

Permit



NATURAL RESOURCES DEFENSE COUNCIL

July 31, 2002

Mr. James P. Bearzi, Chief  
Hazardous Waste Bureau  
New Mexico Environment Department  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, New Mexico 87505-6303  
Ref: Los Alamos National Laboratory Facility Order



Dear Mr. Bearzi:

The Natural Resources Defense Council (“NRDC”) respectfully submits these comments on the New Mexico Environment Department’s (“NMED”) Draft Los Alamos National Laboratory Corrective Action Order of May 2, 2002 (hereinafter “Draft LANL Order”). Per NMED’s June 24, 2002 extension of time to file comments on the Draft LANL Order, NRDC submits these comments by the submission deadline, via overnight and electronic mail dated July 31, 2002. Unfortunately, due to limited resources and time constraints, NRDC has not had the opportunity to comment in detail on the Draft LANL Order, but offers these more general comments.

Natural Resources Defense Council, Inc. (“NRDC”) is a national non-profit membership environmental organization incorporated under the laws of New York, with offices in Washington, D.C., New York City, San Francisco and Los Angeles. NRDC’s nationwide membership of over 390,000 individuals includes thousands of members in New Mexico and in several other states where DOE has nuclear weapons facilities and a legacy of contaminated land and water. NRDC has a long history of advocacy, including prior litigation, on issues related to DOE’s nuclear waste disposal and environmental remediation programs. For more than 25 years, NRDC has played a major role in setting vital legal precedents in the application of environmental laws to U.S. nuclear weapons programs.<sup>1</sup>

NRDC views the Draft Order as a valuable comprehensive inventory and assessment of Los Alamos National Laboratory’s (“LANL” or “Respondents”) facilities and significant environmental and waste management problems. The Draft LANL Order is impressive in its scope and in the sheer quantity of further Material Disposal Area investigations, monitoring wells, and reports that it mandates over the coming decade. When and if this work is completed, and its technical competence and integrity ensured, within the next decade the State should truly have its arms around the full extent of the environmental contamination problems at LANL.

NRDC also takes note of the same day issuance of the Determination of an Imminent and Substantial Endangerment to Health and the Environment to LANL (hereinafter “Determination of Imminent and Substantial Endangerment”), pursuant to the New Mexico Hazardous Waste Act (“HWA”), NMSA §§74-4-10.1. The Determination of Imminent and Substantial Endangerment

<sup>1</sup> See, e.g., Legal Envtl. Assistance Found. v. Hodel, 586 F.Supp. 1163 (E.D. Tenn. 1984) (finding that DOE is subject to federal environmental laws); NRDC v. NRC, 606 F.2d 1261 (D.C. Cir. 1979).



is well-founded and appropriate under the New Mexico law and relevant federal case law. A determination of imminent and substantial endangerment does not require a showing of actual harm. The term "endangerment" has been interpreted by courts to mean a threatened or potential harm. *See Dague v. City of Burlington*, 935 F.2d 1343, 1355-56 (2<sup>nd</sup> Cir. 1991), *rev'd on other grounds*, 505 U.S. 557, 112 S. Ct. 2638, 120 L. Ed. 2d 449 (1992); *United States v. Price*, 688 F.2d 204, 211 (3<sup>rd</sup> Cir. 1982). Additionally, injunctive relief by the State or citizens is authorized when there *may* be a risk of harm, not just when there is a risk of harm. Such a sweeping provision indicates Congress's intent "to confer upon the courts the authority to grant affirmative equitable relief to the extent necessary to eliminate *any risk* posed by toxic wastes." *Dague*, 935 F.2d at 1355 (*quoting United States v. Price*, 688 F.2d at 213-14) (emphasis added in *Dague*).

And finally, NMED or citizens need not quantify the risk of harm in order to establish an endangerment. Courts asked to decide whether RCRA has been violated often employ nondefinitive data in assessing the risk posed by the toxic waste in question. That is because the evaluation of a risk of harm involves medical and scientific conclusions that "clearly lie on the frontiers of scientific knowledge," such that "proof with certainty is impossible." *Reserve Mining Company v. Environmental Protection Agency*, 514 F.2d 492, 519-20 (8<sup>th</sup> Cir. 1975) (en banc) (internal quotations and citations omitted).

Despite the quantity of investigations ordered and the appropriateness of the parallel issuance of the Determination of Imminent and Substantial Endangerment, the Draft Order could be considerably improved if the following changes were made:

- (a) prioritizing the massive amount of investigation and monitoring work based on its relevance to either (1) the "imminent and substantial endangerment" determination made by NMED on May 2, 2002 under the New Mexico Hazardous and Solid Waste Act, or (2) specific near term cleanup plans, decisions and actions;
- (b) identifying, based on current knowledge and the Determination of Imminent and Substantial Endangerment, targets for immediate regulatory actions to prevent further environmental harms, mitigate known environmental risks, and undertake actual cleanup;
- (c) creating some mechanism for ensuring the independence and integrity of the massive number of studies to be undertaken by the site contractor.

#### **A. Prioritizing the Investigation.**

The Compliance Schedule Tables contained in Section XII of the Draft LANL Order provide specific dates for the delivery of what is mostly investigation work-product. While the inclusion of specific dates and deliverable items in the Order is laudable, we note that this listing of deliverables is devoid any mandated cleanup actions. However, NMED notes that the details of the compliance activities and deliverables can be found in Sections IV, V.H, and VI.

As NMED is well aware, Respondents have a long and involved history of failing to meet deadlines and compliance schedules with respect to their environmental obligations and most specifically, their responsibilities under RCRA. *See*, for example, the State of Washington's June 8, 1998 Notice of Intent to Sue for Violations of the Hanford Federal Facility Agreement (Attachment A) ("the history fo the interim stabilization program at Hanford is one of delay, mismanagement, and above all, failure to stop an ongoing threat to groundwater and the Columbia River") at 4; and NMED's own testimony regarding DOE's RCRA compliance history

at the RCRA Permit Hearing for the Waste Isolation Pilot Plant in Carlsbad, New Mexico and the attached Compliance History (Attachment B)(Permit Hearing Volume XIII – 3/18/99 pages 2365, 2403-2413).

As Washington's letter and NMED's own testimony makes clear, Respondents have treated their RCRA obligations as moving targets. Without specific prioritizing by NMED of what deliverables and dates are the highest priorities, NRDC fears that Respondents will resort to their longtime practice of failing to address the most serious and complex risks posed by the legacy of weapons production.

In no way does NRDC mean to suggest that NMED should provide Respondents with a list of what investigation and work plan dates are more malleable. Rather, NMED should, in the preliminary language before the Section XII Schedule Tables and in the details of Sections IV, V and VI, make very clear what are the highest priorities – and that failure to adequately address those priorities will result in the commencement of an immediate enforcement action.

#### **B. Targeting Areas for Immediate Action.**

Literally hundreds of millions of federal dollars have been spent at LANL over the past decade in efforts to address serious environmental contamination of a number of areas. NMED's Determination of Imminent and Substantial Endangerment to Health and the Environment is well-founded, appropriate and strongly supports the need to prevent further environmental harms, mitigate known environmental risks, and undertake actual cleanup. Despite the millions of dollars spent and NMED's Determination of Imminent and Substantial Endangerment, NMED identifies no targets for immediate remedial action. NRDC does not find it credible – and we suspect neither will New Mexico citizens – that after more than a decade of investigation and the expenditure of, at minimum, more than \$700 million federal dollars, the State finds itself unable to order any specific cleanup or mitigation actions at LANL from the decades of contamination cited in the Determination of Imminent and Substantial Endangerment. At the very least, NMED should explain, in parallel with the issuance of this Order, why some DOE sites are well into the cleanup phase while NMED finds itself constrained to ordering another decade's worth of paper studies.

Further, after the investigations cited and incorporated by reference into the Draft LANL Order, it is unclear to NRDC why the Draft Order fails to focus on remediation of the main source terms that are already known, and order specific corrective actions? If, as reported, Los Alamos County is already examining the closure of specific wells in the path of contamination plumes, why is the Draft Order so agnostic on the question of specific harms and urgent corrective actions? If NMED's expectation and intent is to use the earliest completed studies as the basis for ordering near-term mitigation and cleanup actions to the cleanup standards outlined in Section VIII, the Final Order should state this very explicitly. Otherwise, the Draft LANL Order may leave the impression that LANL and NMED are jointly entering a prolonged study period, after which the outcome for cleanup is essentially indeterminate.

There are numerous specific examples of areas of high concern. To state just one example, at Technical Area ("TA") 50, MDA C, the Radioactive Liquid Waste Treatment Facility has operated without a state permit and discharged effluent that likely significantly contaminated the perched aquifers in Mortandad Canyon. The Final Order should expressly address this situation, and others like it at Area G, TA-49, TA-16 and outline an immediate mitigation strategy. There is a considerable and obvious disconnect between LANL's history of regulatory

violations described in the "Regulation of Facility Section" and the actionable provisions of the LANL Draft Order, which do not appear to redress these violations, such as the lack of approved closure plans for MDA's G, H, and L of TA-54. Is it the intent of a Final Order to, in essence, "cure" these prior violations so that a permit may be issued for continued operation of Area G? Both the legal and actual operating status for Area G (and possible new MDA's for low-level radioactive waste) contemplated under this Draft Order are unclear, lending substance to the (possibly unwarranted) conclusion that NMED is potentially trading a decade's worth of future site investigations for continued operation of Area G for an indeterminate period.

The Final Order should clarify its legal relationship, if any, to LANL's history of unredressed and continuing RCRA violations, and disclose the State's intentions with respect to continued operation of Area G and other areas of specific concern highlighted in the Draft Order and the Determination of Imminent and Substantial Endangerment.

In targeting specific areas for cleanup, NRDC would like to express its strong support for NMED's reasonable cleanup target risk level of  $10^{-5}$  for individuals. Such a risk level is equivalent to about 0.2 mrem/year committed effective dose equivalent (CEDE) using current risk factors by the U.S. Environmental Protection Agency (EPA) for radioactive contaminants. However, NMED's should adopt EPA's screening level of  $10^{-6}$  risk from single pollutants in addition to a total target risk to individuals of  $10^{-5}$ .

NRDC strongly urges NMED select the most restrictive usage scenario (residential, agricultural or other) for all carcinogenic substances under review and in the implementation of applicable cleanup standards. Further, the LANL Draft Order states that "if the cleanup standards or goals cannot be achieved, approved risk-based cleanup goals established by a risk analysis" shall be selected as a corrective measure. (Section VII.D.3). The Draft Order further states that "[T]he remedy shall be evaluated for its implementability..." (Section VII.D.4.b.iv) and that "If attainment of the established cleanup level is demonstrated to be technically infeasible, the Respondents may perform a risk-based evaluation to establish alternative cleanup levels for specific media at individual corrective action units." (Section VIII.E). NMED should strike or substantially rewrite these provisions and to define precise numerical decision criteria for the above. NMED has an obligation under RCRA to err on the side of conservative and protective environmental restoration and the appropriate technical methods to achieve such ends.

Respondents' failure to adequately fund and implement a long-term stewardship program for DOE sites, including LANL, leaves NRDC without strong confidence in significant reduction of long-term risks to public health and the environment. The Draft LANL Order Section VII. D.4.b.i *Long-Term Reliability and Effectiveness* states that remedy that reduces risks with little long-term management, and that has proven effective under similar conditions, shall be preferred. NRDC concurs. Respondents' Draft Performance Management Plan demonstrates Respondents' plans for cleanup essentially consist of capping and covering MDAs, monitoring the attenuation of groundwater contamination, and relying on an as yet unformed and unfounded Long Term Stewardship program. NRDC strongly encourages NMED to address this disconnect between the State and the Respondents by selecting the most restrictive usage scenarios.

### **C. Ensuring the Integrity of the Process.**

Considering Respondent's long history of flouting their RCRA obligations, NRDC suggests that it is imperative that NMED create serious mechanisms for ensuring the

independence and integrity of the massive number of studies to be undertaken by the LANL site contractor.

Specifically, any final version of this Order should provide for some mechanism, such as an independent NMED Special Technical Advisory Board for LANL, for unbiased peer review of the huge number of reports and plans that Respondents are scheduled to submit in compliance with this Order. In fact, if the past is any guide, at current staffing levels we suspect that the NMED will not have the resources or be capable of absorbing and responding promptly and productively to the information contained in – or perhaps more importantly – missing from these reports and plans.

As a related matter, NMED Secretary Peter Maggiore appropriately testified for the need for full funding of DOE site cleanup budgets at a Senate Energy and Natural Resources Committee Oversight Hearing (July 11, 2002). NRDC strongly supports the full and effective funding of DOE site cleanup budgets, but respectfully suggests (1) NMED must not operate under the unstated assumption that the sums of federal dollars available for cleanup now will still be available 10 years hence, as this may not be the case if other sites around the nation have significantly progressed on with their cleanups and the current national political base for the \$8 billion annual DOE cleanup program has dwindled away; and (2) NMED must, immediately and as part of this Order, institute the independent structure and capacity for adequately dealing with the massive influx of environmental information due from Respondents as a result of this Order.

The Order should also contain a provision specifically protecting against reprisal any individual employee or group of employees of LANL or its contractors who supply information regarding actions by Respondents that have the effect or intent of misleading State and Federal regulators, the press, or the public, regarding the true state of environmental contamination and waste management at LANL.

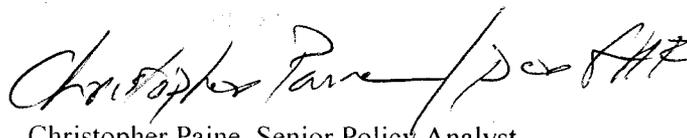
### Conclusion

The question remains, what is the intent behind this intensified decade-long study effort? Is the effort necessary to better quantify the public health risks at the site boundary in order to justify future determinations of negligible risks, and hence little in the way of remedial actions? Or is the decade of study necessary to better inform and provide a basis for cleanup decisions that are clearly imminent, necessary under the law and will be ordered by NMED long before the next decade of study commences? If it is the latter, NRDC applauds NMED for (finally) aggressively proceeding under the State's RCRA obligations and seeking substantial information from the Respondents in an enforceable context.

Sincerely,



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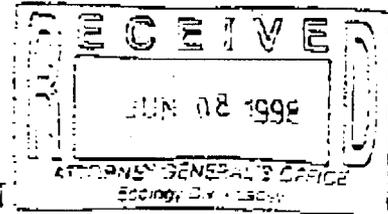


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# ATTACHMENT A

FEB 22 '99 11:39AM ATTORNEY:GENERAL OFC

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## STATE OF WASHINGTON

Olympia, Washington 98504

June 8, 1998

REGISTERED MAIL  
RETURN RECEIPT REQUESTED

Federico Peña  
Secretary  
U.S. Department of Energy  
1000 Independence Avenue  
Washington, D.C. 20585

John D. Wagoner  
Manager  
Richland Operations Office  
U.S. Department of Energy  
P.O. Box 550  
Richland, Washington 99352

Re: Notice of Intent to Sue for Violations of the Hanford Federal Facility Agreement  
and Consent Order

Dear Messrs. Peña and Wagoner:

The State of Washington, on behalf of its citizens and the State Department of Ecology, intends to file suit against the U.S. Department of Energy (Energy) for failing to comply with interim stabilization milestones established under the Hanford Federal Facility Agreement and Consent Order (Order). This letter serves as notice of the State's intention for purposes of 42 U.S.C. § 6972(a).

Although you are familiar with the background of the Hanford site, we believe it would be useful to summarize it here. Energy's Hanford Reservation near Richland, Washington was created in 1943 to produce plutonium and uranium for use in nuclear weapons. Decades of this activity generated many millions of gallons of highly radioactive wastes that continue to be stored in Hanford tanks. These radioactive wastes were combined with hazardous chemical wastes, and the resulting mixture is now subject to regulation under the state's Hazardous Waste Management Act, chapter 70.105 RCW. The State Department of Ecology has been authorized by the U.S. Environmental Protection Agency (EPA) to operate its hazardous waste program in

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lieu of the federal hazardous waste program. Under the state's program, Ecology may issue regulatory orders, either unilaterally or with the consent of the recipient, requiring that violations of the state hazardous waste requirements be corrected. The State grew increasingly concerned during the 1980s that Hanford tanks did not comply with these requirements.

In 1988, the State, Energy, and EPA began extensive negotiations that culminated in execution of the Order on May 15, 1989. By signing the Order, the State gave up certain rights, including the right to sue Energy to demand immediate compliance with all hazardous waste requirements addressed in the Order. The State believed in 1989 that Hanford's compliance problems could more effectively be addressed through a consent order than through litigation. As explained below, the State no longer believes that all compliance matters can be resolved by mutual agreement of the three parties.

Hanford's radioactive tank waste threatens the health and well-being of the citizens of Washington and Oregon. We are particularly concerned about the potentially dire consequences this waste poses for the Columbia River. The river is more than just a symbol of the Northwest. It serves as a vital transportation corridor and a focal point for recreational activities. The Columbia provides a significant source of energy, as well as water for agricultural crops, homes, and industries, and is critical to the survival of salmon.

Hanford's waste tanks hold 54 million gallons of highly radioactive waste. Of the 177 tanks, 149 are of single-shell construction. All of these single-shell tanks are well beyond their design life, and none come close to meeting state requirements for designing and operating waste storage tanks. Seventy of these tanks have failed, releasing nearly one million gallons of radioactive waste to the soil. Despite Energy's assurances that any leakage would remain in soils beneath the tanks, in November 1997 Energy confirmed that contamination from leaking tanks had reached ground water, more than 200 feet below the surface. It is now inevitable that tank waste will reach the Columbia River. Even more troubling is the strong likelihood that additional tanks will fail and release more radioactive waste to the soil, the ground water, and the river.

If we are to avoid further environmental destruction, it is imperative that liquid waste be promptly retrieved from the leak-prone single-shell tanks and moved to the more secure double-shell tanks. The State and Energy have agreed that liquid waste must be removed from the single-shell tanks, an activity known as interim stabilization. When the Order was signed in 1989, Energy committed to complete interim stabilization of all single-shell tanks by September 1995. Over the years, however, Energy has sought repeated extensions of the deadlines for completing this work. Between 1990 and 1997, Energy requested, and the State granted, a total of thirteen changes to the interim stabilization milestones. The most significant amendment occurred in 1994, when the parties agreed to extend the date for completing interim stabilization of the tanks by five years, until September 2000.

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The twelfth amendment to the interim stabilization milestones was signed in September 1996. At that time, Energy maintained that the milestone extensions would enable the department to install equipment and implement administrative controls it deemed necessary to resolve safety issues associated with the generation and periodic release of flammable gas. Based on Energy's commitment to address the safety issues as described, and to complete the interim stabilization program by the existing deadline of September 2000, the State agreed to extend several interim milestones. Under this extension, milestones M-41-22 and M-41-23 required Energy to begin interim stabilization of six single-shell tanks by September 30, 1997, and of an additional eight single-shell tanks by March 31, 1998.

In June 1997, just nine months after the extensions were granted, Energy requested yet another extension of M-41-22, from September 30, 1997 to March 31, 1998. The State denied this, the fourteenth request in seven years to change an interim stabilization milestone. Energy then invoked the dispute resolution procedures under the Order. While the dispute was pending, Energy sent a letter instructing its contractor to "place an immediate moratorium" on the commencement of pumping liquid waste from additional tanks. Energy cited as the reason for its action a lack of funding. Not surprisingly, given this self-imposed moratorium, Energy failed to meet the September 30, 1997 milestone, and on February 10, 1998, the State issued a final decision refusing to extend M-41-22.

In December 1997, Energy asked the State for an extension of the next interim stabilization milestone, M-41-23. The State denied the extension, Energy's fifteenth request to change an interim stabilization milestone, and Energy again initiated the dispute resolution process. On March 10, 1998, the State issued a final decision refusing to extend M-41-23. Energy failed to meet this milestone, as well.

The State has always been willing to consider changes to the Order when good cause is shown. In fact, since 1989, we have agreed to more than 275 amendments. However, there simply was no good reason to extend M-41-22 and M-41-23. Energy blamed unresolved safety issues and inadequate funding for its inability to meet these interim stabilization milestones. Delays have resulted not from safety issues, however, but from Energy's failure to implement available solutions in a timely manner. The safety issue Energy cited when requesting more time is the very same safety issue it used to justify several previous extensions: flammable gas. In 1996, Energy informed Ecology that it planned to install exhausters on tanks during interim stabilization activities to address ongoing concerns about flammable gas, as recommended by outside technical experts. Energy knew that exhausters were the solution to the interim stabilization safety problem in 1996, and exhausters remain the solution to the problem today.

