
No. 04-2191
IN THE UNITED STATES COURT OF APPEALS
FOR THE TENTH CIRCUIT

STATE OF NEW MEXICO, et al.,
Plaintiffs-Appellants,

v.

GENERAL ELECTRIC COMPANY, et al.,
Defendants-Appellees.

On appeal from the United States District Court
For the District of New Mexico
The Honorable Bruce S. Jenkins
District Judge
D.C. No. 99-1118

**BRIEF OF THE AMERICAN CHEMISTRY COUNCIL, AMERICAN
PETROLEUM INSTITUTE, NATIONAL MINING ASSOCIATION,
CHAMBER OF COMMERCE OF THE UNITED STATES OF AMERICA,
NATIONAL ASSOCIATION OF MANUFACTURERS, UNITED STATES
COUNCIL FOR INTERNATIONAL BUSINESS, INDEPENDENT
PETROLEUM ASSOCIATION OF AMERICA, NATIONAL
PETROCHEMICAL & REFINERS ASSOCIATION, RUBBER
MANUFACTURERS ASSOCIATION AND AMERICAN GAS
ASSOCIATION AS *AMICI CURIAE* IN SUPPORT OF DEFENDANTS-
APPELLEES FOR AFFIRMANCE OF DISTRICT COURT**

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CORPORATE DISCLOSURE STATEMENT

None of the *amici* associations issue shares or debt securities to the public or have parent companies, subsidiaries or affiliates which issue shares or debt securities to the public.

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APPELLEES FOR AFFIRMANCE OF DISTRICT COURT**

Amici associations submit this *amici curiae* brief pursuant to Fed. R.

App. 29. A motion for leave to file accompanies this brief.¹

¹ The defendants-appellees consent to the filing of this brief. Counsel for the State of New Mexico, plaintiff-appellant, advised that the State takes no position with respect to the filing of this brief.

INTRODUCTION AND INTEREST OF THE *AMICI*

All of the following *amici* are trade associations that have members actively involved in the funding and performance of clean up at thousands of contaminated sites across the United States at a cost in the billions of dollars. These associations and their members support cooperative agreements with federal and state agencies for the financing and conducting of cleanups and oppose any natural resource damage claims that undermine those agreements.

American Chemistry Council (ACC) is a non-profit trade association that represents over 140 of the leading companies engaged in the business of chemistry. These companies operate over 2,000 facilities across the United States.

American Petroleum Institute (API) is a non-profit, national trade association headquartered in the District of Columbia. API represents more than 400 members involved in all aspects of the oil and natural gas industry including exploration, production, refining, transportation, and marketing of gasoline and diesel fuels for use in motor vehicles and engines.

National Mining Association (NMA) is a national trade association, representing more than 325 corporations involved in all aspects of the mining industry including the producers of most of the nation's coal, metals, industrial and agricultural minerals, the manufacturers of mining and mineral processing machinery, equipment and supplies, and the engineering and consulting firms,

financial institutions and other firms serving the coal and hard rock mining industry.

The Chamber of Commerce of the United States of America (the Chamber) is the world's largest business federation. The Chamber represents an underlying membership of more than three million businesses and organizations of every size, in every industry sector, and from every region of the country. The Chamber regularly advocates its members' views in court on environmental issues of national concern to the business community.

The National Association of Manufacturers (NAM) is the nation's largest industrial trade association, representing small and large manufacturers in every industrial sector and in all 50 states. The NAM's mission is to enhance the competitiveness of manufacturers by shaping a legislative and regulatory environment conducive to U.S. economic growth and to increase understanding among policymakers, the media and the general public about the vital role of manufacturing to America's economic future and living standards.

The United States Council for International Business (USCIB) is a business advocacy and policy development group representing 300 global companies. It is the American affiliate of the International Chamber of Commerce and the International Organization of Employers.

The Independent Petroleum Association of America (IPAA) is a national trade association representing the interests of thousands of independent domestic natural gas and petroleum explorationists and producers. It has membership throughout the nation, principally in states producing natural gas and petroleum.

The National Petrochemical & Refiners Association (NPRA) is the primary trade association of the U.S. petroleum refiners and petrochemical industry representing more than 450 companies. NPRA members supply consumers with a wide variety of products and services that are used daily in homes and businesses. These products include: gasoline, diesel fuel, home heating oil, jet fuel, asphalt products, and the chemicals that serve as “building blocks” in making plastics, clothing, medicine, computers and many other common consumer products.

Rubber Manufacturers Association (RMA) is the national trade association for the rubber products industry. Its members include more than 100 companies that manufacture various rubber products, including tires, hoses, belts, seats, molded goods, and other finished rubber products.

The American Gas Association (AGA) represents 195 local energy utility companies that deliver natural gas to more than 56 million homes, businesses and industries throughout the United States. Natural gas meets one-fourth of the United States’ energy needs. AGA is concerned about the potential impact of this

case on site cleanups and the restoration and economic revitalization of older industrial properties and brownfields.

Amici's members not only face the cost of cleanup at their sites but additional potential liability for damages to natural resources through lawsuits brought pursuant to either the natural resource damage provisions of federal or state laws or state environmental tort claims such as nuisance or negligence. The threat of these additional damage claims presents companies with the dilemma of whether to volunteer to clean up a contaminated site if the companies would still face damages in subsequent litigation based upon the claim that the cleanup is inadequate. *Amici* and their member companies have demonstrated their preference to work cooperatively with federal and state agencies to achieve clean ups that are timely, cost-effective and protective of human health and the environment. *Amici* submit this brief to describe for the Court the serious adverse consequences of allowing environmental tort lawsuits for natural resource damages that challenge the adequacy of ongoing cleanups.

In addition, *amici* are increasingly faced with large claims based upon damages to natural resources, such as the claim brought by the State of New Mexico in this case, which are not based upon any actual loss of use of services of the resource and are largely speculative in nature. Even if the claims are without merit, such claims can immediately impact *amici's* members as well as similarly

situated companies across the United States because of defense costs and, for publicly held companies, disclosure in public securities filings.

ARGUMENT

The State of New Mexico assails numerous aspects of the District Court's decision, but primarily focuses its attack on the adequacy of the remedies required and approved by the United States Environmental Protection Agency (EPA) and the New Mexico Environment Department (NMED), which are currently cleaning up the groundwater at the South Valley Site. It further argues that it is entitled to damages even if it cannot demonstrate specific facts showing there is a genuine issue concerning any real loss of natural resource services. Under this logic, no remediation of a natural resource, no matter how expensive or successful, will ever eliminate a state's claim for money damages for that same resource.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9601 *et. seq.* and comparable state statutes are remarkable in that after a potentially responsible party (PRP) has properly remediated a contaminated site by negotiating agreements with federal and/or state agencies, undertaking site investigation, conducting remedial actions and monitoring, and reimbursing the agencies for their oversight costs, the PRP may in some circumstances still be faced with damage claims for interim or residual injuries to the same resource. This, however, is not such a case. The central issue

in this appeal is whether, as the State of New Mexico asserts, a State can seek natural resource damages for the exact same injury that defendants-appellees are successfully remediating with the approval and oversight of EPA and state regulators. In the case below, the State sought natural resource damages for an alleged loss of drinking water services in the South Valley allegedly due to groundwater contamination. But this damages claim completely overlaps with the express goal of the ongoing EPA and NMED remediations to restore the affected groundwater in the South Valley to drinking water standards. If such claims are allowed, PRPs at sites across the country will be faced with the prospect of paying twice for the same resource: first to remediate the resource and second to replace the resource they paid to remediate. Moreover, the State argues that it should be entitled to this double recovery even if the State cannot present any evidence establishing even interim loss of services from the contamination at issue. Under this standard, PRPs — regardless of their good faith remediation efforts — could be subject to potentially astronomical natural resource damage claims unfettered by any real world damages.

In this case, the defendants-appellees, as well as other companies, have been working and cooperating with EPA and NMED in extensive groundwater investigations and remediation since the 1980s. In committing the resources necessary to carry out these investigations and remedial activities, the defendants-

appellees have rightly relied upon decisions and representations by both EPA and NMED that these actions are both necessary and, when completed, will restore groundwater in the South Valley to drinking water standards. The State of New Mexico now attempts not only to challenge directly but also to disavow these longstanding decisions in an effort to pursue a multibillion dollar damages claim. If successful, the State's action will send a clear message to PRPs across the United States that after working for years and spending millions of dollars on a cleanup under federal and/or state oversight they may very well be faced with an enormous damages claim brought by the very same government with which they have been working, based on an allegation that the remedy that the government selected and endorsed is "inadequate." This message is likely to have a chilling effect on the number of cleanups voluntarily undertaken by companies.

