Project On Government Oversight

U.S. Nuclear Weapons Complex:
Livermore Homes and Plutonium Make Bad Neighbors

666 11th Street, NW, Suite 900 • Washington, DC 20001-4542 • (202) 347-1122
Fax: (202) 347-1116 • E-mail: pogo@pogo.org • www.pogo.org
POGO is a 501(c)3 organization

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Lawrence Livermore National Laboratory (Livermore Lab), a nuclear weapons facility located in the greater metropolis of San Francisco, CA, poses the most significant security threat of any such facility in the U.S. Roughly seven million people live within a 50 mile radius of the Livermore Lab, which has approximately one ton of weapons-grade and weapons-quantity of plutonium and highly enriched uranium, DOE's most dangerous and expensive-to-guard special nuclear material (SNM). If terrorists gained access to this material, they could detonate them, devastating the San Francisco Bay Area and inland regions—the key agricultural areas of California.

Yet, POGO has learned, the National Nuclear Security Administration (NNSA) has given Livermore Lab a waiver so that it does not have to meet the current security requirements devised by the intelligence community. The encroaching residential community surrounding the Lab has made it impossible to properly protect the Lab's weapons quantities of plutonium and highly enriched uranium.

DOE has at times acknowledged the danger of SNM at Livermore Lab, but efforts to address the situation have been negated by simultaneous decisions that increase the likelihood the special nuclear material will remain at the site. In just the past three years, DOE has doubled the amount of plutonium allowed to be stored at Livermore; discarded congressional timelines to remove the material by 2012 by establishing its own timeline to "evaluate" whether the material could be removed by 2014; and pursued plans for new plutonium missions at Livermore. Keeping the nuclear material at Livermore until 2012 will not only cost the taxpayers an additional and unnecessary $160 million, it will also create an unnecessary homeland security vulnerability and put the surrounding population needlessly at risk.

Because of the proximity of businesses and residences, the protective forces at Livermore Lab were, until recently, issued far less lethal and less powerful weapons than protective forces at other sites that store the same SNM. But, faced with pressure to demonstrate that the Lab could fend off a terrorist attack, NNSA announced the deployment of the Dillon Aero M134D guns, popularly known as the Gatling gun. This enormously lethal weapon is capable of firing 4,000 rounds a minute with a military "kill-range" of one mile. Within that one-mile range of the Lab are two elementary schools, a pre-school, a middle school, a senior center, and athletic fields, making this weapon unacceptable for Livermore. Even in an accidental firing, the Lab would be spraying lethal bullets into the surrounding neighborhoods. This type of accident is not unprecedented. For example, several years ago there was an accidental firing of a mounted, high-caliber machine gun at the Y-12 Complex. The gun, similar in firepower to the Gatling guns, sprayed a building at the facility with bullets, which penetrated walls.

Livermore Lab's SNM could, and should, be moved out of the Lab by early 2009. DOE has the ability to do this. Sandia National Laboratory provides an illustrative comparison. It, too, is located in a metropolitan area—in that case, the city of Albuquerque, New Mexico. In February 2008, the nuclear material was finally removed from Sandia. The same can, and must be accomplished at Livermore.

Recommendation Highlights

1) Immediately move the weapons-grade and weapons-quantity special nuclear material out of Livermore Lab.
    A) Immediately move the plutonium that has already been declared excess at the Lab to Savannah River Site for storage and disposition.
    B) For the plutonium that has not yet been declared excess, Congress should determine whether there is a credible mission at the Lab for the material:
        i. If the plutonium is indeed required for this mission, the material should be moved to the Nevada Test Site's Device Assembly Facility (DAF). If Livermore Lab scientists need to conduct experiments with the SNM, they could easily take the one-hour flight to the DAF as they did for years during the nuclear test program.
        ii. If Congress deems that the mission is not a national security priority, NNSA should immediately move the plutonium to the Savannah River Site for storage and disposition.

    C) Because there is no national security priority for highly enriched uranium at Livermore Lab, immediately move the material to the Y-12 National Security Complex for storage and downblending.

2) When the SNM is removed from the Lab, the Gatling guns should be disassembled and transferred to a more appropriate NNSA site.

INTRODUCTION

The Department of Energy (DOE) maintains its stockpile of special nuclear material (SNM)—weapons-grade plutonium and highly enriched uranium—at nine laboratories and production facilities nationwide.[1] One of those nuclear facilities is the Lawrence Livermore National Laboratory (Livermore Lab or Lawrence Livermore). Unlike other facilities, such as the relatively remote and isolated Savannah River Site, Idaho National Laboratory, and Nevada Test Site, the Livermore Lab is surrounded by a growing residential community. Roughly seven million people live within a 50 mile radius of the Lab, which has approximately one ton of plutonium[2] and highly enriched uranium that are classified as Category I and II (CAT I and II), DOE's most dangerous and expensive-to-guard SNM.[3]

Lawrence Livermore is the only nuclear weapons lab housing CAT I and II SNM located near a major metropolitan area, making it the most attractive target for terrorists and one of the most pressing U.S. nuclear security issues. As such, POGO was surprised to learn that the National Nuclear Security Administration (NNSA), the organization within DOE responsible for the nuclear weapons complex, has granted the Lab a waiver from having to meet the current security requirements devised by the intelligence community—the 2005 Design Basis Threat (DBT).[4]

Noncompliance with the current DBT signals that Livermore Lab, which is managed by the University of California, Bechtel National Inc., and other partners, cannot adequately protect against an attack by terrorists. An extensive investigation by the House Government Reform Subcommittee on National Security concluded in 2006: "Without question, DOE nuclear warhead production plants, test facilities, research labs, storage locations … are attractive targets for terrorists."[5] Senator Richard Lugar (R-IN) and former Senator Sam Nunn (D-GA) identified

[1] The nine DOE sites with Category I and II special nuclear material are Lawrence Livermore National Laboratory, Los Alamos National Laboratory, Pantex Plant, Y-12 National Security Complex, Nevada Test Site, Hanford Site, Idaho National Laboratory, Savannah River Site, and Oak Ridge National Laboratory.

[2] Subcommittee on Energy and Water Development. *Rep. Peter J. Visclosky Holds a Hearing on the Department of Energy's Fiscal Year 2008 Budget Request for Programs in the National Nuclear Security Administration.* March 29, 2007.

[3] POGO uses the term "SNM" throughout the report to refer to CAT I and II special nuclear material. However, there are also CAT III and IV SNM, which are not weapons-quantity or weapons-grade and so are of little or no interest to terrorists.

[4] The Design Basis Threat describes the level of threats a protective force is required to defend against: the number of outside attackers and inside conspirators, as well as the kinds of weapons and size of truck bombs that would be available to terrorists. It is based on the Postulated Threat, which was developed by the DIA, FBI, CIA, DOE, and DOD.

[5] House Government Reform Subcommittee on National Security. *Updating Nuclear Security Standards: How Long Can The Department of Energy Afford to Wait?* No. 109-435, April 2006. Security experts' greatest concern is that a suicidal terrorist group would reach its target at one of the facilities and, in an extremely short time, create an improvised nuclear device on site. It is only now becoming known outside DOE how easily this could be accomplished: using a critical mass (approximately 100 pounds) of HEU and far less of plutonium, a terrorist could trigger a detonation of a magnitude close to that which devastated Hiroshima. The possibility of this scenario was a primary motivation for the DOE's decision to significantly increase the DBT several times over the last seven years.

the high priority of securing, consolidating, and eliminating highly enriched uranium, while maintaining rigorous security around plutonium:

> The gravest danger, however, and the one requiring urgent attention is the possibility that terrorists could obtain highly-enriched uranium (HEU) or plutonium for use in an improvised nuclear device (IND).[6]

Lawrence Livermore's own security specialist emphasized the importance of protecting SNM. In 2002, Dr. Harry Vantine, Livermore Lab's Division Leader for Counter-Terrorism and Incident Response, testified that:

> the use of an improvised nuclear device is a low-probability event, but it is a high-consequence event. And, for that reason, it's a high-risk event, and it's something we need to prepare for …. *As has been mentioned many times today, the key to protecting the country against weapons of mass destruction, against INDs, is to protect the materials. And I think no effort should be spared in trying to protect materials* ….[7] [Emphasis added]

In fact, if a terrorist group detonated an IND at the Lab, the San Francisco Bay Area and inland regions—the key agricultural areas of California—could be devastated.[8] DOE has at times acknowledged the danger of SNM at Livermore Lab, but efforts to address the situation have been negated by simultaneous decisions that increase the likelihood SNM will remain at the site. For instance, in just the past three years, DOE has doubled the amount of plutonium allowed to be stored at Livermore; discarded congressional timelines to remove the material by 2012 by establishing its own timeline to "evaluate" whether the material could be removed by 2014; and pursued plans for new plutonium missions at Livermore. Each year, securing Livermore Lab costs approximately $80 million—roughly $40 million of which wouldn't be necessary if the SNM were moved off site. By securing the material through the end of 2012 instead of early 2009, as POGO recommends, DOE will be making the American taxpayer pay at least an additional $160 million for security, and will be continuing to put millions of people needlessly at risk.[9]

---

[6] Charles Ferguson, William C. Potter. *The Four Faces of Nuclear Terrorism*. Monterey, California: Monterey Institute-Center for Nonproliferation Studies Nuclear Threat Initiatives, 2004. Foreword. http://www.nti.org/c_press/analysis_4faces.pdf (Downloaded March 12, 2008).