The cost of exhausters does not justify Energy's delay in pumping the tanks. Energy has stated that each exhauster will cost \$1 million, but has not justified why such a simple piece of equipment must be so expensive. Under the circumstances, inadequate funding to address this long-standing issue is not an excuse.

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Although Energy reserved the right under the Order to appeal the State's final decisions in the dispute resolution process, Energy did not appeal either the February 10 or the March 10 decision. The State's final determination grants Energy no relief from the interim stabilization milestones contained in the Order. Energy is required by the Order to notify the State of the actions taken to comply with the final determination.

On April 15, 1998, Energy submitted to the State what it called a "recovery plan," apparently in an attempt to satisfy the notification requirement described above. Rather than describing how Energy would come back into compliance with the schedule in the Order, however, the recovery plan stated that "the end date [for completing the interim stabilization program] can no longer be achieved." The plan announced that Energy would need another four years, or until September 2004, to complete the interim stabilization program. This would represent a delay of nine years past the completion date established when the Order was signed in 1989. Furthermore, Energy stated in the recovery plan that it could meet the new schedule only if 29 "enabling assumptions" proved to be true.

The recovery plan calls for Energy to pump 440,000 gallons of radioactive waste from the single-shell tanks in fiscal year 1998. Although the fiscal year is now more than half over, Energy has pumped only 2,000 gallons, or less than 0.5 percent of the total amount projected for the year in the recovery plan.

In short, Energy's "recovery plan" is nothing of the sort. In blatant disregard of the State's final decisions denying the requested extensions, the plan would simply grant Energy four more years to perform work it originally promised to finish by 1995. Moreover, the State must seriously question whether Energy intends to comply with the plan, given the extremely slow progress in pumping waste from tanks this year.

The history of the interim stabilization program at Hanford is one of delay, mismanagement, and above all, failure to stop an ongoing threat to groundwater and the Columbia River. For years, the State has accommodated Energy's requests for more time to complete the work. Despite thirteen amendments, many of them premised on the need to address safety issues, Energy has failed to take the steps necessary to work safely in a flammable gas environment. In 1997, less than a year after the last significant extensions were made to the interim stabilization milestones, Energy abruptly stopped pumping waste from tanks at Hanford. Apparently, Energy has decided that the way to work safely is to do no work at all.

The State has always supported safe and fiscally responsible action at the Hanford tanks, but Energy's failure to remove radioactive waste from the single-shell tanks has become intolerable. Furthermore, based on the recovery plan Energy recently submitted, and on its pumping record thus far this year, the future looks even more bleak than the past. The State has carefully considered its enforcement options. While we could simply assess civil penalties for

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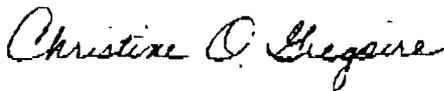
Energy's violations of the Order, we have no confidence that this would accomplish the State's ultimate goal of pumping liquids from single-shell tanks to prevent further contamination of the ground water.

The citizens of Washington cannot accept the untenable position in which they have been put by Energy's inaction. The State has concluded that this vital work will be accomplished in a timely manner only if a court intervenes and maintains oversight of the interim stabilization milestones until they have been met.

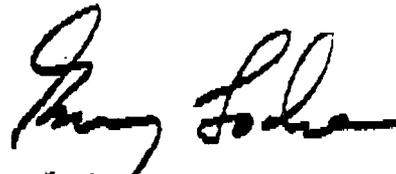
The State's suit will name as defendants the United States Department of Energy and John D. Wagoner in his capacity as manager of the Richland Operations Office. It will cite Energy's failure to comply with the Order's interim stabilization milestones. A copy of the draft complaint is attached for your information. It will be filed and served 60 days after you receive this notice letter.

Counsel for the State in this suit are Christine O. Gregoire, Attorney General, Jay J. Manning, Senior Assistant Attorney General, and Tanya Barnett, Assistant Attorney General. Counsel may be reached at P.O. Box 40117, Olympia, Washington 98504-0117. The telephone number is (360) 459-6320.

Sincerely,



Christine O. Gregoire  
Attorney General  
State of Washington



Gary Locke  
Governor  
State of Washington

Enclosure

cc: Janet Reno, Attorney General of the United States  
Carol Browner, Administrator, U.S. E.P.A.  
Chuck Clarke, Regional Administrator, U.S. E.P.A. Region X

**ATTACHMENT B**

STEVEN ORVIL ZAPPE,

After having been first duly sworn under oath,  
was questioned and testified as follows:

DIRECT EXAMINATION

BY MS. McMICHAEL:

Q. Good morning, Steve.

A. Good morning, Susan.

Q. Would you please state your name and spell it  
for the record?

A. Yes. My name is Steven Orvil Zappe; v-e-n,  
o-r-v-i-l, z-a-p-p-e.

Q. And what is your current position?

A. I'm a Geologist III with the New Mexico  
Environment Department Hazardous Reactive Materials  
Bureau.

Q. How long have you held this position?

A. I've been employed by the department since  
January of '94, which is about five years.

Q. Will you describe your educational background?

A. Yes. I have a bachelor's degree in physics  
from the California State University in Fresno; and a  
master's degree in geological science with an emphasis in  
geophysics from the University California at Riverside.

Q. Can you describe your work experience on the  
WIPP draft permit?

1 Q. Can you describe the document?

2 A. Yes. It's a -- as I mentioned, it's their  
3 response. They have attached to it, and I see we have  
4 what is called "Attachment 3" here. There are some other  
5 documents that were part of this. The relevant portion  
6 is the Compliance History in the back. I reviewed this  
7 document. There are two summaries that are attached.  
8 The first one is titled "Environmental Compliance History  
9 (GOCO Only)," and I'm assuming that means  
10 government-owned contractor-operated. That's two pages.  
11 And then there are several more pages that are simply  
12 labeled "Compliance History."

13 Q. Does it identify environmental law violations  
14 of Westinghouse?

15 A. According to the letter, yes, it does. It  
16 lists several facilities on the first one, and too many to  
17 mention on the second summary, too many facilities for me  
18 to mention.

19 Q. Approximately how many violations did you  
20 ascertain?

21 A. I sat down and counted -- let me see here --  
22 307 individual or discrete violations on the two  
23 summaries, and I recognize that there may be a duplicate  
24 here or there. I found one myself. And it does not  
25 count whatever has been identified on the second summary

1 as an OSHA violation. There were 55 of those. We didn't  
2 count those because those are not environmental  
3 violations. So over 300 environmental violations  
4 reported on these two summaries.

5 Q. To your knowledge, does Westinghouse operate  
6 any facility in New Mexico which is required to be  
7 permitted under the Hazardous Waste Act or any other  
8 environmental statute in this state?

9 A. I'm unaware of any other facility besides WIPP;  
10 and if there is, they have not disclosed that to us.

11 Q. Does the department have reason to believe that  
12 Westinghouse will not similarly violate New Mexico laws?

13 A. No.

14 Q. Do the applicants oppose the department's  
15 imposition of financial assurance requirements upon  
16 Westinghouse?

17 A. Yes, they do. They've submitted both written  
18 correspondence that's in the record, as well as comments  
19 on the draft permit, in which they state what appear to  
20 be mainly legal objections.

21 Q. Are you aware of whether EPA has taken a  
22 position regarding the department's position to require  
23 financial assurance?

24 A. Yes, I am. They have -- actually, we received  
25 this letter, which is correspondence -- it's in the

1 administrative record. It's 971013. It's a letter to  
2 Mike McFadden of the Carlsbad Area Office from Bob, I  
3 think it's, Hanneschlager, H-a-n-n-e-s-s-c-h-l-a-g-e-r,  
4 and he's from EPA Region VI.

5 This letter identifies financial assurance  
6 requirements for Westinghouse, and I would like to quote  
7 one sentence here.

8 HEARING OFFICER GULIN: Before you do  
9 that, do you have a copy of this? We would like to see  
10 copies of that. Do you have copy of that?

11 MS. McMICHAEL: Excuse me. It's in the  
12 administrative record.

13 HEARING OFFICER GULIN: I understand, but  
14 so they don't have to go through that right now.

15 MS. McMICHAEL: I have one copy here. We  
16 don't actually have a lot of copies of this particular  
17 letter, unfortunately.

18 HEARING OFFICER GULIN: Perhaps you could  
19 share the copy with the applicants and whoever else needs  
20 to see a copy.

21 MS. McMICHAEL: Our apologies for that.

22 HEARING OFFICER GULIN: Okay. Wait a  
23 minute. Give them an opportunity. We'll go off the  
24 record.

25 MR. FETTUS: Ms. McMichael, I would also

1 like to see a copy after the applicants are done.

2 HEARING OFFICER GULIN: Actually, the  
3 court reporter reminds me we haven't taken a morning  
4 break yet. Perhaps this is an opportunity for that, and  
5 we'll come back at five of 11:00. Thank you.

6 MS. McMICHAEL: Thank you.

7 (At 10:59 a.m. a recess was taken.)

8 HEARING OFFICER GULIN: Okay. Back on the  
9 record. I take it copies have been distributed.

10 MS. McMICHAEL: Yes, and we apologize for  
11 not having adequate copies. Okay.

12 Q. (BY MS. McMICHAEL) Mr. Zappe, can you tell us  
13 what EPA says in the letter that you just described with  
14 regard to New Mexico's imposition of financial assurance  
15 requirements?

16 A. Yes. The end of the second paragraph reads,  
17 and I quote: ". . . the State may impose financial  
18 assurance requirements under State regulations." And  
19 then the next paragraph: ". . . the State of New Mexico  
20 is fully delegated to implement RCRA."

21 And their letter of the September 24, 1997,  
22 clearly indicates that they believe financial assurance  
23 is appropriate at this facility.

24 Q. Did EPA provide public comment on the financial  
25 assurance?

1           A.    They provided public comment on our initial  
2 draft permit. I have here a letter from the record, it's  
3 No. 980804. We received this on August 10, 1998. This  
4 is a letter from David Neleigh, the Chief of New Mexico  
5 and Federal Facilities Section of EPA Region VI, to  
6 Benito Garcia as a comment on the draft permit.

7           Q.    Does EPA suggest that financial assurance is  
8 improper?

9           A.    No, on the contrary, this letter -- and if you  
10 look at Comment No. 3, it states, and I quote:

11                        "These sections refer to the  
12                        'permittees' and should be clarified  
13                        to define the relationship between  
14                        DOE and the contractor, WID. The  
15                        permit should describe the financial  
16                        assurance responsibilities of the  
17                        contractor as required by NMED."

18          Q.    Okay. Does New Mexico believe that the  
19 Department of Energy will provide adequate funding for  
20 closure or post-closure?

21          A.    No.

22          Q.    And what do you base that opinion on?

23          A.    We have had experience here in New Mexico, at  
24 Los Alamos National Laboratory, in which DOE has used, as  
25 a defense to cleanup obligations, the Antideficiency Act,

1 in which they say the inadequate funding is a defense to  
2 cleanup.

3 Q. How did you gain your understanding regarding  
4 that opinion?

5 A. It's based upon conversations with Benito  
6 Garcia, my bureau chief, with John Tymkovich,  
7 T-y-m-k-o-w-i-c-h, who is the program manager for  
8 enforcement and inspection program, who has dealt with  
9 enforcement issues at Los Alamos National Laboratory; as  
10 well as it's common knowledge among the people in our  
11 department, who deal with regulatory issues at Los  
12 Alamos. And just to clarify, Los Alamos is a Department  
13 of Energy facility which is operated by the University of  
14 California.

15 Q. Has the department explained its position to  
16 applicants in writing in the administrative record?

17 A. Yes, we have. The very first letter that I  
18 referenced also has a statement in there.

19 Q. Can you describe -- read into the record the  
20 department's position?

21 A. Yes, this is, again, in the records is 970930.  
22 It's the September 24th letter. I'm going to read  
23 basically half of a paragraph.

24 "In addition, in 1992 the  
25 adequacy of federal funding has

1           become a significant issue related to  
2           federal facility compliance under  
3           RCRA and state hazardous waste laws.  
4           And, in fact, inadequacy of funding  
5           is used by federal facilities  
6           throughout the United States as a  
7           defense under the Antideficiency Act  
8           to compliance with its obligations to  
9           comply with environmental laws.  
10          Since 1983 Congress passed the  
11          Federal Facility Compliance Act,  
12          which as an amendment to the Resource  
13          Conservation and Recovery Act  
14          affirmatively places federal  
15          facilities on equal footing with  
16          private entities."

17           Q.    You just testified that other states also have  
18           this concern. Can you explain more specifically why  
19           New Mexico doubts that the Department of Energy would  
20           have adequate funding as it relates to other states? Do  
21           you have any examples of that?

22           A.    Certainly. The one I would like to talk about  
23           relates to the DOE facility at Hanford in Richland,  
24           Washington. And, again, there the Department of Energy  
25           has claimed inadequate funding as defense to its

1 obligations to clean up.

2 MS. McMICHAEL: For the record, I'm  
3 distributing a letter to the parties.

4 Q. (BY MS. McMICHAEL) Mr. Zappe, can you  
5 identify, for the record, the lawsuit you just referred  
6 to in the letter?

7 A. Yes, this is a -- I'll first identify the  
8 letter. It's a June 8, 1998, letter addressed to  
9 Federico Pena, who is the Secretary of DOE, or was then,  
10 to John Wagoner, the manager of the Richland Operations  
11 Office, and the letter is signed by the Governor of the  
12 State of Washington, Gary Locke, and the Attorney General  
13 from the State of Washington, Christine Gregoire. And  
14 the subject is: Notice of Intent to Sue for Violations  
15 of the Hanford Federal Facility Agreement and Consent  
16 Order.

17 Q. What does the letter state, if you could be  
18 specific with regard to page numbers?

19 A. Yes. On page 2, the second paragraph, the  
20 first full paragraph, it just gives some background  
21 history saying that in 1988, the state, Energy -- which  
22 is the Department of Energy, DOE -- and EPA engaged in  
23 negotiations which resulted in a consent order, dated  
24 May 15, 1989.

25 And this consent order, if you read through

1 like the bottom paragraph, required that DOE establish a  
2 procedure to remove highly-radioactive mixed waste from  
3 corroding single-shelled, single-walled steel tanks; and  
4 the removal of the waste was called "interim  
5 stabilization measures."

6 And this agreement established milestones for  
7 cleanup; and if you go to the third page, it talks about  
8 disputes that arose over negotiations to try and extend  
9 the milestones. And the second paragraph states, fifth,  
10 sixth line down: "Energy cited as the reason for its  
11 action a lack of funding." The lack of action -- or the  
12 action was to stop pumping.

13 And then the -- I think the part that's  
14 actually underlined in my copy here, it's the  
15 next-to-last paragraph, states:

16 "Energy blamed unresolved safety  
17 issues and inadequate funding for its  
18 inability to meet these interim  
19 stabilization milestones."

20 The very next sentence, though, states what the  
21 State of Washington believes is the case and they say:

22 "Delays have resulted not from  
23 safety issues, however, but from Energy's  
24 failure to implement available solutions  
25 in a timely manner."

1 MS. McMICHAEL: For the record,  
2 Mr. Hearing Officer, this letter we would like to have  
3 entered into the hearing record.

4 HEARING OFFICER GULIN: Any objections?

5 MS. NIJMAN: Yes, Judge, we would object  
6 to the extent that this letter is written by people we  
7 don't know. Mr. Zappe was not involved in the situation.  
8 It was never produced prior to this point. There is just  
9 not sufficient information from this letter to determine  
10 what actually happened here.

11 HEARING OFFICER GULIN: Do you want to  
12 respond?

13 MS. McMICHAEL: Yes. I can certainly voir  
14 dire Mr. Zappe on how he received the letter. The  
15 testimony was related to other states providing  
16 New Mexico's concern as to why we should be concerned  
17 about inadequate funding, and I believe he just read into  
18 the record a paragraph of the letter to support that  
19 position, the statement.

20 HEARING OFFICER GULIN: There is certainly  
21 no dispute as to its relevance. I note that the  
22 department is not subject to the same requirements for  
23 producing documents in advance as the other parties in  
24 this case. I think there's been an adequate foundation  
25 for the letter. I will admit it only to the extent that

1 it goes to the issue that the Department of Energy sought  
2 to assert the inadequacy of funding as a defense in this  
3 matter, but for not other reasons. So it's admitted.

4 (June 8, 1998, letter to Pena  
5 from Gregoire and Locke admitted)

6 Q. (BY MS. McMICHAEL) Mr. Zappe --

7 A. Yes.

8 Q. -- has the department permitted any other  
9 hazardous waste disposal facilities where it's required  
10 financial assurance and liability coverage from a private  
11 operator in New Mexico?

12 A. We're currently in the process of drafting a  
13 permit for a private facility that will be disposing of  
14 hazardous waste outside of Roswell, New Mexico. It's  
15 called Triassic Park. This is a privately-owned and  
16 operated facility, which, like all the other private  
17 facilities we have in this state, we have imposed  
18 financial requirements upon.

19 Q. Has the department permitted any other  
20 federally-owned facility for mixed waste disposal in  
21 New Mexico?

22 A. No. If there's been any disposal at a federal  
23 facility in New Mexico, it's been under interim status  
24 and not under a permit.

25 Q. Does the department believe any other states

**ATTACHMENT THREE (3)**  
**Compliance History**



Environmental Compliance History  
(GOCO only)

Name of Facility and/or Location	Date Issued	Agency	Facility Location	State	Notification Type	Proposed Fine	Fine Paid	Status Open/Closed	Response/Disposition Fines/Penalties/Explanation
	09/02/94	WDOH	Richland	WA	Air - ICL	\$0	\$0	Closed	Responded to audit letter
	10/18/94	Ecology	Richland	WA	RCRA - ICL	\$0	\$0	Closed	Responded to compliance letter, issued to ICF KH, sub to W
	11/03/94	WDOH	Richland	WA	Air - ICL	\$0	\$0	Closed	Responded to surveillance letter
	12/08/94	Ecology	Richland	WA	RCRA - ICL	\$0	\$0	Closed	Responded to compliance letter
	03/28/95	BCCAA	Richland	WA	Air - NOV	\$0	\$0	Closed	Responded
	04/20/95	WDOH	Richland	WA	Air - ICL	\$0	\$0	Closed	Responded to surveillance letter
	05/15/95	Ecology	Richland	WA	RCRA - ICL	\$0	\$0	Closed	Responded to compliance letter
	06/06/95	WDOH	Richland	WA	Air - ICL	\$0	\$0	Closed	Responded to surveillance letter
	07/31/95	WDOH	Richland	WA	Air - ICL	\$0	\$0	Closed	Response accepted by WDOH on 1/25/96
	11/06/95	WDOH	Richland	WA	Air - ICL	\$0	\$0	Open	Final resolution pending
	11/15/95	Ecology	Richland	WA	RCRA - DWCC	\$0	\$0	Closed	Met with Ecology - location of satellite accumulation areas
	01/03/96	Ecology	Richland	WA	RCRA - DWCC	\$0	\$0	Closed	Corrective actions completed
	02/06/96	WDOH	Richland	WA	Air - NOV/CO	\$0		Closed	Standardized access requirements developed
	03/05/96	Ecology	Richland	WA	Air - NOV	\$0		Open	Rec. PSD permit for 300 Area boiler
unconfirmed that VMC was named	06/05/96	WDOH	Richland	WA	Air - NOC			Closed	Resolved issue with condition for Notice of Construction
unconfirmed that VMC was named	06/10/96	Ecology	Richland	WA	RCRA - DWCC			Closed	Resolved corr. prol. system issues for AP & AHV tank farms
unconfirmed that VMC was named	06/13/96	Ecology	Richland	WA	RCRA - DWCC			Open	Developed contingency plans for 300 Area
unconfirmed that VMC was named	06/28/96	Ecology	Richland	WA	RCRA - DWCC			Open	Responded regarding waste accepted from LBNL
unconfirmed that VMC was named	07/10/96	WDOH	Richland	WA	Air - NOC			Open	Responded re records issue for 242-A Eump. & 200W TF
unconfirmed that VMC was named	07/11/96	WDOH	Richland	WA	Air - NOC			Open	Responded, emissions out, type 283 mobile exceptio write
unconfirmed that VMC was named	08/08/96	Ecology	Richland	WA	RCRA - DWCC			Open	Waste designations of 3785-D and 2046-D
unconfirmed that VMC was named	08/23/96	Ecology	Richland	WA	RCRA - NOV or DWCC?			Open	40CFR265, Subpart J, A-305 catch tank
	08/27/96	Ecology	Richland	WA	RCRA - NOP	\$20,000	\$20,000	Closed	Responded, incompatible storage, 306-E
Safe Sites of Colorado (SSOC)	03/20/96	CODPH&E	Golden	CO	RCRA - WL	\$0	\$0	Closed	Drums characterized and/or relocated, docs transmitted, etc.
	05/06/96	CODPH&E	Golden	CO	RCRA - WL	\$0	\$0	Closed	Improvement in chemical management program instituted
Waste Isolation Division (WID)	None								
(A) Bellis	None								
(A) Idaho Nuclear Company	None								
Machinery Apparatus Operatio	None								
Plant Apparatus Division	None								

