Permit 3/19/10

ENTERED

STATE OF NEW MEXICO
BEFORE THE SECRETARY OF ENVIRONMENT

IN THE MATTER OF:	)	
	)	
APPLICATION OF THE UNITED STATES DEPARTMENT OF ENERGY AND LOS ALAMOS NATIONAL SECURITY LLC FOR A HAZARDOUS WASTE FACILITY PERMIT FOR LOS ALAMOS NATIONAL LABORATORY, and the NOTICE OF INTENT TO DENY A PERMIT FOR OPEN BURN UNITS TA-16-388 AND TA-16-399 FOR LOS ALAMOS NATIONAL LABORATORY.	)	**Nos. HWB 09-37 (P)** **HWB 10-04 (P)** **Consolidated**

WRITTEN TESTIMONY OF JAMES D. WERNER

My name is James D. Werner, and I am appearing today as a consultant to the State of New Mexico Environment Department. I am also employed full time as Special Assistant for Policy and Emerging Issues in the Office of the Secretary of the Delaware Department of Natural Resources and Environmental Control. I am not representing the State of Delaware in this proceeding. My role as a consultant has been reviewed by the Delaware Office of Public Ethics to ensure there is no conflict between my position with the state of Delaware and my consulting work for the state of New Mexico.

I am presenting this written testimony on behalf of the New Mexico Environment Department in the hearing concerning the issuance of a renewal permit for storage and treatment of hazardous waste at Los Alamos National Laboratory (LANL), and the denial of a permit to treat hazardous waste at open burn units at LANL. This testimony is marked as **NMED Exhibit 191**.

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I. QUALIFICATIONS

I earned a Bachelor's Degree in Biology and Geography from the University of Delaware (1980) and a Master of Science degree in Environmental Engineering from the Johns Hopkins University (1986). I have more than 30 years of experience in environmental engineering and management. I passed the Engineer in Training exam in 1992, and I am a Certified Hazardous Materials Manager (No.15271). I worked as a consultant to the Department of Energy while employed as an Environmental Engineer at ICF Technology from 1986 to 1989. I focused on DOE cleanup issues as a Senior Environmental Engineer from 1989 to 1993 at the Natural Resources Defense Council. And I served from 1993 to 2001 in the DOE Office of Environmental Management at headquarters as the Director of the Office of Strategic Planning and Analysis, and later as the founding Director of the Office of Long-term Stewardship.

Among my responsibilities at DOE was the annual preparation, presentation and defense of the budget to the White House Office of Management and Budget and to the United States Congress, particularly the House and Senate Appropriations Committee Subcommittees on Energy and Water Development, and Armed Services Committees. While at DOE, I served in 1996 on a temporary assignment at the White House Council on Environmental Quality analyzing environmental budgets across various federal agencies.

Following my service at the DOE, from 2001 to 2002 I provided consulting services to the States of Missouri and Washington, addressing DOE budget and financial assurance issues. In August 2002, I was appointed by Missouri Governor Robert Holden to serve as the Director of the Missouri Air and Land Protection Division in the Department of Natural Resources, which I did until January 2005. In this capacity, my duties included regulation of hazardous waste management and cleanup oversight at DOE sites, such as the Weldon Spring site, the Kansas

City Plant and numerous former nuclear weapons productions sites around St. Louis, including the Mallinckrodt Destrehan Street Site, where the uranium was produced for Enrico Fermi's first man-made nuclear reactor at the University of Chicago.

In March 2005, I was appointed by Delaware Governor Ruth Ann Minner to serve as the Director of the Delaware Division of Air and Waste Management until August 2009, when I shifted to serve as the Special Assistant for Policy and Emerging Issues in the Office of the Secretary, focusing on energy efficiency and renewable energy. In these state roles I have had overall responsibility for state agency management, including budget accountability to the Cabinet Secretary and State Legislatures.

Prior to this series of positions dealing with DOE issues and managing state agencies, I worked at the Environmental Law Institute and ICF Technology, Inc. partly as a consultant to EPA, assisting with the development of various RCRA and CERCLA regulations (*e.g.*, Financial Assurance and National Contingency Plan revisions) and performing training of state officials on new RCRA regulations after the enactment of the Hazardous and Solid Waste Amendments of 1984, including EPA's mandated study, "Extent of Hazardous Release Problem and Future Funding Needs," CERCLA Section 301(a)(l)(C) Study, December 1984, and the "Compendium of Costs of Remedial Technologies at Hazardous Waste Sites" 800/S2-87/087 (January 1988). I held a "Q"-Level security clearance from 1986-1989 and from 1993-2001, as well as a "SCI" (Segmented Compartmentalized Intelligence) clearance in the late 1990s.

A copy of my resume is marked as **NMED Exhibit 192.** It is accurate and up-to-date.

1. Financial Assurance Provides Needed Multi-year Funding to Support Environmental Cleanup Obligations.

I am here to testify primarily on issues related to management of the United States Department of Energy (DOE) environmental cleanup programs, and the DOE budget process. I will discuss my experience, both as a DOE employee and as an outside observer, with the DOE process of requesting and obtaining funds to address its environmental cleanup liabilities. Based largely on that experience, I will address the ability, and the reliability, of DOE to meet such liabilities, and consequentially, the need for financial assurance conditions in the proposed hazardous waste permit (the "Proposed Permit") (NMED Ex. 1) for LANL, dated February 2. 2010.

In my opinion, it is important and advisable that the Applicants, specifically LANS, provide New Mexico with adequate financial assurance to fund the environmental closure and post-closure work at LANL. In my opinion, financial assurance is important not only as a matter of legal compliance, but also because it is good public policy for several reasons, which I will address in more detail below:

(a) Financial assurance is needed to support protection of human health and the environment because without this reliable funding source there is a greater likelihood of exposures to hazardous waste and residual hazardous contamination.

(b) Financial assurance is needed because DOE has a history of not providing, or often even seeking, adequate funding to support its environmental obligations. In particular, DOE has generally been unreliable in ensuring adequate funding for closure and post-closure requirements, based on annual appropriations, because the federal budget process is unreliable for long-term funding commitments.

(c) Financial assurance in vital to the integrity of the closure and post-closure decision-

process to avoid ignoring or skewing risk-based clean-up standards because of concern about the viability of long-term cleanup plans.