Cooperative action between government regulators and industry has been an integral part of successful remediation efforts at contaminated sites throughout the country. If federal and state contamination cleanup programs are to be successful, they must continue to have maximum voluntary participation by PRPs. The State of New Mexico's repudiation of its own regulatory decisions, as well as the statements and representations it made in connection with EPA's CERCLA remediation, is a direct threat to the state and federal cleanup regimes that have developed over the past many years.

I. NEW MEXICO'S DAMAGE THEORY THREATENS TO UNDERMINE ONGOING REMEDIATION ACTIVITIES THROUGHOUT THE UNITED STATES.

A. PRP participation in the implementation of government cleanup decisions is critical to the success of federal and state remediation programs.

Voluntary participation by PRPs in the cleanup of contaminated sites is critical to the success of both EPA and state remediation programs. EPA has identified 44,000 potentially hazardous waste sites and continues to discover about 500 additional sites each year. EPA places the most seriously contaminated sites on the NPL. At the end of fiscal year 2002, there were 1,233 sites on the National Priorities List (NPL). *Superfund Program—Current Status and Future Fiscal Challenges* (GAO-03-850, July 31, 2003) at 1. (*Amici Addendum* at 2.) According to EPA, PRPs have undertaken the work and funded more than 70% of the remedial actions begun at sites other than federal facilities in fiscal years 2000 through 2002. *Id.* at 23. (*Amici Addendum* at 4.) Since the inception of the Superfund program, PRP commitments have exceeded \$20 billion. *Id.* at 17. (*Amici Addendum* at 3.) EPA has repeatedly emphasized its “continued commitment to maximize PRP involvement in financing and conducting cleanup” and that “in the past few years, PRPs have led the majority of new remedial actions, accelerating the pace of Superfund cleanups. Early involvement of PRPs also kept transaction and cleanup costs at a minimum.” EPA Office of Emergency

and Remedial Response, *Progress Toward Implementing Superfund, Fiscal Year 1998* at xviii, xx. (*Amici Addendum* at 7-8.)

The language of CERCLA itself reflects that Congress intended to ensure cooperative efforts between EPA and PRPs in cleaning up contamination. Section 122, 42 U.S.C. § 9622, for example, contains a number of provisions that encourage PRP involvement including EPA's authority to provide mixed funding, covenants not to sue and favorable settlement terms. In addition, settling parties can get contribution protection but retain the right to seek contribution from others and the amount recoverable from remaining non-settlers is reduced only by the amount of the settlement. EPA can also encourage participation and settlement through the development of nonbinding preliminary allocations of responsibility and can enter into settlements based upon a PRP's limited ability to pay.

Likewise, voluntary cooperation by PRPs has been essential to the states' remediation programs. The vast majority of states have enacted laws governing the cleanup of contaminated sites, including programs for conducting voluntary cleanups. Environmental Law Institute, *An Analysis of State Superfund Programs: 50-State Study, 2001 Update* 13, 54 (Washington, D.C. 2002). (*Amici Addendum* at 10-11.) According to the GAO, state officials prefer to work with viable and cooperative PRPs under their respective state programs, rather than turn the sites

over to EPA for NPL listing. *Superfund Program—Current Status and Future Fiscal Challenges*, supra, at 24. (*Amici Addendum* at 5.)

The arguments and positions advanced by the State of New Mexico through its Attorney General, both in the district court and in this Court, are diametrically opposed to statements made and positions taken by the State of New Mexico acting through NMED — the statutorily authorized agent of the State on matters relating to environmental remediation. New Mexico’s attempt to disavow remediation decisions and agreements that NMED either concurred with or actually entered into will, if judicially countenanced by allowing a monetary recovery based on the alleged inadequacies of those decisions and agreements, have a chilling effect on the willingness of responsible parties to enter into agreements with federal and state agencies to undertake remedial activities. Responsible parties need certainty. Their management needs to know that agencies will stand behind their decisions and agreements. There is no room in this process for the statutorily authorized New Mexico agency to approve a cleanup decision on the one hand and for the State Attorney General to challenge it as inadequate on the other.

B. Congress enacted CERCLA so as to require that decisions about the proper design and execution of remediation efforts be addressed within a regulatory framework. The statute provides EPA with broad authority to restore and remediate contaminated sites.

In his 1986 treatise, Professor William H. Rodgers, Jr. expressed the view that: “[N]o small part of public nuisance law will be expressed in a variety of contemporary pollution statutes, under which enforcement actions seek abatement of public nuisances in everything but name.” William H. Rodgers, Jr., *Environmental Law*, Vol. 1 (1986) at 41. CERCLA is such a statute. This Court has consistently recognized that CERCLA was intended to clean up releases and threatened releases of hazardous substances. State of Colorado v. Idarado Mining Co., 916 F.2d 1486, 1488-1489 (10th Cir. 1990). “The EPA is authorized to respond to any actual or substantial threat of release of a hazardous substance into the environment by taking ‘removal’ and/or ‘remedial’ actions or ‘any other response measure . . . deem[ed] necessary to protect the public health or welfare or the environment.’” 42 U.S.C. § 9604(a)(1). “CERCLA provides the EPA with ‘a variety of tools for achieving the efficient and cost-effective cleanup of the nation’s hazardous waste sites.’” Sierra Club v. Seaboard Farms Inc., 387 F.3d 1167, 1172 (10th Cir. 2004).

EPA implements CERCLA’s requirements through federal regulations referred to as the National Oil and Hazardous Substances Pollution Contingency

Plan (“NCP”). 40 C.F.R. Part 300. “The NCP is EPA’s regulatory template for a ‘CERCLA quality cleanup’ . . . it ‘sets performance standards, identifies methods for investigating the environmental impact of a release or threatened release, and establishes criteria for determining the appropriate extent of response activities.’” Public Service Company of Colorado v. Gates Rubber Company, 175 F.3d 1177, 1181 (10th Cir. 1999); Morrison Enterprises v. McShares, Inc., 302 F.3d 1127, 1132 (10th Cir. 2002).

Under the NCP, EPA first conducts a Remedial Investigation “to collect data necessary to adequately characterize the site for the purpose of developing and evaluating effective remedial alternatives.” EPA then conducts a Feasibility Study, “the primary objective of [which] . . . is to ensure that appropriate remedial alternatives are developed and evaluated such that relevant information concerning the remedial action options can be presented to a decision maker and an appropriate remedy selected.” In evaluating the remedial action options, EPA considers nine criteria set forth in the NCP: (1) overall protection of human health and the environment; (2) compliance with applicable or relevant and appropriate requirements (“ARARs”); (3) short-term effectiveness; (4) long-term effectiveness and permanence; (5) reduction of toxicity, mobility or volume through treatment; (6) implementability; (7) costs; (8) state acceptance; and (9) community acceptance. Once a remedial action is selected, a proposed plan is put out for

public comment. Thereafter, EPA issues a Record of Decision (“ROD”) setting forth the selected remedial action. EPA then implements the ROD using a variety of authorities. United States v. Burlington Northern Railroad Company, 200 F.3d 679, 684-686 (10th Cir. 1999); U.S. v. City and County of Denver, 100 F.3d 1509, 1511 (10th Cir. 1996). This process and these NCP requirements “reflect a program goal ‘to select remedies that are protective of human health and the environment, that maintain protection over time, and that minimize untreated waste.’” Public Service Company of Colorado v. Gates Rubber Company, *supra*, 175 F.3d at 1182 n.9 (10th Cir. 1999).

This Court has repeatedly held that it would “give deference to the EPA’s choice of response action and will not substitute our own judgment for that of the EPA.” United States v. Burlington Northern Railroad Co., *supra*, 200 F.3d at 688-689 (10th Cir. 1999) quoting United States v. Hardage, 982 F.2d 1436, 1442 (10th Cir. 1992). Accord State of Colorado v. Sunoco, Inc., 337 F.3d at 1233, 1243 (10th Cir. 2003).