[7] U.S. Senate Committee on Foreign Relations, *Dirty Bombs and Basement Nukes: The Terrorist Nuclear Threat*, Senate Hearing 107-575. March 6, 2002. pp. 51-52. http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=107_senate_hearings&docid=f:80848.pdf (Downloaded March 12, 2008).

[8] An IND can be created at a number of DOE sites because of the presence of special nuclear material in bomb-grade quality and quantity. Creating an IND with highly enriched uranium is fairly simple and quick. Creating an IND using plutonium is significantly more difficult. INDs can cause nuclear detonations of varying sizes, and, with the right explosives equipment, little time is required to accomplish the act. An IND explosion is qualitatively different from a "dirty bomb," also known as a dispersal device: detonating plutonium or highly enriched uranium with an explosive would cause a major dispersion of highly radioactive materials, but an IND explosion could cause a chain reaction close to the magnitude of those that devastated Hiroshima or Nagasaki, Japan.

[9] Calculated by adding 2001-2007 actual security costs, and dividing by two in order to account for the fact that half of the security expenditures are for securing SNM. These costs were provided to POGO in a February 12, 2008, email by William Desmond, Chief, Defense Nuclear Security at NNSA. We used 2001 costs to estimate those for 2000, and 2007 costs to estimate those for 2008 through the end of 2012.

LIVERMORE LAB SURROUNDED (BY ELEMENTARY SCHOOLS, A DAY CARE, AND A SENIOR CENTER)

Livermore Lab was originally a naval air station in a highly remote area east of San Francisco. The area, however, has changed drastically in the 56 years since the Lab first took over the site. There are now housing developments right up to the security fence lines that surround the site, and the homes sit only 300 yards from Building 332 (the Superblock), which houses the Lab's plutonium and highly enriched uranium.[10] [See Graphic A] Because of several safety lapses over the years, the community surrounding the Lab has grown increasingly vocal against storing SNM there.[11] Tri-Valley CAREs (Communities Against a Radioactive Environment), a knowledgeable community-led Livermore watchdog group that has a membership comprised of residents who live around Livermore Lab, including some current and former Lab employees, has to date gathered at least 13,000 signatures from residents opposing the addition of more plutonium at the Lab.[12]

The surrounding residential community has made it nearly impossible to properly protect the Lab's weapons quantities of plutonium and highly enriched uranium. In fact, in 2000, DOE security advisors recommended to then-Secretary Bill Richardson that the Lab de-inventory its SNM due to the site's high level of "encroachment" by the civilian population.[13] At other nuclear facilities, officials have responded to new security requirements by expanding their ability to detect intrusions around the nuclear facilities. DOE is in the process of deploying electronic sensors and radar systems around its sites that house SNM so that the protective force can engage adversaries further out from the target. For example, the Department is deploying those systems along the ridgelines at Y-12 National Security Complex. Livermore Lab cannot implement this security improvement because homes and businesses surround it—sensors would be in somebody's backyard. There is simply no room.

In addition, so many residences and businesses, with the resultant heavy traffic and population, make it easier for terrorists to make a concealed attack. At the other DOE sites, intruders have to avoid detection while driving an unidentified vehicle along miles of open country road. They'd be pretty easy to spot. However, whether settling in at a home along the fence-line or parking on neighborhood streets, Livermore Lab provides intruders with a lot of cover.

Another problem caused by the proximity of the homes is that protective forces at the Lab were, until recently, issued far less lethal and less powerful weapons than protective forces

---

[10] A description of the plutonium-related activities carried out in the Superblock may be found in: Lawrence Livermore National Laboratory. "Inside the Superblock," *Science & Technology Review*, March 2001. https://www.llnl.gov/str/March01/Sefcik.html (Downloaded March 12, 2008).

[11] Government Accountability Office. Nuclear and Worker Safety: Actions Needed to Determine the Effectiveness of Safety Improvement Efforts at NNSA's Weapons Laboratories. (GAO-08-73), October 2007. http://www.gao.gov/new.items/d0873.pdf. (Downloaded March 12, 2008); and Letter to NNSA from the Defense Nuclear Facilities Safety Board, March 8, 2005. http://www.dnfsb.gov/pub_docs/llnl/cor_20050308_ll.pdf. (Downloaded March 12, 2008); and Betsy Mason, "Safety concerns halt plutonium work." Contra Costa Times, February 1, 2005. http://www.trivalleycares.org/news/articledisplay.asp?artid=342 (Downloaded March 12, 2008).

[12] POGO phone interview with Marylia Kelley, Executive Director of the Livermore-based Tri-Valley CAREs, December 13, 2007.

[13] POGO staff attended this meeting.

at other sites storing plutonium and highly enriched uranium.[14] However, faced with mounting pressure to demonstrate that the Lab could fend off a terrorist attack, NNSA announced in early 2006, with great fanfare, the deployment of truck-mounted Dillon Aero M134D guns, more popularly known as Gatling guns. "Things like this make it clear that if terrorists try to come here, they will come here for failure rather than success," said Linton Brooks, then-head of NNSA, as he displayed the weapons at a press conference.[15]

There is no doubt about how much firepower the Gatling guns can deliver. Yet there are a number of safety concerns with the weapon. The Gatling gun is an enormously lethal weapon: it fires 4,000 rounds a minute, and the official military "kill-range"[16] for such a gun is one mile (although it can actually kill a person up to two miles away). Within that one-mile range of the Lab are two elementary schools, a pre-school, a middle school, a senior center, and athletic fields.

"It serves us best when it's never used, and hopefully it will never be used at all," Lab spokesman David Schwoegler said.[17] Even in an accidental firing, the Lab would be spraying lethal bullets into the surrounding neighborhoods. This type of accident is not unprecedented. For example, several years ago there was an accidental firing of a mounted, high-caliber machine gun at the Y-12 Complex. The gun, similar in firepower to the Gatling guns, sprayed a building at the facility with bullets, which penetrated walls.[18]

Apart from the proximity of residential neighbors, this weapon—which was installed to compensate for security vulnerabilities—is not the right choice for the Lab. POGO is advised by Army Special Operations personnel that Gatling guns can be effective as long as they have a large area in which to maneuver so that they can avoid being targeted by an adversarial sniper. In small areas, long-term reconnaissance by adversaries would detect a pattern of movement, even if the vehicles are camouflaged. Once detected, snipers with .50 caliber Armor-Piercing Incendiary (API) rounds could destroy both the gun and the vehicle in moments. The rural Pantex Plant and the Los Alamos National Laboratory, for instance, each have miles in which the vehicles can roam, making their pattern of movement much less predictable. But Lawrence Livermore is only one square mile; there is no area to roam, potentially making the guns easy targets.

These logistical challenges, arising because of the Lab's location, make it impossible to comply with the DBT, and contributed to NNSA's decision to give Livermore Lab a waiver.

---

[14] Other DOE sites such as Y-12, Los Alamos National Laboratory, and Savannah River Site have high-caliber machine guns that provide a lot of firepower if the sites are under attack.

[15] Lawrence Livermore National Laboratory. "The Laboratory Enhances its Security." *Discover LLNL: The Community Newsletter of Lawrence Livermore National Laboratory*, Spring 2006. https://publicaffairs.llnl.gov/com/2006/spring_discover_llnl.pdf (Downloaded March 12, 2008).

[16] The kill-range is the maximum distance at which a weapon's fire can be deadly.

[17] Henry K. Lee. "Lab Gatling guns frighten some; others feel safe: Weapons designed to protect facility from terrorists." *San Francisco Chronicle,* February 4, 2006. http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2006/02/04/BAGM8H2IH51.DTL (Downloaded March 12, 2008).

[18] POGO interviews with Y-12 protective force officers.

LIVERMORE CANNOT HANDLE CURRENT SECURITY REQUIREMENTS

Last year, NNSA told the Government Accountability Office (GAO) and the Senate Appropriations Subcommittee on Energy and Water Development that Lawrence Livermore would meet the 2005 DBT.[19] Yet, senior DOE and NNSA officials have told POGO that NNSA has given the Lab a waiver exempting it from meeting the security requirements. This action comes at a time when experts warn that the threat of nuclear terrorism is growing.[20] The waiver also comes in defiance of the Senate Armed Services Committee (SASC), which stated in 2007: "Sites that store and use weapons grade fissile materials must meet the defined, rigorous Design Basis Threat (DBT) standards for security."[21] The last DBT the Lab was able to meet was the 2003 DBT, a much weaker standard than is currently required.[22]

NNSA argues that Livermore Lab should not have to meet the 2005 DBT because it is a "non-enduring site," meaning that the Lab has been slated to eventually eliminate the CAT I and II SNM.[23] Although DOE has pledged to move the SNM by the end of 2012, POGO is concerned about its commitment to see the move through, given the Department's ever-shifting stance on de-inventorying Lawrence Livermore. (We discuss these shifts in the next two sections.)