Ultimately, financial assurance is needed so that DOE's problems do not become the state's problems.

Before discussing the vulnerabilities and history of problems with the annual budget process and some circumstances at LANL that warrant extra attention to the need for financial assurance, I will discuss briefly the development of these critical requirements in U.S. hazardous waste laws and programs. Perhaps ironically, the comments from the Applicants, seeking to skirt the standard permit requirements for Financial Assurance (Rael, George J. (DOE/LAO) and Victoria A. George (LANS), *"DOE/LANS Comments on the Revised Draft Permit For Los Alamos National Laboratory"*, September 9, 2009), which is (AR 31981), actually helps highlight the process by which U.S. financial assurance requirement evolved.

One of the only regulatory documents cited by the Applicants in their comments harkened from another, more innocent, era: EPA's famous November 19, 1980 RCRA regulations (45 Fed. Reg. 33198), which were issued hurriedly in the lame duck days of the Carter Administration. In some cases, these seminal regulations still provide the bedrock regulatory structure for RCRA. These 1980 regulations have been significantly overtaken by events, however, as RCRA has changed significantly over the intervening 30 years as a result of new information about environmental risks, technology and institutional inadequacies. Most significantly, RCRA was massively amended four years later with the enactment of the *Hazardous and Solid Waste Amendments of 1984* (P.L. 98-616, 98 Stat. 3221) ("HSWA"), and later by the *Federal Facilities Compliance Act of 1992* (P.L. 102-386,106 Stat. 1505). I had a

small role in both of these changes to RCRA, and was aware that concerns about financial assurance and concerns about DOE's reliability in addressing environmental concerns were central to these changes in RCRA that occurred since the 1980 regulations cited by the Applicants. One of the critical changes in the law was the financial assurance requirement added by the 1984 HSWA amendments as a basic condition for continuing operation.

In 1983, as a young researcher at the Environmental Law Institute, I helped research hazardous waste issues as part of ELI's contract for the U.S. Office of Technology Assessment (OTA), then a research arm of Congress. The OTA published a landmark study in March 1983 that many people regard as a blueprint for Congress' consideration of the eventual 1984 amendments to the 1976 RCRA law in the wake of the mounting experience with problems arising from the existing law and regulations. I recall that the financial assurance issues and the inadequacies with the 1980 regulations were a significant concern, which was reflected throughout OTA's report, including this summary:

> "Concerns over who will pay for actions necessary to deal with expected and unexpected releases of hazardous constituents are heightened by the absence of any financial responsibility requirements for the operator to take corrective action if there are releases of hazardous constituents from land disposal facilities. There are, however, RCRA closure and post-closure financial responsibility requirements, and a CERCLA Post-Closure Liability Trust Fund, but there are uncertainties about the long-term effectiveness of these approaches."

(Office of Technology Assessment (U.S. Congress), "*Technologies and Management Strategies for Hazardous Waste Control*," (March 1983) at page 16.), **(NMED Exhibit 193, AR 33246)**. The OTA report later addresses identified "gaps" in "Liability Insurance Rules Under RCRA and CERCLA" (OTA, 1983 at page 93).

I later worked on a second OTA study that analyzed the implications of (in)adequate financial assurance on the creation of new Superfund sites. (*Superfund Strategy* (Washington,

DC: U.S. Congress, Office of Technology Assessment, OTA-ITE-252 (April 1985)), **(NMED Exhibit 194, AR 33247)**. One of the findings arising from this OTA Superfund study was the observation that some of the waste exhumed from Superfund sites was being shipped to hazardous waste disposal facilities that subsequently leaked and declared bankruptcy, thereby creating new contaminated sites that became the subject of a Superfund cleanup. The OTA study famously referred to this as the "toxic waste merry-go-round." (See OTA, "*Superfund Strategy*", at page 51) Although this second study was not released officially until April 1985, the early findings were being shared with congressional staff during the deliberations on HSWA in the Summer and Fall of 1984. The HSWA amendments were enacted in October 1984. The OTA's finding that hazardous waste disposal sites continued to leak and become long-term environmental burdens helped inform Congress' 1984 HSWA amendments, and it was a dominant concern at the time. Hence, it is perhaps ironic that LANL should choose to cite the 1980 RCRA regulations before the law and federal and state programs were changed to emphasize the need for adequate financial assurance. The Applicants' comments suggesting that EPA's original 1980 RCRA regulations provide the best source, much less the sole source, of regulatory language for exempting LANL from financial assurance requirements significantly overstate the role and enduring relevance of those original regulations.

The financial assurance requirements were ultimately among the most far-reaching changes in the 1984 HSWA amendments. Adequate financial assurance was considered so important that it was made one of explicit statutory requirements for continuing to operate a hazardous waste facility. Under HSWA's Loss of Interim Status provisions, any existing hazardous waste facility, operating under interim status, was required to shut down and close no later than 1992 unless it was in compliance with financial responsibility and ground-water

monitoring requirements, and had applied for a full RCRA permit. (See 42 USC 6925 (e)(2) and at 40 CFR 270.73(c)).

The importance of adequate financial assurance for hazardous waste management sites has grown and been refined over the years. The Government Accountability Office (formerly, the General Accounting Office), a research arm of Congress, and independent analysts have found an ongoing need to strengthen financial assurance. (See GAO,"EPA Should Do More to Ensure That Liable Parties Meet Their Cleanup Obligations," GAO-05-658, August 2005; and James Boyd (Resources for the Future), "Financial Assurance Rules and Natural Resource Damage Liability: A Working Marriage?," March 2001, Discussion Paper 01–11).

2. The Annual Federal and DOE Budget Process is Unreliable for Providing Assurance of Long-term Funding

The traditional process for funding environmental cleanup projects at DOE sites, and what is proposed by LANL for long-term funding, is the annual federal budget process. In my experience, this process is, at best, an uncertain method for ensuring the long-term funding support needed to complete the environmental cleanup and closure of DOE sites, particularly LANL, and it is certainly not reliable for long-term funding of post-closure obligations for the extraordinary periods of time contemplated. I will use the framework of the basic budget process to explain why this is such an unreliable means for funding the environmental cleanup obligations of LANL and other similar DOE sites.