C. Congress further ensured the primacy of the EPA regulatory process by precluding litigation related to the goals of a cleanup.

Congress has strictly circumscribed the ways in which a CERCLA remedy chosen by EPA may be challenged. First, such challenges may only be brought in connection with one of the five judicial actions listed in CERCLA § 113(h),

42 U.S.C. § 9613(h); U.S. v. City and County of Denver, 100 F.3d 1509, 1514 (10th Cir. 1996) (“In enacting this jurisdictional bar, Congress intended to prevent time-consuming litigation which might interfere with CERCLA’s overall goal of effecting the prompt cleanup of hazardous waste sites.”); second, judicial review of the adequacy of a remedial action is limited to the administrative record and an arbitrary and capricious standard (CERCLA § 113(j), 42 U.S.C. § 9613(j)); and third, states wishing to impose more stringent standards must fulfill the requirements set forth in CERCLA § 121, 42 U.S.C. § 9621. In CERCLA sections 106, 113 and 122, Congress created an “elaborate settlement scheme aimed at the efficient resolution of environmental disputes.” See Matter of Reading Co., 115 F.3d 1111, 1117 (3d Cir. 1997); Bedford Affiliates v. Sills, 156 F.3d 416, 427 (2nd Cir. 1998). Permitting inconsistent actions, such as allowing the State of New Mexico to repudiate its own decisions and statements in order to advance a damage claim, would “create a path around the statutory settlement scheme, raising an obstacle to the intent of Congress.” Matter of Reading Co., Id.

At no time did the State of New Mexico avail itself of any of the statutorily authorized ways to challenge the cleanup if it was dissatisfied with any of the cleanup decisions. Instead, the statutorily authorized agent of the State, NMED, actually concurred in EPA’s remedial decision and NMED implemented its own remedial decision with respect to hydrocarbon contamination. Now, however, the

State Attorney General asserts a damage claim for loss of drinking water services that can only succeed if ultimately the district court finds that the EPA/NMED remedies are inadequate. That is because, if the goals of the ROD continue to be met and all of the contamination is cleaned up by the defendants-appellees to meet drinking water standards, the State can show no injury upon which to base a damage claim.

From the outset of this case, New Mexico has recognized its dilemma. Therefore, before the district court and in this Court, the State argues that: “[A]t the end of all planned remediation, a contaminant plume will exist both laterally outside the capture radius of the remediation extraction wells, and vertically, below 4600-4550 feet amsl, where there are no extraction wells and contamination levels are known to be above MCLs.” Appellants Brief (“App. Br.”) at 16 (emphasis in original). This litigation assertion is directly contrary to EPA’s regulatory finding (seconded by the State’s own NMED) that the CERCLA remediation system has fully captured the contaminant plume in the South Valley, is successfully restoring the water to drinking water standards, and will continue to operate until the restoration is complete.

The State seeks damages for the very same services that EPA and NMED have determined are being restored through the CERCLA remediation. Allowing such a claim would directly interfere with Congress’s goal of giving primacy to

EPA regulatory decisions and encouraging cooperative cleanup efforts. If states are allowed to pursue NRD claims based upon a direct challenge to the adequacy of EPA's decisions as to how to restore the very same natural resource services, EPA will lose control over the remediation process and PRPs will have a significant disincentive to cooperate with EPA. After all, why should a PRP pay to cleanup a site if it will be required to pay damages for the very same services it is paying to restore through the remediation? Lawsuits such as New Mexico's which are "directly related to the goals of the cleanup" are challenges to the remedial action and barred by § 113(h), 42 U.S.C. § 9613(h). McClellan Ecological Seepage Situation v. Perry, 47 F.3d 325, 330 (9th Cir. 1995).

As the district court pointed out, even if the State did have legitimate concerns about the scope and effectiveness of the existing remedial actions, it could pursue more appropriate avenues: "If the State of New Mexico believes that the existing remedial actions are lacking in some respect, then the State may raise its concerns with the EPA on the one hand and with the signatories to its Hydrocarbon Remediation Agreements on the other." (Aplt. App. at 345.)

Amici's concerns with the State's position in this case do not end with a determination that New Mexico may not challenge the remedial actions in this fashion. *Amici* are equally, if not more, concerned over the State's efforts to create compensable injury by attacking the statements, decisions and agreements of the

very State agency authorized to act for the State on these matters. Clearly, allowing a litigating agent of a State (here, the Attorney General) to repudiate in tort litigation the decision made by the State's environmental agent (here, NMED), would create "an obstacle to the accomplishment and execution of the full purposes and objectives of Congress" in enacting CERCLA. See Fireman's Fund Ins. Co. v. City of Lodi, 302 F.3d 928, 943 (9th Cir. 2002). New Mexico and its agencies have worked with EPA with respect to its remedial decisions, concurred in those decisions, made their own decisions with respect to hydrocarbon contamination and entered into agreements with some of the defendants-appellees to implement those decisions. The defendants-appellees are fully justified in relying on the State's statements and decisions in determining whether to agree to carry out the remediation. It is patently unfair for a state to make representations wearing its remediation "hat" then to attack those very representations wearing its damages "hat." The State of New Mexico has publicly joined with EPA in declaring that between EPA's remedial action and the remedial action undertaken pursuant to the Hydrocarbon Remediation Agreements (HRAs), the groundwater contamination in the South Valley will be cleaned up. The defendants-appellees have relied upon those representations in entering into agreements to carry out and fund the remedial actions. It is contrary to sound public policy to allow the State to

either repudiate or ignore its own representations and decisions in order for it to seek monetary damages.

D. NMED's regulatory actions and settlements likewise cannot be challenged through damages litigation like New Mexico's.

Likewise, the State of New Mexico has in place a host of statutes, regulations and remedial programs to deal with groundwater contamination. The New Mexico Water Quality Control Commission ("NMWQCC"), under the authority of the New Mexico Water Quality Act, N.M.S.A., Chapter 74, Article 6 (1978) has adopted the basic framework for groundwater quality management. This regulatory framework is augmented by programs established under the New Mexico Oil and Gas Act, Hazardous Waste Act, Ground Water Protection Act, Solid Waste Act, Emergency Management Act, Voluntary Remediation Act and Environmental Improvement Act.

The NMED, through its Ground Water Quality Bureau, enforces the Water Quality Act, by identifying, investigating and cleaning up of contamination that impacts or threatens groundwater. Pursuant to this authority, the NMED may conduct or direct both the investigation and abatement of groundwater contamination. The district court held that:

[N]MED was specifically granted the responsibility for maintaining, developing and enforcing rules and standards with regard to water supply and nuisance abatement. N.M.Stat. Ann. § 74-1-7(A)(2), (7) (Repl. 2000). The Environmental Improvement Act specifically

provides that NMED serves as the ‘agent of the State in matters of environmental management’ and has the duty to enforce the regulations relating to environmental management. N.M. Stat. Ann. § 74-1-6(E), (F) (Repl. 2000). NMED was granted the specific power to “enter into investigation and remediation agreements” with responsible parties at CERCLA sites, and also has the power to bring suit to carry out its duties. N.M. Stat. Ann., § 74-1-6(A), (D) (Repl. 2000).

(Aplt. App. at 333.)

Just as the CERCLA remedy cannot be challenged by the State’s damages claim, NMED has primary jurisdiction with respect to the groundwater remediation which it is addressing and that remediation may likewise not be challenged in this case. Intervention by a court by way of a state’s damages claim would “add little to, or even hamper, the solution of the overall problem.” State Ex Rel. Norvell v. Arizona Public Service Co., 85 N.M. 165, 510 P.2d 98, 105 (N.M. 1973).

E. Both EPA and NMED have exercised their respective authorities and have jointly agreed upon and implemented comprehensive cleanup plans for the South Valley groundwater.

New Mexico’s environmental agencies became involved in addressing the contamination of the South Valley groundwater as early as 1981. (Aplt. App. at 61.) In June 1982, New Mexico declared that the South Valley Site was “the State’s number one priority for environmental cleanup” and brought the matter to EPA’s attention. Id. In July 1982, EPA nominated the South Valley Site for

inclusion on the NPL. *Id.* On September 8, 1983, EPA published a final rule listing the site on the NPL. *See* 48 Fed. Reg. 40,658. *Aplt. App.* at 62, 281.