In 2007, when the GAO looked into how DOE has progressed in keeping its promises to consolidate SNM, it did not like what it found: "…DOE has spent nearly 2 years developing

---

[19] Department of Energy. *Statement of Thomas P. D`Agostino Acting Under Secretary, Nuclear Security and Administrator before the Committee on Senate Appropriations Subcommittee on Energy and Water Development,* April 18, 2007.

[20] Sidney Drell and Ambassador James Goodby. "What Are Nuclear Weapons For*?* Recommendations for Restructuring U.S. Strategic Nuclear Forces.*" Arms Control Association*, April 2005. www.armscontrol.org/pdf/USNW_2005_Drell-Goodby.pdf (Downloaded March 12, 2008).

[21] Senate Armed Services Committee. *National Defense Authorization Act for Fiscal Year 2008 Report*. Report No. 110-77, June 5, 2007. p. 619. http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_reports&docid=f:sr077.110.pdf (Downloaded March 12, 2008). Hereinafter: *National Defense Authorization Act for Fiscal Year 2008 Report.*

[22] Over the years, there have been a number of different DBTs, each with different levels of security requirements. All numbers related to the security requirements are classified, so we can only talk about them in relative terms. The 2003 DBT, which was to be implemented by 2006, required site Protective Forces (PF) to be prepared to repel fewer than half of the attackers during 9/11. The 2004 DBT, which was to be implemented by 2008, was created because the 2003 DBT was not protecting against a realistic threat—the standard was far too weak. The 2004 DBT had the strongest of the security requirements and required site PFs to be prepared to repel close to the 9/11-level of 19 attackers, and stated that the attackers could be expected to be carrying far more lethal weapons and using much larger truck bombs than had been planned for in the 2003 DBT. Unfortunately, in November 2005, DOE concluded the 2004 DBT would cost too much to implement, and replaced it with a weaker 2005 DBT: Department of Energy, Office of Inspector General. *Audit Report: The Department's Energy, Science, and Environment Sites' Implementation of the Design Basis Threat,* DOE/IG-0749. December 2006. http://www.ig.energy.gov/documents/IG-0749.pdf. (Downloaded March 13, 2008). Hereinafter: Office of Inspector General. *Audit Report*. The 2005 DBT, to be implemented at sites by 2008, required the PFs to be prepared to repel approximately 75 percent of the attackers from 9/11. On January 19, 2006, the NNSA Administrator concluded that even the 2005 DBT could not be achieved because of White House imposed budget caps: "We need to be clear that we won't meet the requirements." [Appendix A]

[23] There is no clear definition of the term "non-enduring," yet its meaning can be interpreted from the Office of Inspector General. *Audit Report*: "Site officials stated that they should not be required to meet the full DBT policy requirements since, according to their interpretation of Departmental guidance, they believe the site is non-enduring as a result of their plan to eventually eliminate the Category I SNM."

plans for the consolidation and disposition of special nuclear material, its plans are incomplete; and complexwide consolidation and disposition activities have not begun."[24]

The GAO report also points out a great weakness in DOE's implementation plans—a lack of accountability:

> the plutonium-239 plan states that the committee's Executive Steering Committee must approve the plan, but does not include any information on which program offices, sites, or other DOE organizations are responsible for carrying out the other actions that the plan identifies as necessary next steps, such as finalizing a schedule for plutonium-239 shipments from Hanford, Los Alamos, and Lawrence Livermore.[25]

GAO's conclusions appear to indicate that Livermore Lab will be housing its SNM for much longer than the five years DOE is currently estimating, and at half the protection level deemed necessary by the intelligence community.

DOES DOE ACTUALLY WANT TO ACCOMPLISH ITS GOAL TO DE-INVENTORY LIVERMORE LAB?

Although NNSA claims weapons-grade nuclear materials will be removed from Livermore Lab by the end of 2012, we suspect there will be significant delays. One reason is that DOE actually increased Livermore Lab's allowable amounts of SNM in 2005 so that, among other reasons, the Lab could develop new technologies for manufacturing plutonium pits,[26] including robotics technology.[27] The Lab purchased glove boxes[28] and other equipment to create a prototype production line at Superblock. "This new foundry may put the Lab and DOE in position to keep the SNM longer than 2012," Marylia Kelley of Tri-Valley CAREs told POGO.

---

[24] Government Accountability Office. *Securing U.S. Nuclear Material*: *DOE Has Made Little Progress Consolidating and Disposing of Special Nuclear Material*, (GAO-08-72). October 2007. p. 10. http://www.gao.gov/new.items/d0872.pdf (Downloaded March 13, 2008). Hereinafter: *Securing U.S. Nuclear Material.*

[25] *Securing U.S. Nuclear Material*, p. 16.

[26] A plutonium pit is the plutonium part of a nuclear weapon, and is in the shape of a sphere.

[27] Lawrence Livermore National Laboratory Report for Week Ending June 29, 2007, DNFSB Memorandum for J.K. Fortenberry, from J. Plaue, Acting DSFSB Site Representative, June 29, 2007, states: "Design activities to support installation of new foundry technologies in the Plutonium Facility are nearing completion." http://www.dnfsb.gov/pub_docs/llnl/wr_20070629_ll.pdf (Downloaded March 13, 2008); and Lawrence Livermore's 2006 Annual Report states, "Livermore worked on developing plutonium-part manufacturing technologies." Lawrence Livermore National Laboratory. *Annual Report 2006*, UCRL-TR-211126-06. p. 8, https://www.llnl.gov/annual06/pdfs/2006Annual.pdf, (Downloaded March 13, 2008); and National Archives and Records Administration, Federal Register. *Department of Energy National Security Administration*, Vol. 70, No. 228. November 29, 2005. http://www-envirinfo.llnl.gov/LLNL_SWEIS-SPEIS_ROD.pdf (Downloaded March 13, 2008). Hereinafter: National Archives and Records Administration. NNSA increased the highly enriched uranium administrative limit for the Radiography Facility from 25 to 50 kilograms to support the Stockpile Stewardship Program activities.

[28] A glove box is a sealed and windowed container with built-in gloves that allows users to safely handle the materials within, while protecting users from hazardous materials and isolating the materials from outside contamination. Livermore Lab uses glove boxes to handle special nuclear material.

"In the absence of legislation, that would be legally allowable. We have no law. We want to see a law and see it specify a date sooner than 2012."[29]

Kelley's fears that the Lab may push to keep the material longer for its research purposes are indeed warranted. For instance, in 2005, NNSA stated that it is relying on the Lab to conduct research for the Stockpile Stewardship Program, which would "contribute to the need for *long-term* storage of plutonium."[30] [Emphasis added] POGO is concerned by what the duration of "long-term" might actually be.

It is unclear whether the delay in removing Livermore Lab's SNM is coming from DOE, NNSA, or the Lab itself. The Lab's Principal Public Information Officer, David Schwoegler, said, "The problem we face is that 80 percent of the plutonium we have on site we don't need, and we've had it boxed to be shipped, ready to leave site for the past 12 years."[31] Congress needs to ask why the material hasn't left yet.[32]

A POOR TRACK RECORD: PAST EFFORTS TO DE-INVENTORY LIVERMORE LAB

Over the last 13 years, DOE has made a series of pronouncements about the need to de-inventory Livermore Lab, and has proposed a number of plans. Yet, the following timeline shows how DOE waffles in its commitment to de-inventory the Lab:

1995 Then-Secretary of Energy Hazel O'Leary establishes "Alternative Futures for the Department of Energy National Laboratories," a task force of industry and academia leaders, which concludes in its "Galvin Report" that Lawrence Livermore could de-inventory SNM by 2000.[33] If this recommendation had been acted upon, DOE would have avoided spending an estimated $350 million in securing SNM at the Lab from 2000-2008.[34]

[29] POGO phone interview conducted March 10, 2008.
[30] National Archives and Records Administration, p. 71491.
[31] Jason Barr. "Livermore lab to double on-site plutonium: Part one of an in-depth series on the Livermore Lab," *LCP Express*, October 13, 2006.
[32] POGO is not only concerned because the material is still at Livermore Lab, but also by how it is stored: The Defense Nuclear Facilities Safety Board (DNFSB) found the Lab using food storage containers and paint tins to store plutonium, which increases the risk of oxidation and leaks. Also, *Letter from John T. Conway to Secretary Samuel W. Bodman*, March 10, 2005. https://www.hss.doe.gov/deprep/2005/FB05M10A.DOC (Downloaded March 13, 2008); and Marylia Kelley. "Plutonium Found in Paint Cans, Food Cans at Livermore Lab." *Citizens Watch Newsletter*, April 2005. http://www.trivalleycares.org/newsletters/cwapr05.asp (Downloaded March 13, 2008).
[33] Department of Energy. *Alternative Futures for the Department of Energy National Laboratories*, 1995, Chapter 2.3.
[34] Calculated by adding 2001-2007 actual security costs, and dividing by two in order to account for the fact that half of the security expenditures are for securing SNM. These costs were provided to POGO in a February 12, 2008, email by William Desmond, Chief, Defense Nuclear Security at NNSA. We used 2001 costs to estimate those for 2000, and 2007 costs to estimate those for 2008.

2000 DOE security advisors recommend to then-Secretary Bill Richardson that the Lab's SNM be de-inventoried because of the "encroachment" of the civilian population.

2001 Two protective force officers bring to the DOE Inspector General their security concerns about inadequate training and support of Special Response Teams. The whistleblowers are fired in retaliation.