- Notes:
1. This dB does not include NODs.
  2. ICL = Informal Compliance Letter
  3. CO = Compliance Order
  4. N&OP = Notice and Order of Penalty
  5. DWCC = Dangerous Waste Compliance Checklist (similar to an ICL)
  6. NOC = Notice of Correction
  7. WL = Warning Letter
  8. Updated Through 3/31/96

COMPLIANCE HISTORY

EVENT\_YEAR

FACILITY_NAME	STATE	EVENT_DATE	AGENCY	EVENT_TYPE	VIOLATION_TYPE	FINE_PAID	EVENT_DESC
90							
THERMO KING CIALS	FR	90/04/09	ENVIRONMENTAL QUALITY BOARD	RCRA	NOV		ANNUAL HAZ WASTE TRAINING
CLEVELAND (NAVAL SYSTEMS)	OH	90/07/12	OHIO EPA	RCRA	NOV		NO LAND BAN CERTIFICATIONS
CLEVELAND (NAVAL SYSTEMS)	OH	90/07/12	OHIO EPA	RCRA	NOV		GENERATOR & STORAGE REGULATIONS
BWI SITE	MD	90/07/12	STATE OF MARYLAND	RCRA	NOV		INADEQUATE DRUM LABELING
ANNAPOLIS - ESG	MD	90/08/28	ANNE ARUNDEL COUNTY	POTW	NOV		TSS AND BOD EXCEEDANCES
ANNAPOLIS - ESG	MD	90/06/22	ANNE ARUNDEL COUNTY	POTW	NOV		TSS AND COD EXCEEDANCES
ANNAPOLIS - ESG	MD	90/04/16	ANNE ARUNDEL COUNTY	POTW	NOV		COD, BOD, TSS, OIL & GREASE EXCEEDANCES
FAYETTEVILLE PLANT	NC	90/02/21	CITY OF FAYETTEVILLE-PWC	POTW	NOV		BOD & COD EXCEEDANCES
FAYETTEVILLE PLANT	NC	90/03/22	CITY OF FAYETTEVILLE-PWC	POTW	NOV		BOD, COD, & TSS EXCEEDANCES
OLDENAR PLANT	FL	90/06/26	PINKLAS COUNTY DEPT ENVIRON	AIR	NOV		OPERATING PAINT BOOTH W/O PERMIT
GLASSPORT REPAIR	PA	90/06/08	PA DEPT ENVIRON RESOURCES	RCRA	NOV		STORAGE OVER 90 DAYS; NO LABELS
BEDFORD PLANT	PA	90/08/10	PA DEPT ENVIRON RESOURCES	NEDES	NOV		PHOSPHORUS EXCEEDANCE
HAMPTON PLANT	SC	90/02/08	DEPT HEALTH ENVIRON CONTROL	RCRA	NOV		TREATING W/O TSD PERMIT, TRAINING, ETC.
HAMPTON PLANT	SC	90/02/14	DEPT HEALTH ENVIRON CONTROL	NEDES	NOV		EXCEEDED BOD LIMIT
APTUS - LAKEVILLE, MN	MN	90/08/02	MINNESOTA POLLUTION CONTROL	RCRA	NOV	\$6,375	IMPROPER ACCUMULATION OF WASTES
APTUS - COFFEYVILLE, KS	KS	90/11/19	KANSAS DEPT. HEALTH & ENVIRON	TSCA	NOV	\$20,000	IMPROPER TRAINING, STORAGE, LABELING
APTUS - COFFEYVILLE, KS	KS	90/11/01	EPA	TSCA	AC	\$20,000	EPA/TSCA ADMIN COMPLAINT FROM 4/30/90
ROBERTSON REPAIR PLANT	PA	90/08/30	PA DEPT ENVIRON RESOURCES	AIR	NOV		OPERATING & STORAGE WITHOUT PERMITS
SCIENTIFIC BIOLOGY GROUP	PA	90/02/01	PA DEPT HEALTH & ENVIRONMENT	RCRA	NOV		NO LDR ATTACHMENT WITH MANIFEST
CHERNICK SITE	PA	90/04/16	USEPA	RCRA	NOV		LDR ATTACHMENT NOT WITH MANIFEST
CHERNICK SITE	PA	90/01/05	PA DEPT OF ENVIRON RESOURCES	RCRA	NOV		EXCEEDED 90 DAY STORAGE LIMIT
PRINTING DIVISION	PA	90/05/07	PA DEPT ENVIRON RESOURCES	AIR	NOV	\$1,000	ODACITY EXCEEDANCE
THERMO KING MONTGOMERY	AL	90/10/23	ALABAMA DEPT ENVIRON MANAGE	RCRA	NOV		HAZARDOUS WASTE STORAGE AREA
CHALLENGER- GRAND PRAIRIE	TX	90/07/27	CITY OF GRAND PRAIRIE	POTW	NOV		FAILURE TO PERFORM SELF-MONITORING
CHALLENGER- GRAND PRAIRIE	TX	90/12/06	CITY OF GRAND PRAIRIE	POTW	NOV		EXCEEDED CITY DISCHARGE LIMITS
CHALLENGER- GRAND PRAIRIE	TX	90/12/18	CITY OF GRAND PRAIRIE	POTW	NOV		FORM NOT SIGNED BY AUTHORIZED REP
CHALLENGER- GRAND PRAIRIE	TX	90/12/18	CITY OF GRAND PRAIRIE	POTW	NOV		FAILURE TO MONITOR FOR SILVER AND TFC
RICHMOND ENGINEERING SKV.	VA	90/03/01	EPA	RCRA	AC	\$29,950	EPA/RCRA ADMIN. COMPLAINT FROM 10/13/89
BUFFALO MOTOR	NY	90/07/09		WATER	NOV	\$4,000	FROM 01/90
KANSAS CITY REPAIR	KS	90/01/08	USEPA	TSCA	CA/CO	\$2,500	PCB CONTAMINATED OIL DRIPS FROM OIL 1
HILLSIDE	NJ	90/07/02	NJDEP	RCRA	NOV		NEED TO FILE GENERATOR'S ANNUAL REPO
91							
AGUAS BUENAS - BREAKERS	PR	91/07/03	ENVIRONMENTAL QUALITY BOARD	RCRA	NOV	\$5,000	ILLEGIBLE HAZARDOUS WASTE LABEL
THERMO KING ARECIBO	PR	91/01/01	EPA	RCRA	AC	\$5,850	EPA ADMIN COMPLAINT FROM 08/22/89
SUNNYVALE SITE (MARINE)	CA	91/05/14	BAY AREA AIR QUALITY MAN DIST	AIR	NOV	\$85	OPEN CONTAINER RULE
SUNNYVALE SITE (MARINE)	CA	91/05/13	BAY AREA AIR QUALITY MAN DIST	AIR	NOV	\$63	OPEN CONTAINER RULE
CLEVELAND (NAVAL SYSTEMS)	OH	91/09/10	OHIO EPA	RCRA	NOV		FAILURE TO SUBMIT FINANCIAL ASSURANCE
CLEVELAND (NAVAL SYSTEMS)	OH	91/10/23	OHIO EPA	RCRA	NOV		FAILURE TO SUBMIT ANNUAL REPORT
CLEVELAND (NAVAL SYSTEMS)	OH	91/04/23	OHIO EPA	RCRA	NOV		EXCEEDED ACCUMULATION OF RECYCLABLES
CLEVELAND (NAVAL SYSTEMS)	OH	91/04/23	OHIO EPA	RCRA	NOV		DOCUMENT HAZARDOUS WASTE INSPECTIONS
BWI SITE	MD	91/11/19	BALTIMORE COUNTY	POTW	NOV		PH EXCEEDANCE
BWI SITE	MD	91/11/05	STATE OF MARYLAND	NEDES	NOV		AL CLEANER DISCHARGE TO STORMSEWER
BWI SITE	MD	91/08/30	BALTIMORE COUNTY	POTW	NOV		PH EXCEEDANCE
BWI SITE	MD	91/07/23	BALTIMORE COUNTY	POTW	NOV		PH EXCEEDANCE
BWI SITE	MD	91/06/27	BALTIMORE COUNTY	POTW	NOV		PH EXCEEDANCE
BWI SITE	MD	91/02/11	BALTIMORE COUNTY	POTW	NOV		PH EXCEEDANCE

COMPLIANCE HISTORY

EVENT\_YEAR

FACILITY_NAM	STATE	EVENT_DATE	AGENCY	EVENT_TYPE	VIOLATN_TYPE	FINE_PAID	EVENT_DESC
91							
BWI SITE	MD	91/01/16	BALTIMORE COUNTY	POTW	NOV		PH EXCEEDANCE
BIRMINGHAM REPAIR PLANT	AL	91/10/24	EPA	TSCA	NON		PCB STORAGE TIME EXPIRED
ADVANCED TECH LAB (ATL)	MD	91/08/05	COUNTY	POTW	NOV		PH EXCEEDANCE
ADVANCED TECH LAB (ATL)	MD	91/08/05	COUNTY	POTW	NOV		CHROMIUM & LEAD EXCEEDANCES
HUNT VALLEY SITE (ILSD)	MD	91/01/22	BALTIMORE COUNTY	POTW	NOV		SELF MONITORING REPORT
LIMA SITE (ESD-ESG)	OH	91/04/01		TSCA	CA	\$3,000	SETTLED BY CONSENT AGREEMENT
ASHEVILLE PLANT	NC	91/05/28	NC DEPT HEALTH NAT RESOURCES	RCRA	NOV		SATELLITE ACCUMULATION, CONTING. PLAN
FAYETTEVILLE PLANT	NC	91/07/17	CITY OF FAYETTEVILLE-PWC	POTW	NON		BOD, COD, TSS EXCEEDANCES
CHALLENGER - VIDALIA	GA	91/06/26	GA ENVIRONMENTAL PROT DEPT	POTW	NOV		INADEQUATE WATER SAMPLING PROCED.
MANOR PLANT	PA	91/08/01	PA DEPT ENVIRON RESOURCES	AIR	NOV-LA	\$500	ODOR EXCEEDANCE
ABINGDON WIRE FACILITY	VA	91/07/18	CITY OF BRISTOL	POTW	NOV		CADMIUM EXCEEDANCE
ABINGDON WIRE FACILITY	VA	91/10/17	CITY OF BRISTOL	POTW	NOV		CADMIUM EXCEEDANCE
ABINGDON WIRE FACILITY	VA	91/10/17	CITY OF BRISTOL	POTW	NOV		OIL AND GREASE EXCEEDANCE
ABINGDON WIRE FACILITY	VA	91/12/16	CITY OF BRISTOL	POTW	NOV		COPPER EXCEEDANCE
ABINGDON WIRE FACILITY	VA	91/07/03	ENVIRONMENTAL QUALITY BOARD	RCRA	NOV	\$5,000	ILLEGIBLE HAZARDOUS WASTE LABEL
APTUS - LAKESVILLE, NH	NH	91/07/30	MINNESOTA POLLUTION CONTROL	RCRA	NOV		IMPROPER LABELING
APTUS - LAKESVILLE, NH	NH	91/03/11	MINNESOTA POLLUTION CONTROL	RCRA	NOV	\$9,000	CRACKS IN FLOOR OF STORAGE AREA
PITTSBURGH REPAIR	PA	91/08/16	PA DEPT ENVIRON RESOURCES	AIR	NOV		OPERATING WITH NO RESULTS
PITTSBURGH REPAIR	PA	91/10/07	PA DEPT ENVIRON RESOURCES	POTW	NOV		WASTEWATER DISCHARGE EXCEEDANCES
SCIENTIFIC ECOLOGY GROUP	TX	91/04/02	TX DEPT HEALTH & ENVIRONMENT	RCRA	NOV		NO WASTE IDENTIFICATIONS FOR SOLVENTS
CHARLOTTE TURBINE PLANT	NC	91/09/10	NC DEPT NATURAL RESOURCES	RCRA	NOV		EXCEEDED SATELLITE ACCUMULATION TOTAL
CHARLOTTE TURBINE PLANT	NC	91/09/04	MECKLENBURG COUNTY	POTW	NOV		EXCEEDED MONTHLY AVERAGE FLOW FOR 6/91
CHARLOTTE TURBINE PLANT	NC	91/09/04	NC DEPT NATURAL RESOURCES	POTW	NOV		EXCEEDED MONTHLY AVERAGE FLOW FOR 7/91
CHARLOTTE TURBINE PLANT	NC	91/08/08	NC DEPT NATURAL RESOURCES	RCRA	NOV		FAILURE TO PROMPTLY RESTORE LOST AREA
CHARLOTTE TURBINE PLANT	NC	91/02/01	COUNTY	AIR	NOV	\$1,720	EXCEEDED PARAMETERS
COLUMBIA PLANT	SC	91/07/05	DEPT HEALTH & ENVIRON. CONTROL	NPDES	NOV		EXCEEDED FECAL COLIFORM LIMIT
CHESWICK SITE	PA	91/12/04	PA DEPT OF ENVIRON RESOURCES	AIR	NOV		NO INSTALLATION PERMIT FOR DRYING OVEN
CHESWICK SITE	PA	91/11/06	ALLEGHENY COUNTY HEALTH DEPT	AIR	NOV		NO INSTALLATION PERMIT FOR BOILER
APTUS - ARAGONITE, UT	UT	91/04/22	UTAH DEPARTMENT OF HEALTH	RCRA	NOV	\$17,500	IMPROPER STORAGE AND LABELING
APTUS - ARAGONITE, UT	UT	91/02/28	UTAH DEPARTMENT OF HEALTH	AIR	NOV	\$7,000	INSTALLATION W/O A PERMIT
DELAWARE COUNTY RESOURCE	PA	91/12/06	PA DEPT ENVIRON RESOURCES	AIR	NOV		PERFORMANCE TEST SCHEDULE FOR CEL
DELAWARE COUNTY RESOURCE	PA	91/09/18	PA DEPT ENVIRON RESOURCES	AIR	NOV		PERFORMANCE STACK TEST SCHEDULE
DELAWARE COUNTY RESOURCE	PA	91/03/10	PA DEPT ENVIRON RESOURCES	AIR	NOV		ODORS AND VISIBLE EMISSIONS
KNOLL E. GREENVILLE	PA	91/05/01	PA DEPT ENVIRON RESOURCES	RCRA	NOV		CONTAINER STORAGE INSUFFICIENT
CHALLENGER- GRAND PRAIRIE	TX	91/07/26	CITY OF GRAND PRAIRIE	POTW	NOV		UNTIMELY REPORT OF ACCIDENTAL DISCHARGE
EDGEHOUT (ESD)	PA	91/04/17	STATE OF NEW JERSEY	RCRA	NOV		FAILURE TO SUBMIT ANNUAL REPORT
EDGEHOUT (ESD)	PA	91/06/25	EPA	TSCA	NON		PCB RECORDKEEPING, STORAGE, MANIFESTING
EDGEHOUT (ESD)	PA	91/08/01		TSCA	NON		RECEIVED NOTICE OF NONCOMPLIANCE 7/2/91
BEAUMONT REPAIR	TX	91/05/16	TEXAS AIR CONTROL BOARD	AIR	NOV		EXCEEDING AIR DISCHARGE LIMITS
PINETREE POWER TAMWORTH	NH	91/10/07		AIR	NOV	\$99,000	
BAYANON 7UP	PR	91/01/01	EPA	TSCA	AC	\$35,000	PCB ADMINISTRATIVE COMPLAINT
MISHANAKA TEST LOOP	IN	91/01/28	IDEM	NPDES	NON		EXCEEDED PERMIT LIMIT
WALTZ HILL	PA	91/05/03	PADEP	NPDES	NOV		DID NOT USE PROPER TEST PROCEDURES
BATON ROUGE REPAIR	LA	91/07/03	CITY OF BATON ROUGE	POTW	AC		FAILURE TO SUBMIT REQUIRED WASTEWATER ANALYSIS
BEAUMONT REPAIR	TX	91/09/05	TEXAS AIR CONTROL BOARD	AIR	NOV		EXCEEDED AIR DISCHARGE LIMIT
KANSAS CITY REPAIR	KS	91/08/01	KANSAS CITY HEALTH DEPT.	AIR	NOV		EXCESS AIR EMISSIONS

COMPLIANCE HISTORY

EVENT YEAR

FACILITY_NAM	STATE	EVENT_DATE	AGENCY	EVENT_TYPE	VIOLATN TYPE	FINE PAID	EVENT_DESC
11							
WEGS	GA	91/01/03	DOL	OSHA	NOV	\$600	
COLUMBIA	SC	91/01/06	DOL	OSHA	NOV	\$840	
GRAND RAPIDS	MI	91/01/29	DOL	OSHA	NOV	\$1,440	
PORT ST JOE-RSD	FL	91/04/03	DOL	OSHA	NOV	\$23,875	
PRODUCTOS-SANTA ISABEL	PR	91/04/08	DOL	OSHA	NOV	\$120	
ARECIBO-THERMO KING	PR	91/04/23	DOL	OSHA	NOV	\$2,100	
TAYLOR-GLADWIN	MI	91/05/20	DOL	OSHA	NOV	\$360	
CHALLENGER, LOS ANGELES	CA	91/05/30	DOL	OSHA	NOV	\$2,450	
CHESTER-RESD	PA	91/06/03	DOL	OSHA	NOV	\$3,000	
GALLATIN-POSD	TH	91/06/27	DOL	OSHA	NOV	\$4,875	
SYLMAR-FORTIN	CA	91/08/20	DOL	OSHA	NOV	--	
CHESTER-RESD	PA	91/10/21	DOL	OSHA	NOV	\$3,315	
PAGELAND-CHALLENGER	SC	91/11/20	DOL	OSHA	NOV	\$5,200	
PAGELAND-CHALLENGER	SC	91/11/25	DOL	OSHA	NOV	\$1,600	
COLLEGE STATION-LSG	TX	91/12/03	DOL	OSHA	NOV	\$6,625	
COLUMBIA	SC	91/12/31	DOL	OSHA	NOV	\$20,425	
SEG	TN	91/10/14	DOL	OSHA	NOV	\$800	
2							
SUNNYSIDE SITE (MARINE)	CA	92/08/31	BAY AREA AIR QUALITY MAN DIST	AIR	NOV		EXCEEDED REPORTING PERIOD
SUNNYSIDE SITE (MARINE)	CA	92/07/16	BAY AREA AIR QUALITY MAN DIST	AIR	NOV		EXCEEDED REPORTING PERIOD
CLEVELAND (NAVAL SYSTEMS)	OH	92/09/29	OHIO EPA	RCRA	NOV		FAILURE TO SUBMIT CLOSURE COST ESTIMATE
CLEVELAND (NAVAL SYSTEMS)	OH	92/06/14	OHIO EPA	RCRA	NOV		FAILURE TO AMEND CONTINGENCY PLAN
CLEVELAND (NAVAL SYSTEMS)	OH	92/06/14	OHIO EPA	RCRA	NOV		FAILURE TO SUBMIT WAST ANALYSIS
BWI SITE	MD	92/11/19	BALTIMORE COUNTY	POTW	NOV		EXCEEDED PH LIMIT
BWI SITE	MD	92/10/22	STATE OF MARYLAND	AIR	CO		MUST CONVERT TO LOW VOC COATINGS
BWI SITE	MD	92/09/15	BALTIMORE COUNTY	POTW	NOV		ZINC EXCEEDANCE
BWI SITE	MD	92/09/09	BALTIMORE COUNTY	POTW	NOV		ZINC EXCEEDANCE
BWI SITE	MD	92/06/08	BALTIMORE COUNTY	POTW	NOV		PH EXCEEDANCE
ANNAPOLIS - ESG	MD	92/06/19	ANNE ARUNDEL COUNTY	POTW	NOV		ZINC AND FOG EXCEEDANCES
THERMO KING BLOOMINGTON	MM	92/02/20		AIR	NOV		
BEAVER PLANT	PA	92/02/05	PA DEPT ENVIRON RESOURCES	NPDES	NOV		COPPER & ZINC EXCEEDANCES
BEAVER PLANT	PA	92/09/10	PA DEPT ENVIRON RESOURCES	NPDES	CO		COPPER & ZINC EXCEEDANCES
ASHEVILLE PLANT	NC	92/05/18	METROPOLITAN SEWERAGE DIST	POTW	NOV		ZINC & COPPER EXCEEDANCE
GLASSPORT REPAIR	PA	92/06/30	PA DEPT ENVIRON RESOURCES	AIR	NOV	\$1,600	OPERATING WITHOUT PERMITS
CHALLENGER - VIDALIA	GA	92/03/16	GA ENVIRONMENTAL PROT DEPT	RCRA	NOV		NO TCLP FOR E-COAT SLUDGE
BEDFORD PLANT	PA	92/01/15	PA DEPT ENVIRON RESOURCES	RCRA	NOV		IMPROPER ACCUMULATION OF HAZ WASTE
HAMPTON PLANT	SC	92/09/14	DEPT HEALTH ENVIRON CONTROL	NPDES	NOV		EXCEEDED BOD LIMIT
HAMPTON PLANT	SC	92/08/18	DEPT HEALTH ENVIRON CONTROL	NESHAP	NOV		REMOVED ASBESTOS NOT STORED WET
MOBILE REPAIR	AL	92/06/22	CITY OF MOBILE	POTW	NOV		WASTEWATER DISCHARGE EXCEEDANCES
SAN LORENZO PLANT (PEMI)	PR	92/06/25	ENVIRONMENTAL QUALITY BOARD	AIR	NOV		INSTALLED POLLUTION SOURCE W/O PERMIT
WALTZ HILL FACILITY	PA	92/09/25	PA DEPT ENVIRON RESOURCES	WATER	NOV		SUBSTANDARD ANALYTICAL LAB
SCIENTIFIC ECOLOGY GROUP	TN	92/06/11	TN DEPT HEALTH & ENVIRONMENT	RCRA	NOV		STORAGE OVER 90 DAYS; OPEN CONTAINERS
CHARLOTTE TURBINE PLANT	NC	92/03/02	HECKLENBERG COUNTY	POTW	NOV		ROD, CHROMIUM, NICKEL AND FLOW EXCEEDANCE
CHARLOTTE TURBINE PLANT	NC	92/01/03	HECKLENBERG COUNTY	POTW	NOV		NICKEL AND ZINC EXCEEDANCES