At approximately the same time that EPA was listing the site on the NPL, thereby making the site eligible for Superfund funding, New Mexico “formally requested that EPA initiate remedial investigations and feasibility studies associated with the South Valley Site, including the resolution of immediate water supply problems” (*Aplt. App.* at 62.) Over the next six years, EPA, with New Mexico’s support and cooperation, established six “Operable Units” (“OUs”) at the site, issued four Records of Decision, issued Unilateral Administrative Orders, entered into agreements with various companies to undertake remediation activities and supervised the remediation. (*Aplt. App.* at 62-64.)

General Electric (“GE”), for example, has undertaken a vast array of activities at the South Valley Site under EPA supervision including plugging and abandoning wells, implementing a groundwater monitoring program and pumping and treating a vast amount of groundwater. <http://www.epa.gov/earthlv6/6sf/pdf/south_valley_5_year.pdf.> (*Amici Addendum* at 14-17.)

The State of New Mexico has also been very active at the site, both in its role as EPA’s Superfund “partner” and in directing the investigation and remediation of hydrocarbon releases at the site. Indeed, the district court described

the State as having “initiated, approved of, acquiesced in and agreed to” the array of existing remedial actions at South Valley. (Aplt. App. at 344.)

NMED also undertook its own investigation of groundwater contamination due to hydrocarbons discharged from various petroleum facilities in the South Valley. “The NMED Ground Water Quality Bureau then negotiated Hydrocarbon Remediation Agreements (“HRAs”) with [various companies] in 1994, requiring the companies to treat the contaminated soil and groundwater underlying the South Valley Site using soil vapor extraction, free product recovery, and dissolved phase groundwater recovery.” (Aplt. App. at 64-65.)

Pursuant to the HRAs, defendants-appellees Chevron and Texaco undertook multimillion dollar investigation and remediation activities including the installation of extensive monitoring well networks as well as soil and groundwater remediation systems. All this was done under NMED’s supervision and the companies paid for NMED’s oversight costs. The HRAs also set forth a procedure whereby NMED can require Chevron and Texaco to perform additional investigative and remedial activities and establish that Chevron and Texaco cannot end their remediation activities until NMED determines that the work is complete.

The EPA/NMED remedies have been successful. CERCLA § 121(c), 42 U.S.C. § 9621(c) requires that EPA conduct 5-year reviews of some remedial actions to “assure that human health and the environment are being protected by

the remedial action being implemented.” EPA completed the five-year review in September 2000 and concluded that the results of the five-year review indicate that the remedies have been, and are expected to continue to be, protective of human health and the environment. <http://www.epa.gov/earth1v6/6sf/pdf/files/south_valley_5_year.pdf> (*Amici Addendum* at 17.) Indeed, the district court found:

Groundwater remediation in the South Valley Operable Units continues today, with the EPA recently observing that

the groundwater remedial systems at the South Valley Superfund Site have been very effective in recovering and treating over 2.3 billion gallons of water since the remedial systems went on-line. Almost the entire amount of this large volume of water has been returned to the aquifer from which it was extracted, allowing the groundwater to be returned back to its beneficial use.

(EPA Site Status Summary: South Valley New Mexico (NMD980745558), at 6 (rev. October 7, 2003), *available at* <http://www.epa.gov/earth1r6/6sf/pdf/files/southval.pdf>.)

(Aplt. App. at 65.)

The EPA and NMED remedial processes have worked at the South Valley Site as intended by Congress and the New Mexico legislature. New Mexico, as a litigating plaintiff, now seeks damages for an alleged loss of drinking water services that the agencies specifically addressed in designing the remediation currently being carried out. That this alleged loss of drinking water services does

not and will not exist is evidenced by the fact that both EPA and NMED have concluded that the remediation will be successful. New Mexico should not now be allowed to either challenge the remedy or pursue a claim inconsistent with its own decisions, statements and representations.

II. CLAIMS FOR DAMAGES TO NATURAL RESOURCES MUST BE BASED UPON ACTUAL LOSS OF THE RESOURCE OR ITS SERVICES. NEW MEXICO'S CLAIMS ARE NOT BASED UPON ACTUAL LOSS AND WERE PROPERLY DISMISSED AS SPECULATIVE AND CONJECTURAL.

This case gives rise to yet another concern: natural resource damage claims that are unconstrained by any proof of actual loss of use and therefore greatly inflated. The State of New Mexico sought multibillion dollars in natural resource damages. (Aplt. App. at 112-113, n.72.) The district court's view of this claim was that "Plaintiffs' damages theory sought to maximize the dollar amount of their damages award, largely unconstrained by practical considerations." (Aplt. App. at 324.) In addition, throughout the district court proceedings, the court told the State of New Mexico time and time again that it "must prove an actual injury to the State's legally protected interests in the groundwater and aquifer beneath the South Valley Site — an injury beyond the intended scope of the existing CERCLA remediation, as well as prove facts supporting an award of compensatory damages." (Aplt. App. at 190-191.)

At the end of the day, the State was unable to make this showing. Not only are there remediation programs in place to clean up the groundwater contamination, but EPA and NMED are on record as both supporting these programs and agreeing that they are successfully restoring the groundwater to drinking water standards. At the same time, the State was unable to cite one single instance when any party's rights to use the groundwater for drinking water have not been fully met.

New Mexico attempts to equate the fact that portions of the groundwater have been contaminated with the State's claim of loss of use. They are not the same. The mere fact that contamination exists may be sufficient in order to succeed on a claim for abatement (which is already occurring) but it is not enough for an award of money damages for a loss of resource services. In order to be entitled to an award of money damages under the claims it has brought, the State must also demonstrate at a minimum, through facts supported by testimony or affidavit, that there is some loss of use of the natural resource that is within the scope of the State's trusteeship over the resource. The court correctly found that the State's trusteeship over groundwater resources was not broad and unlimited such that proof of any injury to groundwater resources would equate to proof that the State as trustee of the groundwater had suffered a compensable injury. Rather, the court found that the State's trusteeship interest in groundwater was limited and

was in the nature of making water available for appropriation by others. To prevail in its natural resource damages claim, therefore, the State would have to show an injury to groundwater that was within the scope of its trusteeship interest. In this case, the State was unable to make such a showing. No evidence was offered that anyone with a water right ceased or limited their groundwater withdrawals as a result of the contamination. No evidence was offered that anyone applied for a water right and their application was rejected because of the contamination. No evidence was offered that anyone failed to apply for a water right because of concerns over the contamination. No evidence was offered that the State's limited trusteeship interest in the groundwater suffered any diminution in value in any way.

Worse still, New Mexico admits that the massive damages it seeks will not be used to clean up the groundwater or restore the natural resources in any way. (Aplt. App. at 325-326.) The likely consequence of this approach, if allowed by the courts, is that PRPs will increasingly see far less reason to cooperate in the underlying cleanup because they will know that no matter how successful that cleanup is, they might still be faced with litigating a large, unsubstantiated natural resource damage claim.

The general rule is that uncertainty as to the fact of whether damages were sustained at all is fatal to recovery. A plaintiff's burden of offering evidence

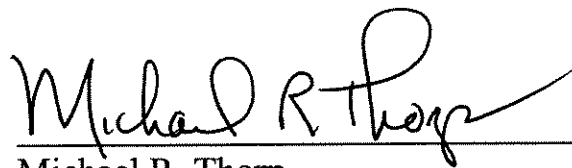
sufficient to prove damages cannot be sustained by evidence that is speculative and conjectural. The district court's dismissal was correct.

CONCLUSION

In this case, the people of New Mexico are being made whole by extensive and expensive groundwater remediation programs designed and approved by EPA and NMED and implemented by the defendants-appellees to restore groundwater in the South Valley to drinking water standards. At the same time, the State of New Mexico was unable to come forward with any evidence of loss of use of the groundwater. Claims for damages to such natural resources must be based on actual loss of the resource or its services. New Mexico's contrary claim in this case, if allowed, threatens to undermine ongoing remediation activities nationwide.

For these reasons, the judgment of the district court should be affirmed.

Respectfully submitted this 27th day of May, 2005



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CERTIFICATE OF COMPLIANCE

As required by Fed. R. App. P. 32(a)(7)(C), I certify that this brief is proportionally spaced and contains 5902 words.

I relied on my word processor to obtain the count and it is Microsoft Word for Windows.