April/May 2004 In response to DOE's call for public comments on the Draft Site Wide Environmental Impact Statement, which proposes to double the amount of plutonium at Lawrence Livermore's Superblock, Tri-Valley CAREs helps organize an estimated 9,000 written comments and 100 community members to testify in opposition to any new plutonium work at the Lab and in support of removing existing plutonium.[35]

May 2004 Then-Secretary Spencer Abraham pledges in a speech: "…we will consider whether certain essential work performed at Livermore could be relocated to allow us to remove the Category I and II material stored there."[36]

January 2005 Superblock stops operations to resolve a number of safety violations and weaknesses identified by the Defense Nuclear Facilities Safety Board (DNFSB).[37] The facility returned to partial operations in October 2005.

March 2005 DNFSB places a notice in the Federal Register stating that Livermore Lab improperly stores plutonium in food storage containers and paint tins, leading to oxidation and leak risks.[38]

---

[35] Marylia Kelley, Loulena Miles and Tara Dorabji. "Public Hearings Challenge Planned Expansion of Nuclear Weapons Activities and Materials at Livermore Lab." *Citizen's Watch Newsletter*. December, 2005. http://www.trivalleycares.org/newsletters/cwdec05.asp (Downloaded March 13, 2008); and Ian Hoffman. "Lab to double plutonium storage," *BNET.* November 30, 2005. http://findarticles.com/p/articles/mi_qn4176/is_20051130/ai_n15945614. (Downloaded March 13, 2008); and POGO phone interview with Marylia Kelley, Executive Director of the Livermore-based Tri-Valley CAREs, December 13, 2007.

[36] Department of Energy. *Remarks prepared for Energy Secretary Spencer Abraham - Security Police Officer Training Competition*, May 7, 2004. http://www.energy.gov/news/1796.htm (Downloaded March 13, 2008).

[37] Lawrence Livermore National Laboratory. *Annual Report 2006*, UCRL-TR-211126-06. https://www.llnl.gov/annual06/pdfs/2006Annual.pdf, p. 37 (Downloaded March 13, 2008); and Defense Nuclear Facilities Safety Board. *Letter from Chairman John T. Conway to Ambassador Linton Brooks.* http://www.dnfsb.gov/pub_docs/llnl/cor_20050308_ll.pdf (Downloaded March 13, 2008). Hereinafter *Letter from Chairman John T. Conway.*

[38] Letter from Chairman John T. Conway; and Marylia Kelley. "Plutonium Found in Paint Cans, Food Cans at Livermore Lab." *Citizens Watch Newsletter*, April 2005. http://www.trivalleycares.org/newsletters/cwapr05.asp (Downloaded March 13, 2008).

May 2005 NNSA-commissioned report by retired Navy Admiral Richard W. Mies concludes:

> DOE/NNSA lack an enterprise-wide plan for consolidation of Special Nuclear Material (SNM).… NNSA is plagued by a number of cultural problems that, until addressed, will erode its ability to establish and provide security consistent with the gravity of its mission.… Disparate views and an underappreciation of security across the enterprise, such that security is not fully embraced as integral to mission.[39]

July 2005 The 123-page report of the Secretary of Energy Advisory Board (SEAB) points to Lawrence Livermore as one of the ideal sites for removing SNM because:

> Any partially successful terrorist attack on these sites may cause collateral damage to the surrounding civilian population and associated public and private assets.[40]

November 2005 NNSA declares that the removal of SNM would threaten the "viability" of Livermore Lab.[41] NNSA doubles the plutonium material-at-risk limit from 20 to 40 kilograms of fuel-grade equivalent plutonium in each of the two rooms of Superblock—enough for as many as 300 nuclear bombs.[42]

NNSA also states its reliance on the Lab to conduct research for its Stockpile Stewardship Program, which would "contribute to the need for *long-term* storage of plutonium."[43] [Emphasis added]

March 2006 Testifying before the House Armed Services Committee's (HASC) Subcommittee on Strategic Forces, Linton Brooks outlines support for the new SNM missions at Livermore Lab:

> With regard to consolidation, our efforts have primarily been consolidating within facilities. In my view, however, until we

---

[39] Admiral Richard W. Mies. *NNSA SECURITY*: *An Independent Review*. April 2005. http://www.nnsa.doe.gov/docs/reports/2005-05-02_Mies_Executive_Summary_and_Report.pdf. (Downloaded October 16, 2006).

[40] Department of Energy, Secretary of Energy Advisory Board. *Report of the Nuclear Weapons Complex Infrastructure Task Force. Nuclear Weapons Complex of the Future*, July 13, 2005. http://www.seab.energy.gov/publications/NWCITFRept-7-11-05.pdf (Downloaded March 13, 2008).

[41] National Archives and Records Administration, p. 71491. NNSA increased the highly enriched uranium administrative limit for the Radiography Facility from 25 to 50 kilograms to support the Stockpile Stewardship Program activities.

[42] Keay Davidson. "Modern Gatling Guns to Defend Against Land, Air Terrorist Attack at Livermore National Laboratory," *San Francisco Chronicle*, February 3, 2006. http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2006/02/03/MNGR9H2AM71.DTL (Downloaded March 13, 2008).

[43] National Archives and Records Administration, p. 71491.

look at the long-term range of the complex, Pantex, Y-12, Nevada and Los Alamos absolutely have to retain special nuclear material …. And for the near term, so does Livermore, because we need it for the science.[44]

April 2006 POGO testifies before the HASC's Subcommittee on Strategic Forces that:

> Currently the only mission for SNM at Livermore is for studying the aging of plutonium, and studying cracked plutonium pits for nuclear warheads. This same work is conducted at Los Alamos National Laboratory.
>
> If it is determined by NNSA that it wants to continue the redundant mission at Livermore, the material could be moved to the Device Assembly Facility (DAF) at the Nevada Test Site. The Livermore glove boxes, and any other necessary equipment, could be shipped to the DAF. The scientists could easily take the one-hour flight to the DAF, as they did for years during the nuclear test program, when they need to conduct experiments with larger quantities of SNM.[45]

June-October 2006 Report by HASC recommends that NNSA de-inventory its CAT I and II SNM by 2010,[46] despite NNSA's testimony promising to de-inventory Livermore Lab by the end of 2014.[47] The conference committee agrees to 2012,[48] and Congress passes and President Bush signs into law the John Warner National Defense Authorization Act for Fiscal Year 2007, which mandates that all CAT I and II SNM be removed by no later than March 1, 2012.[49]

---

[44] House Armed Services Committee: Subcommittee On Strategic Forces. Transcript from *Hearing on the FY 2007 Budget for the Energy Department's Atomic Energy Defense Activities*, March 1, 2006.

[45] Project On Government Oversight. *Testimony of POGO's Peter Stockton, Senior Investigator before the House Armed Services Committee, Subcommittee on Strategic Forces Regarding Future Plans on the Nuclear Weapons Complex*, April 5, 2006. http://www.pogo.org/p/homeland/ht-060402-nuclear.html (Downloaded March 13, 2008).

[46] "This objective does not preclude the retention of category I and II special nuclear materials at a national security laboratory, if the transformation plan for the nuclear weapons complex envisions a pit production capability at a national security laboratory." *National Defense Authorization Act for Fiscal Year 2007: Report of the Committee on Armed Services House of Representative on H.R. 5122, 109-452.*

[47] National Nuclear Security Administration, Office of Defense Programs. *Complex 2030: An Infrastructure Planning Scenario for a Nuclear Weapons Complex Able to Meet the Threats of the 21st Century*, DOE/NA-0013, October 2006, p. 10.

[48] John Warner National Defense Authorization Act for Fiscal Year 2007: Conference Report to Accompany H.R. 5122, No. 109-72.

[49] *John Warner National Defense Authorization Act for Fiscal Year 2007* (Public Law 109-364) Section 4214, A.7. http://www.govtrack.us/congress/bill.xpd?bill=h109-5122 (Downloaded March 13, 2008).

December 2006 NNSA sends out a press release announcing: "Special Nuclear Materials Being Drawn Down at Lawrence Livermore National Laboratory."[50] After making several calls to NNSA, POGO learns that the shipments did not include any CAT I and II quantities of plutonium and highly enriched uranium, but contained mostly waste.