COMPLIANCE HISTORY

EVENT\_YEAR

FACILITY_NAM	STATE	EVENT_DATE	AGENCY	EVENT_TYPE	VIOLATN_TYPE	FINE_PAID	EVENT_DESC
BLAIRSVILLE PLANT	PA	92/03/30	PA DEPT ENVIRON RESOURCES	RCRA	CA		
WESTERN ZIRCONIUM PLANT	UT	92/08/11	UTAH DEPT ENVIRON QUALITY	RCRA	NOV	\$500	INACCURATE MANIFEST
APTUS - ARAGONITE, UT	UT	92/07/22	UTAH DEPARTMENT OF HEALTH	RCRA	NOV		PART A APPLICATION SUBMITTED LATE
APTUS - ARAGONITE, UT	UT	92/03/03	UTAH DEPARTMENT OF HEALTH	RCRA	NOV		IMPROPER HAZARDOUS WASTE STORAGE
SCHLAGE ELECTRONICS	CA	92/03/09	SANTA CLARA COUNTY	TSCA	NOV	\$7,500	TWO TANKS HAD NO TSCA LABELS
DELAWARE COUNTY RESOURCE	PA	92/11/17	PA DEPT ENVIRON RESOURCES	RCRA	NOV		INTERPRETATION OF GENERATOR & TSDP REG
DELAWARE COUNTY RESOURCE	PA	92/11/17	PADER	RCRA	NOV		FUGITIVE DUST EMISSIONS
BAY ENERGY SYSTEMS	FL	92/12/31	FLORIDA DEPT ENVIRON RESOURCES	AIR	CA	\$54,000	FUGITIVE DUST
KNOX E. GREENVILLE	PA	92/05/01	PA DEPT ENVIRON RESOURCES	AIR	NOV		EXCEEDED PARTICULATE EMISSION LI
HORSEHEADS OPERATIONS	NY	92/11/17	EPA	AIR	NOV		PRIMARY BURNER NOT OPERATING
WEST VALLEY NUCLEAR SVCS.	NY	92/09/30	EPA	SPDES	NOV		PH EXCEEDANCE
SAVANNAH RIVER SITE	SC	92/01/14	SCDEEC	RCRA	NOV		LDR/CONTAINER STORAGE
SAVANNAH RIVER SITE	SC	92/05/29	SCDEEC	RCRA	NOV		EXCEEDED PERMITTED VOLUME LIMIT-F-AREA
SAVANNAH RIVER SITE	SC	92/08/07	SCDEEC	TSCA	NOV		IMPROPER REPORTING - ASBESTOS ABATEMEN
SAVANNAH RIVER SITE	SC	92/07/07	SCDEEC	CERCLA	NOV		FAILURE TO REPORT TRIT. RELEASE TO NRC
(N) BORDEN SYSTEMS - CT	CT	92/02/18		RCRA	CO		1990 CBE VIOLATIONS
SECURITY ENGINEERING SEMI	WV	92/02/18	WV DIV NATURAL RESOURCES	RCRA	NOV		
MOBILE REPAIR	AL	92/08/21	CITY OF MOBILE	POTW	NOV		OFFERED HAZ WASTE WITHOUT EPA ID &
MOBILE REPAIR	AL	92/08/29	CITY OF MOBILE	POTW	NOV		WASTEWATER DISCHARGE EXCEEDANCES
HOMESWOOD REPAIR	PA	92/08/24	USDOL	OSHA	NOV		WASTEWATER DISCHARGE EXCEEDANCES
GLADWIN-BLYTHEVILLE	AR	92/01/30	USDOL	OSHA	NOV	\$2,925	MACHINE GUARDING
KANSAS CITY-APP. SVC.	MO	92/01/10	USDOL	OSHA	NOV	\$7,150	
CHALLENGER-PORTLAND	TN	92/05/13	USDOL	OSHA	NOV	\$4,950	
PGH. -ESD/ARG	PA	92/05/13	USDOL	OSHA	NOV	\$100	
LADSON-RSD	SC	92/09/04	USDOL	OSHA	NOV	\$2,700	
GALLATIN-POSD	TN	92/10/02	USDOL	OSHA	NOV	\$8,250	
SEG-OAK RIDGE	TN	92/11/17	USDOL	OSHA	NOV	\$4,450	
CHALLENGER-GRAND PRAIRIE	TX	92/12/11	USDOL	OSHA	NOV	\$500	
ESG-AID	FL	92/12/23	USDOL	OSHA	NOV	\$975	
CARLEBAD	IN	92/11/03	USDOL	OSHA	NOV	\$6300	
PGH. -RENEWAL PARTS	PA	92/08/24	USDOL	OSHA	NOV	\$2,225	
						\$2,925	
JUANA DIAZ - PC BOARDS	PR	93/05/11	ENVIRONMENTAL QUALITY BOARD	RCRA	NOV		INADEQUATE AISLE SPACE IN STORAGE AREA
THERMO KING CIALES	PR	93/05/27	ENVIRONMENTAL QUALITY BOARD	RCRA	NOV	\$14,000	INADEQUATE LABELING, TRAINING, ETC.
THERMO KING CIALES	PR	93/02/03	ENVIRONMENTAL QUALITY BOARD	RCRA	NOV		MUST REVISE CONTINGENCY PLAN
THERMO KING ARECIBO	PR	93/06/11	ENVIRONMENTAL QUALITY BOARD	RCRA	NOV		TRANSPORTING HAZ WASTE W/O PERMIT
BWI SITE	MD	93/03/24	BALTIMORE COUNTY	POTW	NOV	\$100	ZN EXCEEDANCE
BWI SITE	MD	93/01/20	BALTIMORE COUNTY	POTW	NOV		ZN EXCEEDANCE
BWI SITE	MD	93/06/28	BALTIMORE COUNTY	POTW	NOV	\$1,800	FE & ZN EXCEEDANCE; FAIL TO RESPOND
ANNAPOLIS - ESG	MD	93/02/03	ANNE ARUNDEL COUNTY	POTW	NOV		ZN AND FB EXCEEDANCES
ANNAPOLIS - ESG	MD	93/01/06	ANNE ARUNDEL COUNTY	POTW	NOV		ZN, AG, CU, AND FOG EXCEEDANCE
BEAVER PLANT	PA	93/11/01	PA DEPT ENVIRON RESOURCES	NPDES	CA	\$13,400	COPPER & ZINC EXCEEDANCES
LONDON PLANT	NY	93/04/30	CITY OF LONDON	POTW	NOV		COD, OIL & GREASE EXCEEDANCES
LONDON PLANT	NY	93/04/22	CITY OF LONDON	POTW	NOV		COD & BOD EXCEEDANCES

COMPLIANCE HISTORY

EVENT\_YEAR

FACILITY\_NAME

STATE	EVENT_DATE	AGENCY	EVENT_TYPE	VIOLATION_TYPE	FINE_PAID	EVENT_DESC
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LONDON PLANT	KY	93/04/26	CITY OF LONDON	POTW	NOV		PE EXCEEDANCE
ASHEVILLE PLANT	NC	93/02/23	NC DEPT HEALTH NAT RESOURCES	RCRA	NOV		LACK OF ANNUAL TRAINING REVIEW
FAYETTEVILLE PLANT	NC	93/04/02	CITY OF FAYETTEVILLE PNC	POTW	NOV		PH & TSS EXCEEDANCE
FAYETTEVILLE PLANT	NC	93/05/21	CITY OF FAYETTEVILLE-PNC	POTW	NOV		CHROMIUM EXCEEDANCE
GREENWOOD PLANT	SC	93/05/19	SC DEPT HEALTH ENVIRON CONTROL	RCRA	NOV		SATELLITE ACCUMULATION & WASTE STORAGE
MANOR PLANT	PA	93/08/06	PA DEPT ENVIRON RESOURCES	TANK	NOV		FAILURE TO SUBMIT SPR PLAN
APTUS - LAKEVILLE, MN	MN	93/03/09	EPA	TSCA	NOV		PCB ANNUAL REPORT ERRORS
APTUS - LAKEVILLE, MN	MN	93/12/22	MINNESOTA POLLUTION CONTROL	RCRA	NOV		CONTING. PLAN & INADEQUATE AISLE
APTUS - COPPETVILLE, KS	KS	93/03/01	KANSAS DEPT. HEALTH & ENVIRON	TSCA	NOV		IMPROPER TSCA LABELING
WALTZ MILL FACILITY	PA	93/08/06	PA DEPT ENVIRON RESOURCES	TANK	NOV	\$65,000	FAILURE TO SUBMIT SPR PLAN
WALTZ MILL FACILITY	PA	93/08/19	PA DEPT ENVIRON RESOURCES	NPDES	NOV		SEWAGE DISCHARGE EXCEEDANCES
SCIENTIFIC ECOLOGY GROUP	TN	93/11/19	TN DEPT HEALTH & ENVIRONMENT	RCRA	NOV		UNTIMELY ANNUAL HAZARDOUS WASTE REPORT
GLADCO EQUIPMENT	MI	93/01/12					
COLUMBIA PLANT	SC	93/04/07	DEPT HEALTH & ENVIRON. CONTROL	NPDES	NOV		DO PARAMETER TESTED BY UNCERTIFIED LAB
BLAIRSVILLE PLANT	PA	93/02/24	PA DEPT ENVIRON RESOURCES	RCRA	CA	\$500	INACCURATE MANIFEST
BLAIRSVILLE PLANT	PA	93/01/14	PA DEPT ENVIRON RESOURCES	RCRA	NOV-CA	\$500	INCORRECT WASTE CODE ON MANIFEST
BLAIRSVILLE PLANT	PA	93/07/30	PA DEPT ENVIRON RESOURCES	NPDES	NOV		SEWAGE SHEDDING PLANT EXCEEDANCES
LETTING - ARMOONITE, UT	UT	93/08/30	UTAH AERIAL HEALTHY WINDS	AIR	NOV-CD	\$6,500	NONCOMPLIANCE WITH AQ DATED 2/14/92
BAY STREET HOUSTERS	FL	93/11/24	FLORIDA DEPT ENVIRON RESOURCES	AIR	NOV		OPERATING DISABLED CHEM EQUIPMENT
KNOX E. GREENVILLE	PA	93/03/04	PA DEPT ENVIRON RESOURCES	AIR	NOV		FACT CALCULATED INCORRECTLY
BORSEHEADS OPERATIONS	NY	93/03/23	EPA	RCRA	NOV		ALLEGED FAILURE TO COVER DEGREASERS
BORSEHEADS OPERATIONS	NY	93/03/29		AIR	NOV		
CHESAPEAKE PGBU	VA	93/05/01	STATE OF VIRGINIA	POTW	NOV		SUBMITTED LATE DISCHARGE REPORT
CHESAPEAKE PGBU	VA	93/04/01	STATE OF VIRGINIA	POTW	NOV		SUBMITTED LATE DISCHARGE REPORT
CHESAPEAKE PGBU	VA	93/04/01	STATE OF VIRGINIA	POTW	NOV		FAILURE TO SUBMIT O&M MANUAL
CHESAPEAKE PGBU	VA	93/03/01	STATE OF VIRGINIA	POTW	NOV		INCORRECT FLOW VALUE ON 3/93 DMR
EDGEMONT (ESD)	PA	93/09/29	EPA	TSCA	NOV		PCB LABELING & STORAGE
THE CLUB AT PELICAN BAY	FL	93/01/11		WATER	CD	\$199,080	UNPERMITTED FILLING OF WETLAND AREA
HOUSTON REPAIR	TX	93/04/29	CITY OF HOUSTON	POTW	NOV		WASTEWATER DISCHARGE EXCEEDANCES
HOUSTON REPAIR	TX	93/07/19	CITY OF HOUSTON	POTW	NOV		WASTEWATER DISCHARGE EXCEEDANCES
KANSAS CITY REPAIR	KS	93/12/16	KANSAS CITY HEALTH DEPT.	AIR	CA		VISIBLE SMOKE EMISSIONS
KANSAS CITY REPAIR	KS	93/11/29	KANSAS CITY HEALTH DEPT.	AIR	NOV		VISIBLE SMOKE EMISSIONS
WEST VALLEY NUCLEAR SVCS.	NY	93/03/23	EPA/NYDEC	RCRA	NOV		
WESTERN ZIRCONIUM	UT	93/07/21	UDEQ	RCRA	NOV		
CLEVELAND	OH	93/09/28	EPA	RCRA	CO	\$5,000	PART A/PART B PERMIT
CHARLOTTE PGBU	NV	93/12/06	OSHD	TSCA	NOV		PCB STORAGE OVER ONE YEAR
CHARLOTTE PGBU	NV	93/06/15	OSHD	POTW	NOV		EXCEEDED PERMITTED ZN & FLOW LIMITS
CHARLOTTE PGBU	NV	93/05/11	OSHD	POTW	NOV		EXCEEDED PERMITTED ZN LIMIT
CHARLOTTE PGBU	NV	93/02/11	OSHD	POTW	NOV		EXCEEDED PERMITTED FLOW LIMIT
MINAPOLIS	MO	93/12/08	DOL	OSHA	NOV	\$312	EXCEEDED PERMITTED PH LIMIT
SANTA ISABEL	PR	93/06/16	DOL	OSHA	NOV	--	
KETRON	OH	93/08/03	DOL	OSHA	NOV	--	
KETRON	OH	93/08/10	DOL	OSHA	NOV	\$3,000	
ARAGONITE	UT	93/11/23	DOL	OSHA	NOV	\$350	
BIRMINGHAM-REPAIR	AL	93/12/08	DOL	OSHA	NOV	\$20,425	

COMPLIANCE HISTORY

EVENT\_YEAR

FACILITY_NAM	STATE	EVENT_DATE	AGENCY	EVENT_TYPE	VIOLATN_TYPE	FINE_PAID	EVENT_DESC
94							
SUNNYVALE SITE (MARINE)	CA	94/11/03	BAAQMD	AIR	NOV	\$651	NOX EXCEEDANCE
SUNNYVALE SITE (MARINE)	CA	94/11/01	BAAQMD	AIR	NOV		NOX EXCEEDANCE
BWI SITE	MD	94/12/15	BALTIMORE COUNTY	POTW	NOV	\$1,000	PH EXCEEDANCE
BWI SITE	MD	94/10/05	BALIMORE COUNTY	POTW	NOV	\$1,200	PH EXCEEDANCE
BWI SITE	MD	94/10/25	BALTIMORE COUNTY	POTW	NOV	\$1,425	CHROMIUM EXCEEDANCE
BWI SITE	MD	94/04/07	BALTIMORE COUNTY	POTW	NOV	\$200	PH EXCEEDANCE
ANNAPOLIS - ESG	MD	94/03/23	ANNE ARUNDEL COUNTY	RCRA	NOV		STORAGE GREATER THAN 90 DAYS, LDF
MANOR PLANT	PA	94/06/15	PADER	RCRA	NOV		MANIFEST ERROR, INADEQUATE DISPO
MANOR PLANT	PA	94/06/15	PADER	RCRA	NOV		MANIFEST ERRORS/WASTE DETERMINATI
ABINGDON WIRE FACILITY	VA	94/01/21	VA DEPT ENVIRON QUALITY	WATER	NOV		OILER-WATER HOLDING POND LEVEL HI
LA GRANGE ESD	GA	94/02/03	GEORGIA DEPT. NAT. RESOURCES	RCRA	CO	\$2,100	BIENNIAL REPORT, SW REDUCTION, CONTAINER
LA GRANGE ESD	GA	94/02/03	GA DEPT NATURAL RESOURCES	RCRA	NOV	\$2,100	FAILURE TO SUBMIT BIENNIAL/HAS REPORTS
SCIENTIFIC ECOLOGY GROUP	TN	94/04/18	TNDEC	RCRA	NOV		STORED WASTE OVER 90 DAYS; LABELING
YORK COUNTY RESOURCE FAC.	PA	94/03/10	PA DEPT ENVIRON RESOURCES	AIR	NOV		EXCEEDED PERMITTED AIR EMISSION LIMITS
YORK COUNTY RESOURCE FAC.	PA	94/04/29	PADER	AIR	CA	\$95,000	CEM VIOLATIONS (2ND QRT '90-4TH QRT '92
YORK COUNTY RESOURCE FAC.	PA	94/04/29	PADER	AIR	CA	\$61,200	STACK TESTING VIOLATIONS (FEB '92)
YORK COUNTY RESOURCE BRG.	PA	94/06/10	EPA	AIR	NOV		AIR EMISSION VIOLATIONS
COLUMBIA PLANT	SC	94/03/01	SCDHEC	RCRA	CO	\$11,250	WASTE MANAGEMENT
APTUS - ARAGONITE, UT	UT	94/03/08	USEPA	RCRA	RCRA	\$70,000	EXCEEDED HEAT CONTENT PER CONTAINER
APTUS - ARAGONITE, UT	UT	94/06/17	US EPA REGION 4	RCRA	CO	\$86,600	WASTE TRACKING
DELAWARE COUNTY RESOURCE	PA	94/03/14	PA DEPT ENVIRON RESOURCES	MSW	NOV		INADEQUATE ASH STORAGE
DELAWARE COUNTY RESOURCE	PA	94/05/09	PADER	MSW	NOV		INADEQUATE EIL INSURANCE
DELAWARE COUNTY RESOURCE	PA	94/05/13	NRC	NRC	NOV	\$1,250	LOSS OF RADIATION SOURCE
DELAWARE COUNTY RESOURCE	PA	94/03/07	PADER	AIR	CA	\$60,246	CEM EXCEEDANCES (1ST QRT '93)
DELAWARE COUNTY RESOURCE	PA	94/03/07	PADER	AIR	CA	\$71,000	CEM EXCEEDANCES (4TH QRT '92)
DELAWARE COUNTY RESOURCE	PA	94/03/07	PADER	AIR	CA	\$81,130	CEM EXCEEDANCES (3RD QRT '92)
DELAWARE COUNTY RESOURCE	PA	94/03/01	PADER	AIR	CA	\$54,000	COMBINED CONSENT ASSESSMENT FOR FOUR
FORT PAYNE PCBU PLANT	AL	94/06/13	ADEM	RCRA	NOV		OPEN SW CONTAINERS, AISLE SPACE, TRAININ
THERMO KING-MINN.	MN	94/04/25	MNCC	POTW	NOV	--	EXCEEDED CONCENTRATION LIMIT
ABINGDON	VA	94/01/30	DOL	OSHA	NOV	\$11,437	
BEAVER	PA	94/04/26	DOL	OSHA	NOV	\$11,700	
PRODUCTOS CIRCUITOS	PR	94/05/18	DOL	OSHA	NOV	\$263	
HANOVER-DEFENSE	MD	94/06/01	DOL	OSHA	NOV	\$2,550	
GRAND RAPIDS-KNOLL	MI	94/08/17	DOL	OSHA	NOV	\$4,316	
DETROIT-PGPD	MI	94/08/23	DOL	OSHA	NOV	\$6,375	
MUSKEGON-KNOLL	MI	94/10/19	DOL	OSHA	NOV	--	
E. PALESTINE-GLADWIN	MI	94/11/07	DOL	OSHA	NOV	\$4,375	
OCEANIC-ANNAPOLIS	MD	94/11/21	DOL	OSHA	NOV	--	
95							
BOBART MECHANICAL REPAIR	IN	95/02/22	IDEM	AIR	NOV		CONSTRUCTING W/O PERMIT
BWI SITE	MD	95/02/07	BALTIMORE COUNTY	POTW	NOV	\$3,000	PH EXCEEDANCES
BWI SITE	MD	95/06/29	BALTIMORE COUNTY	POTW	NOV	\$2,500	PH EXCEEDANCES
BWI SITE	MD	95/09/95	BALTIMORE COUNTY	POTW	NOV	\$500	PH EXCEEDANCE
BWI SITE	MD	95/09/22	BALTIMORE COUNTY	POTW	NOV	\$500	PH EXCEEDANCE
DELAWARE COUNTY RESOURCE	PA	95/09/25	PADER	AIR	NOV		COOR DETECTED OUTSIDE PROPERTY