I certify that the information on this form is true and correct to the best of my knowledge and belief formed after a reasonable inquiry.



Michael R. Thorp

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on the 27th day of May, 2005, a true and correct copy of the foregoing Motion For Leave To Submit Brief Amicus Curiae On Behalf of American Chemistry Council, American Petroleum Institute, National Mining Association, Chamber of Commerce of the United States of America, National Association of Manufacturers, United States Council for International Business, Independent Petroleum Association of Amicus, National Petrochemical & Refiners Association, Rubber Manufacturers and American Gas Association was deposited in the United States mail, First Class, postage prepaid, addressed to the following:

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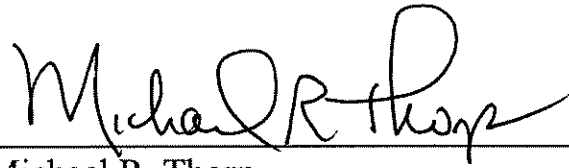
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A handwritten signature in black ink that reads "Michael R. Thorp". The signature is written in a cursive style with a horizontal line underneath the name.

Michael R. Thorp

Amici Addendum

GAO

Report to the Chairman, Subcommittee
on Oversight of Government
Management, the Federal Workforce, and
the District of Columbia, Committee on
Governmental Affairs, U.S. Senate

July 2003

SUPERFUND PROGRAM

Current Status and Future Fiscal Challenges





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

July 31, 2003

The Honorable George V. Voinovich
Chairman
Subcommittee on Oversight of Government Management,
the Federal Workforce, and the District of Columbia
Committee on Governmental Affairs
United States Senate

Dear Mr. Chairman:

The Environmental Protection Agency (EPA) estimates that one in four Americans lives within 4 miles of a hazardous waste site. Congress established the Superfund program in 1980 to address the threats that these sites pose to human health and the environment. Among the hazardous waste sites that the Superfund program addresses are manufacturing facilities where hazardous waste has been spilled or disposed of on site, waste disposal facilities where soil or groundwater has been contaminated, or sites where toxic materials have been disposed of improperly and abandoned. EPA, which administers the Superfund program, has identified 44,000 potentially hazardous waste sites and continues to discover about 500 additional sites each year. EPA places the nation's most seriously contaminated sites, which typically are expensive and can take many years to cleanup, on its National Priorities List (NPL). At the end of fiscal year 2002, there were 1,233 sites on the NPL.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 established the Superfund program to clean up highly contaminated hazardous waste sites. CERCLA authorizes EPA to compel the parties responsible for the contamination to clean up the sites; allows EPA to pay for cleanups, then seek reimbursement from the responsible parties; and establishes a trust fund to help EPA pay for cleanups and related program activities. The law also authorizes states to participate in the cleanup process, provides for public participation in the cleanup decisions, and provides that responsible parties are liable for damage to injured natural resources. In addition, the law establishes a process for cleaning up hazardous waste at federal facilities, although the Superfund trust fund is generally not available to fund these federal cleanups, which are funded from federal agency appropriations.

States and responsible parties play a significant role in the cleanup of hazardous waste sites. Most states have established their own programs to

Although the law allows EPA to pay for the cleanup at a site and use enforcement actions to recover the cleanup costs, responsible parties frequently cooperate with EPA and conduct the cleanup under EPA oversight. In such cases, the responsible party pays for all or part of the cleanup. According to EPA, responsible party involvement in the program remains strong, and the total value of responsible party commitments since the inception of the program exceeds \$20 billion.⁵ The actual dollar amount that responsible parties expend for site cleanups is unknown because the parties are not required to publicly report either the cleanup or any related transaction costs they incur. However, EPA tracks the participant—EPA, the responsible party, a federal agency, or in some limited cases, the state—leading a cleanup action at a site and indicates whether the participant is providing a majority of the funding for the action. For example, if a remedial action is identified as a Superfund lead action, EPA uses annual Superfund appropriations to conduct the work and pay for the remedial action. Over the course of a cleanup, however, a variety of participants may take the lead on different actions. Table 3 demonstrates the percentage of actions led by EPA, a responsible party, or another participant.

Table 3: Percentage of Ongoing Actions at NPL Sites Led by Various Entities, Fiscal Year 2002

| Entity leading action | Preconstruction | | Construction | | Post-construction |
|-----------------------|-----------------|----------------------------------|-----------------|-----------------|----------------------------------------|
| | Site inspection | Remedial investigation and study | Remedial design | Remedial action | Operation and maintenance ^a |
| EPA - Superfund | 100 | 27 | 36 | 22 | 18 |
| Responsible party | 0 | 17 | 39 | 45 | 67 |
| Other federal agency | 0 | 54 | 24 | 31 | 10 |
| Other | 0 | 2 | 0 | 2 | 5 |

Source: GAO analysis of EPA data.

Notes: This presentation of lead data includes all actions that were ongoing at some point during fiscal year 2002. EPA typically presents lead data as a percentage of remedial actions that start in a

⁵Commitments include the value of cost recoveries and EPA's estimate of the value of the cleanup work that responsible parties have agreed to perform.

The Superfund Program Faces Numerous Future Fiscal Challenges

The need for federal cleanup funds to address sites without alternative funding sources may grow in coming years, even as EPA predicts the program's historical source of funding will be depleted at the end of fiscal year 2003. A 2001 study estimated that the cost of implementing the program under then-current law would total \$15 billion for the 10 years ending in fiscal year 2009. The number of sites whose cleanup cannot be funded by responsible parties or states could increase because an increase in bankruptcies would lead to more sites without viable responsible parties and states face budget problems that will curtail their already limited ability to pay for cleanups at sites that lack viable responsible parties. Without responsible parties to fund remediation costs at hazardous waste sites and with states' capacity curtailed, federal funding would likely be sought to perform any cleanup that EPA proposed to do. However, EPA officials expect that the balance of the Superfund trust fund available for future appropriations will be depleted at the end of fiscal year 2003. EPA has recently asked an advisory council for guidance on several issues affecting the Superfund program's future. Because Superfund lacks indicators to fully measure the outcomes of the program's cleanup efforts, EPA has asked the advisory council to develop criteria by which to measure the program's progress. However, it is unclear whether the advisory council will reach consensus on its recommendations; and its findings are not expected until December 2003, at the earliest.

The Number of Sites Without Responsible Parties or States to Fund Their Cleanup Is Expected to Rise

The number of sites that have no identifiable nonfederal source to fund their cleanup is growing, and several factors indicate the potential for additional growth in the future. Responsible parties and EPA lead most actions at NPL sites. According to EPA, responsible parties have funded about 70 percent of the remedial actions begun at sites other than federal facilities in the last 3 fiscal years.⁸ Officials in 7 of the 10 EPA regions, however, have either observed an increase in the number of sites without viable responsible parties, or expect such an increase in the future. Officials in one region, for example, told us that the proportion of responsible party-led remedial actions in their region had decreased over the last 10 years, from about 70 percent to about 50 percent currently. Officials in all regions pointed out factors that could lead to an increase in

⁸EPA tracks lead statistics based on new starts of remedial actions at sites other than federal facilities by fiscal year. Federal facilities, sites whose cleanup is led by federal agencies, make up about 13 percent of NPL sites.

sites in the coming years whose cleanup cannot be funded by responsible parties or states, including (1) the states' preference to work directly with viable responsible parties, which leaves fewer sites with viable responsible parties eligible for proposal to the NPL; (2) an increase in sites that lack viable responsible parties due to bankruptcies; and (3) fiscal constraints on states' capacity to clean up sites on their own. For example, officials in one region mentioned that difficult economic times would likely contribute to an increase in bankrupt facilities at the same time that states are experiencing budget shortfalls. Without responsible parties to fund remediation costs at hazardous waste sites and with states' capacity curtailed, any cleanup at these sites would have to be funded with federal funds.