January 2007 NNSA resists Congress' 2012 deadline, committing only to "evaluate relocating Category I/II inventories from [Livermore Lab] by 2014" or "as rapidly as practical."[51]

June 2007 A report of the House Appropriations Committee's Subcommittee on Energy and Water, which tasked DOE to create the 2005 SEAB, contains not-so-muted outrage for NNSA's actions to reverse de-inventorying its sites:

> Instead of working with the Committee to arrive at a realistic plan that has the possibility of garnering bipartisan political support, the NNSA continues to pursue a policy of rebuilding and modernizing the entire complex *in situ* without any thought given to a sensible strategy for long-term efficiency and consolidation.[52]

December 2007 NNSA commits to remove Category I and II quantities of SNM from Livermore Lab by the end of 2012.[53]

NNSA finally makes its first shipment of CAT I and II SNM out of Livermore Lab to the Savannah River Site (after thirteen years of promising to do so).[54]

Current NNSA and Livermore Lab are pursuing a new mission to develop a manufacturing process for plutonium pits, which requires keeping weapons-grade plutonium at the lab.[55]

---

[50] Department of Energy. *Special Nuclear Materials Being Drawn Down at Lawrence Livermore National Laboratory*, December 7, 2006. http://www.nnsa.doe.gov/docs/newsreleases/2006/PR_2006-12-07_NA-06-49.htm (Downloaded March 13, 2008).
[51] Department of Energy. *Report on the Plan for Transformation of the National Complex*, NNSA, 31 January 2007, pp. ii, 8. http://www.nnsa.doe.gov/docs/Trans_of_NNSA_WC_2007-31-07.pdf (Downloaded March 13, 2008).
[52] House Appropriations Committee. *FY 2008 Energy and Water Development Appropriations Bill Committee Report*, June 11, 2007. pp. 96-97.
[53] Department of Energy. *Lawrence Livermore National Laboratory (LLNL): Nuclear Design and Engineering and High Explosive Research and Development (R&D): Complex Transformation- Preferred Alternative.* http://www.nnsa.doe.gov/docs/ComplexTrans/LLNL.pdf (Downloaded March 13, 2008).
[54] National Nuclear Security Administration. *Consolidation of Nuclear Weapons Materials Continues: Plutonium Moved From Lawrence Livermore National Laboratory to Savannah River Site*, January 7, 2008. http://www.nnsa.doe.gov/docs/newsreleases/2008/PR_2008-01-07_NA-08-01.htm (Downloaded March 13, 2008).
[55] Lawrence Livermore National Laboratory Report for Week Ending June 29, 2007, DNFSB Memorandum for J.K. Fortenberry, from J. Plaue, Acting DSFSB Site Representative, June 29, 2007, states: "Design activities to support installation of new foundry technologies in the Plutonium Facility are nearing completion."; [footnote continued]

NO MORE EXCUSES

To avoid further delays, POGO wants to clear up some of the myths floating around that have slowed the process of removing SNM from Livermore.

Myth #1 – The Lab needs to keep plutonium in order to develop new methods, including robotics, for manufacturing plutonium pits.

> Reality – Research into the aging of plutonium pits ended in 2006 at the Lab.[56] Even congressional staff tasked with nuclear weapons facilities oversight are unaware of the new mission to develop methods to manufacture plutonium pits.

Myth #2 – There are no certified shipping containers available to transfer the CAT I and II SNM.

> Reality – POGO learned from NNSA officials that, as of December 2007, they had not heard of any problems with securing certified containers for transport.

Myth #3 – NNSA officials claim that it will take nineteen 18-wheel trucks to move the less-than one ton of CAT I and II SNM. The officials state that, as of December 2007, transportation assets were tight because of DOD, DOE, and NRC obligations, making securing transportation for removing the SNM difficult.

> Reality – There should be no problem making 19 shipments out of the Lab, as NNSA's Draft Complex Transformation indicates that Lawrence Livermore is authorized to transport approximately 584 shipments annually. Furthermore, POGO has learned from a knowledgeable source that, as of December 2007, the truckers and security agents of NNSA's Office of Secure Transport are complaining because of a lack of work. They make more money when they are on the road.

Myth #4 – According to a top NNSA official, the Nevada congressional delegation would be opposed to sending any of the Lab's material to the DAF at the Nevada Test Site.

> Reality – POGO staff inquired of the Nevada delegation and learned that there was no opposition to SNM being moved to the DAF if it turns out that there is a national security mission for the material. Their only opposition would be to transferring and storing nuclear waste there. A knowledgeable congressional staffer had never heard of concerns from the Nevada delegation about transferring SNM to the DAF. Also, a different NNSA official had not heard of concerns from the Nevada delegation, as of December 2007.

---

and Livermore's 2006 Annual Report states, "Livermore worked on developing plutonium-part manufacturing technologies." Lawrence Livermore National Laboratory. *Annual Report 2006,* UCRL-TR-211126-06. p. 8 https://www.llnl.gov/annual06/pdfs/2006Annual.pdf (Downloaded March 13, 2008); and National Archives and Records Administration, p. 71491. NNSA increased the highly enriched uranium administrative limit for the Radiography Facility from 25 to 50 kilograms to support the Stockpile Stewardship Program activities.

[56] Lawrence Livermore National Laboratory. "U.S. Weapons Plutonium Aging Gracefully." Science and Technology Review, UCRL-52000-07-5. May 7, 2007. https://www.llnl.gov/str/May07/Schwartz.html (Downloaded March 13, 2008).

Myth #5 – "You can't move Lawrence Livermore's material or mission to the DAF because it is full," says a congressional staffer.

> Reality – POGO traveled to the DAF and was assured by NNSA officials there that the DAF has more than adequate space for Livermore Lab's SNM. A top NNSA official confirmed after a recent visit to the DAF that it is virtually empty.

CONCLUSION

There is nothing more Livermore Lab can do to increase security. As a result, DOE must immediately begin to remove all of the weapons-grade plutonium and highly enriched uranium from the Lab so that it will be de-inventoried of the material by early 2009. DOE has the ability to do this. Sandia National Laboratory provides an illustrative comparison. POGO has been recommending since 2001 that NNSA move the SNM out of Sandia because it, too, is located in a metropolitan area—in this case, the city of Albuquerque, New Mexico. In February 2008, the material was finally removed with no resistance from Sandia. POGO was pleased to hear that the removal occurred "seven months ahead of schedule," and we believe NNSA can apply a similar timeline to Livermore Lab.[57] POGO is not suggesting that the Lab be shut down. In fact, many important breakthroughs are occurring there. However, the risks of storing CAT I and II special nuclear material at the Lab are simply too high, and no amount of additional expenditures on security will reduce those risks to the civilian population.

[57] NNSA. *First Phase of Nuclear Material Consolidation Complete: Work Completed at Sandia Seven Months Ahead of Schedule*, February 28, 2008. http://www.nnsa.doe.gov/docs/newsreleases/2008/PR_2008-02-28_NA-08-13.htm (Downloaded March 11, 2008).

RECOMMENDATIONS

1) Immediately move the Category I and II special nuclear material out of Livermore Lab.
   A) The CAT I and II plutonium that has already been declared excess at the Lab and has been sitting packaged and ready for removal should be immediately moved to Savannah River Site for storage and disposition.
   B) For the Lab's CAT I and II plutonium that has not yet been declared excess, Congress should determine whether there is a credible mission at the Lab for the material:
      i. If the mission of developing new methods, including robotics, for manufacturing plutonium pits is a national security priority, and if CAT I and II plutonium is indeed required for this mission, the material should be moved to the Nevada Test Site's Device Assembly Facility (DAF), which is much more secure and where there is plenty of room. The Livermore glove boxes, and any other necessary equipment, could be shipped to the DAF. If Livermore Lab scientists need to conduct experiments with CAT I and II SNM, they could easily take the one-hour flight to the DAF as they did for years during the nuclear test program.
      ii. If Congress deems that the mission is not a national security priority, NNSA should immediately move the CAT I and II plutonium to the Savannah River Site for storage and disposition.

   C) Because there is no national security priority for highly enriched uranium at Livermore Lab, immediately move the material to the Y-12 National Security Complex for storage and downblending.[58]

2) When the CAT I and II SNM is removed from the Lab, the Gatling guns should be disassembled and transferred to a more appropriate NNSA site.

Until the CAT I and II SNM is moved, the following recommendations should be implemented. [See Appendix B for background.]

3) Federalize the protective force. By doing so, the Department of Energy and Office of Management and Budget can resolve authority, equipment, training, benefits, and strike issues. Both the Government Accountability Office and the National Nuclear Security Administration should promptly complete their ongoing evaluations of federalization to resolve these issues.[59]

4) A group of independent scientists should evaluate the risks posed to DOE's protective force officers by the lack of Self Contained Breathing Apparatus (SCBA) gear. If there is a significant risk, the protective force should be equipped with and trained on SCBA gear.

[58] Downblending is the reduction of uranium enrichment levels from 80-90% to less than 20%, a Low Enriched Uranium (LEU), which is of no interest to terrorists and is suitable for use in commercial nuclear fuel.
[59] Originally, the NNSA report was to be completed February 2008, but POGO has learned that it will not be completed until late summer or early fall. The GAO report will not be completed in time for its six-month review deadline. Both agencies should accelerate their ongoing evaluations.

ACRONYMS AND GLOSSARY

API	Armor-Piercing Incendiary Rounds
CAT I and II	Category I and II Special Nuclear Material
DAF	Device Assembly Facility
DBT	Design Basis Threat
DNFSB	Defense Nuclear Facilities Safety Board
HASC	House Armed Service Committee
IND	Improvised Nuclear Device
SASC	Senate Armed Services Committee
SCBA	Self Contained Breathing Apparatus
SEAB	Secretary of Energy Advisory Board
SNM	Special Nuclear Material
Tri-Valley CAREs	Tri-Valley Communities Against A Radioactive Environment

Armor-Piercing Incendiary Rounds
Armor-Piercing Incendiary Rounds is a type of ammunition, which can be fired by 50 caliber sniper rifles to knock down hovering helicopters, pierce armored limousines, and ignite bulk fuel tanks from 10 football fields away.

Breacher
A "breacher" is a person trained in various methods of barrier penetration, or breaking through to barricaded areas.