The DOE budget process can be split roughly into two phases: (1) internal Administration deliberative budget development, and (2) Congressional budget process. Virtually every step of the budget process presents significant opportunities and perils (depending on one's perspective) for budget cutting based on the priorities and imperatives of the

moment and individuals involved. The process changes little from year to year, except in its details. Much of it is run very professionally by career budget staff; while other aspects reflect a variety of individual and other political interests. I was involved in this budget process as a DOE official, or tracked it closely as an independent analyst, for 13 years from 1989 to 2002. It is important to remember that DOE's environmental cleanup budget is derived from a part of the defense budget known as "Atomic Energy Defense Activities." Also, the DOE budget is largely appropriated from the House and Senate Energy and Water Development subcommittees of the Appropriations Committees, which are somewhat unique in that it is comprised of both defense and non-defense funds – also known as "050" (defense) and "270" (non-defense science and technology). This context poses challenges for anyone who might seek to defend an environmental cleanup budget item against "vital national security needs" or "worthy water projects." As much as we might like to think that our social and political cultures have "gone green," I can assure you that this has always been an uphill budget battle at both the federal state level.

Explaining this annual budget process is best done with a real life example using the FY 2009 DOE Environmental Management Program (EM) budget as an example. The EM program is responsible for environmental cleanups throughout the DOE complex. It is in constant competition with other DOE programs, primarily Defense Programs (DP), for funding. Although FY 2009 is only one year, it is illustrative, and representative of the development and deliberation schedule in the DOE EM budget process.

November 16, 2006: Field Budget Call. As the first step in the process, DOE's Chief Financial Officer Issues the "Field Budget Call," providing instructions to field offices on budget preparation. This document typically sets schedules for budget development, but could reflect

shifts in site responsibility, which could result in shifting budget burdens to different programs. For example, an increase in landlord budget responsibilities for EM would generally need to be paid for by cuts in cleanup projects because adequate finding was often not shifted from DP with the added responsibility. Hence, shifting program responsibility for a site at any stage of the budget process can be a subtle and effective way to cut one program budget (e.g., EM) and increase another (e.g., DP).

February 15, 2007: Field Budget. In the next step, the field budget, which includes infrastructure, Safeguard and Security, and other crosscutting information, is submitted from the in each field office to the Headquarters Program Secretarial Officers (e.g., EM or DP). The submittals from the field offices responds to the Field Budget Call. The Chief Financial Officer then issues the Program & Fiscal Guidance to Program Secretarial Offices. Whether or not a shift in site landlord responsibilities was directed by the Chief Financial Officer, field offices could decide independently to propose such a shift themselves at this initial budget submission stage, sometimes on micro levels at which it may or may not be noticed (most DOE budget staff generally did a good job of catching these budget shift attempts).

February 23, 2007: EM Guidance with Funding Targets Issued to Field. Next, DOE EM staff distribute templates for how the site office budgets briefings would be presented. This guidance could reflect the priorities for what was important or of interest to EM officials (e.g., closure or post-closure vs. site security vs. nuclear materials risk reduction), to which site managers were very sensitive and adept at reflecting in their budget submissions. This is where a projected budget shortfall resulting in a missed milestone might first be identified internally.

March 26-30, 2007: EM Field Management Briefings. Next, the Budget Request is sent to EM HQ Management. This is where field managers get an opportunity to pitch their budget

requests, and get initial feedback from DOE EM headquarters managers (e.g., Assistant Secretary and Deputy Assistant Secretaries). The attendance and structure often reflects the reduced emphasis of EM at some multi-program sites, where the Assistant Manager might attend from Albuquerque, instead of the higher level Operations Office Manager at a site like Hanford in Washington, where EM is now the primary mission. Note that the timing of this internal FY 2009 budget briefing is occurring only a week or two after the DOE HQ officials have formally presented their FY 2008 Budget Request at a hearing of the House Appropriations Committee Subcommittee on Energy and Water Development. It is inescapable that the priorities and immediate feedback from one budget year, fresh on the minds of headquarters managers, can influence the concurrent events for another budget year for which the development is still underway.

April 6, 2007: Preliminary EM Summary Integrated Priority List. Next the Preliminary EM Summary Integrated Priority List with site-level Target/Over Target allocations is prepared by EM. This can be an opportunity to reward creative management proposals to advance overall program priorities. It may also include arbitrary reductions based on informal OMB or DOE senior management "signals," or nuanced shifts reflecting the aspirations of DOE program managers seeking higher position, or simply reflecting a broader budget view.

April 13, 2007: EM-1 and EM-2 Review. The Assistant Secretary for Environmental Management (EM-1) and the Deputy Assistant Secretary for Environmental Management (EM-2) next complete their review of preliminary EM Summary Integrated Priorities List and site funding allocations. This is another opportunity where concern about missed milestones may be reflected, or not. EM then issues preliminary a decisions with the Integrated Priorities List to the field offices in preparation for EM Corporate Review Board, which includes senior HQ

managers and field office managers.

April 18, 2007: Corporate Review Board. EM then convenes a Corporate Review Board with Field Management to discuss the preliminary EM-wide Integrated Priorities List. This is the ultimate opportunity for mangers to express priorities. The Summary Integrated Priorities List is then finalized. A detailed Integrated Priorities List is developed based on briefings/ decisions. This may differ from open Corporate Review Board meeting only in whatever sensitive off-line discussions occurred.

May 4, 2007: Submission of Integrated Priorities List. EM submits the Corporate Program Review Documents, the Integrated Priorities List to the Chief Financial Officer. The Chief Financial Officer then issues the Office of Management and Budget (OMB) Budget call and Formats.

June 15 Chief Financial Officer Decision. The Chief Financial Officer A-Team provides recommendations to EM, and EM Briefs the Secretary of the Department of Energy (S-1) and the Deputy Secretary of the Department of Energy (S-2).

June 15-29, 2007: Draft Secretary Decision. The DOE Secretary ("S-1") issues a draft decisions, which is subject to an internal appeal process.

June 29, 2007 Program Decision Memorandum. The Chief Financial Officer then issued the final Program Decision Memorandum (PDM)

July 2007: "OMB Budget" Development. The document to be sent for review to the White House Office of Management and the Budget (OMB) is developed based on the Program Decision Memorandum.