The states' preference to work directly with responsible parties makes sites with viable and cooperative responsible parties less likely to be listed on the NPL, increasing the potential need for federal funds if any of the remaining sites that are added to the NPL are to be cleaned up, since these sites may lack viable responsible parties. When Congress enacted the federal Superfund program in 1980 at least 21 states did not have cleanup statutes that provided them with enforcement authorities. As of 2001, all states had laws that provide them with some form of enforcement authority, and 48 states had statutory authority for conducting voluntary cleanup programs, according to a study by the Environmental Law Institute—an environmental research group.⁹ Officials in most of the 10 states we contacted agreed that they preferred to work with viable and cooperative responsible parties under their state program, rather than turn the sites over to the EPA for NPL listing. They provided a variety of reasons for not supporting a site's listing on the NPL, including the state's ability to perform the cleanup faster, community or political opposition to listing, and a belief that the federal process leads to more expensive cleanups. For example, one state's officials believed the state could perform a site's cleanup more quickly than EPA because, in their opinion, EPA spent too much time in the inspection and design phases. Although states may sometimes need EPA's enforcement capacity to compel responsible parties to clean up sites, states prefer working with responsible parties under their own authority whenever the parties are available, viable, and cooperative. As a result, some sites that would have been led by the responsible party under the Superfund program are addressed using state enforcement. This

⁹Environmental Law Institute, *An Analysis of State Superfund Programs: 50-State Study, 2001 Update*, (Washington, D.C.: 2002).

Progress Toward Implementing **SUPERFUND**

Fiscal Year 1998

REPORT TO CONGRESS

Required by
Section 301(h) of the
Comprehensive Environmental Response,
Compensation and Liability Act (CERCLA) of 1980,
as amended by the Superfund Amendments and
Reauthorization Act (SARA) of 1986

OFFICE OF EMERGENCY AND REMEDIAL RESPONSE
U.S. ENVIRONMENTAL PROTECTION AGENCY

The Agency announced the Brownfields Action Agenda in January 1995 and it has grown to encompass many aspects of site redevelopment. During FY98, Brownfields pilots focused on clarifying liability and cleanup issues, partnership and outreach, and job development. By the end of FY98, 227 Brownfields pilots were awarded, in values of up to \$200,000 each. These pilots encourage federal, state, and local governments as well as tribes to implement new strategies aimed at increasing the level and efficiency of site assessment, cleanup and redevelopment.

Removal Progress

To protect human health and the environment from immediate or near-term threats, the Agency and PRPs started 324 removal actions and completed 289 during FY98. More than 4,814 removal actions have been started and 4,228 have been completed since the inception of the Superfund program.

Through the Superfund Accelerated Cleanup Model (SACM), the Agency continued its efforts to expand the use of removal authority for early actions to reduce risks more rapidly and expedite cleanup at NPL sites. Early actions may include emergency, time-critical, or non-time-critical removal responses, or quick remedial responses. Accelerated cleanups are targeted with other initiatives as well, including those on presumptive remedies, dense non-aqueous phase liquid (DNAPL) contamination, and soil screening levels.

Remedial Progress

Remedial progress during the fiscal year reflects the Agency's continuing efforts to accelerate the pace of cleanup activities and complete cleanups at Superfund sites. As mentioned previously, by the end of FY98, remedial work had occurred at 98 percent of the 1,436 sites proposed to, listed on, or deleted from the NPL, and construction activities had been completed to place 585 NPL sites (41 percent) in the construction completion category. During the year, the Agency and PRPs started nearly 40 remedial investigation/feasibility studies (RI/FSs), 73 RDs, and 100 RAs. EPA also signed 173 records of decision (RODs) for Fund-financed and PRP-financed sites.

In continuing efforts to encourage the development and use of innovative treatment technologies to cleanup Superfund sites, the Agency took measures to demonstrate the technologies and provide information about them to potential users.

Enforcement Progress

Enforcement progress for FY98 reflects the Agency's continued commitment to maximize PRP involvement in financing and conducting cleanup, and to recover Superfund monies expended for response actions. During FY98, EPA reached 203 settlements with PRPs worth more than \$806 million in PRP response work. Through its FY98 cost recovery efforts, EPA achieved \$230 million in cost recovery settlements and collected more than \$320 million for reimbursement of Superfund expenditures.

Many of the enforcement initiatives undertaken in FY98 were designed to encourage redevelopment of contaminated sites. EPA also continued to build upon prior Administrative Reform successes, particularly in the unilateral administrative order (UAO), Allocation, PRP Oversight, Special Interest Bearing Account, *De Minimis* Settlement, and Orphan Share Compensation reforms. These reforms are designed to make Superfund a fairer program, while reducing transaction costs to promote effective and efficient settlements. Examples of significant enforcement actions are provided in Chapter 4 of this Report.

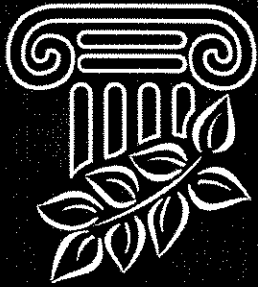
Federal Facility Cleanups

Federal departments and agencies are largely responsible for implementing CERCLA at federal facility sites. To ensure federal facility compliance with CERCLA requirements, EPA provides advice and assistance, oversees activities, and takes enforcement action where appropriate. For sites on the NPL, EPA must concur in remedy selection.

Activity during the fiscal year at federal facility sites listed on the NPL, included starting 31 RI/FSs and 61 RAs; and signing 77 RODs. Ongoing activities at the end of FY98 included 497 RI/FSs, 71 RDs, and 206 RAs. Of the 2,104 sites listed on the June 27, 1997 Federal Agency Hazardous Waste

**Exhibit ES-4
Fiscal Year 1998 Superfund Initiatives**

| Superfund Initiative | Status |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Protect Public Health and the Environment | |
| Construction Completions | The President set a goal of 900 construction completions by the end of calendar year 2000. EPA stressed the importance for states and Regions to work together to determine opportunities to expedite completions and response actions. The Superfund federal facilities program ensured that federally-owned sites are likewise working toward construction completeness by emphasizing regional efforts. |
| Innovative Technologies | EPA's efforts to develop environmental technologies and commercialization led the Agency to build new relationships with the private sector. The new funding partnerships allow for better directed research opportunities and more joint demonstration projects. EPA committed to increasing information dissemination through electronic information resources, and has a number of Internet-based mechanisms to help achieve this goal. |
| Promoting a Fundamentally Fairer Superfund Program | |
| Reducing Oversight for Capable and Cooperative PRPs | Some responsible parties have gained considerable experience in conducting response activities at sites. In situations where the PRP is and has been cooperative and capable, EPA reduced its oversight, while maintaining high quality response actions. |
| Alternative Dispute Resolution | Alternative Dispute Resolution (ADR) employs techniques designed to reduce the cost of settlement actions. Increased use of ADR helped PRPs incur lower transaction costs than those associated with litigation. |
| Interest Bearing Special Accounts | Special accounts are created when PRPs settle their liability, allowing a payment that can accrue interest to be used toward future response costs. EPA may use the revenue to pay for EPA-led response actions, defray costs incurred at PRP-led sites, or to help pay the costs of PRP-led responses. |
| Enforcement First/Cost Recovery | EPA continued to emphasize early initiation of PRP searches, negotiations binding PRPs to lead cleanup activities, maximizing PRP response leads, addressing timely cost recovery at sites with costs more than \$200,000, and monitoring compliance violations. In the past few years, PRPs have led the majority of new remedial actions, accelerating the pace of Superfund cleanups. Early involvement of PRPs also kept transaction and cleanup costs at a minimum. |
| Orphan Share Compensation | EPA assisted PRPs that are financially insolvent to help ensure that the remaining PRPs are not responsible for contributing more than their fair share of the site remediation cost. |
| "De Micromis" Settlements | The threshold amount of waste a small contributor may be held liable for doubled. EPA decreased transaction costs and avoided "third-party" suits from larger contributors by pursuing fewer "de micromis" parties. |



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AN ANALYSIS OF STATE SUPERFUND PROGRAMS

50-State Study, 2001 Update

November 2002

CHAPTER II: STATE "SUPERFUND" PROGRAMS

Since 1980, the vast majority of states have enacted laws governing the cleanup of contaminated land and establishing funds to pay for cleanup of non-NPL sites where no responsible party is available, able, or willing to do it. Many states have been cleaning up land contaminated by hazardous substances, or overseeing such cleanups, for close to two decades. Even states that have only recently established cleanup programs have benefited from the experience of other states.