Category I and II Special Nuclear Material
Category I and II special nuclear material is the most dangerous and expensive-to-guard special nuclear material, and includes plutonium and highly enriched uranium, which are used in nuclear weapons and for research and development.

Design Basis Threat
The Design Basis Threat describes the level of threats a protective force is required to defend against: the number of outside attackers and inside conspirators, as well as the kinds of weapons

and size of truck bombs that would be available to terrorists. It is based on the Postulated Threat, which was developed by the DIA, FBI, CIA, DOE, and DOD.

Downblending
Downblending is the reduction of uranium enrichment levels from 80-90% to less than 20%, a Low Enriched Uranium (LEU), which is of no interest to terrorists and is suitable for use in commercial nuclear fuel.

Fissile
Fissile materials, mainly plutonium-239 and uranium-235, are composed of atoms that can release enormous amounts of energy from a self-sustaining chain-reaction when split by neutrons. The fission process is controlled in nuclear reactors to harness the energy for the production of electricity, and is released all at once for nuclear weapons to produce a violent explosion.

Improvised Nuclear Device
An improvised nuclear device can be created using a critical mass (approximately 100 pounds) of HEU and far less of plutonium to trigger a detonation of a magnitude close to that which devastated Hiroshima.

Postulated Threat
The Postulated Threat is the intelligence community's best estimate of the threat faced by nuclear facilities. This includes the number of adversaries, lethality of their weapons, and the size of a truck bomb that terrorists might use.

Special Nuclear Material
Special nuclear material, including highly enriched uranium and plutonium, is fissile material used in nuclear weapons and for research and development.

Superblock
The Superblock, Livermore Lab's Building 332, is where the Lab's plutonium and highly enriched uranium is housed.

Tri-Valley CAREs
Tri-Valley CAREs was founded in 1983 in Livermore, California, by concerned neighbors living around the Lawrence Livermore National Laboratory, one of two locations where all U.S. nuclear weapons are designed. Tri-Valley CAREs monitors nuclear weapons and environmental clean-up activities throughout the U.S. nuclear weapons complex, with a special focus on Livermore Lab and the surrounding communities.

Appendix A

National Nuclear Security Administration
Internal Emails

-----Original Message-----
From: Podonsky, Glenn
Sent: Friday, January 20, 2006 3:42 PM
To: Brooks, Linton; Grant, Susan; Podonsky, Glenn; Garman, David; Desmond, William; Sigal, Jill; Franklin, Anson; Paul, Jerry; Walsh, Bob; Sullivan, John; Kilpatrick, Michael; Stone, Cheryl; Kolton, Anne Womack; Hodson, Patricia J.; Kane, Michael
Cc: Barker, William; Stevens, Curtis; Campbell, Jim; Ingols, Adam
Subject: RE: DBT and the budget Round II
Importance: High

I would like to provide an alternate proposal for dealing with implementation of the revised DBT under current budgetary conditions. As Linton correctly points out, we do not have solid figures for the real costs associated with full compliance with the 2005 DBT. We have attempted through various means, such as last year's site assistance visit effort and a number of subsequent confirmatory evaluations, to identify appropriate security upgrades needed to modify our protection strategies and achieve our protection goals. However, none of our sites have fully-developed implementation plans that quantify the costs of an integrated approach to needed upgrades, such as the costs associated with applying new security technologies or of increasing protective force skill levels and capabilities. The complex has not universally bought into the merits of the new security initiatives and strategies, nor is it confident about the right way to implement them. I believe there is a way, described below, that we can demonstrate to the complex what needs to be done, how to do it, and how much it will cost.

I believe that if we vigorously pursue the strategies and initiatives we have previously identified, such as material consolidation and the revised approach to protective force employment envisioned in the elite force initiative and further facilitated by the increased and more effective use of security technologies, we can meet our DBT-related commitments in a timely manner. It will require strong leadership and cooperation by all parties and pointed encouragement to get some sites to fully embrace the revised DBT and to buy into, adopt, and pursue these new strategies, and I believe that should be our continued goal.

I believe we can further that goal if we clearly demonstrate that our initiatives and strategies can be successfully implemented. I propose that NNSA, ESE, and SSA immediately begin a joint effort at a demonstration site to develop and implement an integrated strategy to make the changes necessary to meet the 2005 DBT. This effort would show by example that appropriate security initiatives and strategies can be successfully implemented, how they can be planned and implemented, and the actual costs of doing so. I would suggest Idaho National Laboratory as a suitable demonstration site; of the various sites my office is working with to implement new security technologies, INL leads in its demonstrated willingness to implement our security initiatives to achieve a more effective and efficient protection strategy. It would be essential that NNSA, ESE, and SSA each fully cooperate in this effort and that managers fully buy into it, so that the lessons learned from the effort will be applied throughout the complex.

We would need to apprise Congress of the purpose and intentions of this

demonstration project, and explain how it will increase the effectiveness and efficiency of our Department-wide efforts to meet the requirements of the 2005 DBT. We should acknowledge that while other sites will continue essential planned security upgrades concurrent with the demonstration project, taking full advantage of the lessons of the demonstration will result in some delay in the completion of fully-integrated security upgrade packages at some sites.

-----Original Message-----
From: Brooks, Linton
Sent: Thursday, January 19, 2006 1:06 PM
To: Grant, Susan; Podonsky, Glenn; Garman, David; Desmond, William; Sigal, Jill; Franklin, Anson; Paul, Jerry; Walsh, Bob; Sullivan, John; Kilpatrick, Michael; Stone, Cheryl; Kolton, Anne Womack; Hodson, Patricia J.; Kane, Michael
Cc: Barker, William; Stevens, Curtis; Campbell, Jim; Ingols, Adam
Subject: RE: DBT and the budget Round II

If the concern is the tactical one of how to portray this, we should look at alternative formulations including saying nothing now. But we will have to say something, perhaps as soon as rollout and certainly as soon as the first hearing. I defer to others on ESE sites. For NNSA, the sites asked for ed $209 million dollars in FY2007 for the DBT. We validated $150 million of that and revised that number downward to $100 million when the revised DBT was approved. OMB cut our request by $200 million. We need to be clear that we won't be able to meet the requirements.

On Susan's point, I agree that we don't want to convey a DOE position that is only applicable to some sites. I though Bob Walsh's rewrite did that nicely: "the budget does not fully support this implementation date at all sites.... At sites where implementation may be delayed, such delays are acceptable, as the risk is mitigated..."

Anyhow, I'll look forward to the alternate approach. The only thing I think we absolutely must avoid is misleading the Hill

Linton

-----Original Message-----
From: Grant, Susan
Sent: Thursday, January 19, 2006 11:08 AM
To: Podonsky, Glenn; Brooks, Linton; Garman, David; Desmond, William; Sigal, Jill; Franklin, Anson; Paul, Jerry; Walsh, Bob; Sullivan, John; Kilpatrick, Michael; Stone, Cheryl; Kolton, Anne Womack; Hodson, Patricia J.; Kane, Michael
Cc: Barker, William; Stevens, Curtis; Campbell, Jim; Ingols, Adam
Subject: Re: DBT and the budget Round II

Thanks, Glenn. We in the CFO community share your concerns, For the sake of clarity and for internal use, I would like to see a matrix by site on how we assess each site. My understanding is that some sites are in better DBT posture than others (particularly the SC sites funding is good) and are on course to meet DBT requirements. Perhaps the Deputy has this level of understanding but it is not wide spread. We really do not want to communicate a DOE position that is only applicable to some sites. Thanks for trying to rewrite this.

-----Original Message-----
From: Podonsky, Glenn
To: Brooks, Linton; Garman, David; Desmond, William; Sigal, Jill; Franklin, Anson; Paul, Jerry; Walsh, Bob; Sullivan, John; Grant, Susan; Kilpatrick, Michael; Stone, Cheryl; Kolton, Anne Womack; Hodson, Patricia J.; Kane, Michael
CC: Barker, William; Stevens, Curtis

Sent: Thu Jan 19 09:40:54 2006
Subject: Re: DBT and the budget Round II

Linton, thank you for your message. SSA continues to have serious concerns with this approach. We attempted a "red line correction" version but that did not work. What I would like to do is provide you late tonight or early Friday, an alternative to accompany your paper when you go forward to S-2 by COB friday.

-----Original Message-----
From: Brooks, Linton
To: Garman, David; Desmond, William; Sigal, Jill; Franklin, Anson; Podonsky, Glenn; Paul, Jerry; Walsh, Bob; Sullivan, John; Grant, Susan; Kilpatrick, Michael; Stone, Cheryl; Kolton, Anne Womack; Hodson, Patricia J.; Kane, Michael
CC: Barker, William; Paul, Jerry; Stevens, Curtis
Sent: Thu Jan 19 08:16:14 2006
Subject: DBT and the budget Round II

Here is what I propose to give Clay. It is an ESE re-write to clarify that they may be able to achieve the DBT at some sites. We got no other comments.

I will send to Clay at COB Friday saying that none of you object. Let me know if that is wrong.