August 2007: Draft OMB Submission. EM submits a draft OMB submission to the Chief

Financial Officer for review.

August 2007: Chief Financial Officer Review. The Chief Financial Officer then conducts a review of the draft OMB submission, resolves all outstanding issues, and sends comments back to the Program Secretarial Offices.

September 7, 2007: Final Budget. The final DOE budget is then submitted to OMB for review.

November 2007: OMB Passback. Typically on the Wednesday before Thanksgiving, OMB sends its "Passback" to DOE with direction, questions, and preliminary decisions.

Early December 2007: DOE Response. DOE sends to OMB its response to the queries and direction.

January – February 2008: Budget Request. The Administration sends the FY 2009 Budget Request to Congress.

March-April 2008: Congressional Hearings. Congressional hearings on appropriations bills begin. In the House Subcommittee on Energy and Water Development, the hearing is traditionally held the first week of March, often proceeded by staff briefing.

May-June 2008: Mark-up. Senate and House committees mark up appropriations bills after the budget "302b" allocations for each appropriations subcommittee are determined. Major changes can occur to increase real or perceived budget shortfalls in Administration's budget request, insert "earmarks" (i.e., pork barrel) or make major cuts. This occurred in the FY 1996 budget with a shift by the House Armed Service Committee of more than $700 million from DOE EM to DOD Star Wars projects.

July-August 2008: Conference. Senate and House versions of the appropriations bills are sent to a conference committee to reconcile differences

August-September 2008: Appropriations Bills. The appropriations bills go to the Senate and House for floor votes.

September 2007: President's Signature. Ideally, the appropriations bill passed by Congress is finally sent to the President for signature.

I believe neither the Applicants nor the state can realistically rely on this annual budget process for providing the long-term financial assurance required as part of the permit. My viewed is shared by other analysts. As part of a detailed review of DOE's long-term environmental liabilities, in which I was involved, the National Academies of Sciences National Research Council concluded,

> "Even if policies are not changed dramatically, carrying out a long term government commitment requires predictable funding. Nevertheless, unless appropriate funds are provided in advance, continued funding depends on continued congressional action to authorize, appropriate and otherwise see to the actual spending of the "promised" funds...No matter how genuine a given agency's or official's intention may be, governmental assurances of future funding are justifiably met with skepticism."

(See NAS/NRC 2000, "Long-term Institutional Management of U.S. DOE Legacy Waste Sites," National Academies Press, Washington, DC Aug. 2000, page 86. See at http://www.nap.edu/catalog.php?record_id=9949

A former member of DOE's Environmental Management Advisory Board, similarly concluded that it was unclear that DOE would endure as a viable agency and that whoever was responsible for long-term institutional management,

> "[a]n institutional steward needs sufficient and stable funding. A viable long-term stewardship institution requires the very opposite of the variable, always threatened

annual funding that characterizes DOE's (and many other federal agencies') current budget picture."

(See Applegate, John and Steve Dycus, "Institutional Controls or Emperor's Clothes? Long-Term Stewardship of the Nuclear Weapons Complex", *Environmental Law Reporter*, 28 ELR 10631, November 1998.)

3. **DOE Has Regularly Failed to Obtain Adequate Funding for its Environmental Cleanup Obligations.**

My experience is that DOE has chronically had problems is getting full funding – and even requesting full funding – for its environmental cleanup obligations, and this annual budget process, described above in section 2, often results in funding shortfalls. The problems seem to have gotten worse as the cleanup of large sites in Ohio and Colorado have been completed, and with it their powerful political constituencies, and the time has come to fund some of DOE's most expensive and challenging environmental cleanup projects (e.g., the Hanford, Washington high level waste treatment project), which some have dubbed the "balloon mortgage" of the DOE nuclear weapons complex. (See Alvarez, Bob, "DOE in Decay", *Bulletin of Atomic Scientists*, Vol.56; No. 3, May/June 2000.

The DOE's well-documented history of understating and underfunding its environmental cleanup obligations can only be briefly summarized here. The description of the annual budget process in Section 2 above illustrates the vulnerability of the environmental cleanup budget request to getting cut as it goes through the annual process. As I will summarized below, this vulnerability has resulted in chronic budget shortfalls for the more than two decades of the DOE's environmental cleanup program.

This failure to ensure adequate finding for cleanup is not entirely the fault of the DOE,

but rather of the vicissitudes of the annual federal budget process all agencies must face described above Section 2. This budget process results in particular and unique problems for LANL because of the organization of the department and the role of EM within the LANL structure (See Section 4). In some cases, DOE fails to request adequate funding from OMB. In other cases, DOE may submit a request to OMB for adequate funding, but it is cut during the "passback" process before the President's Budget Request is submitted to Congress. (As noted above, the "passback" is the internal Administration document that contains the feedback, comments, direction, questions, and preliminary decisions on agency's proposed budgets from the Office of Management and Budget, typically the week before Thanksgiving, roughly two months before the President's final Congressional Budget Request is sent to Congress). This budget request has been adequate in some years, but Congress has cut the finding during the budget process.

There are hundreds of documented examples of DOE's failure to request or obtain adequate funding for environmental cleanup projects or for its overall environmental management budget. Rather than compile voluminous examples of documents to illustrate this pattern, I will simply cite examples from each of the three decades of the DOE Environmental Management program, since its inception in 1989 as the Office of Environmental Restoration and Waste Management, through the 1990s, to the most recent budget request submitted to Congress in February 2010.

3a. 1980s – Past is Prelude

DOE's first attempt to estimate the environmental costs for cleaning up its facilities came in 1988 as part of the so-called "Needs" report in 1988, requested by Sen. John Glenn (See DOE, "Environment, Safety, and Health Needs of The U.S. Department of Energy," DOE/EH-0079, December 1988). DOE's "Needs" report estimated the total environmental cleanup costs at $35-64 billion (by comparison, the current total cleanup costs estimates are approximately $300 billion). Although I did not work directly on this document, I had been working for DOE as a contractor for more than two years on the "Environmental Survey" project, travelling to DOE facilities across the country and cataloging the environmental problems at each. This Environmental Survey data was used in part to estimate the costs in the report.