The fact that state cleanup laws are independent of the federal Superfund statute is critical to understanding the current state of development of state cleanup programs. This federal law did not follow the pattern of the federal pollution control laws, which set minimum national standards that could be administered by the states after their programs received approval by the federal agency. The absence of a requirement to submit their programs to federal review and approval has enabled states to experiment widely and to develop some highly innovative and effective cleanup programs. Nevertheless, the majority of the state cleanup programs have authorities similar to the federal Superfund program. For the purposes of this study, a state "superfund" or cleanup program has some or all of the following characteristics:

- 1) Procedures for emergency response actions and more permanent remediation of environmental and health risks;
- 2) Provisions for a cleanup fund or other financing mechanism to pay for studies and remediation activities;
- 3) Enforcement authorities to compel responsible parties (RPs) to conduct or pay for studies and/or site remediation;
- 4) Staff to manage state-funded remediation and to oversee RP-conducted remediation; and
- 5) Procedures for public participation in decision-making on site cleanup.

This chapter presents detailed information on state cleanup programs for all 50 states, the District of Columbia, and the Commonwealth of Puerto Rico. For convenience in discussion and in the tables accompanying this report (see Chapter IV), these are all referred to as "states." Totals, therefore, include 52 "states." This chapter highlights similarities and differences among state statutes and programs in areas such as cleanup and oversight capabilities, number of sites cleaned up, staffing, funding, enforcement authorities, cleanup standards, and public participation. This chapter also includes sections describing the voluntary cleanup and brownfield programs of the states, which was included in Chapter IV of the 1993, 1995, and 1998 Updates.

A. OVERVIEW OF CLEANUP ACTIVITIES AND CAPABILITIES

State cleanup programs have expanded and improved substantially since ELI first studied them in detail in 1989, but the improvement has not been uniform and there have been some retrenchments in the past few years, particularly in funding, and to a lesser extent staffing. Even these decreases may not have affected an individual state's ability to clean up sites if other elements of the program have been augmented. Fewer staff and less state money may be needed, for example, if a state is relying more on a new voluntary cleanup program, or if it has improved the efficiency of its state superfund program. Among the more notable improvements has been in actual cleanups. In 1989, half of the states were actively managing cleanup activities at non-NPL sites, but by the end of FY97 almost all of the states were actively managing non-NPL cleanups and that continued to be the case through FY00. As of the close of FY00, the states reported having completed approximately 29,000 cleanups over the entire period that their programs have existed. This is substantially fewer cleanups than the 41,000 completed cleanups reported in the 1998 Update. Texas and New Jersey revised their totals to exclude emergency response cleanups and homeowner tank cleanups, respectively. For further explanation of these revisions see Section C, Cleanup Activities. In the aggregate, under their state superfund programs the states had about 8,500 cleanups underway and completed about 2,400 in FY00. In addition, they were overseeing more than 7,100 voluntary cleanups that were currently underway and about 2,200 that were completed. Compared to FY97, these figures represent substantial decreases in the numbers of cleanups underway and completed during the year under states' mandatory cleanup programs at the same time that

TABLE IV-2: STATUTORY AUTHORITIES AND PROVISIONS

SUMMARY

- Forty-nine (49) states, including Puerto Rico, have cleanup funds authorized by statute.
- All 50 states, the District of Columbia, and Puerto Rico have state laws that provide enforcement authorities.
- Twenty-nine (29) states have statutory provisions for a priority list.
- Twenty-one (21) states report some authority in their cleanup-related statutes for citizen suits.
- Thirty-three (33) states have some mandatory provisions governing property transfers.
- Forty-nine (49) states, including the District of Columbia, have statutory authorities for voluntary cleanup programs and 30 states, also including the District of Columbia, have statutory authorities for brownfields (other states have adopted such programs by regulation or policy).
- Twenty-six (26) states have statutory authorities for long-term stewardship (other states have created long-term stewardship programs or conduct related activities as a matter of policy, see Table IV-19).





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

September 21, 2000

MEMORANDUM

SUBJECT: Approval of the Second Five-Year Review at the South Valley Superfund Site for Edmunds Street OU # 3, General Electric Aircraft Engines OU #2, General Electric Aircraft Engines OU #5, and General Electric Aircraft Engines OU #6 NMD 980745558

FROM:  Greg J. Lyssy
Remedial Project Manager (6SF-LT)

THRU: Wren Stenger, Chief
LA/NM Branch (6SF-L) 

TO: Myron O. Knudson, P.E., Director
Superfund Division (6SF)

This memorandum approves the September 2000 Five-Year Review reports for the South Valley Superfund Site Operable Unit (OU) # 2, # 3, # 5, and # 6. The second five-year review for OU #3 was prepared by ARCADIS Geraghty & Miller for Van Waters and Rogers Inc., (VW&R), and is included as Attachment A. The first five-year review for OU # 2, OU # 5, and OU #6 was prepared by Harding Lawson Associates for General Electric Aircraft Engines (GEAE), and is included as Attachment B. Based on the five-year review reports, the remedial actions are protective of human health and the environment.

This second five-year review for the Site is required by statute. This five-year review was conducted pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Section 121(c), 42 U.S.C. § 9621(c), the National Contingency Plan (NCP) (40 CFR § 300.430 (f)(4)(ii)), Office of Solid Waste and Emergency Response (OSWER) Directive 9355.7-02 (May 23, 1991), OSWER Directive 9355.7-02A (July 26, 1994), OSWER Directive 9355.7-03A (December 21, 1995), and draft OSWER Directive 9355.7-03B-P (draft Comprehensive Five-Year Review Guidance).

Section 121(c) of CERCLA requires that, *"If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each 5 years after initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented."* Under the NCP, the Federal regulations which implement

CERCLA, EPA is required to conduct five-year reviews of a remedial action whenever, under the remedial action, *"hazardous substances, pollutants, or contaminants are remaining at the site above levels that allow unlimited use and unrestricted exposure."*

This five-year review has been approved by the Director of the Superfund Division, U.S. EPA Region 6. Although CERCLA Section 121(c) authorizes "the President" to undertake five year reviews, the President's authority was delegated to the Administrator of the EPA by Executive Order 12580 (52 Fed. Reg. 2926, January 29, 1987), and this authority was further delegated to the EPA's Regional Administrators on September 13, 1987, by EPA Delegation No. 14-8-A. Finally, the authority was delegated to the Director of the Superfund Division by EPA Region 6 Delegation No. R6-14-8-A on August 4, 1995.

This review is required because hazardous substances, pollutants, or contaminants remain in the subsurface at concentrations that are above levels that allow for unlimited use and for unrestricted exposure.

Although the results of the review concluded that the overall remedy is protective of human health and the environment, several recommendations have been made pursuant to this five-year review, and are summarized below.

Summary and Recommendations at OU # 3

The remedial action for the site was designed as specified in the Record of Decision (ROD) for the Edmunds Street Groundwater Operable Unit # 3, and consists of pumping and treating groundwater to remediate impacts of the following site-related volatile organic compounds (VOCs): 1,1-dichloroethene (1,1-DCE); 1,1,1-trichloroethane (1,1,1-TCA); trichloroethene (TCE); and tetrachloroethene (PCE). The treated water is returned to the aquifer through an infiltration system. The objective of the remedial action was to reduce the concentrations of the site-related VOCs in the groundwater to concentrations that meet the ARARs as established in the ROD.

Construction of the remedial system was completed in January 1990. The long term remedial system operation, maintenance, and monitoring program has been conducted at the site since January 1991. During operation of the remedial system from June 1990 through January 2000, more than 493 million gallons of groundwater have been recovered, treated, and returned to the subsurface at an average flow rate of 100 gallons per minute.

In addition to operation of the groundwater remedial system, the remedial action for the site includes a groundwater monitoring program, which was designed to monitor the effectiveness of the remedial action. The analysis of the data shows that the remedial system has contained the area of groundwater impacted by the site-related VOCs.

The remedial system has successfully treated site-related VOCs to below the groundwater discharge criteria. An evaluation of the analytical results for samples collected from the

treatment unit influent shows that the total concentration of site-related VOCs reached a maximum of 925 micrograms per liter ($\mu\text{g/l}$) in October 1990 and have steadily declined to 86 $\mu\text{g/l}$ in October 1999, an overall decrease of 91 percent. Based on the annual average air emission rates calculated for the remedial system, approximately 713 pounds of the site related VOCs have been removed from the groundwater through January 2000. The results of the air emission calculations and the air dispersion modeling show that the air discharges from the remedial system were well below the air discharge criteria from June 1990 through January 2000.