COMPLIANCE HISTORY

EVENT\_YEAR

FACILITY_NAME	STATE	EVENT_DATE	AGENCY	EVENT_TYPE	VIOLATION_TYPE	FINE_PAID	EVENT_DESC
15							
SUNNYVALE	CA	95/05/23	BAAQMD	AIR	NOV	\$748	VIOLATION #27907
SUNNYVALE	CA	95/05/23	BAAQMD	AIR	NOV	\$748	VIOLATION # 27908
ANNAPOLIS	MD	95/08/17	ANNE ARUNDEL COUNTY	WATER	NOV		STORMWATER MANAGEMENT POND
BUCHANAN-PCI	NY	95/06/13	DOL	OSHA	NOV	\$3,500	
THERMO KING-MN	MN	95/06/27	DOL	OSHA	NOV	\$6,600	
MUSKEGON-KNOLL	MI	95/07/13	DOL	OSHA	NOV	\$5,400	
MUSKEGON-KNOLL	MI	95/07/13	DOL	OSHA	NOV	\$7,200	
FVA-PGBU COLBERT	TX	95/05/12	DOL	OSHA	NOV	\$62,300	
ESG-ARSR-9	HI	95/05/12	DOL	OSHA	NOV	\$1,275	
DAYTON-PGBU-P&L	OH	95/04/24	DOL	OSHA	NOV	\$10,000	
6							
SCIENTIFIC ECOLOGY GROUP	TX	96/04/08	TWDEC	RCRA	O/ACP		IMPROPER STORAGE & LABELING
WESTERN ZIRCONIUM	UT	96/04/25	UTDEQ	RCRA	NOV/CO		SAT. ACC., STAINS, REVERSED EPA ID FORM
FOCK COUNTY RESOURCE FAC.	PA	96/09/06	PADEP	AIR	NOV		VISIBLE FUGITIVE EMISSIONS - GRAY SMOG
DELAWARE COUNTY RESOURCE	PA	96/09/06	PADEP	AIR	NOV		VISIBLE EMISSIONS
SCOTTSVILLE	SC	96/03/14	SDHEC	SPRKS	NOV		EXCEEDED TSS & COLIFORM LIMITS
HEE-AM	UT	96/03/26	UTDOL	OSHA	NOV		EXPOSURE TO FUMES/VENTILATION
FOCK COUNTY RESOURCE FAC.	PA	96/08/26	OSDOL	OSHA	NOV		EXPOSURE TO FUMES/VENTILATION
PHILADELPHIA	PA	96/10/22	OSDOL	OSHA	NOV	\$2750	NO GUARD RAIL AROUND PIT, EXCAVATION
CHARLOTTE	NC	96/11/26	NCDDOL	OSHA	NOV		ENERGY CONTROL PROCEDURES, TRAINING
RE/DELAWARE CTY. REC. FAC.	PA	97/05/08	PADEP/EPA	AIR	CA	\$100,000	PERMIT LIMITS (1991 EPA MOVES); CEM ASSESSMENTS

PRESENT ASSESSMENT - CA  
OFFICE OF VIOLATION - NOV  
ORDER AND ASSESSMENT OF CIVIL PENALTY - O/ACP  
OFFICE OF VIOLATION AND ORDER FOR COMPLIANCE - NOV/CO

SRIC

TEL: 505-262-1864

JUL 31 '02

14:58 No. 002 P. 11

LANL Permit Rec'd 7/31/02

**NNSA/DOE and University of California Response to  
NMED's ISE Determination and Draft Order**

On May 2, 2002, the New Mexico Environment Department (NMED) issued a Determination to the Laboratory, alleging that radioactive, hazardous and solid wastes have been released and "may present an imminent and substantial endangerment to human health or the environment" (ISE Determination). On May 2, NMED also released for public comment a 254-page Draft Order requiring corrective action based on the ISE Determination. Both documents cover materials beyond NMED's regulatory authority and do not in any event support an endangerment finding. Further, the Draft Order is very prescriptive, duplicative of work already done, internally inconsistent, factually inaccurate, contrary to NMED's policies, and abrogates prior NMED approvals of key conceptual approaches to corrective action.

Both NNSA/DOE and UC take strong exception to these two actions and provided comprehensive legal and technical comments to NMED on July 31, 2002. The Laboratory is already implementing, under NMED oversight, a comprehensive, multi-media environmental restoration program that includes addressing, on a voluntary basis, materials beyond NMED's authority. While the Laboratory pursues all appropriate legal avenues to redress the flaws in these actions, we will continue to implement our environmental restoration activities, expediting them wherever possible. Significantly, on July 25, 2002, NNSA/DOE and UC completed a "Performance Management Plan" that sets forth an accelerated schedule for completing environmental restoration at the Laboratory by 2015 – fifteen years earlier than currently planned.

**ISE Determination.** As set out in our comments, the evidence in the record does not support a finding of endangerment. To the contrary, a number of recent independent scientific studies conclude that there are no significant risks associated with contamination at the Laboratory. In addition, results from the Laboratory's own extensive monitoring system indicate that there is no endangerment. The Determination is further contradicted by NMED statements and documents (*e.g.*, NMED's "2001 State of the Environment Statement").

**Jurisdiction.** Most of the materials that NMED seeks to regulate are beyond NMED's regulatory authority either because they are preempted by federal statute or do not constitute a "solid or hazardous waste" within the meaning of state law. Instead, these materials are regulated and managed by either DOE or EPA under federal law, including the Atomic Energy Act (radionuclides), the Clean Water Act (point source discharges) and Toxic Substances Control Act (PCBs).

In our response, DOE and UC request that NMED withdraw the ISE Determination and take no further action on the Draft Order. In our view, the energies and resources of both NMED and the Laboratory are best spent focusing on implementing and accelerating the comprehensive environmental restoration program that is now underway.



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### ENVIRONMENTAL RESTORATION PROJECT

The Laboratory Environmental Restoration (ER) Project was established in 1989 as part of a Department of Energy nationwide program. The Project's purpose is to investigate whether hazardous chemicals and/or radioactive wastes are present as a result of past Laboratory operations and to remediate (clean up and restore) such sites.

### AIRPORT SITE HISTORY

- Operated as a municipal landfill receiving both Los Alamos County and LANL waste - Zia Company 1943-1965.
- Operated as a municipal landfill receiving both Los Alamos County and LANL waste - Los Alamos County 1965-1973.
- Debris routinely burned between 1943 and 1965.
- Debris placed in hanging canyon and excavated trenches.
- Debris moved from western end of landfill to new trenches (PRS 73-001(d)) in 1984.

### ENVIRONMENTAL INVESTIGATIONS

Field efforts conducted from 1994 to 1998 at the landfill and associated Potential Release Sites (PRSs) which collected the following types of data including:

- Geophysical;
- Surface/sub surface soils and channel sediments;
- Shallow soil gas; and,
- Vadose monitoring well (leachate/deep soil gas).

### CHEMICALS OF POTENTIAL CONCERN

- Soil gas Volatile Organic Compounds (VOCs) such as methane, vinyl chloride, and benzene are well within observed levels as other municipal solid waste landfills.
- Leachate was detected in isolated areas and the level is comparable to other municipal landfills. Leachate is not present as "free liquid" but is being sampled via an applied vacuum. Leachate should have been reduced and/or eliminated due to recently completed surface water run-on control measures.
- Most constituents are below New Mexico Water Quality Control standards.

## INFORMATION SHEET: AIRPORT LANDFILL

### CURRENT AND REMAINING WORK

- The RCRA Facility Investigation (RFI) report was delivered to the New Mexico Environment Department (NMED) on November 30, 1998.
- The RFI report approved by NMED in 1999.
- High Performing Team was formed in 2000 to work toward the final remedy.

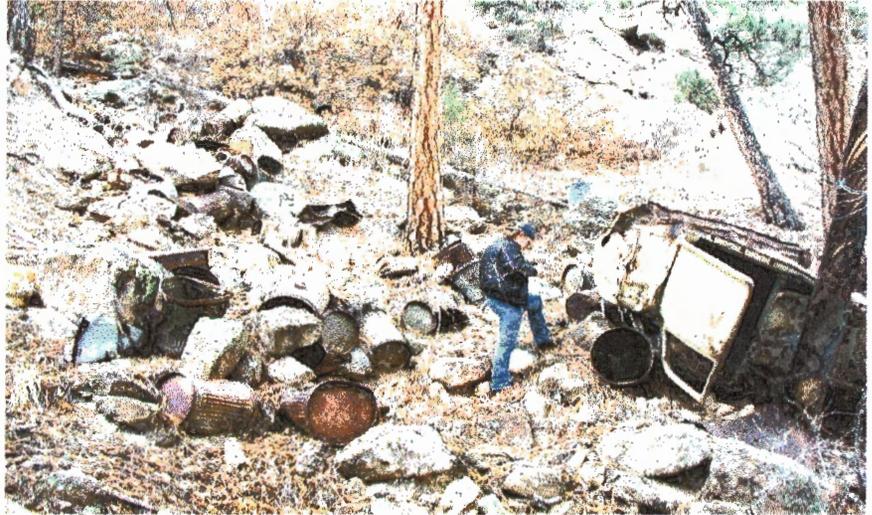
### PROPOSED REMEDY

Streamlined closure as a Solid Waste Municipal Landfill. Proposal is based on the following:

- Landfill operated as municipal landfill;
- Contaminants present are within levels seen at other municipal landfills; and,
- Presumptive remedies have been developed by EPA specifically to address municipal landfills.

### RESOLUTION

- Due to the nature and age of waste in the landfill, a Subtitle D-Type (municipal) closure was recommended and approved.
- Lack of contaminant levels in excess of levels seen in other municipal (Subtitle D-Type) landfills is indicative of the nature of debris in the landfill and the relatively minor potential for offsite migration via leachate or soil gas.
- Groundwater contamination is extremely unlikely based on the small amount of leachate present, installation of run-on control measures, and depth to groundwater (approx 1200 ft.).
- It is recommended that established presumptive remedies for municipal landfills be evaluated and selected. Coordination on specific NMED requirements regarding solid waste landfill closures will be crucial to selection of the selected remedy.



ER Project employee assessing the debris at the Airport Landfill

### OPPORTUNITIES FOR PUBLIC INVOLVEMENT

Contact the ER Project Communications & Outreach Team

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# ENVIRONMENTAL RESTORATION PROJECT

## Los Alamos National Laboratory Environmental Restoration Project Information Sheet

*The Los Alamos National Laboratory is operated by the University of California for the Department of Energy.*



*Los Alamos townsite and Laboratory operations in early 1950s*

*The Laboratory was founded in 1943 as part of the Manhattan Project, which was to develop the first atomic weapon. During this time, the disposal of hazardous chemical and radioactive wastes was not regulated and therefore some of these materials were disposed of improperly.*

*The mission of the Environmental Restoration Project is to remedy environmental problems caused by 50 years of Laboratory operations by bringing together multi-disciplinary, world-class science, engineering, and state-of-the-art management practices. The Project's goals are to*

- protect human health and the environment from exposure to hazardous, radioactive, and mixed wastes from past treatment, storage, and disposal practices and*
- meet the environmental cleanup requirements of the Laboratory's permit to operate hazardous waste facilities.*



*Use of remote controlled excavation equipment by the Project to remove high explosives and hazardous materials during cleanup and closure operations at Material Disposal Area P in Technical Area 16*

The Laboratory's Environmental Restoration Project was established in 1989 as part of a Department of Energy nation-wide program. The Project's purpose is to investigate whether hazardous chemicals and/or radioactive wastes are present as a result of past Laboratory operations and to remediate (clean up and restore) such sites.

These sites are called potential release sites. Contamination originated from septic tanks and lines, chemical storage areas, wastewater outfalls (the area below a pipe that drains wastewater), material disposal areas (landfills), incinerators, firing ranges and their impact areas, surface spills, and electric transformers. Potential release sites are found on mesa tops, in material disposal areas, in canyons, and in a few areas in the Los Alamos townsite.

Since its inception, the Environmental Restoration Project has reduced the number of potential release sites requiring further action from the original total of 2,100 sites by over 60%. This has been accomplished by remediating sites that were found to be contaminated; by evaluating sites and confirming that there is no adverse impact on human health, plants and animals, and the environment; and by combining pieces



surveillance and monitoring, as long as necessary.

### The Corrective Action Process

- Collect and evaluate existing data and information about the sites.
- Determine what sites need to be further investigated.
- Develop a plan to collect and evaluate data and information that do not exist about the site.
- Confirm or deny that contaminants have been released.
- If a release has occurred, determine the "nature" (the origin, type, and amount of chemicals, either natural or man-made, that are present in the environment) and "extent" (the way a chemical is distributed in the environment) of the contamination.
- Conduct risk assessments – human health and ecological – if necessary.
- Determine and complete appropriate/approved cleanup activities.
- Document all decisions and conduct stakeholder involvement activities.
- Implement long-term surveillance and monitoring activities – if necessary.

Corrective actions are complete at a potential release site when the Environmental Restoration Project has demonstrated and documented to the regulatory authority's satisfaction that the site poses no unacceptable risk to humans and ecological resources, such as plants and animals.



*Surface disposal area on Laboratory property - before remediation*



*Surface disposal area on Laboratory property - during remediation*



*Surface disposal area on Laboratory property - after remediation*

The New Mexico Environment Department is the regulatory authority for potential release sites that are contaminated by hazardous chemicals that are listed on the Laboratory's Hazardous Waste Facility Permit. The Department of Energy is the regulatory authority for all other sites, particularly those with radiological contamination.



*Community residents on a tour of Los Alamos Canyon*

Environmental Restoration Project managers believe that the corrective action process for all potential release sites will be complete by 2013. Future work will focus on sites in the Los Alamos townsite at the head of the Los Alamos/Pueblo watershed and will work down all of the watersheds to the Rio Grande. In addition, the Laboratory will continue to monitor some sites for at least 30 years to ensure that the long-term stewardship goals of the Environmental Restoration Project are met.



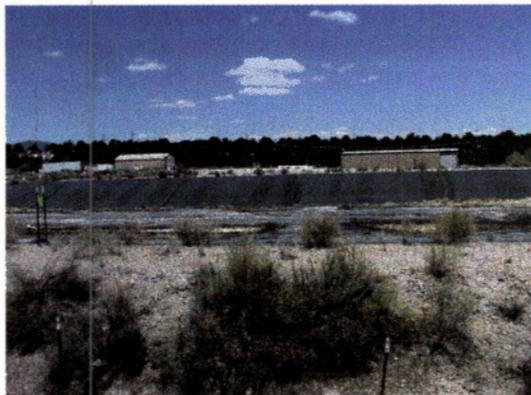
*Project workers remove soil cores during a sampling activity at a drilling site on Laboratory property in Los Alamos Canyon*

*Would you like additional information about the Los Alamos National Laboratory Environmental Restoration Project? Call, write or send email to:*

*Carmen M. Rodriguez ([carmenr@lanl.gov](mailto:carmenr@lanl.gov))  
P.O. Box 1663, Mail Stop M992  
Los Alamos, New Mexico 87545  
505-665-6770 or 1-800-508-4400  
Or visit our Website at: <http://erproject.lanl.gov/>*

**Los Alamos National Laboratory  
Risk Reduction and Environmental Stewardship**





South lagoon before cleanup

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### ENVIRONMENTAL RESTORATION PROJECT

The Laboratory Environmental Restoration (ER) Project was established in 1989 as part of a Department of Energy nationwide program. The Project's purpose is to investigate whether hazardous chemicals and/or radioactive wastes are present as a result of past Laboratory operations and to remediate (clean up and restore) such sites as needed.

### TECHNICAL AREA 53 LAGOONS DESCRIPTION

Three lagoons at Technical Area (TA) 53 were constructed in 1969 to collect excess sanitary, radioactive, and industrial wastewater. The wastewater came from various Los Alamos Neutron Scattering Center (LANSCE) activities as well as septic tank sludge from other laboratory activities. The lagoons operated until 1998, when the southern lagoon was replaced by a new liquid wastewater treatment facility at TA-53.

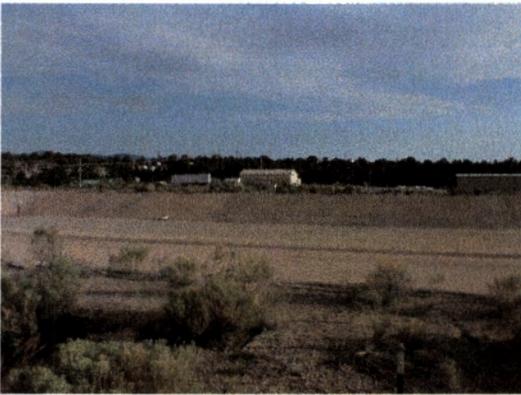
The southern lagoon – 305 feet long, 148 feet wide and 6 feet deep – had a storage capacity of 2.6 million gallons. This lagoon was constructed in 1985 to collect excess sanitary wastewater from the two smaller lagoons to the north. The southern lagoon also received radioactive-contaminated wastewater. The two northern lagoons are 210 feet long, 210 feet wide and 6 feet deep, and each could store 1.6 million gallons. The three lagoons worked via evaporation. The radioactive wastewater was first pumped into storage tanks to allow short-lived radioisotopes to decay away, and then was pumped into the lagoons to evaporate.

### SAMPLING AND CONTAMINANTS OF CONCERN

The sludge and water in the lagoons and surrounding area were sampled and analyzed in four separate sampling events. The DOE's Headquarters Environmental Survey conducted the first in 1988, then by the Laboratory's Environmental Compliance Group in 1991 and 1992, and by the Laboratory's ER Project in 1994 and 1995, and again in 1999/2000.

The contaminants of concern included cobalt-60, cesium-134, strontium-90, sodium-22, and tritium. Other inorganic and organic chemicals identified were lead, mercury, and polychlorinated biphenyls.

## INFORMATION SHEET: TECHNICAL AREA 53 LAGOONS



South lagoon after cleanup

### **SOUTH LAGOON CLEANUP**

Approximately 160 cubic yards of radioactive contaminated sludge and 60 cubic yards of liner from the south lagoons was removed in 2000. The ER Project performed the interim activity to reduce potential airborne radioactive emissions and protect human health and the environment. The samples from the lagoon sludge revealed radioactive isotopes of uranium, plutonium, tritium, lutetium and others at elevated levels (up to 180,000 pCi/g). Because of the high exposure potential, worker health and safety became a major emphasis during removal activities. The team developed a stringent safety plan specific to the project. The project was a success due to all the protective measures put in place including exposure goals, which allowed the project to be completed on schedule, without an incident, and maintaining worker exposures well below established goals.