DOE's initial efforts at planning for its newly consolidated cleanup efforts in July 1989 also included significant underestimates of the funding and time required to complete the cleanup and overly optimistic claims that cleanup of the entire nuclear weapons complex would be completed by 2019. (Werner, James D. and Dan W. Reicher, on Behalf of the Natural Resources Defense Council Before the Senate Committee on Governmental Affairs Regarding the Department of Energy's Five-Year Plan for Environmental Restoration and Waste Management, Nov. 14, 1989 **(NMED Exhibit 195, AR 33236)**; Werner, James D. and Dan W. Reicher, on Behalf of the Natural Resources Defense Council Comments on the Department of Energy's "Environmental Restoration and Waste Management Five-Year Plan," (DOE/S-0070), Nov. 30, 1989 **(NMED Exhibit 196, AR 33227)** In particular, I offered testimony before Congress in 1989 expressing concern about the inadequacy of the proposed budget request. My testimony included the observation that the final FY 1990 budget request for environmental restoration at LANL was only $7.48 million, compared to the field office request for cleanup of $25.079 million, for a shortfall of $17.599 million. The other point I highlighted in my testimony was the need to make

investment to address contamination to drive down costs and avoid the long-term costs from increasing as a result of spreading contamination. (See Werner, James D. and James Beard On Behalf of Natural Resources Defense Council and Environmental Policy Institute, et al., Testimony Before the House Armed Services Committee, Department of Energy Defense Nuclear Facilities Panel, "The Need for Accelerated Funding for Environmental Restoration at Department of Energy Nuclear Weapons Facilities," May 9, 1989) **(NMED Exhibit 197, AR 33228).**

3b. 1990s – Inconsistent Success at Full Funding

I analyzed subsequent DOE budget requests for cleanup funding from 1990 through 1993 and found that annual budget requests were chronically lower than DOE's own cost estimates of the funding required to performed the cleanup required merely to meet legally binding cleanup agreements. Typically, the cleanup agreements themselves understated the eventual costs. These analyses generally used internal DOE cost estimates for meeting cleanup obligations and comparing them to the budget request that emerged after the internal DOE and OMB reviews. In some cases, apparent budget increases were merely transfers of scope from other DOE program offices to EM. For example, DOE might shift responsibility for a secure facility from Defense Programs to EM from one fiscal year to the next. DOE often did so without including the associated uncosted budget balances. An "uncosted balance" is funding that has been appropriated and obligated (e.g., a contract has been executed and task orders have been written and approved), but the work has not yet been completed; so the funds remain unspent or "uncosted," but they are not available to be spent on other projects. Thus, the budget shortfall was actually worse than the nominal budget comparisons would indicate. (See Werner, James D. and Dan W. Reicher, on Behalf of the Natural Resources Defense Council, Testimony Before the House Armed Services Committee, Department of Energy Defense Nuclear Facilities Panel, "The Department of

Energy's FY 1993 Budget," March 30, 1992 (**NMED Exhibit 198, AR 33229**); Werner, James D. and Susan Barvenik, on Behalf of the Natural Resources Defense Council, Comments on the Department of Energy's "Predecisional Draft, Environmental Restoration and Waste Management Five-Year Plan (May 1992)," June 17, 1992.) (**NMED Exhibit 199, AR 33230**).

Political control of the White House or Congress has proven to have a significant effect on annual funding of the DOE cleanup programs, much of it out of the control of DOE cleanup officials, and certainly out of the control of DOE site officials and contractors. DOE spending on environmental cleanup increased sharply after the 1992 election, jumping $2 billion in two years, from $4.3 billion in FY 1992 to $6.3 billion in FY 1994. In fact, the FY 1994 budget request marked the first time in U.S. history that the spending for environmental management at nuclear weapons facilities was higher than the spending for nuclear weapons production. After the November 1994 election, however, the budget projections and requests were considered vulnerable and were cut in the FY1996 budget request, resulting in a bare-bones budget, sufficient to address DOE environmental obligations, but with little for paying down long-term costs like site overhead required for security of nuclear materials (e.g., materials stabilization), and only with some renegotiation of cleanup agreements, resulting in concerns among state officials (**NMED Exhibit 200, AR 33231**). Concerned about the prospect for further cuts from a new Congress unfriendly to environmental spending, DOE's top environmental officials warned in Congressional testimony that

> "...a drastic drop in our resources could diminish our ability to protect human health and safety at our sites...extreme budget cuts could also cause the Department to be out of compliance with its environmental requirements. Roughly 65 percent of our budget is driven by enforceable agreements."

(See Statement of Thomas P. Grumbly, Assistant Secretary for Environmental Management, U.S. Department of Energy Before the Committee on Armed Services, U.S. Senate, April 25, 1995.) **(NMED Exhibit 201, AR 33252)**.

Notwithstanding this admonition, the 1995 change in political control of Congress resulted in a proposed cut of more than $800 million in the FY 1996 DOE EM budget. Within a few months, however, when new committee chairs and staff learned that (1) most DOE EM spending was in Congressional Districts represented by their own political party, and (2) the so-called environmental cleanup budget actually included funding for gravely serious issues, like stabilization of weapons-grade plutonium inside shuttered nuclear weapons facilities, much of the funding was restored in the final budget, which was not enacted until after the historic government shutdowns of late 1995 and early 1996.

In the wake of this 1995 funding crisis, DOE changed its funding strategy in a way that affects prospects for funding of LANL cleanup. In 1996, DOE proposed a "Ten Year Plan" to complete the cleanup and closure of a handful of sites, such as the Rocky Flats Site in Colorado and the Fernald Site in Ohio (referred to as "closure sites"), through concentrated efforts with enhanced funding at those sites. This plan was based in part on the recognition that large parts of DOE's cleanup budget were for overhead costs like security and safety. If the nuclear materials could be stabilized and consolidated, the entire site could be cleaned up and closed. Billions of dollars could then be shifted to other sites, such as the Hanford site, where large-scale long-term cleanup would be required, and LANL, where DOE expected to continue operating nuclear weapons missions. It was also based on an agreement with Congressional appropriators: if you provide increased funding to get these sites "off the books," we will be able to reduce costs in the out years. The key for LANL and other Defense Programs (DP) sites was that DOE claimed that

this funding no longer needed at these "closure sites" would be available for funding the large cleanups and those at DP sites.

