignitable, corrosive, reactive, or toxic characteristics—could be diluted prior to injection and no longer be classified as hazardous. In September 1992, however, a U.S. appeals court determined that EPA's regulations governing dilution as a method of treatment were not sufficient to minimize threats to health and the environment. In a consent agreement to implement the court's decision,

EPA agreed to propose treatment standards for these wastes by January 1995 and to issue final rules by January 1996. Until then, these wastes may continue to be diluted rather than treated prior to injection in Class I nonhazardous waste wells.

Accuracy of EPA's Data to Ensure Reliable Program Oversight

Several key inspection and enforcement data are reported by states and EPA regional offices on a quarterly basis and are used by the agency (1) to determine if required inspections are conducted and enforcement is being initiated and (2) to indicate program activity in general. Data reported by Texas and EPA Regions 5 and 6 in fiscal year 1993 were not accurate either because instructions were not received on what data should be submitted by the states and/or regions and how data should be reported or because reporting instructions were disregarded. Most of these inaccuracies have since been corrected. EPA is planning to assess which data are most important for its oversight of program activities.

Number of Wells Inspected Was Overstated

Each calendar quarter, EPA requires primacy states and its regions with direct implementation responsibility to report the number of Class I wells inspected. EPA regions can review quarterly reports from primacy states to track progress against commitments, and EPA headquarters uses inspection data as a general indicator of program activity.

Both Texas and EPA Region 5 reported in their fiscal year 1993 quarterly reports the number of actual inspections conducted at Class I wells rather than the number of wells inspected. As a result, Texas, which typically inspects commercial Class I wells twice each year and noncommercial wells once each year, reported inspecting 114 Class I wells even though it had only 102 operational Class I wells. Region 5, which inspects Class I hazardous waste wells in Michigan four times each year and nonhazardous waste wells once each year, reported that 91 Class I wells were inspected in Michigan even though the state had only 21 operational Class I wells. In fiscal year 1994, this practice was discontinued in both Texas and Michigan. Michigan discontinued the practice as a result of our work. Texas, in contrast, no longer completes the quarterly report because of staff shortages. Rather, EPA Region 6 completes the report and accurately reports on the number of wells inspected.

According to a program analyst in EPA headquarters' Underground Injection Control Branch, the reporting errors we found in fiscal year 1993 were likely due to a number of factors. For example, the form used to

report these data as well as the instructions for completing the form were revised in 1988. The instructions clarified that the actual number of wells inspected was to be reported. However, Texas did not have the back page of the revised form that included the instructions, and Region 5, which had copies of both sides of the form, disregarded the instructions by reporting the actual number of inspections carried out by its contractor.

EPA headquarters and Region 6 underground injection control program officials, however, did not believe that overstating the number of wells inspected adversely affected program oversight. According to an EPA headquarters' Underground Injection Control Branch program analyst, the agency is aware that states and regions occasionally report the number of inspections rather than the number of wells inspected. As a result, the number of wells inspected is used only as a general indicator of program activity rather than a reliable measure of performance. According to the Region 6 underground injection control program manager for Texas, the state's overstatement of the number of wells inspected did not adversely impact his oversight of the state's program. The manager said that although he did not realize that Texas was reporting the number of inspections at Class I wells rather than the number of wells inspected, the difference of 12 wells was within the range of expected fluctuations in the number of operating wells in the state—new wells coming into service and old wells being plugged and abandoned result in minor fluctuations in the number of operating wells. We agree.

Violations of Conditions of No-Migration Petitions Inconsistently Reported

Each calendar quarter, EPA requires primacy states and its regions with direct implementation authority to report the number of wells with violations and the types of these violations. Region 6 uses the data as a general indicator of operator compliance. According to EPA headquarters' Chief of the Underground Injection Control Enforcement and Compliance Section, headquarters uses the violation data as an indicator of how active the states and regions are in identifying violations. Headquarters also compares the types of violations identified to see if trends emerge.