Dumpster-like containers filled with the waste

### **NORTH LAGOONS CLEANUP**

Characterization data collected for the north lagoons was evaluated and a preliminary risk assessment performed. The sludge and clay liners were found to contain radioisotopes at unacceptable levels. The concentrations of the radionuclides and carcinogenic chemicals within the dried sludge and clay liner of both impoundments surpass the target levels of 15 mrem/yr and  $10^{-5}$  risk, respectively. The Laboratory will perform an interim action at the lagoons to remove approximately 2300 yd<sup>3</sup> of sludge and clay liner in fiscal year 2002.

### **OPPORTUNITIES FOR PUBLIC INVOLVEMENT**

Contact the ER Project Communications & Outreach Team

Carmen M. Rodriguez

Phone: (505) 665-6770

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Workers in personal protective equipment



Type of legacy waste at Material Disposal Area P

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### MATERIAL DISPOSAL AREAS AT THE LABORATORY

The 26 material disposal areas (MDAs) at the Laboratory generally include sites where waste material has been disposed of on or below ground surface in excavated pits, trenches, or shafts.

### MATERIAL DISPOSAL AREA P

#### RCRA CLOSURE AT TA-16, MDA P

Material Disposal Area (MDA) P is located at TA-16 on the south rim of Canon de Valle on the western edge of the Laboratory. The MDA-P Landfill received waste from the S-Site Burning Grounds in 1950. Debris from WW-II era building were also disposed of at MDA-P. Operation of the landfill was suspended in 1984. ER Project personnel began the closure process at the landfill in 1997. The presence of detonable HE in the landfill required the use of a robotic excavator.

### CONTAMINANTS OF CONCERN

The contaminants of primary concern found at MDA P included detonable HE, HE residues in soil, barium, and asbestos. MDA P also contained low levels of uranium and metals such as lead and cadmium.

## INFORMATION SHEET: MATERIAL DISPOSAL AREA P

### ACCOMPLISHMENTS DESCRIPTION

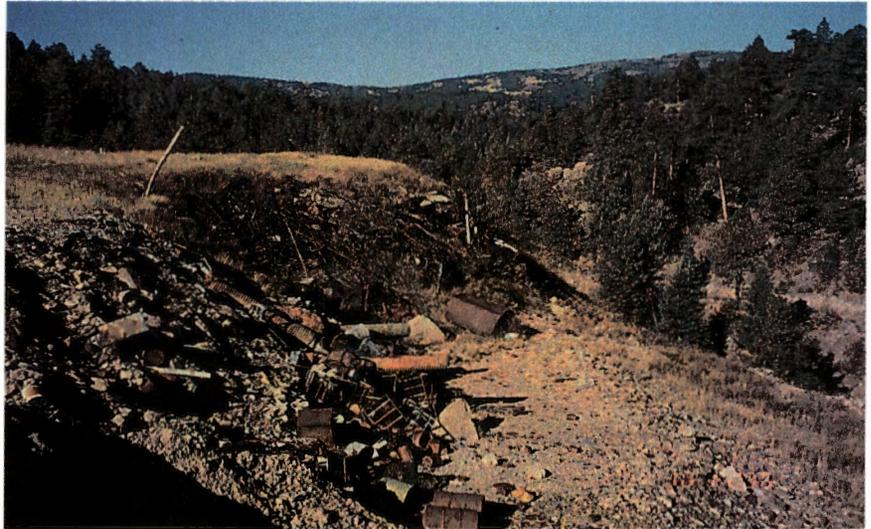
Remote excavation of the landfill began in February 1999 and was completed on May 3, 2000, just before the Cerro Grande fire. Excavation of contaminated soil beneath the landfill using non-remote excavation methods resumed after fire recovery and was completed in March 2001. Phase II confirmatory sampling and geophysics measurements began in June 2001. During Phase II sampling, additional contamination was found. This material was excavated and is staged for off-site disposal pending completion of waste characterization analysis. Additional confirmation sampling will be completed when the waste is shipped.

Over 52,500 cubic yards of soil and debris were excavated (10,800 cubic yards during FY01). During FY01, over 26,700 cubic yards of material was shipped for disposal. This includes hazardous and industrial waste and recycled material.

Other disposal included:

- 387 pounds of detonable HE
- 820 cubic yards of hazardous waste with residual levels of radioactive contamination
- 6,20 pounds of barium nitrate
- 2,605 pounds of asbestos
- 200 pounds of mixed waste
- 235 cubic feet of low-level radioactive waste
- 888 containers of unknown content

Prior to the DOE moratorium, scrap metal and concrete were shipped to recycling facilities. Contaminated soils and industrial wastes were shipped to offsite solid waste landfills; and sold wastes that didn't contain hazardous materials were disposed onsite at TA-54, MDA J.



Material Disposal Area P before cleanup activities



Material Disposal Area P after cleanup activities

### OPPORTUNITIES FOR PUBLIC INVOLVEMENT

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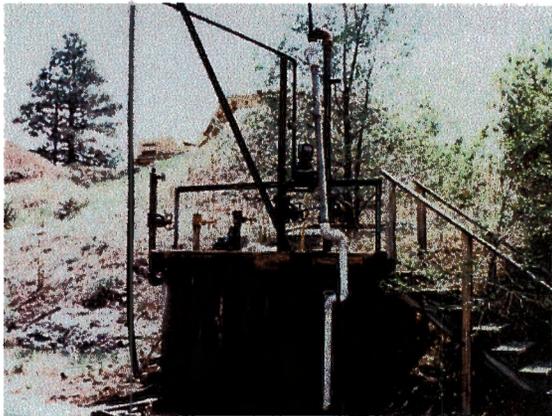
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Former fill station

## INFORMATION SHEET: DP TANK FARM

ER2002-0337

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### DP TANK FARM DESCRIPTION

DP Tank Farm is located east of the Knights of Columbus and the intersection of DP Road and Trinity Drive in the Los Alamos townsite. DP Tank Farm was the primary fuel storage area supporting Laboratory operations from January 1946 to February 1988, and consisted of 2 fill stations and 15 petroleum product storage tanks. Minor spills and leaks during the 42 years of day-to-day operations at the site resulted in the release of diesel fuel and gasoline into the environment, including two petroleum hydrocarbon seeps in DP Canyon. Over the years, petroleum hydrocarbons migrated slowly through the tuff, and along rock fractures and clay beds.

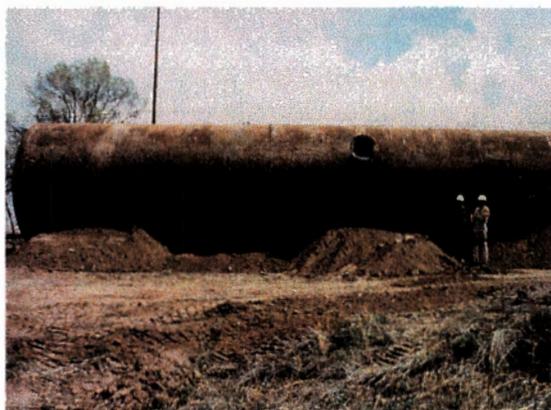
### INVESTIGATION AND CLEANUP

The tank farm was decommissioned in 1988 resulting in the removal of all tanks, piping, and related equipment, along with some contaminated soils. The subsequent RCRA Facility Investigation (RFI) was conducted in accordance with the requirements of RCRA corrective action and New Mexico Environment Department underground storage tank (UST) requirements. The investigation was conducted in phases over the last several years. During the initial phase of the RFI, numerous samples were collected to locate and characterize the residual contamination at the site. Results from the investigation led to the removal of approximately 1720 cubic yards of petroleum-contaminated soil identified at the former location of the East Fill Station in 1996.

During the second phase of the RFI, conducted from April 2000 through July 2001, the nature and extent of residual contamination at the former tank farm was defined and the source of two related petroleum hydrocarbon seeps in DP Canyon confirmed. The data collected during the Phase II RFI was used to fill data gaps remaining after previous investigations.

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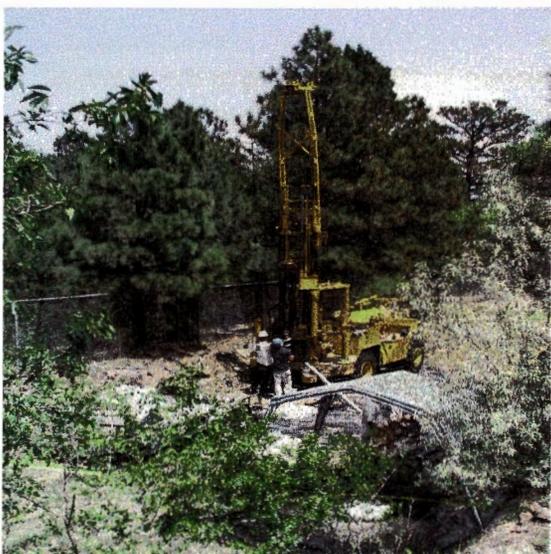
## INFORMATION SHEET: DP TANK FARM



1988 Decommissioning activities ~ Tank 17



1988 Decommissioning activities



2000 Investigation activities

### SAMPLING AND CONTAMINANTS OF CONCERN

Laboratory scientists have confirmed that no bulk sources of contamination or subsurface structures remained at the site, identified the source of the two petroleum hydrocarbon seeps, and performed a risk assessment of the traces of residual hydrocarbon contamination in the subsurface beneath the mesa top to make certain that they would not pose an unacceptable risk to human health or the environment.

During the Phase II RFI, a total of 179 samples were collected, including sediment from DP Canyon and subsurface soil and tuff from the mesa top portion of the site. The samples were submitted to an off-site contract laboratory and analyzed for a variety of contaminants including total petroleum hydrocarbons (TPH), both volatile and semi-volatile organic compounds, and lead present in leaded gasoline previously stored at the site. Sample results confirmed that no bulk sources of contamination remain at the site and confirmed the nature and extent of the traces of residual hydrocarbon contamination still present. The traces of residual subsurface hydrocarbon contamination do not pose an unacceptable risk to human health or the environment. Regular inspections of the hydrocarbon seeps are conducted to document any changes in relation to seasonal changes and precipitation. The results show there is some seasonal variability in the presence of hydrocarbons in the canyon but there is little physical evidence of hydrocarbon contamination in DP Canyon.

### ACCOMPLISHMENTS

The ER project prepared and submitted a Phase II RFI report to the New Mexico Environment Department (NMED) recommending no further action for the site. The NMED approved the Phase II RFI Report for DP Tank Farm on January 14, 2002, and will remove this site from the Laboratory's permit when the NMED approves a permit modification later this year. The property will be transferred from the Department of Energy to Los Alamos County in September 2002.

### OPPORTUNITIES FOR PUBLIC INVOLVEMENT

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Aerial view of Technical Area 21

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- 1990s - Present** The ER Project works to investigate and clean up sites that have the potential to affect human health or the environment, in accordance with the Laboratory's Hazardous Waste Facility Permit.

### LOS ALAMOS NATIONAL LABORATORY

Los Alamos National Laboratory (the Laboratory) is a multidisciplinary research facility owned by the Department of Energy (DOE) and managed by the University of California. The Laboratory is located in north-central New Mexico approximately 60 miles northeast of Albuquerque and 20 miles northwest of Santa Fe. The Laboratory covers 43 square miles of the Pajarito Plateau; the Plateau consists of a series of finger-like mesas that are separated by deep canyons containing perennial and intermittent streams running from west to east.

### RISK REDUCTION AND ENVIRONMENTAL STEWARDSHIP ENVIRONMENTAL RESTORATION PROJECT

The Laboratory's environmental restoration (ER) Project (implemented by the Remediation Group in the Risk Reduction and Environmental Stewardship Division [RRES-R]) was established in 1989 as part of a Department of Energy nationwide program. The Project's purpose is to investigate whether hazardous chemicals and/or radioactive wastes are present as a result of past Laboratory operations and to cleanup and restore such sites.

### MATERIAL DISPOSAL AREAS AT THE LABORATORY

Material disposal areas (MDAs) at the Laboratory are sites where waste material has been disposed of on or below the ground surface in excavated pits, trenches, or shafts. There are 26 major MDAs at the Laboratory.

### TECHNICAL AREA 21 (TA-21)

TA-21, also known as Delta Prime (DP) Site, is on DP Mesa situated immediately east-southeast of the Los Alamos townsite at an elevation of 7140 feet. Runoff from TA-21 drains into Los Alamos Canyon to the south and DP Canyon to the north. Depth to groundwater is approximately 1150 feet beneath the mesa top. TA-21 was the site of chemical research for refining plutonium and plutonium metal production from 1945 to 1978. As a result, most waste disposal activities involved plutonium. Material Disposal Areas (MDAs) located at TA-21 include MDA "A", MDA "B", MDA "T", MDA "U" and MDA "V". These MDAs are all listed as solid waste management units (SWMUs) in the HSWA Module VIII of the Laboratory's Hazardous Waste Facility Permit.

### MATERIAL DISPOSAL AREA "A"

MDA "A" (SWMU 21-014) is a 1.25-acre inactive disposal site located adjacent to MDA "T" near the center of TA-21. The site was used intermittently from 1945 to 1949 and 1969 to 1977 for disposal of radioactively contaminated solid waste, debris from decommissioning and decontamination (D&D) activities and radioactive liquids. MDA A consists of two buried tanks known as the "General's Tanks" (50,000 gallons each), two rectangular pits (18 feet wide by 12.5 feet long by 12.5 feet deep), and one large central pit (approximately 172 feet long by 134 feet wide by 22 feet deep).

**INFORMATION SHEET: TECHNICAL AREA 21  
MATERIAL DISPOSAL AREAS**



Straw and sandbags to control runoff at Solid Waste Management Unit 21-014



Straw in place to control runoff at Solid Waste Management Unit 21-014



Material Disposal Area B

Tanks

The "General's Tanks" named for General Groves, are located at the western end of MDA A. They were placed 20 feet apart in pits 12 feet deep, 15 feet wide and 86 feet long on 4 concrete piers. Beginning in 1945, plutonium processing waste solutions was stored in the tanks. Between 1975 and 1983 the liquid phase was removed from the tanks and transferred to the TA-21 wastewater treatment facility. An unknown volume of sludge remains in the bottom of each tank. The area between the tanks and the remainder of the pit were filled with packed earth. A concrete slab 8 inches thick, 56 feet wide and 69 feet long was poured 1.5 feet above the tanks and approximately 5 feet of fill was placed above the tanks covering the slab.

Pits

The two rectangular pits located in the eastern portion of MDA A received lab equipment, building construction material, paper, rubber gloves, filters from air cleaning systems and radioactively contaminated chemicals. Contaminants of concern include plutonium, polonium, uranium, americium, curium, radium/lanthanum and actinium. The estimated quantity of waste in the pits is 4000 cubic yards. In addition, several hundred 55-gallon drums containing a sodium hydroxide and stable iodine solution were stored on the surface of the east end of the MDA during the early 1950's. Corrosion of the drums resulted in releases to surface soils. The containers were removed in 1960 and the storage area was paved to immobilize contaminants released to surface soils. The central and largest disposal pit at MDA A contains building debris contaminated with plutonium, uranium, depleted uranium decay products and other radioactive isotopes associated with those elements from TA-21 D&D activities. The capacity of the pit is approximately 18,000 cubic yards. As of March 1974 the pit was estimated to be 2/3 full (12,000 cubic yards). MDA A was decommissioned in May 1978 and a crushed tuff cover was placed over the entire site. In 1985, cover stabilization activities implemented at the site involved removal of surface contamination, and placement of additional cover material, followed by recontouring and reseeded.

The surface of MDA A was sampled extensively in 1990 and the surface of the area between the MDA A fence line and the rim of DP Canyon was sampled in 1992. An addendum to the sampling and analysis plan described in the TA-21 RFI Work Plan is under preparation detailing the remaining field investigations at MDA A.

**MATERIAL DISPOSAL AREA "B"**

MDA B (SWMU 21-015) is a 6-acre inactive disposal site located on DP Mesa just west of the fenced area of TA-21 and south of commercial businesses on DP Road. MDA B operated from 1945 through 1948. Runoff from this site drains to BV Canyon to the south. The TA-21 RFI Work Plan states that buried waste pits occupy 5580 square yards with an estimated volume of 27,612 cubic yards. MDA B consists of two areas: an unpaved fenced eastern area and a paved fenced western area. A 1998 geophysical survey determined that there are two disposal trenches at MDA B. The western trench is approximately 15 feet wide by 1000 feet long by 12 feet deep, and the eastern trench is approximately 15 feet wide by 800 ft long by 12 feet deep. The trenches are not lined.

## INFORMATION SHEET: TECHNICAL AREA 21 MATERIAL DISPOSAL AREAS



Material Disposal Area T

The radiological inventory includes plutonium, polonium, uranium, americium, curium, lanthanum, and actinium. The disposal capacity of the pits is estimated to be about 760,000 cubic feet. The entire pit is estimated to contain no more than 6.13 curies of plutonium-239.

In 1984, the unpaved portion of MDA B was resurfaced with a variety of cover systems during a pilot study conducted in support of the National Low-Level Waste Management Program and the Environmental Protection Agency'. The total cover thickness on this portion of MDA B is 6.5 feet.

The RFI fieldwork was completed in 2001 and the MDA B RFI report is scheduled for completion in 2003.

### MATERIAL DISPOSAL AREA "T"

MDA T (SWMU 21-016) consists of four inactive absorption beds where radioactively contaminated liquid waste from the plutonium-processing laboratories at TA-21 was discharged between 1945 and 1952. Stormwater runoff from this site drains to the north to DP Canyon. In 1952, the first TA-21 liquid waste treatment plant (Building 21-35) was constructed to remove plutonium and other radionuclides from processing waste streams. Thereafter, the absorption beds received relatively small quantities of low-level waste (LLW) until 1967 when a new liquid waste treatment process was initiated. Between 1968 and 1983, treated liquid waste was mixed with cement and pumped into 62 shafts at MDA T for disposal. Beginning in 1975, liquid wastes with concentrations greater than 10 nano-curies per gram plutonium were mixed with cement, poured into corrugated metal pipes and buried at MDA T. The total volume of cement paste disposed of in the shafts at MDA T was 122,500 cubic feet.

Approximately 18.3 million gallons of wastewater were discharged to the MDA T absorption beds between 1945 and 1967. As of January 1973, soil/sediment within the absorption beds contained 10 curies of plutonium-239. As of July 1976, the disposal shafts contained 7 curies of uranium-233, 47 curies of plutonium-238, 3761 curies of americium-241, and 3 curies of mixed fission products.

Phase I RFI surface and subsurface investigations are complete. Evaluation of the Phase I RFI data conducted during 2002 indicated that additional sampling is required to complete the RFI. An addendum to the sampling and analysis plan described in the TA-21 RFI Work Plan will be prepared in 2003 to address the remaining field investigations at MDA T.

### MATERIAL DISPOSAL AREA "U"

MDA U (SWMU 21-017(a)-99) is a 0.2-acre inactive disposal site located north of Buildings 21-152 and -153 at TA-21 on DP Mesa. MDA U consists of two absorption beds. Stormwater runoff from this site drains north to DP Canyon. Wastewater from a former laboratory and filter building (Buildings 21-152 and -153, respectively) was discharged to the absorption beds from 1948 to 1968. MDA U also received process-cooling water from the Tritium Systems Test Assembly building until 1976. As constructed, the two absorption beds had a surface area of approximately 1800 square feet with an estimated volume of about 18,000 cubic feet.

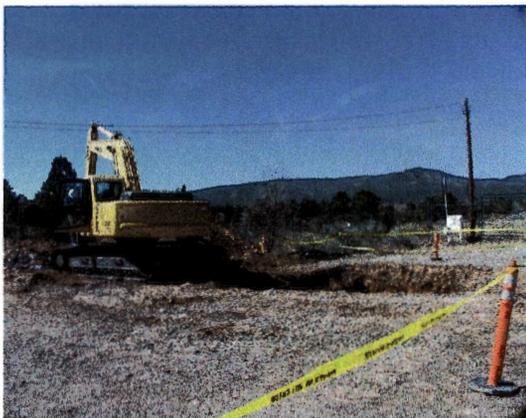


Material Disposal Area U



Material Disposal Area U

## INFORMATION SHEET: TECHNICAL AREA 21 MATERIAL DISPOSAL AREAS



Non-traditional in situ vitrification cold test site at Material Disposal Area V

### Terms and Definitions

**Outfall:** The vent or end of a drain, pipe, sewer, ditch, or other conduit that carries wastewater, sewage, storm runoff or other effluent into a stream.

**Resource Conservation Recovery Act (RCRA) Facility Investigation (RFI):** The investigation that determines if a release has occurred and the nature and extent of the contamination at a hazardous waste facility.