3c. 2000's Chronic Underfunding of Lowball Estimates

In February 2002, DOE offered a new cleanup plan, but one that substantially understated the estimated cleanup costs, with no apparent analytical support, and which has subsequently been entirely rebutted. (See DOE, Top to Bottom Review team, "A Review of the Environmental Management Program", February 4, 2002.) **(NMED Exhibit 202, AR 33258)**. States again expressed concern about the reduced cleanup funding commitment and the lack of information about proposed budgets (See Gregoire, Christine, Attorney General of Washington, Testimony before the U.S. Senate Committee On Energy And Natural Resources, "Oversight Hearing On The U.S. Department Of Energy Environmental Management (EM) Program's Accelerated Cleanup Initiative, And Proposed Changes To EM's Science And Technology Program," July 11, 2002.) **(NMED Exhibit 203, AR 33302)**. Hence, the new decade began with new examples of DOE failing to request adequate funding in favor of other administration priorities.

The 1996 program goal of completing cleanup at certain sites within ten years ("Ten Year Plan") was coming to a close by 2006. DOE promised Congress explicitly, in its FY 2006 budget request, that if it provided additional funding, DOE would

> "[a]ccelerate environmental improvements and cleanup by 35 years saving the taxpayer in excess of $50 billion...[and] [e]liminate significant environmental, health and safety risks as soon as possible allowing use of resources for other national priorities."

(See DOE, "Demonstrated Results: Accelerating Cleanup; Budget Rollout Presentation to

Congressional Staff," February 2, 2004).

Accordingly, DOE requested $7.4 billion in FY 2005 and was appropriated $7.54 billion, which would turn out to be the peak funding year for EM.. DOE's FY 2006 budget was expected to be the final year for funding two large "closure sites" (Rocky Flats in Colorado and Fernald in Ohio). In fact, the budget for Rocky Flats dropped from $564 million in FY 2006 to $1 million in FY 2007, but the Fernald cleanup was not completed exactly on time and the budget dropped from $324 million to $258 from FY 2006 to FY 2007. At the same time, the sites that had been, more or less, patiently awaiting this completion to free up funding for their sites raised concerns again about funding shortfalls. (See e.g., Murray, Sen. Patty and Sen. Maria Cantwell, "Press Release: Murray, Cantwell Denounce Cuts to Hanford Cleanup; President's budget puts timeline, safety, jobs in question," Feb. 7, 2005.

The funding shortfall continued later in the 2000s. For example, in 2007, DOE's top environmental official acknowledged the FY2008 budget was inadequate to meet the DOE's compliance agreement obligations. (See Rispoli, James A., Assistant Secretary for Environment Management, U.S. Department of Energy, Statement of James A. Rispoli Before the Subcommittee on Strategic Forces, Committee on Armed Services, United States Senate (April 25, 2007) (**NMED Exhibit 204, AR 33226**). And again the next year, the inadequacy of the FY2009 budget request also resulted in concerns expressed by Congress. (See Annette Cary, "Sen. Murray rebukes DOE over Hanford budget," Tri-City Herald, April 10th 2008.) **(NMED Exhibit 205, AR 33253).** Similarly, independent analysts and senior DOE officials both observed that the FY2009 budget request was insufficient to meet DOE's legally required cleanup milestones. (See Kirshenberg, Seth, Energy Communities Alliance Newsletter, Issues 97, Feb. 2008.)(**NMED Exhibit 206, AR 33234**). In 2008, Tennessee Governor Bredesen

wrote DOE Secretary Bodman, expressing concern about inadequate environmental cleanup funding for the Oak Ridge site:

"I believe that DOE is not in compliance with The Federal Facility Agreement for the Oak Ridge Reservation... inadequate funding for FY 20007 and FY 2009 is the root cause of this problem." Bredesen, Gov. Phil, "Oak Ridge Reservation," Letter to DOE Secretary Samuel Bodman, (Jan. 8, 2008.)

In addition, as a result of DOE's funding shortfalls, the State of Washington filed a lawsuit in 2008 to compel DOE to seek adequate funding and meet negotiated cleanup milestones. In a November 2008 letter to the Secretary of Energy, Samuel Bodman about the lawsuit, the Governor and Attorney General of Washington indicated,

> "...we have serious doubts whether this timeframe [complete all waste treatment by 2047] is achievable if [DOE] continues on its path of poor planning, poor management, and failure to seek sufficient funding."

(See Gregoire, Christine and Rob McKenna (Governor and Attorney General of Washington, respectively), "Notice of Intent to Sue for Violations of the Hanford Agreement and Consent Order," Nov. 24, 2008.)

DOE's own Inspector General found that cleanup funding for LANL would not allow the site to meet its *requirements under* the legally-binding 2005 Consent Decree signed by the lab, the State of New Mexico, and DOE. Moreover, the funding shortfall would delay other cleanup work that

> "... may not only increase the cost of the overall environmental cleanup but may also increase the risk to employees and the public to exposure to contaminants,"

(See DOE Inspector General, Gregory Friedman, "The Department's Progress in Meeting Los Alamos National Laboratory Consent Order Milestones," April 2008) (**NMED Exhibit 207, AR 33240**).

3d. 2010's Rocky Start to Decade

The issue of inadequate funding for cleanup obligations is such a chronic problem that in its first letter to the newly confirmed Secretary of Energy, Steve Chu, the organizations representing communities living in the shadows of the contaminated nuclear weapons facilities expressed this concern as one of their top issues:

"Inadequate budgets for the DOE-EM program have caused many binding legal agreements with state regulators to be compromised..."

(See Energy Communities Alliance, Letter to Secretary Steven Chu, "ECA Priorities For The Obama Administration," Feb. 2009.) (**NMED Exhibit 208, AR 33237**).