During fiscal year 1993, Texas inspectors identified 21 wells with violations of the conditions of no-migration petitions but only included 9 of the 21 wells with these violations in quarterly reports to Region 6. Furthermore, the state misclassified these violations as operations and maintenance, monitoring and reporting, or unauthorized injection violations. According to EPA headquarters' Chief of the Underground

Injection Control Enforcement and Compliance Section, these violations should have been classified as “other” violations in quarterly reports.

Errors in reporting such violations during fiscal year 1993 occurred in Texas—the only state that has not incorporated the conditions of no-migration petitions in all of its underground injection permits—because EPA did not provide guidance on how to classify and report these violations. Texas, however, (1) identifies violations of the conditions of no-migration petitions because EPA provides the state with copies of the petition conditions, (2) assesses compliance with these conditions during its inspections, and (3) refers the violations to the region for enforcement. According to the Region 6 underground injection control program manager for Texas, the reporting problem should resolve itself as early as December 1994, when all but 3 of 57 Class I hazardous waste injection wells in the state are expected to have petition conditions incorporated into state underground injection permits.⁶ The state can then report these violations as it currently reports other permit violations. As a result of our work, the regional program manager for Texas began preparing separate quarterly reports beginning the fourth quarter of fiscal year 1993 to accurately report on violations of petition conditions referred by the state.

Although Texas did not report these data consistently and accurately in fiscal year 1993, Region 6 and headquarters’ underground injection control officials said that program oversight was not significantly affected. According to the Region 6 program manager for Texas, this is because the region instructed the state to contact the region when it found violations of the conditions of no-migration petitions. As a result, the region was aware of the violations even though Texas and the region had no formal reporting mechanism. According to EPA headquarters’ Chief of the Underground Injection Control Enforcement and Compliance Section, excluding violations from the reports or misclassifying them can affect headquarters’ analysis of how actively the states identify violations and the types of those violations. However, the Chief said that the errors in the Texas reports were not significant enough to materially affect headquarters’ analysis of violations found nationwide. While we agree the errors in Texas may not have represented a significant portion of violations found nationwide, they did represent more than half of the violations of the conditions of no migration petitions found in Texas.

⁶As of October 1994, all but 12 of Texas’ 57 wells had been reissued permits by the state to include no-migration petition conditions. EPA projects that Texas will reissue permits for 9 of the remaining 12 wells by December 1994. The remaining three wells are on hold because of pending state legal and enforcement cases.

Overdue Enforcement Not Reported

Quarterly, EPA requires primacy states and its regions with direct implementation responsibility to identify and report each Class I well with violations that has not been addressed with a formal enforcement action or has not returned to compliance within two or more consecutive quarters. EPA regions use quarterly reports to determine if they should follow up with states to determine why enforcement actions were overdue and to assess whether the region should initiate enforcement action. According to EPA headquarters' Chief of the Underground Injection Control Enforcement and Compliance Section, headquarters uses the quarterly reports to evaluate whether timely and appropriate enforcement action is being taken in regions with direct implementation responsibility and primacy states.

Texas and Region 6 did not report any wells with overdue enforcement actions in fiscal year 1993 even though 21 Class I wells with violations had overdue enforcement actions for two consecutive quarters. As a result of our work, beginning in the fourth quarter of fiscal year 1993, Texas and Region 6 began reporting overdue enforcement actions in quarterly reports.

The Texas Class I program liaison said that prior to our work, he was unaware that he was required to report this information on quarterly exception reports. Rather, he assumed and reported in some cases that enforcement actions had been taken when inspection results were referred to a state screening committee for enforcement consideration. Because Texas was not reporting that enforcement actions had not been taken or that wells had not returned to compliance, Region 6 was unaware that enforcement had been delayed. As a result, Region 6 did not include overdue enforcement actions on its quarterly reports to EPA. Although the Region 6 program manager for Texas said that he reviews a sample of the quarterly report data during oversight reviews, resource constraints have prevented him from undertaking a more detailed review and thus have precluded his detecting the types of errors that we found.