Thanks, Linton

<<DBT INSERT Jan 06 (rev 3).doc>>

-----Original Message-----
From: Brooks, Linton
Sent: Tuesday, January 17, 2006 10:27 AM
To: Garman, David; Desmond, William; Sigal, Jill; Franklin, Anson; Podonsky, Glenn; Paul, Jerry; Walsh, Bob; Sullivan, John; Grant, Susan; Kilpatrick, Michael; Stone, Cheryl
Cc: Barker, William; Paul, Jerry; Stevens, Curtis
Subject: RE: DBT and the budget

I spoke to Clay after our Friday meeting to tell him the approach we were taking on the DBT and Congress. I told him he would have something to look at when he returned from Moscow.

Clay said that he did not automatically accept the contention that the reduced funding would not permit attaining the 2005 DBT by the end of 2008. His rationale is somewhat different that Glenn's, he simply believes we don't have any idea of what we can do because we don't have good cost estimates. I told him that (a) we would get him what we had and (b) I was extremely skeptical that we could take site inputs, cut them significantly, have OMB do another 200M dollar cut and have no impact on our ability to implement the new DBT.

Clay took the opportunity to point out that we wouldn't have these kinds of problems if we had made security an indirect cost. He acknowledges my point that we can't change quickly, but I think that he is still interested in change sooner or later.

Attached is the insert that I propose for our consideration. I would appreciate it if you would provide comments to Cheryl Stone (in Bill Desmond's absence) by COB Wednesday. That will let us do one more draft and still give Adam Ingols something for Clay's welcome home package Monday night

For Cheryl Consolidate the comments and then lets talk

Thanks, Linton

<< File DBT INSERT.doc >>

-----Original Message-----
From: Brooks, Linton
Sent: Thursday, January 12, 2006 1:47 PM
To: Garman, David; Desmond, William; Sigal, Jill; Franklin, Anson; Podonsky, Glenn; Paul, Jerry; Walsh, Bob; Sullivan John; Grant, Susan; Kilpatrick, Michael
Cc: Barker, William; Paul, Jerry; Stevens, Curtis
Subject: DBT and the budget
Importance: High

As I discussed at the January 3 senior staff meeting, I have set up a meeting for tomorrow for of us to talk about a report mandated by the most recent Defense Authorization Act. The report is due in June and covers the Design Basis Threat. Specific details are set for it below.

The obvious problem is that we will be providing a repot that indicates that we have not chosen to seek funding in the FY 07 budget to implement the 2005 DBT by the end of 2008. We all know that is because OMB denied funding, but since we will be defending the Administration's position, we won't be able to say that. I assume that our argument will be competing priorities. That will work pretty well on the NNSA side where I have taken major reductions in outyear projection in the interest of deficit reduction. It may work less well for the rest of the department if we actually have significant plus ups for science and nuclear energy. We will be telling the Congress that complying with the DBT is less important than either of those.

The problem may be made more complicated by the fact that we all have to submit five-year budgets. I still don't have a NNSA pass back and expect that it will only provide a control number at the appropriation level. We will be submitting a budget (I expect) that shows a huge increase in security between FY 07 and FY 08, essentially allowing us to meet DBT a year later than otherwise projected. That may or may not fly with OMB. If it doesn't that will further complicate what we say in this report.

What we need to decide now is

1. What will we say in the report in very broad terms? My recommendation is to simply say that within constrained resources we had to make priority decisions, that the DBT is the standard and that we will move toward it, but that in looking at the reality of the available resources we concluded that we would not move to it as rapidly as we would like. We should assert that the 2003 DBT (which we will meet on time) is sufficiently conservative that the delay in meeting the 2005 DBT is acceptable.

2. Second think that we need to decide - - and the thing that makes this urgent - - is what, if anything, do we say on this subject in the budget documentation and in testimony. I think there is a serious risk to our credibility if we say nothing and then send this report up around the time they are in markup. Besides, there is little chance we can avoid the subject coming up in hearings. On the other hand, without some more thought we aren't completely ready to engage, since we're defending a decision somebody else made.

My view is we should include an explicit statement in the budget documentation that to provide for higher priorities the Administration has decided not to increase funding to meet the 2008 date for the newest DBT, but that we are confident that we will comply with the 2003 date and that the risk is acceptable because the 2003 DBT is so conservative. I suspect others may have alternate views.

Anyhow, it should be an interesting discussion.

Thanks,
Linton

SEC. 3113. REPORT ON COMPLIANCE WITH DESIGN BASIS THREAT ISSUED BY DEPARTMENT OF ENERGY IN 2005.

(a) REPORT REQUIRED.-Not later than 180 days after the date of the enactment of this Act, the Secretary of Energy shall submit to the congressional defense committees a report detailing plans for achieving compliance under the Design Basis Threat issued by the Department of Energy in November 2005 (in this section referred to as the ''2005 Design Basis Threat'').

(b) CONTENT.-The report required under subsection (a) shall include the following:

(1) A plan with associated annual funding requirements to achieve compliance under the 2005 Design Basis Threat by December 31, 2008, and sustain such compliance through the Future Years Nuclear Security Plan, of all Department of Energy and National Nuclear Security Administration sites that contain nuclear weapons or special nuclear material.

(2) A risk and cost analysis of the increase in security requirements from the Design Basis Threat issued by the Department of Energy in May 2003 to the 2005 Design Basis Threat.

(3) An evaluation of options for applying security technologies and innovative protective force deployment to increase the efficiency and effectiveness of efforts to protect against the threats postulated in the 2005 Design Basis Threat.

(c) FORM.-The report required under subsection (a) shall be submitted in classified form with an unclassified summary

(d) COMPTROLLER GENERAL REVIEW.-Not later than one year after the date of the enactment of this Act, the Comptroller General shall submit to the congressional defense committees a report containing a review of the plan required by subsection (b)(1). In conducting the review, the Comptroller General shall employ probalistic risk assessment methodology to access the merits of incremental risk mitigation steps proposed by the Department of Energy.

Appendix B

Project On Government Oversight, "Protective Force Lacks Necessary Tools,"

March 2008

Protective Force Lacks Necessary Tools

Because of Lawrence Livermore National Laboratory's location, it is nearly impossible to adequately protect the site's special nuclear material (SNM). In light of this, the Lab should immediately be de-inventoried of its Category I and II (CAT I and II) SNM. That said, DOE has been dragging its proverbial feet for the past 13 years (and shows every sign of continuing to do so). Until the SNM is moved, the National Nuclear Security Administration (NNSA) needs to provide the protective force officers with the tools they need to perform their job as effectively as possible.

There are currently a number of issues undermining the protective force's ability to function effectively: lack of authority, lack of necessary equipment and personnel, insufficient training, and inadequate benefits.

Lack of Authority

Livermore Lab's protective force officers are just that: security officers hired by private corporations to protect a limited area. They are not sworn law enforcement officers, and therefore their power to make arrests is limited.[1]

This limitation was recently highlighted when a Livermore Lab protective force patrol came across a vehicle inside the confines of the off-site power station that provides the Lab's power. With the suspects under gunpoint, the Lab's protective force officer had to call the license plate number into the Alameda Police Department. The plates came back as belonging to an individual with outstanding warrants. The Lab's protective force officer described the incident and phone conversation with the Alameda Police Department as follows:

> I ordered the driver out of the vehicle and had him stand facing the fence line while I conducted a pat down search for weapons. I then did the same with the passenger…. Additional Livermore Officers also arrived on scene. The Livermore Officers searched the 2 subjects and proceeded to search the truck. Alameda County was notified to respond because it is the County's jurisdiction. Alameda County Deputy _____ requested that I place the subjects under Citizen's arrest. Protective Service Sergeant _____ notified Captain _____of the request. Captain _____ notified Division Leader _____who authorized me to execute a citizen's arrest.[2] [Identifying information redacted.]

The Lab's protective force officer had to call the supervisor (the Sergeant), who then had to make contact with the next supervisor (the Captain), who then had to make contact with the next supervisor (the Division Leader). Imagine for a moment what would have happened if theft of SNM occurred during this absurd chain-of-permission.

---

[1] *Code of Federal Regulations, Title 10, Chapter X, Part 1047: Limited Arrest Authority and Use of Force by Protective Force Officers.* http://frwebgate.access.gpo.gov/cgi-bin/get-cfr.cgi?TITLE=10&PART=1047&SECTION=4&YEAR=1999&TYPE=TEXT (Downloaded March 13, 2008).
[2] University of California Lawrence Livermore National Laboratory Protective Force Division. *Incident Report #* [Redacted]. February 18, 2003.