The funding shortfall at the Oak Ridge site in Tennessee noted by the Governor in 2008 was not corrected by early 2010, despite the 2008 commitments by DOE officials who had since resigned. Consequently, Tennessee Department of Environment and Conservation Deputy Commissioner Paul L. Sloan recently wrote to DOE expressing continuing concerns about inadequate funding in DOE's FY 2010 and FY 2011 environmental cleanup budgets and DOE's failure to abide by commitments made in a 2008 dispute resolution agreement. (See Sloan, Paul L., Tennessee Department of Environment and Conservation Deputy Commissioner, "State of Tennessee Response to Federal Facility Agreement Section XXXIII.D Fiscal Year 2010 Funding Allocation," Letter to Ines R. Triay, March 8, 2010.)

As discussed above, the 1996 "Ten Year Plan" was intended to focus funding on "closure sites" where environmental cleanup could be completed within a decade. Upon completion of

cleanup at these sites, the idea was that the reduced need for cleanup spending and overhead costs at these sites would free up funding to be redirected toward some of the other more complex and long-tem cleanup sites, including sites with other non-EM missions, like LANL. Regrettably, it did not turn out this way; instead, after the cleanup of these "closure" sites was completed, the EM budget was simply cut, not shifted. Moreover, after most of the fissile (*i.e.,* weapons usable) material at EM sites was stabilized and consolidated, the urgency of the funding requirement was substantially lower, and it was more difficult to elicit support from OMB and Congress for more "mundane" cleanup issues like contaminated soil and groundwater, which are largely the problem at LANL. In addition, after completion of cleanup at the Rocky Flats and Fernald sites the political support for DOE's environmental cleanup budget shrunk by two important states – Colorado and Ohio – making it more difficult to get needed Congressional funding, and less compelling for the White House Office of Management and Budget officials. In fact, the EM budget was cut by a billion dollars, from $6.6 billion appropriated in FY2006 to $5.6 billion requested in FY 2008.

Some perspective is important to understand the challenges with sustaining adequate funding for the DOE cleanup program. The annual budget for the DOE Office of Environmental Management (historically $6-7 billion per year, and $5.813 Billion requested in for FY2011, excluding the Uranium Enrichment Decontamination and Decommissioning Fund.) is nearly as large as the entire EPA budget (approximately $7 billion per year.) The funding for DOE Environmental Management is certainly more than twice the amount of federal money provided to states to operate delegated programs. Hence, the amount of money devoted to the cleanup at about a dozen Cold War sites is equivalent to the federal funding provided through EPA for all of America's sewage treatment plants, control of air pollution, hazardous waste

regulation, Superfund and Brownfields cleanups, oversight of pesticides and new industrial chemicals. To be sure, the unit costs for cleanup of DOE facilities are often legitimately high and include many unique risks largely unknown to typical EPA or commercial industry cleanup situations. Nonetheless, this leads to a situation where the political support for the DOE EM budget is "an inch wide and a mile deep." As cleanup at "closure sites" is completed, and DOE EM funding is reduced accordingly, budget support could become a centimeter wide and a half-mile deep. For the communities, and in some cases states, affected by DOE contaminated sites and dependent on the jobs provided by the multi-billion-dollar cleanup as well as the environmental improvement progress, the DOE EM budget is absolutely critical. One step outside of these communities, however, the budget and issues are largely unknown. (See Probst, Katherine N. and Adam I. Lowe, *"Cleaning Up the Nuclear Weapons Complex: Does Anybody Care?"*, Center for Risk Management; Resources for the Future (January 2000).) (**NMED Exhibit 209, AR 33250**)

Hence, based on my experience with DOE's inability to reliably fund its environmental cleanup obligations and expectation of continued future unreliability, I agree strongly with New Mexico Environment Department's concern that there are important grounds upon which to require financial assurance of LANS. There is a real risk that, unless financing is assured, the process of closing the solid waste management units may be frustrated by funding shortfalls. (Fact Sheet, July 6, 2009, Intent To Issue A Hazardous Waste Facility Permit Under The New Mexico Hazardous Waste Act, Los Alamos National Laboratory (LANL), Los Alamos County, New Mexico, at page 28)(AR 31819). I would emphasize that addressing post-closure care needs at LANL is especially likely to be frustrated by funding shortfalls without adequate financial assurance. Accordingly, I agree strongly with New Mexico Environment Department's

concern that DOE funding reliant on the annual budget process is not adequate and must be backed up with financial assurance.

4. DOE Sites Pose Problems Requiring Long-term Stewardship, requiring Financial Assurance

Since the 1990s, most analysts of DOE's Environmental Management program have recognized that "cleanup" - in the normal sense of the term - is physically and economically impossible with available technology. In many cases, some accessible waste is removed and residual contamination is contained in perpetuity under an impermeable but impermanent "cap." As a result of this pragmatic definition of "cleanup", the DOE and states have agreed on "risk-based" cleanup standards (cleanup goals that evaluate contamination source, possible fate-and-transport mechanisms and possible exposures, given likely future land use, often resulting in residual contamination left "capped" in place requiring long-term "stewardship" care) and began to address to need for an effective long-term stewardship program. (See DOE, "From Cleanup To Stewardship: A Companion Report to 'Paths to Closure' and Background Information to Support the Scoping Process Required for the 1999 PEIS Settlement Study" (1998) (DOE/EM-0466) **(NMED Exhibit 210, AR 33299).** The use of risk-based cleanup standards requires consideration of long-term consequences, including technical planning for site monitoring and maintenance and financial assurance to support these activities, and that this consideration must begin with facility design and construction, not wait until cleanup. Failure by DOE to provide adequate technical and financial plans for site cleanup and post-closure care undermines the basic tradeoff that might make risk-based cleanup work effectively: For states to accept risk-based clean remedies, they must have confidence in the long-term stewardship plans and funding. If, however, effective protections cannot be assured in the long run, then states cannot

legitimately agree to risk-based containment options in the short run because the long-term stewardship is effectively part of the cleanup, and states would then be agreeing to only half a cleanup that is not adequately protective. State regulators will be less willing to accept risk-based cleanup standards, because of the rational concern about future site stewardship reliability. Consequently, the lack of adequate financial assurance could skew the cleanup plans toward more conservative and more expensive remedies that might not be warranted under a risk-based regime where there was reasonable confidence in the long-term financial assurance.