**Solid Waste Management Unit (SWMU):** Any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste.

**Geophysical survey:** the use of one or more geophysical techniques to study the earth (seismic, geologic, electric, gravity, magnetic, or thermal).

**Tuff:** A compacted deposit of volcanic ash and dust that contains rock and mineral fragments accumulated during an eruption.

**nCi/gm:** nanocuries per gram weight. A nanocurie is one billionth of a curie. A curie is unit of radioactivity.

**BV Canyon:** A small canyon located south of Material Disposal Area B.

**Area of Concern (AOC):** Areas at the Laboratory that might warrant further investigation for releases based on past facility waste-management activities.

An associated distribution box, Structure 21-164, was located between the two beds. An interim action was conducted in 1985 to remove the distribution box, associated distribution lines and some actinium-contaminated soil. The excavation was covered with topsoil, recontoured, and reseeded.

The RFI fieldwork was completed in 2001 and the MDA U RFI report is scheduled for completion in 2003.

### MATERIAL DISPOSAL AREA "V"

MDA V (SWMU 21-018(a)-99) is a 0.88-acre site at TA-21 consisting of three absorption beds that occupy 1670 square yards and have a volume capacity of 5560 cubic yards. Stormwater runoff from this site drains to Los Alamos Canyon. Wastewater was discharged from the former laundry in Building 21-20 and the sump (AOC 21-030) in former Building 21-45 (AOC C-21-015) occupied by the former Waste Studies Group to the absorption beds from October 1945 to 1961. The laundry facility processed clothing from plutonium refinement operations, and the Waste Studies Group developed processes to recover plutonium, uranium and other scarce metals from process waste streams.

A non-traditional in situ vitrification (NTISV) cold demonstration was performed near MDA V in 1999 in preparation of a plan to vitrify a portion of one of the contaminated absorption beds at MDA V. Results of the cold test have been reported. The NTISV hot demonstration was conducted in absorption bed 1 at MDA V in 2000. Sampling of the vitrified product to evaluate the effectiveness of the NTISV technology was completed during 2002; analytical results will be reported in 2003.

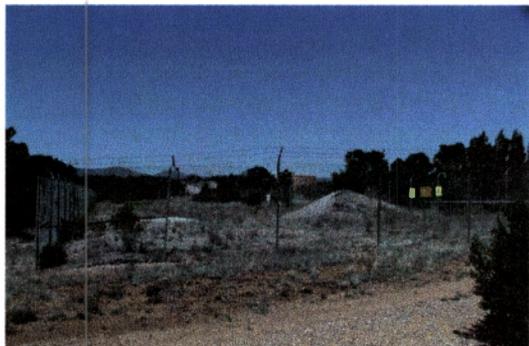
Phase I RFI surface and subsurface investigations are complete. A data analysis will be completed in early 2003 to determine if additional sampling is required to complete the RFI.

### OPPORTUNITIES FOR PUBLIC INVOLVEMENT

Contact the Communications & Outreach Team

Carmen M. Rodriguez  
Phone: (505) 665-6770  
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Email Address: carmenr@lanl.gov

ER Project Web site: <http://erproject.lanl.gov>



MDA H looking north

**1940s** The Laboratory was founded in 1943 as part of the Manhattan Project. Processes used to carry out the Laboratory's past and present missions involve the use of hazardous and radioactive materials.

**1950s** During and after World War II, materials were disposed of on the Laboratory site or otherwise released into the environment.

**1960s** Congress enacted basic legislation to protect the environment. The Department of Energy's predecessor, the Atomic Energy Commission, and the Laboratory began to conduct surveys and to clean up areas where spills and disposal had occurred.

**1970s** Congress enacted the Resource Conservation and Recovery Act (RCRA) that governs the day-to-day operations of hazardous waste generation, treatment, storage, and disposal facilities (sites).

**1980s** Congress amended RCRA by passing the Hazardous and Solid Waste Amendments (HSWA). HSWA prescribes a corrective action process that focuses primarily on the investigation and cleanup, if required, of inactive sites.

**1989** The Laboratory's Environmental Restoration Project was created to clean up sites that were formerly involved in weapons research and production.

**1990s** The ER Project works to investigate and clean up sites that have the potential to affect human health or the environment.

**2000**

## LOS ALAMOS NATIONAL LABORATORY

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## ENVIRONMENTAL RESTORATION PROJECT

The Laboratory Environmental Restoration (ER) Project was established in 1989 as part of a Department of Energy nationwide program. The Project's purpose is to investigate whether hazardous chemicals and/or radioactive wastes are present as a result of past Laboratory operations and to clean up and restore such sites.

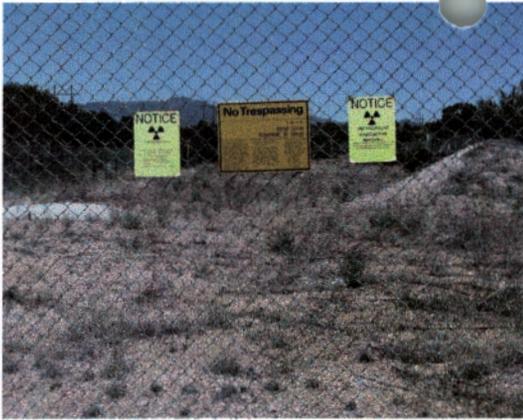
## MATERIAL DISPOSAL AREAS AT THE LABORATORY

The 26 material disposal areas (MDAs) at the Laboratory generally include sites where waste material has been disposed of on or below ground surface in excavated pits, trenches, or shafts.

## MATERIAL DISPOSAL AREA H DESCRIPTION

MDA H (Potential Release Site [PRS] 54-004) will be the first of 10 mesa-top MDAs to undergo a corrective measures study to identify and evaluate different alternatives for future management of the site. MDA H is located north of Pajarito Road at Technical Area 54. MDA H is approximately one-third of an acre in size and contains nine inactive disposal shafts. Each shaft is cylindrical with a diameter of 6 feet and a depth of 60 feet. The shafts are filled with classified solid-form waste to a depth of 6 feet below the ground surface. The wastes in shafts 1 through 8 are covered by a 3-foot layer of concrete placed over a 3-foot layer of crushed tuff. The waste in shaft 9 is covered by 6 feet of concrete. To protect against the possible impacts of mesa-edge instability, all MDA H disposal shafts were located at least 50 feet from the rim of Pajarito Canyon (the nearest canyon). The waste is at least 900 feet above the regional aquifer. Much of the classified waste was nonhazardous; however, various hazardous chemicals, radionuclide-contaminated materials, and materials contaminated by high explosives were also disposed of at MDA H.

On a mass basis, the major contributor to the MDA H inventory is metals. Metals include depleted uranium, lead, and beryllium. High explosives, recording media (paper documents, film [developed], slides, magnetic computer tapes), and graphite are also large contributors to the mass of the inventory. The remainder of the inventory includes small percentages of unreacted fuel (consisting of various isotopes of uranium), lithium compounds, and plastics. MDA H also received a one-time disposal of a nonsolid-form waste when 40 lb of graphite-contaminated motor oil was placed in shaft 9.



Waste disposal shafts at MDA H

## INFORMATION SHEET: MATERIAL DISPOSAL AREA H

### RCRA CORRECTIVE ACTION

RCRA corrective action addresses potentially contaminated sites that may present a potential future risk to humans and the environment. The NMED recommended a corrective measures study at MDA H because MDA H may present a future risk to humans and the environment even though current conditions at MDA H pose no unacceptable present-day risks.

The ER Project began implementation of the corrective action process in 1990. The RCRA facility investigation (RFI) at MDA H began in 1994 and 1995, and characterization was completed in 2001. RFI results show a release of tritium (in the form of water vapor) and low concentrations of vapor-phase volatile organic compounds (VOCs) from the subsurface shafts. ER Project personnel are initiating the process of evaluating corrective action alternatives to address potential future risks of MDA H.

### What is a corrective action?

The RCRA corrective action process develops and implements measures to protect human health and the environment when required. The process is flexible and structured to achieve corrective action based on site-specific conditions.

### Why is corrective action required?

Through the corrective action process, the Environmental Protection Agency requires RCRA-regulated facilities to investigate and manage releases of hazardous waste or constituents to the environment. Corrective action is included as a requirement in the Laboratory's facility permit through statutory authorities. Facilities may also voluntarily choose corrective action.

### What is the process?

#### *RCRA Facility Investigation*

Determines if a release has occurred, identifies the nature and extent of contamination, its source, and the environmental pathways along which contaminants could affect human and environmental receptors

#### *Corrective Measures Study*

Identifies and evaluates different corrective action alternatives to manage risks from a site, and results in the selection of a single corrective action option

#### *Corrective Measures Implementation*

Includes detailed design, construction, operation, maintenance, and monitoring of the selected corrective action option

### What is a site conceptual model?

The site conceptual model of MDA H integrates RFI data and scientific understanding to describe how contaminants may affect future risk to receptors in the future. The model describes the features, events, and processes that may contribute to a release of hazardous wastes or radionuclides buried at MDA H. It also evaluates the potential exposure to humans and the environment resulting from such a release and the probability and consequences of such an exposure.

### ALTERNATIVES FOR MDA H

An initial assessment of corrective action alternatives will be conducted, and public participation is actively encouraged. The alternatives below are suggested options. The ER Project will identify reliable and proven technologies to implement the option that will be selected. The preliminary list of alternatives being evaluated includes

- 1) maintenance of the existing cover and monitoring,
- 2) engineered cover and control of tritium vapors and near-surface stabilization, and
- 3) complete excavation with wastes disposed of off site.

The ER Project is requesting public input on the technology screening and the alternatives to be evaluated. Also, after the alternatives have been evaluated, public input will be requested on the alternative selection.

### OPPORTUNITIES FOR PUBLIC INVOLVEMENT

Contact the ER Project Communications & Outreach Team

Carmen M. Rodriguez

Phone: (505) 665-6770

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ER Project Web site: <http://erproject.lanl.gov>

# Ground-Water Monitoring Program at Los Alamos National Laboratory

by Charles L. Nylander, LA-UR-01-2054, Water Quality and Hydrology Group, Los Alamos National Laboratory

Day One

Before 1990, Los Alamos National Laboratory (LANL) believed that its facilities and operations could not impact the drinking water in the regional aquifer. This belief was held because its facilities were located 600–1,000 ft above the regional aquifer and were separated from it by dry volcanic rock. Historically, 13 water-supply wells, 8 deep-test wells, and many springs were used to monitor the quality of the ground water in the regional aquifer. However, over the past 10 years of monitoring, the appearance of very low levels of specific contaminants in some of the test wells led laboratory hydrologists to suspect that the dry volcanic rock barrier was not as impervious as originally thought. The laboratory realized that the movement of water from the land surface down to the regional aquifer was not understood well enough to know how contaminants were moving downward. In 1994, the laboratory initiated a project to install additional ground-water monitoring wells.

Because of the laboratory's desire to gain a better understanding of the hydrogeologic setting and the need to satisfy a 1995 request from the New Mexico Environment Department (NMED), the laboratory developed a site-wide hydrogeologic characterization workplan, which was approved by NMED in March 1998. The plan describes data collection, data analysis, and data management activities that are being employed to improve the understanding of the hydrogeologic setting beneath the Pajarito Plateau. Data collection includes the drilling and installation of 32 deep wells into the regional aquifer, installation of 51 shallow alluvial wells, and quarterly sampling of the ground water in those wells. Data are analyzed using numerical modeling tools to synthesize, analyze, and visualize the previously existing and newly collected data. All data collected and used in the hydrogeologic characterization program are managed through a water quality database that will be available to the public via the Internet.

The characterization program described in the workplan represents a 7-year program, estimated in 1996 to cost approximately \$50 million, which began with the drilling of the first regional aquifer well in 1998. Through fiscal year 2000, the program has completed 7 wells in the regional aquifer and developed flow and transport models for the unsaturated zone (the dry rock between the ground surface and the regional aquifer) and for the regional aquifer. Wells are prioritized for drilling based on hydrogeologic characterization data needs and on an assessment of which laboratory areas are more likely to have contaminants. Several of the seven wells installed thus far encountered contaminants including nitrate, high explosives, tritium, uranium, and perchlorate, although most contaminants were at levels below health standards. However, well R-25 in the southwest area of the laboratory, where high explosives were

manufactured and machined, encountered high explosives in the ground water at concentrations above Environmental Protection Agency (EPA) health advisory limits.

When contaminants are detected in ground water by the hydrogeologic characterization program, the laboratory's Environmental Restoration (ER) Project steps in to further characterize the areas of contamination. To date, the ER Project has installed one deep well in the high explosives area to further delineate the extent of high explosives detected in R-25. The ER Project has also installed one well in the intermediate perched ground-water zone (a zone of saturated rock between the land surface and the regional aquifer) along the northeastern boundary of the laboratory where uranium was detected (at concentrations above a proposed EPA standard) in regional aquifer well R-9.

The data thus far support the conceptual model that ground water is found in three distinct zones beneath the Pajarito Plateau, namely shallow alluvial zones, intermediate perched zones, and the regional aquifer beneath. The characterization wells indicate that the alluvial and intermediate perched zones are typically found beneath the canyons that have large surface-water flows but are typically absent beneath the mesas and dryer canyon bottoms. Deep ground water in the regional aquifer generally moves from west to east-southeast beneath the plateau at velocities estimated to be between 50 and 250 ft/yr. Further characterization and improved mapping of the

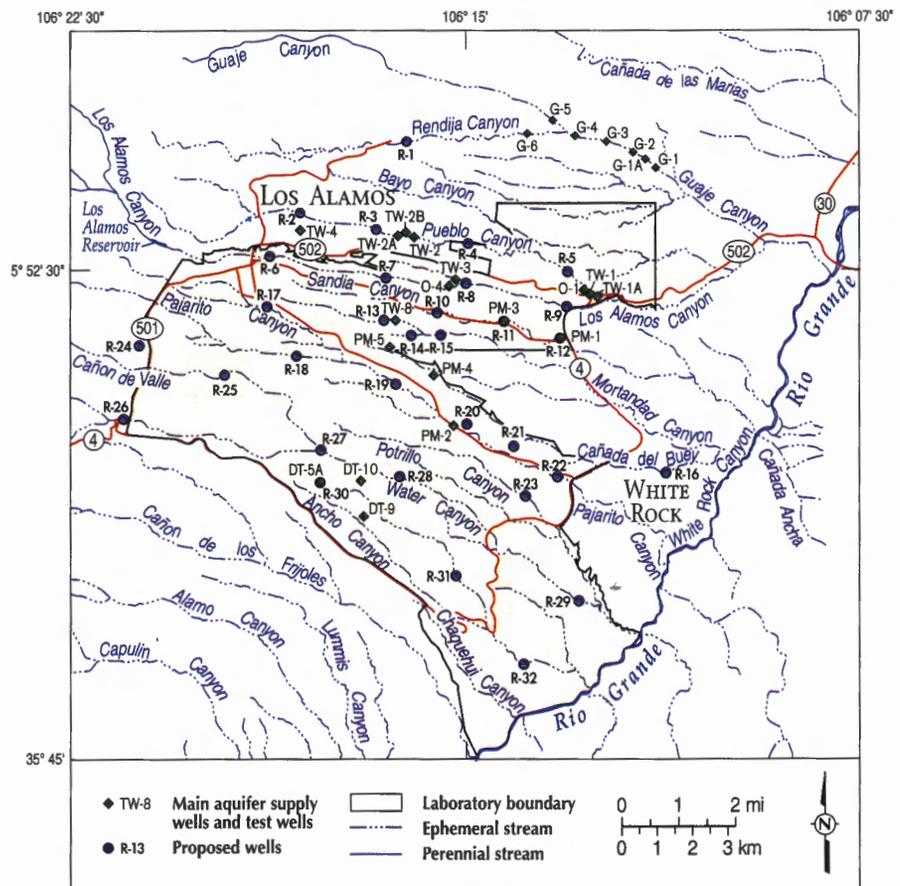


FIGURE 1—Regional aquifer supply and existing test-well locations and locations of proposed characterization and monitoring wells.

ground-water surface(s) will enhance the laboratory's ability to monitor contaminants and locate future monitoring wells as needed.

Due to the complexity of the hydrogeology beneath the Pajarito Plateau, hydrogeologic characterization data quality objectives, laboratory security requirements, data collection, and well installation are costly compared to other regulated facilities nationwide. High costs are primarily attributable to the significant depth to the regional aquifer; the drilling methods required to keep the borehole open while drilling without tainting samples; drilling in areas requiring special site procedures; extensive laboratory health and safety (HS) requirements requiring HS plans and HS personnel at the drill sites; and comprehensive analyses for samples. Although the costs are high, the ultimate value of the characterization data will be worth the costs. The data will assure the laboratory, Department of Energy, NMED stakeholders, and the public that future ground-water monitoring is adequate to protect public health and the environment.

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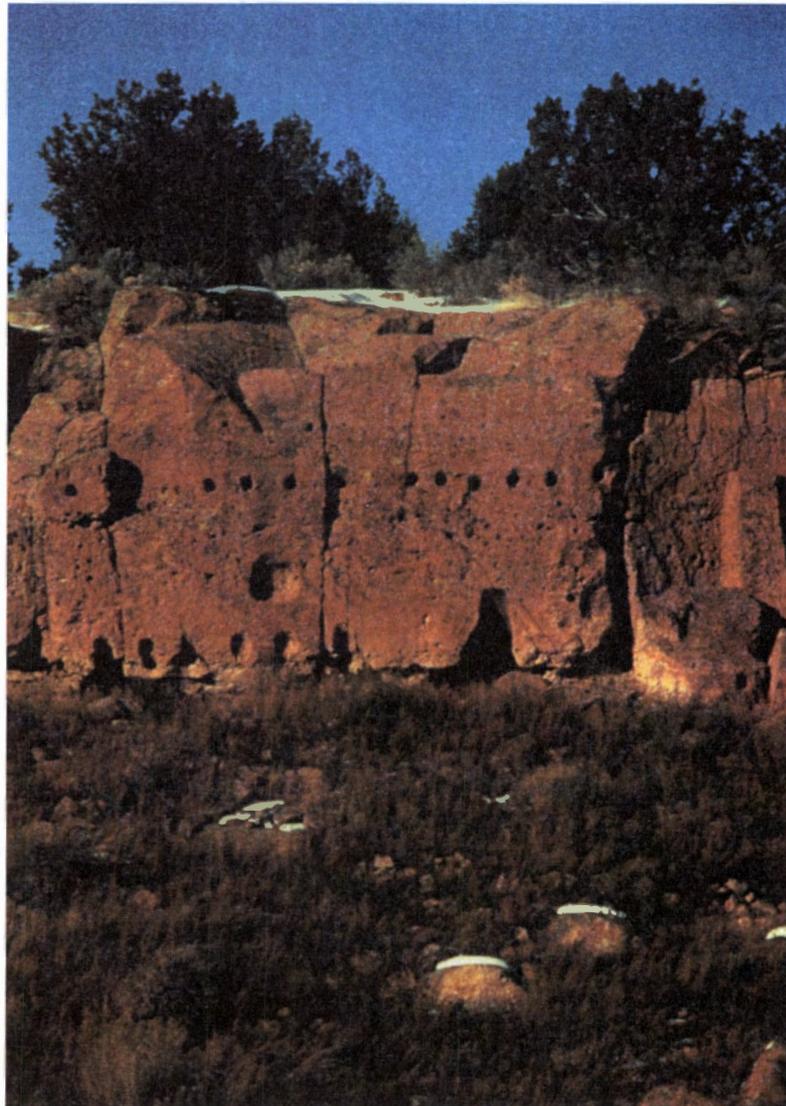
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Nylander is the program manager for the Los Alamos National Laboratory hydrogeologic characterization program. Before working for LANL, Mr. Nylander served as the bureau chief for the New Mexico Environment Department's Surface Water Quality Bureau. Mr. Nylander has more than 28 years of technical and management experience in water resource management, surface and ground-water characterization, wastewater treatment, engineering review, and regulatory compliance.



Cave and cliff dwelling in the Bandelier Tuff near Los Alamos. The prominent vertical fractures greatly increase the rocks permeability, allowing water (and contaminants) to rapidly reach ground water aquifers. Photograph by Paul G. Logsdon, copyright © Marcia L. Logsdon.