Although Texas did not report these data prior to the fourth quarter of fiscal year 1993, the Region 6 program manager said that Texas was making satisfactory progress in resolving overdue enforcement cases. Regional program management, however, now has data to determine whether overdue cases are being resolved. According to the EPA headquarters' Chief of the Underground Injection Control Enforcement and Compliance Section, however, excluding the overdue enforcement cases can result in overlooking a potential problem during its oversight of

regional programs and affects its ability to determine if enforcement responses meet timeliness and appropriate response goals.

EPA Assessing Which Reporting Data Are Most Important

According to the headquarters' Chief, an enforcement data work group has been examining the issue of which enforcement and compliance data elements reported by primacy states and regions with direct implementation responsibility are necessary for program oversight and which are not. The group plans to recommend revisions, as necessary, to the quarterly report forms. The group's progress has been delayed by EPA's reorganization of the Office of Enforcement and Compliance Assurance, which includes the creation of a separate Office of Compliance. This new office will have responsibility for compliance reporting under the new organization. EPA does not know when the work group's results will be completed.

Status of Recommendations Made in Our 1987 and 1989 Reports

In our 1987 report on EPA's controls over hazardous waste injection well operations, we noted that the four primacy states that we reviewed were inspecting injection wells to ensure compliance with current regulations. However, the report noted that EPA Region 5 did not perform required inspections during fiscal years 1985 and 1986 in two states the agency has responsibility for. We recommended that the Administrator strengthen EPA headquarters' oversight of each regional office operating an underground injection control program to ensure that inspections are performed and documented.

In response to our recommendation, in 1987 EPA developed a more extensive midyear evaluation of each region's program. According to headquarters' program officials, these midyear evaluations are supplemented by detailed file reviews and reviews of data provided by the regions on a quarterly basis. Quarterly data include the number of injection wells inspected and well tests witnessed by EPA regions in those states where EPA has direct implementation authority. According to the program officials, these quarterly reports are reviewed to determine whether regions are conducting required inspections and witnessing well tests.

We found that Region 5 is now conducting required inspections, and headquarters is conducting oversight evaluations. Region 5 uses a contractor in Michigan, where the region has direct implementation responsibility, to perform required inspections at Class I injection wells.

EPA headquarters performed a midyear evaluation of two (Regions 5 and 9) of the three regions with direct implementation responsibility in 1993. The remaining region (Region 4) was evaluated in June 1994.

In our 1989 report on controls over Class II wells, we found that although operators of wells that began operating after 1980 are required to search for and plug any improperly plugged wells in the immediate vicinity of their injection wells, this requirement does not apply to those Class II wells that were operating before the Underground Injection Control Program was established. The report noted that injection wells already operating before 1980 accounted for nearly all of the cases in which groundwater contamination had occurred through wastes migrating into improperly plugged wells. We recommended that EPA take steps to ensure that the Class II program be revised to make owners/operators of existing wells identify and plug improperly abandoned wells in the immediate area of their injection wells and that EPA establish a priority system for it and the states to use so that those wells posing the greatest risk of contamination are addressed first.

EPA is currently reviewing proposed changes for the Class II injection well program that embody the recommendations of a 1991 federally chartered advisory committee that reviewed the Class II regulations in detail. The committee consisted of petroleum industry representatives, trade associations, environmental interest groups, state underground injection control program directors, and federal agency representatives. The advisory committee and an EPA work group focused on such issues as (1) upgrading new well construction requirements, (2) requiring that owners/operators of existing Class II wells identify and plug improperly abandoned wells in the area around their injection wells, and (3) increasing the frequency of well testing. EPA expects a proposed rule for Federal Register publication and public comment by early calendar year 1995. While EPA is adopting our recommendation that improperly abandoned wells near existing injection wells be properly plugged, the agency has not established a priority system for reviewing those wells posing the greatest risk. This is because some states lack information to determine which wells pose the greatest risk.