The establishment of long-term funding mechanisms for waste sites is hardly unprecedented. Long-term private-sector funding mechanisms have been established for nuclear waste. For example, the Nuclear Regulatory Commission requires that licensees provide approximately $600,000 for long-term care of uranium mill tailings sites that contain wastes with half-lives of billions of years. *See* 40 C.F.R. 40.2(a). Similarly, private low-level waste disposal sites, including those that received DOE-generated waste, must establish financial bonding mechanisms for ensuring long-term funding for site maintenance. *See e.g.*, financial surety and assurance bond and closure requirement for the Envirocare of Utah disposal facility pursuant to Utah Administrative Code 313-R25-31. The states of South Carolina and Washington, where private low-level waste sites operate, have established perpetual care accounts to ensure long-term maintenance of the site after closure. See Wash. Rev. Code '43.200.080 (1998); "Site closure account -- Perpetual surveillance and maintenance account"; and South Carolina Hazardous Waste Management Act Section 44-56-1601981. For the Barnwell Site a special Decommissioning Trust Agreement was negotiated between Chem-Nuclear facilities (Grantor) and the state of South Carolina (Trustee).

Because of longstanding concerns about DOE's funding reliability and credibility, the State of Tennessee required DOE to establish a long-term care Trust Fund, as a condition for construction of a new waste disposal cell in an agreement signed by DOE, EPA, and the State of Tennessee in 1999. (See Consent Order, State Of Tennessee Department Of Environment And Conservation Division Of Solid Waste Management, In The Matter Of: U.S. Department Of Energy)) Docket No. 99-0438 Nov. 2, 1999;) **(NMED Exhibit 211, AR 33257)**. This fund was established pursuant to Tennessee state law. (*See* Tenn. Code Ann. ' '68-212-108 (h), 9-4-603). DOE built the "Environmental Management Waste Management Facility" near the Oak Ridge Y-12 Complex to dispose of large volumes of contaminated waste generated by remedial actions throughout the Oak Ridge Reservation. The State of Tennessee insisted on sufficient funding set aside in a financial trust fund to support long-term care of the site after closure, and was eager to expedite the disposal process to support needed site cleanup projects and to return some Oak Ridge properties to environmentally useable conditions. The State established a trust fund, to which DOE has been making annual allotments until the principal reaches $ 14 million. The fund will be tapped to support surveillance and maintenance of the cells. A Financial Assurance mechanism such this one is well known in many fields. (See Bauer, Carl and Katherine N. Probst, "Long-Term Stewardship of Contaminated Sites Trust Funds as Mechanisms for Financing and Oversight," Discussion Paper 00–54, Dec. 2000.) **(NMED Exhibit 212, AR 33301)**. Also, to the extent DOE fails to provide adequate financial assurance to states, thereby putting state budgets and public health at risk, states may seek more complete cleanups, and accept fewer risk-based cleanups that allow residual contamination to remain in place, requiring funding for long-term surveillance and maintenance.

In private conversations, DOE officials have asserted to me that this Tennessee example

is not a trust fund but is an "investment fund" without indicating that there is any difference in this distinction. They have insisted that the fund in Tennessee is a one-of-a-kind situation that sets no precedent for any of the more than a hundred sites where DOE plans to place residual waste and contamination in place after cleanup is completed. In fact, the need for this Trust Fund grew out of a common need stemming from basic laws of physics dictating the decay rates for much of the mixed waste at the sites, which results in necessary periods of long-term stewardship many centuries into the future.

The need for a reliable funding source to address unforeseen contingencies is highlighted by the experience at the Oak Ridge, Tennessee disposal cell. This disposal cell was constructed after years of study, design analysis and debate, with participation by the State of Tennessee, EPA and DOE at a site where the latest science and technology was available. Nonetheless, the disposal cell has already encountered unanticipated environmental problems after operation. A few years after the disposal cells were constructed, however, engineers discovered that portions of the radioactive waste disposal cells were constructed with the elevation of the bottom layer lower than the water table because original estimates of the groundwater level were not accurate. The State of Tennessee is obviously concerned about the structural integrity of the cells' liner under these conditions. Abatement of this problem requires almost constant surveillance and costly ground water suppression control system for which the Trust Fund will be needed for financial support.

Although post-closure plans for LANL have not yet been determined precisely, it is clear the costs will be substantial. In a Report to Congress in 2000, DOE estimated that the annual long-term stewardship costs for LANL from FY 2011 to 2015 will be approximately $540,000 annually, and increase to $700,000 annually for FY 2051 to 2055. (See DOE, DOE 2001, "*A*

Report to Congress on Long Term Stewardship – Volume II-Site Summaries"; DOE/EM-0563; January 2001. While this is a relatively small funding level compared to current annual cleanup budgets, it would be an unbearable and unfair burden if it were shifted to the state.

Moreover, the longevity of DOE as an agency, and its role at LANL cannot be assured over the extraordinary periods of time contemplated for post-closure care of these mixed radioactive-hazardous waste sites. In the case of the nuclear weapons materials facilities being cleaned up under DOE's Formerly Utilized Site Remedial Action Program, Congress decided to shift responsibility and funding to the Army Corps of Engineers, though the long-term stewardship responsibility would be retained by DOE. (See *Memorandum Of Understanding Between The U.S. Department Of Energy and the U.S. Army Corps Of Engineers Regarding Program Administration and Execution of the Formerly Utilized Sites Remedial Action Program (FUSRAP),* 17 March 1999. **(NMED Exhibit 213, AR 33300).** Given this fluidity of federal managers, the role of financial assurance becomes even more important to drive a stake in the ground around which management decisions can be made. Otherwise any agency inheriting these responsibilities will be need to decide whether to allocate it own precious budget for these unsought duties. The state is wise enough to seek financial assurance now to avoid becoming the servant to these deferred environmental funding obligations it might inherit.

Conclusion

For the above stated reasons I believe that LANS should comply with the New Mexico Hazardous Waste Management Regulations regarding financial assurance requirements for the LANL. It should be required to establish financial assurance adequate to fund the closure and post-closure of the hazardous waste management units and other regulated units at LANL, as would be required by the Proposed Permit.

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Subscribed and sworn to before me this __ day of March, 2010 by James D. Werner.

Notary Public

My commission expires:

PATRICIA GLANDING-CLARK
Notary Public - State of Delaware
My Comm. Expires July 22, 2010