**Expedited Shipment of LANL TA-54 TRU Waste  
Interactive Information Workshop  
June 27, 2002, Santa Fe, NM**

The Los Alamos National Laboratory (LANL) is currently storing approximately 9,100 m<sup>3</sup> of transuranic (TRU) waste at Technical Area 54 (TA-54) above ground in domes and on pads, and below ground in trenches, pits, and shafts. This waste is stored in 55- and 85-gal drums containing organic and inorganic debris generated by plutonium processing activities at LANL and contaminated with <sup>238</sup>Pu and <sup>239</sup>Pu. The TRU waste is comprised of different waste forms, some of which are more dispersible than others. An assessment of approximately 27,000 containers in the TRU waste inventory shows that only 36% of the total radioactivity of the 27,000-container inventory is both accessible (i.e., stored above ground) and dispersible, and therefore "at risk".

The Cerro Grande fire in the summer of 2000, and the events of September 11, 2001, have contributed to an increased desire to accelerate disposal of this waste at its final destination at the Waste Isolation Pilot Plant (WIPP). A key observation is that approximately 60% of the activity present in the portion of the inventory at risk is contained in only 2,000 drums, resulting in the motivation to prioritize these drums to the 'front of the line'. The higher levels of radioactivity in these drums result in releases of more energy (wattage) than most of the TRU waste drums. The increased wattage is associated with an increased radiolysis, whereby the energy released by radioactive material can slowly break down adjacent materials (such as plastics) and release—among other things—flammable gases. However, flammable gases cannot be allowed to accumulate beyond a 5% concentration during transportation assumed to take 60 days, according to the requirements of the U.S. Nuclear Regulatory Commission (USNRC). The proposed shipment of these 2,000 drums with minimal repackaging envisions taking advantage of LANL's proximity to WIPP. The current procedure that applies to all sites requires that the TRUPACT-II not be sealed up longer than 59 days. The accumulation of flammable gas is calculated using this 60-day limit. LANL is only 5-8 hours driving time from WIPP. A major element of the proposed plan is that the TRUPACT-II will not be sealed up for longer than five days. Higher wattage-loadings per container can be allowed in a TRUPACT-II which is only sealed up for five days and still not exceed the 5% flammable gas limit. Furthermore, it is proposed to evacuate the loaded TRUPACT-II before sealing it up to minimize the initial amount of gas that may have accumulated inside the containers during storage. Naturally, procedures will have to be in place to ensure that the TRUPACT-II's are sealed, transported, and unloaded within the five-day time period.

Current operating parameters would require the contents of these drums to be spread among several thousand drums in order to reduce the radioactivity, and consequently the wattage, in each individual drum to meet the limits authorized for TRUPACT-II transportation. This repackaging process is time-consuming, expensive, and more importantly, results in worker exposure. In addition, it requires facilities which are in short supply at LANL. The proposed approach is expected to meet the USNRC requirements with minimal repackaging, thus making it possible to ship these 2,000 drums to WIPP in 18-24 months. If a similar method can be applied to all of the remaining TRU waste at LANL, the disposal of all LANL TRU waste at WIPP can be completed within 10 years instead of the 30+ years currently planned. Because LANL will not be shipping thousands of nearly-empty drums, the number of shipments required drops from over 4,500 to less than 1,500.

The USNRC is currently reviewing the proposed methodology for the 2,000 drums. The USNRC would have to respond favorably to this proposal and to any subsequent proposals to address the rest of LANL's TRU waste inventory. LANL will also have to 'gear up' rapidly to bring modular facilities on-line to characterize and load the waste; this will require some changes to their RCRA interim status authorization and arrangements with outside contractors to increase capacity to characterize the waste. Finally, while this proposal is expected to reduce the overall cost of disposing of LANL's TRU waste by several hundred million dollars, it will require higher initial outlays than currently proposed in the President's budget.

<b>NEWSPAPER/JOURNAL</b>  <b>ALBUQUERQUE JOURNAL NORTH</b>	<b>DATE:</b>  <b>August 7, 2002</b>
	<b>Page 1 of 1</b>

## Lab wants to protect environment

By: Jim Holt

New Mexicans recently were given the opportunity to comment on a draft order issued by the New Mexico Environment Department; that comment period closed July 31. The draft order, in part, outlines steps the department believes Los Alamos National Laboratory should take to ensure that its past operations do not pose an unacceptable risk to the public or the environment.

Laboratory leaders want our friends and neighbors to understand that the laboratory agrees fully with the department and New Mexico citizens when it comes to the importance of protecting the public and the environment. The laboratory work force resides in the region and works diligently to ensure that nothing done at the laboratory could harm a friend, family member or neighbor. Each laboratory employee has a stake in this region and its future. New Mexico is where we make our homes, where we raise our children, and where we meet with friends and neighbors at schools and churches.

We at Los Alamos National Laboratory are committed to clean air and water, environmental vigilance and responsibility, and continued cleanup of legacy wastes. In fact, many of the actions set forth in the draft compliance order already are underway.

We have drilled more than a dozen deep-water wells that will allow us to continually monitor the regional aquifer beneath the laboratory. We have plans to install at least a dozen more of these wells in the near term — six of them this summer and fall — that will aid in our understanding of regional ground water. We also are using advanced computer modeling techniques to better understand how water in the aquifer moves over time.

The laboratory's Environmental Restoration Project has cleaned up large sites that were contaminated during the Manhattan Project and Cold War operations. More sites are in the cleanup pipeline, and others await sign off by the Environment Department as requiring no further action by the laboratory. You can read about many of these efforts in an attachment to our response to NMED; it's available at: <http://www.lanl.gov/worldview/news/pdf/Attachment--1A.pdf>.

The laboratory's waste handling and storage practices comply with regulatory requirements, and we have received positive recognition for many of our practices. We currently are working on an initiative to accelerate the shipment of transuranic waste to the Waste Isolation Pilot Plant in Carlsbad, and waste reduction strategies are successfully reducing the amount of waste generated each year.

The New Mexico Environment Department has asked us to do more to reduce the laboratory's environmental impact, and we are proud to say that we share the same goal. We are pleased with the constructive relationship the laboratory and the department forged through the years — including jointly developing many of the cleanup plans now underway — and we look forward to building upon that foundation in a positive way. However, as outlined in our response to the draft order, we believe there are flaws in the order itself that cannot go unchallenged. The laboratory's comments were given to the department and are part of the public record.

If you read those comments, you will find detailed legal arguments that are required when responding to an order such as the one drafted by NMED. We've raised serious concerns about the department's jurisdiction in many areas, especially those that are reserved for federal oversight. In considering the legal arguments, however, it's essential to remember that Los Alamos National Laboratory's strong commitment to environmental protection and restoration remains unchanged. We will continue our legacy waste cleanup and look forward to implementing the accelerated process recently agreed to by the Department of Energy, the Environmental Protection Agency and the New Mexico Environment Department.

The laboratory's compelling national mission of enhancing global security is something we, as New Mexicans, can all be proud of, particularly in the wake of Sept. 11, 2001. By continuing to demonstrate our commitment to the environment and public safety we intend to establish another Los Alamos National Laboratory legacy in which New Mexicans can take pride

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## LANL challenges cleanup orders

By Angela Turner

Los Alamos National Laboratory officials have challenged a state Environment Department cleanup order that accuses the weapons lab of being a danger to the public, countering that the department overstepped its regulatory authority.

The lab issued a 145-page response Wednesday to the state's May 2 draft order that determined that waste dumped or stored at Los Alamos since World War II may pose "an imminent and substantial endangerment to human health and the environment."

In a letter to state Environment Department Secretary Peter Maggione, lab Director John C. Browne said the state's findings "create a false impression."

Evidence in the record "does not support a finding of an imminent substantial endangerment associated with the laboratory," Browne wrote. "To the contrary, a number of credible and independent scientific studies conclude there are no significant risks associated with contamination at the facility."

The assertion of imminent danger from the lab "strains credibility," the lab's formal comments said, adding in italics for emphasis, "Prior to May 2, NMED (the New Mexico Environment Department) had never orally or in writing suggested the existence of such a condition."

"In fact, NMED has continually reassured the public to the contrary," the lab said, calling the May order "an abrupt and unjustified regulatory about-face."

Jim Holt, associate director for operations at Los Alamos, said lab officials believed that prior to the May order, their environmental monitoring and cleanup strategies had the support of the Environment Department.

The May order "ignores years of conceptual approaches approved by NMED and acted upon in reliance by the laboratory, sweeping them away as if they had never existed or been agreed to by NMED," the lab's formal response said.

Holt said the state's order also "attempts to give the department regulatory authority in areas where no such authority exists and — worst of all — prolongs and delays cleanup of key sites by assigning actions that are overly broad and prescriptive."

In the formal comments filed Wednesday, the labs' operators say the work called for in the state's cleanup order also is duplicative and "so illogically sequenced, that the laboratory staff has estimated that it will cost hundreds of millions of dollars beyond the laboratory's current environmental restoration efforts" with no corresponding benefit.

Cathy Tyson-Foster, a spokeswoman for the Environment Department, said the department will respond to the lab's comments and consider modifications to the order within 30 to 90 days.

The 300-page state order released this spring would force the lab to launch a broad investigation of its property to determine the type and location of contamination there. Based on the investigation, the lab would have to clean up polluted areas to standards set by the Environment Department.

Deadlines for completion of the monitoring were as early as the spring and as late as 2011.

The lab's Wednesday response was filed by the National Nuclear Security Administration and the regents of the University of California, which runs the lab.

The response says that "the energies and resources" of both the lab and the state would be best spent on "the comprehensive environmental restoration program" already under way at the lab.

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Greg Mello of the anti-nuclear Los Alamos Study group said his organization supports any cleanup efforts at the lab but feels the Environment Department should have allowed more public involvement in the process.

"It doesn't seem right for the DOE or the public not to have more formal involvement in the process," he said. "Not just that it doesn't seem right, it's not legal."

If the order were treated as a change to LANL's cleanup permit, Mello said, the public and the lab would have had an opportunity to take part in formal hearings, which he said is important since the cleanup would involve millions of taxpayers' dollars.

The DOE and the University of California previously have challenged in federal and state court the Environment Department's findings and questioned the state's jurisdiction over the lab's nuclear materials that are regulated by other agencies, said Linn Tytler, Los Alamos lab spokeswoman.

The lawsuits have been stayed until Sept. 30 so the Environment Department can complete its administration process, including the 60-day comment period, Tytler said.

"If we hadn't gone to court when we did, we would not have any standings afterwards," she said.

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## Lab details substantial disagreement with NMED

By: Roger Snodgrass

With little time to spare Wednesday afternoon, lawyers for Los Alamos National Laboratory met a 5 p.m. deadline, responding to a draft environmental clean-up order by the New Mexico Environment Department (NMED).

The rebuttal ran well over two hundred pages and took "strong exception" to a proposed administrative order, as well as to the department's finding of "imminent and substantial endangerment" upon which the order was based.

The laboratory's multi-pronged reply attacked the endangerment determination as misleading, unlawful, and defectively obtained. Answering blow for blow, the lab dismissed the state's information as inconsistent and called its solutions burdensome.

In conclusion, the laboratory asked for the finding to be withdrawn and the prospective clean-up order to vanish.

In a cover letter to NMED Secretary Peter Maggiore, lab Director John C. Browne and the Department of Energy's Office of Los Alamos Site Operations Director, Ralph E. Erikson, wrote, "In particular, the imminent and substantial endangerment finding is a matter of concern to us because we believe it may create a false impression that there is a substantial threat to human health."

On the contrary, said the officials, representing DOE and the regents of the University of California, the studies they have presented as evidence "conclude there are no significant risks associated with contamination at the facility."

For example, NMED uses a laboratory report to back an assertion that the very presence of radioactive tritium in the groundwater of Los Alamos County poses an endangerment. The laboratory's response cites the same report to gird its argument that the presence of tritium in the Otowi 1 well at the reported levels of 38 picocuries/liter "poses no significant threat to human health," because it is 500 times lower than the drinking water standard.

From the beginning, when the draft order was first presented on May 2, NMED sought to inoculate itself from arguments that placed the burden of proof on the state for a finding of imminent and substantial endangerment. Rather, the Hazardous Waste Bureau Chief James Bearzi said at the outset that the standard for making such a determination, as defined by legal precedent, had a low threshold. Bearzi argued that state regulators had merely to establish a risk, and not even an immediate risk, in order to justify their intervention.

"NMED asserts," said Bearzi on May 2, "that groundwater contamination is enough to make that determination."

The lab's lawyers countered that at some point relying upon a trivial burden of proof becomes arbitrary and capricious.

"At its heart," they declared, "the 'determination' is no more than an assertion by NMED that it really does not have any endangerment evidence one way or the other."

While the implication of the NMED finding was that where there is smoke, there is fire, the lab countered that there is no fire.

The kernel of the laboratory's legal arguments denied that the state has legal grounds for basing any part of its findings on "the alleged presence, releases and dangers of radionuclides," which are considered matters "exclusively regulated by DOE under the Atomic Energy Act."

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The laboratory's reply identified a number of factual errors in the NMED finding and order. The laboratory disputed which way canyons run, for example. NMED mistakenly wrote that they run from "east to west/southwest," while the lab insists they run from west/southwest to east. Dozens of petty factual errors were flagged to support the lab's argument that the state's documents were so riddled with error that they were not to be taken seriously.

Deputy County Administrator Fred Brueggeman was enlisted to testify that during his 18 years of employment with the county he was not aware of any warning having been given by the state concerning an imminent and substantial health danger. The point was relevant, according to an argument woven into the lab's response – if this matter is so urgent, why didn't the state say anything about it before its announcement on May 2.

Bearzi has said that every comment will be answered in writing and has scheduled the next two months to accomplish that. In introducing the draft package, he had said the department's motivation was in part, because it was tired of arguing over every little thing.

Apparently, the arguments will not only continue, but flourish.

In the meantime, the lab has filed suit in federal court, in case administrative efforts fail and further defensive action is needed in the legal arena.

On the positive side, the lab announced the lighting of a proactive backfire. A letter in the appendix of the lab's reply, from Beverly Ramsey, of the lab's Risk Reduction and Environmental Stewardship Division, details LANL's own clean-up plan. Approved earlier in the week, the letter describes an accelerated program for reducing risk and addressing "legacy contamination and surface water and groundwater concerns."

This newly minted Performance Management Plan could be accomplished by 2015, fifteen years earlier than current plans, wrote Ramsay.

Santa Fe environmental watchdog groups have looked on with suspicion as the two institutions lock horns over a clean-up program.

"It's a ritual clean-up paradigm," said Greg Mello of Los Alamos Study Group, who has expressed concerns that the state's efforts will not only fail, but will tie the hands of a future governor to intervene effectively.

Now that the lab has taken a turn at bat, the regulatory momentum has changed again. While NMED seeks to find a legitimate oversight mechanism for the state, the lab has shown, not surprisingly, its mastery over its own business.

Letter of Intent  
Meeting Environmental Responsibilities  
At New Mexico DOE Facilities

The U.S. Department of Energy (DOE), New Mexico Environment Department (NMED), and U.S. Environmental Protection Agency (EPA), Region 6, are collectively committed to accelerating risk reduction and cleanup of environmental contamination at DOE facilities in New Mexico. When completed, the cleanup will: 1) result in reduced risk from New Mexico's legacy waste sites sooner; 2) allow the National Nuclear Security Administration's (NNSA) focus to remain on its core national security mission; 3) support Environmental Management's (DOE-EM) mission of expedited transuranic (TRU) waste cleanup at numerous sites by disposal of this waste in the Waste Isolation Pilot Project (WIPP) repository; and 4) provide a significant benefit to New Mexico and the nation by reducing the potential environmental, public and worker health, and security risks posed by TRU waste.

In light of the benefits to be obtained from the accelerated cleanup, the undersigned are committed to accelerating all environmental restoration, legacy waste disposal, and implementation of long-term environmental stewardship from 2009 to 2006 at Sandia National Laboratories (SNL), and from 2030 to 2015 at Los Alamos National Laboratory (LANL), and acceleration of TRU waste disposal from New Mexico facilities at WIPP.

Key Commitments to Ensure Success

All of the parties to this agreement commit to the following in order to achieve accelerated risk reduction and completion of cleanup:

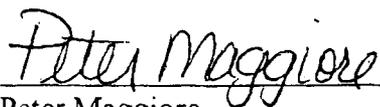
1. Accelerate risk reduction of groundwater and soil contamination, as well as legacy waste at both LANL and SNL, giving priority to the highest risk activities, by:
  - a. Implementing the "Quick to WIPP" strategy which would accelerate the removal and disposal of legacy TRU waste at LANL from 2030 to 2010 (addressing 61% of the radioactivity by 2004);
  - b. Implementing the watershed aggregate approach for environmental restoration at LANL, and accelerating completion of activities of the highest risk watershed and high priority Material Disposal Areas from 2022 to 2008 specifically, and total project from 2030 to 2015; and,
  - c. Completing the remaining risk reduction and resolving uncertainties, resulting in site acceleration of cleanup at SNL from 2009 to 2006.
  
2. Define regulatory endpoints for LANL and SNL:
  - a. Determine likely future use scenarios and associated cleanup standards;

- b. Pursue necessary actions to ensure long-term effectiveness of institutional controls;
    - c. Continue to improve the definition of data quality objectives and what constitutes sufficient and acceptable data for predictive modeling; and,
    - d. Plan and implement a Long-Term Environmental Stewardship program, working with our regulators and surrounding communities.
  3. Continue the established partnership between DOE, its contractors, and regulators for LANL and SNL to:
    - a. Ensure senior-level involvement and support to achieve the desired end state; and,
    - b. Include expansion of high performance teams to focus on accelerated decision making and to optimize cleanup schedules.
  4. Shorten review periods within the regulatory framework and provide timely decisions for project execution.
  5. Streamline internal processes such as quality control and verification of data, preparation of regulatory documents, maximization of electronic commerce, consolidation and integration of databases, and elimination of duplicative processes.
  6. Address resource issues by seeking additional state funding and pursuing new, more tractable hazardous waste fee regulations that provide sufficient (increased) regulatory resources.
  7. Integrate DOE and NMED/EPA public participation for more efficient and effective public involvement.
  8. DOE, NMED, and EPA are committed to the acceleration of risk reduction and the completion of the environmental cleanup program while at the same time being protective of site workers and the environment.
  9. DOE, NMED and EPA further commit to pursuing and adopting innovative cleanup approaches that are protective of the environment and designed to achieve demonstrable risk reduction at a reasonable cost, therefore serving as an effective investment for the American taxpayers.

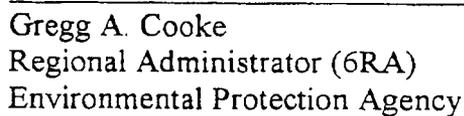
DOE and its contractors will develop a performance management plan by August 2002. The plan will include actions, milestones, responsibilities, business processes, and acquisition strategies necessary to achieve the agreements made in this letter. The Department recognizes that funding commensurate with the approved performance plan is necessary to achieve the above stated goals of acceleration and closure.

We the undersigned recognize the significant role New Mexico plays in addressing cleanup issues of national importance. By virtue of WIPP's presence, New Mexico plays a crucial role in reducing the risks posed by TRU waste nationwide.

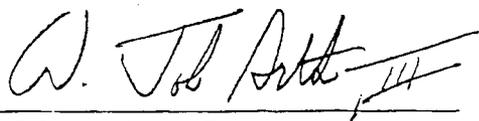
We the undersigned are committed to an accelerated completion of the SNL and LANL environmental projects and the accelerated TRU waste disposal from New Mexico facilities at WIPP. We agree to the above working commitments to support this very important goal. We will continually seek and adopt additional opportunities that further advance the remediation and legacy waste mission in a safe, protective and cost effective manner.



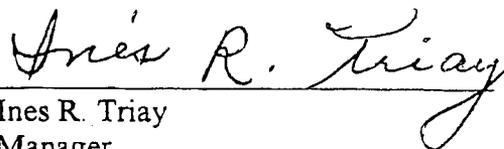
Peter Maggiore  
Cabinet Secretary  
New Mexico Environment Department



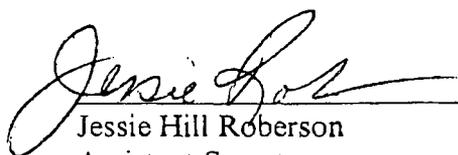
Gregg A. Cooke  
Regional Administrator (6RA)  
Environmental Protection Agency



W. John Arthur, III  
Manager  
Albuquerque Operations Office  
U.S. Department of Energy



Ines R. Triay  
Manager  
Carlsbad Field Office  
U.S. Department of Energy



Jessie Hill Roberson  
Assistant Secretary  
for Environmental Management  
U.S. Department of Energy

*See attached  
EPA signature.*

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Peter Maggiore  
Cabinet Secretary  
New Mexico Environment Department



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