In November 1998, a Vapor Extraction System (VES) was constructed at the site to improve effectiveness of the existing remedial system and more quickly reduce dissolved constituent concentrations to the maximum degree practicable. The VES appears to be reducing constituent concentrations in the groundwater. One of the requirements in the next five-year review should be to focus on the effectiveness of the VES.

In order to ensure that the remedial actions are as effective as possible, the following two recommendations are made for OU # 3:

- An additional groundwater monitoring well should be installed between monitoring wells GM-20 and GM-12R to ensure that the southern most component of the plume is being captured by the recovery system.
- The VES should be expanded to incorporate the area defined by monitoring wells GM-01 and GM-22R to the north, GM-12R to the south, and Interstate I-25 to the east.

The results of the review indicate that the remedy for OU # 3 has been, and is expected to continue to be, protective of human health and the environment. The remedial actions have been functioning as designed, and have been operated and maintained in an appropriate manner. Ongoing optimization of the remedial system is continuing. It is recommended that VW&R, continue to pursue the use of innovative technologies which may enhance future system performance of the remedial activities.

Summary and Recommendations at OU # 2

The remedial action for the site was designed as specified in the ROD for the GEAE Operable Unit # 2, and consisted of addressing water supply issues, and required the appropriate plugging and abandonment of municipal wells SJ-3 and SJ-6. In addition, several private wells also had to be properly plugged and abandoned. Both municipal wells SJ-3 and SJ-6 were abandoned in October 1994. The private wells associated with OU # 2 were abandoned prior to 1994.

The requirements of the GEAE OU # 2 ROD also included performing groundwater monitoring for 30 years, which is being conducted. The groundwater monitoring program was designed to monitor the effectiveness of the remedial action. The analysis of the data shows that

the plugging and abandonment program was effective.

The results of the five-year review indicate that the remedy for OU # 2 has been, and is expected to continue to be, protective of human health and the environment.

Summary and Recommendations at OU # 5

The remedial action for the site was designed as specified in the ROD for the GEAE Operable Unit # 5, and consisted of addressing the unsaturated and saturated portion of the shallow zone aquifer. The shallow groundwater remedial action consisted of pumping and treating groundwater to remediate impacts of the following Site related VOCs: TCE, PCE, 1,1-DCE, 1,1-dichloroethane (1,1-DCA), 1,2-dichloroethane (1,2-DCA), and Vinyl Chloride. The shallow zone aquifer is primarily a perched groundwater aquifer that consists of layers of coarse-grained sands, silty sands, clays, and silty clays. The formation generally extends to a depth of approximately 20 to 25 feet below ground surface and is underlain by a relatively continuous silty clay layer.

The following remedial activities have occurred at GEAE OU # 5 in order to meet the requirements of the ROD:

- The shallow zone groundwater remediation system consists of eight extraction wells, thirty monitoring wells, and one injection well.
- Vapor phase VOCs in the unsaturated portion of the Shallow Zone Aquifer have been remediated to regulatory cleanup levels and pose no threat to human health or the environment.
- The shallow zone groundwater remediation system has mitigated the migration of VOCs in the saturated portion of the shallow zone aquifer and the size of the contaminant plume is decreasing.
- Flushing of the VOCs appears to be the primary mechanism by which VOC impacts to the shallow zone aquifer are being remediated. Flushing via the groundwater extraction system continues to reduce the concentration of VOCs in the saturated portion of the shallow zone aquifer. The concentrations of the contaminants in the groundwater monitoring wells are steadily decreasing.

The shallow zone aquifer contains perched groundwater that is recharged by precipitation and other naturally occurring events. As a result, complete dewatering of the shallow aquifer appears to be unlikely. As stated before, monitoring data indicate that flushing is the primary mechanism by which the VOCs are being reduced to levels below their respective ARARs. In order to facilitate the remedial action, GEAE installed another extraction well in the property north of the Plant 83 property boundary in February 2000 to increase the system efficiency and further reduce the VOCs to levels below ARARs in that area. Similarly, GEAE added an

injection well near the shallow zone groundwater treatment plant in May 2000 so that the groundwater extraction rate in the extraction wells can be maximized, as well as further enhance the flushing of the shallow aquifer system.

From system startup through June 2000, approximately 708,000 gallons of groundwater have been extracted and treated from the shallow zone aquifer. The aerial extent of the groundwater with VOC concentrations above ARARs is being reduced due to the continued groundwater extraction.

The results of the five-year review indicate that the remedy for OU # 5 has been, and is expected to continue to be, protective of human health and the environment. The remedial actions have been functioning as designed, and have been operated and maintained in an appropriate manner. On-going optimization of the remedial system is continuing.

Summary and Recommendations at OU #6

The remedial action for the site was designed as specified in the ROD for GEAE Operable Unit # 6, and consisted of pumping, treating, and reinjecting groundwater to remediate impacts of the following Site related VOCs: TCE, PCE, 1,1-DCE, 1,1-DCA, and vinyl chloride. Groundwater is removed from the aquifer via three extraction wells and transported to the treatment plant. At the treatment plant, the water is pumped through two air stripping towers, through two granulated active carbon vessels, and finally through a filter system. The treated water is then returned to the aquifer through a series of ten injection wells down to the same elevation where it was extracted.

Construction of the remedial system was completed in April 1996. During operation of the remedial system from April 1996 through June 2000, over 1.4 billion gallons of groundwater have been recovered, treated, and returned to the subsurface at an average flow rate of 800 gallons per minute. Since the system was started, approximately 880 pounds of VOC mass have been removed.

In addition to the operation of the groundwater remedial system, the remedial action for the site includes a groundwater monitoring program, which was designed to monitor the effectiveness of the remedial action. The analysis of the data shows that the remedial system has contained the area of groundwater impacted by the site-related VOCs and is decreasing the size of the contaminant plume.

A complete lateral capture zone has been maintained from up-gradient near Well WB-07, eastward to I-25, and in the north-south direction between the injection wells. A complete vertical capture zone has been maintained from an elevation of 4,840 feet above mean sea level (msl) to an elevation of about 4,600 feet above msl. In other words, the deep groundwater remediation system has been effective in capturing the entire groundwater contaminant plume associated with OU # 6.

The deep zone remediation system has been effective in the following ways:

- The VOC plume has been captured by the deep zone remediation system. Flushing continues to reduce the concentrations of VOCs within the deep zone plume, as is evidenced by the decreasing constituent concentrations.
- There are no VOCs above ARARs in the down-gradient Well Cluster P83-19. As a result, the deep zone plume has been captured and the spread of the contaminant constituent plume has been mitigated.
- The treatment system has been effective in removing all VOC constituents to concentrations below the ARARs, and water injected back into the Deep Zone Aquifer is in compliance with the applicable discharge requirements. At the compliance sampling point prior to injection, the VOC concentrations continue to be below detection limits.

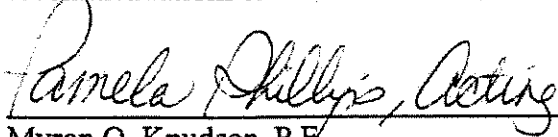
The deep zone groundwater remediation system is operating as designed, has maintained capture of impacted groundwater in the deep zone plume, and has reduced concentrations of VOCs within the area influenced by the remediation system. VOCs above ARARs have not been detected in any monitoring or water supply wells down-gradient of the remediation system.

The results of the review indicate that the remedy for OU # 6 has been, and is expected to continue to be, protective of human health and the environment. The remedial actions have been functioning as designed, and have been operated and maintained in an appropriate manner. It is recommended that GEAE continue to pursue the use of innovative technologies which may enhance future system performance of the remedial activities.

It should be noted that the groundwater remedial systems at the South Valley Superfund Site have been very effective in recovering and treating over 1.8 billion gallons of water since the remedial systems went on-line. Almost the entire amount of this large volume of water has been returned to the aquifer from which it was extracted, allowing the groundwater to be returned back to its beneficial use.

Determinations

I have determined that the remedies for the South Valley Superfund Site are expected to be protective of human health and the environment, and will remain so provided the recommendations identified above are addressed.


Myron O. Knudson, P.E.

Director
Superfund Division
U.S. Environmental Protection Agency
Region 6

9/25/00

Date