Conclusions

EPA is progressing in its implementation of the 1984 amendments to RCRA and has approved no-migration petitions for 103 wells. EPA is in the process of developing treatment standards for characteristic wastes or wastes newly listed since 1984. Once standards are developed, 13 wells

injecting hazardous wastes and up to 149 additional wells injecting diluted wastes may require no-migration petitions or be required to treat the wastes prior to injection. EPA also is progressing in implementing the recommendations in our 1987 and 1989 reports. EPA has strengthened its oversight of regions' underground injection control programs, and Region 5 is now conducting required inspections. EPA is also proposing to require that owners/operators of all Class II wells identify and plug improperly abandoned wells.

Also, although some of the data used by EPA to manage the Underground Injection Control Program has been reported incorrectly by states and regions either because of a lack of instructions or because instructions were ignored, EPA either has corrected or will correct the majority of these reporting problems by December 1994. EPA does not believe the errors we found significantly compromised program oversight. Although we generally agree, in one instance information was masked that EPA could have focused on during oversight reviews. We believe that it is important to ensure complete and accurate program reporting to support effective program evaluation and priority-setting by oversight agencies.

Agency Comments

As requested, we did not obtain written comments on a draft of this report. However, we discussed its contents with the Chief, Underground Injection Control Branch, and the Chief, Regulation Development and Technical Guidance Section, in EPA's Office of Ground Water and Drinking Water; the Team Leader for Wetlands and Underground Injection Control, Water Enforcement Division, in EPA's Office of Regulatory Enforcement; the Chief of the Underground Injection Control State Programs Section, and the Land Ban and Texas State Program Coordinators, in EPA Region 6's Water Management Division; the Chiefs of the Underground Injection Control Section and Enforcement Unit; and the Land Ban Coordinator in EPA Region 5's Water Division.

Headquarters' officials said that they agreed with the facts in the report. They added that EPA's work group assessing what data are necessary to oversee the Underground Injection Control Program is continuing its effort, but when the group will finalize its work is not known. Region 6 officials said that the report was factually correct and provided additional information concerning the injection well that is causing overpressuring in that region. Region 5 officials also said that the report was factually correct and that one well that had been injecting untreated hazardous wastes in that region constructed a waste treatment facility and

discontinued injecting wastes. We revised the report to include this information where appropriate.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days after the date of this letter. At that time, we will make copies available to others on request. We conducted our review from May 1993 to September 1994 in accordance with generally accepted auditing standards.

If you or your staff have any questions regarding the matters discussed in this report, I can be reached on (202) 512-6111. Major contributors to this report are listed in appendix II.

Sincerely yours,

A handwritten signature in black ink, appearing to be "Peter F. Guerrero", written over a faint, stylized outline of a map of the United States.

Peter F. Guerrero
Director, Environmental
Protection Issues

Objectives, Scope, and Methodology

To develop information on the (1) results of the Environmental Protection Agency's (EPA) efforts to ban underground injection of hazardous wastes; (2) accuracy of EPA's inspection and enforcement data to ensure reliable program oversight; and (3) status of recommendations to improve the Underground Injection Control Program made in earlier reports, we examined policy and guidance documents, as well as inspection and enforcement documents, obtained from EPA headquarters and its Regions 5 and 6, the Texas Natural Resources Conservation Commission, and the Louisiana Department of Natural Resources. We also interviewed program officials in EPA headquarters and Regions 5 and 6, and in Louisiana and Texas. Although primacy states and direct implementation regions are required to report on a quarterly basis Underground Injection Control Program data concerning permitting, inspection, and enforcement activities, we limited our verification to inspection and enforcement data because this data reflects the level of program compliance and how noncompliance is resolved in order to prevent contamination of underground sources of drinking water. Our review was limited to assessing deep-well injection units at facilities. We did not review other units, such as storage or treatment units, which are regulated under the Resource Conservation and Recovery Act. We also did not assess these facilities' compliance with any air emission requirements associated with the Clean Air Act.

Major Contributors to This Report

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