The DOE will likely point to its *Guidelines for Fresh Pursuit* to claim that all sites have the capability to recapture stolen SNM.[3] *Guidelines* gives non-sworn, non-law enforcement, private contract protective force officers' permission to commit the following acts while trying to recapture stolen SNM outside of the DOE facility from which any SNM was stolen:

> firing at or from a moving vehicle, aircraft or watercraft; the ramming and disabling of pursued vehicles ….
>
> [I]f hostages are present in a pursuit situation in which recovery of SNM is involved, the safety and welfare of hostages must be considered; however, due to the ramifications of unauthorized use of SNM to the national security, the public, and the environment, the hostages' presence must not deter or impact, immediate pursuit or recovery of the SNM.[4]

The title should itself be a huge red flag. The document is just a "Guideline" and does not supersede the jurisdictional and legal barriers that prohibit the protective force officers from engaging in fresh pursuit off their property. This problem was also raised in the NNSA-commissioned report by retired U.S. Navy Admiral Richard W. Mies in 2005:

> Local law enforcement and FBI cooperation with NNSA sites is severely deficient. Sites do not have memorandums of understanding/memorandums of agreement (MOUs/MOAs) with outside agencies to respond to potential contingencies.[5]

Lack of Necessary Equipment and Personnel

Further undermining the protective force's ability to adequately secure the site is its limited ability to communicate with outside responders, including local law enforcement officers. As a result, coordinating an effort to recapture stolen SNM is virtually impossible. While the protective force has its own encrypted radio network so that its officers can securely communicate with each other, the Lab's officers do not have a channel on the California Law Enforcement Mutual Aid Radio System (CLEMARS). If there is a situation in which security officers are pursuing a suspect off-site (and possibly "firing at or from a moving vehicle, aircraft or watercraft…"), they are incapable of informing responding units from local agencies of their identities or their intentions.

Further exacerbating communication problems, *Guidelines* lays out an unwieldy communications chain of command for the protective force (PF):

> The PF dispatcher, supervisors in the PF command structure, and the officer in charge of on-site PF operations must coordinate the pursuit efforts of PF officers with other

[3] Department of Energy Security Office. *Protective Force Program Manual*, Attachment 2-5b3. June 30, 2000. Hereinafter: *Protective Force Program Manual.*
[4] *Protective Force Program Manual*, Attachment 2-5b3.
[5] NNSA. *NNSA Security: An Independent Review*, April 2005. pp. 8-6 http://www.nnsa.doe.gov/docs/reports/2005-05-02_Mies_Executive_Summary_and_Report.pdf (Downloaded March 13, 2008).

> Federal, State, and/or other local law enforcement authorities who assume primary responsibility.[6]

This communication hierarchy is potentially disastrous. According to the *Guidelines*, the responding protective force officer will disregard any and all orders from outside agencies to call off a fresh pursuit until they are instructed to do so by their security dispatcher or supervisor. [7] If the protective force officers' superiors are killed or otherwise incapacitated, or if the communication structure itself is compromised, the system would break down leaving no-one to coordinate with outside responders.

Another concern shared by Livermore Lab protective force officers is that they are not supplied with or trained on Self Contained Breathing Apparatus (SCBA) gear, which provides a source of oxygen in an oxygen deficient atmosphere. POGO has been told by protective force officers that, if the Lab's glove boxes are damaged or destroyed, cryogens and gases (argon) could be released and could incapacitate the protective force officers if they were not wearing SCBA gear.[8]

However, DOE refuses even to discuss providing SCBA gear to its protective force officers, as made clear in a letter from Richard Haddock, NNSA's Occupational Health and Safety Manager in the Environmental, Safety, and Health Division:

> The concern about whether [Security Police Officers (SPO)] should be trained on and wear self-contained breathing apparatus falls under the realm of a security issue that should not be discussed. However, [Livermore Lab] will continue to evaluate changing security tactics where SPOs may be exposed to airborne hazards and provide appropriate respirators. [See Attachment]

While law enforcement officers breaking up crystal meth labs and firefighters across the U.S. are trained and equipped with SCBA gear, Livermore Lab's protective force officers who protect SNM are not. Given that the officers believe they would be unprotected from this hazard, the issue should be evaluated by an independent group of scientists. If the issue is not resolved, the officers may be reluctant to enter certain areas, seriously degrading their ability to respond to a security incident.

Yet another issue creating unease in the protective force is that the Lab has not integrated tactical medical units into its protective force. Although there is a medical clinic on site, the protective force should also be supported by medics specifically trained to respond while under

---

[6] *Protective Force Program Manual*, Attachment 2-5g. (Coordination with other law enforcement Authorities).
[7] *Protective Force Program Manual*, Attachment 2-5g.
[8] Department of Energy by University of California Lawrence Livermore National Laboratory. *Environment, Safety, and Health Manual*, September 9, 2003. Various forms of SNM are pyrophoric, which means they ignite when exposed to oxygen, and require the introduction of an inert and heavy gas to displace the oxygen. Cryogens are also used within the RMA as a way to stabilize various forms of SNM. *Environment, Safety, and Health Manual*, Document 18.5, p 5. "A small liquid spill produces a large Volume of gas and displaces the air in a confined space, thus creating a serious oxygen deficiency that can suffocate occupants of the area."

fire. Knowing that the specially-trained medics are right on hand in case of attack makes protective force officers more willing to go into battle, knowing their chances of surviving the battle are significantly increased. The absence of trained tactical medics, or at least emergency medical kits, goes against law-enforcement industry standards.[9]

The protective force is also not equipped with breaching explosives (used for breaching doors or blowing holes in the side of the building), which would be essential if terrorists barricaded themselves in a storage vault to construct an IND or prepare a radiological dispersal device.

Insufficient Training

A protective force Special Response Team (SRT) is the equivalent of a police force or FBI SWAT team. Because of a number of problems, the SRT at Livermore Lab is compromised in its ability to prevent the loss of the facility or special nuclear material. For instance, although the Lab may state that it has a fully-manned SRT, the team is missing such key personnel as a full-time counter-sniper and specifically-trained breacher.[10] Furthermore, some of the SRT members have been there for three to five years, but have never trained or exercised with the same teammates on a consistent basis, which limits the ability of the officers to build trust and faith in each other's capabilities. SRT members have to know exactly how their fellow officers are going to respond to certain critical events. Any misinterpretation can result in unnecessary fatalities and, possibly, the success of a terrorist attack.

In addition to not training with each other, the Lab's SRT members do not train with outside responders on a regular basis. Despite regulations that require annual training exercises with outside responders, SRT members at Livermore say that the Lab's team has not trained with the FBI or the Alameda County Sheriff's Department since 1996. While DOE may claim it has conducted exercises, those have only been table-top exercises, and did not involve simulations with officers on the ground. This lack of practical training creates at least two problems.

First, without such training, the SRT is not able to practice critical skills that would make it truly effective as a SWAT-type force, and therefore more self-sufficient. This self-sufficiency is important because tests have shown it would generally take one to two hours for an outside SWAT team to respond to a request for help. Simulations show that an attack would most likely be over in minutes, not hours, leaving the SRT and the rest of the protective force on their own during the actual attack.

---

[9] California Commission on Peace Officer Standards and Training. *SWAT Operational Guideline and Standardized Training Recommendations*, POST2005TPS-0369.1. August 2006. http://www.post.ca.gov/training/swatmanual/swatmanual.pdf (Downloaded March 13, 2008). In addition, the National Tactical Officer Association, with its 30,000 members, including more than 1,600 SWAT teams, has for years been championing the need for a tactical medical unit in every SWAT team. National Tactical Officer Association. *NTOA History*. http://ntoa.org/about.html (Downloaded March 13, 2008). Unlike federal law enforcement agencies such as the Immigration and Customs Enforcement unit (ICE) and the FBI, DOE sites and its officers do not count themselves as members of the NTOA.

[10] A "breacher" is a person trained in various methods of barrier penetration, or breaking through to barricaded areas.

The second problem is that, in cases of drawn-out attacks, outside responders won't be prepared to deal with the situation once they do arrive, such as how to communicate with the protective force inside or how to best provide support. In addition, if the outside responders don't work with the Lab's protective force on a regular basis, they may actually be perceived by the remaining protective force as another wave of attackers.

As a former Lab SRT member told POGO, training with outside agencies gives both entities an opportunity to see how the other would behave in varying situations and to identify any missing components of a response plan.

Inadequate Benefits

Unlike firefighters and other first responders, DOE protective force officers do not receive benefits that ensure they and their families will be taken care of in the event of a serious injury or death. This lack of first responder benefits dampens the protective force officers' willingness to accept higher levels of risk, and raises the question about whether or not they will stay and fight if real bullets fly at Livermore Lab. Mandated testing of security, performed at all DOE facilities, shows that up to 50 percent of the guard force would be killed while reacting to or trying to prevent the theft or sabotage of nuclear material.[11] This leaves protective force officers asking themselves each time they go to work, "Who is going to look after my family if I am disabled or killed saving the day?"

As one officer pointed out, if a Livermore Lab protective force officer and a Livermore Lab firefighter both respond to an incident and both get killed, the firefighter's family gets a whole package of benefits including health, disability, and life insurance, while the protective force officer's family does not. The firefighters also receive retirement benefits, whereas the protective force officers do not. The disparity is not a result of the different policies of different employers because Livermore Lab protective force officers and firefighters are both employed by the same contractors. And the disparity is not because the firefighters are more at-risk than the protective force officers: in the course of their jobs, DOE protective force officers must be prepared to face the dual threat of terrorists and nuclear material.[12]

The Livermore Lab's protective force officers tried five years ago to bring their concerns about the lack of first responder benefits to the attention of Congress. Yet, they still have not received life or disability insurance, or other benefits equivalent to those provided to Livermore Lab firefighters or to local and state police forces. In order to gain these benefits, protective forces at other sites have in the past resorted to striking for them. Protective force officers at Pantex went on strike in summer 2007 for retirement benefits, as did the force at Rocky Flats in 1997, when they were unable to get their concerns addressed in any other way. As a result, the security at these plants was seriously compromised.

---

[11] The Protective Force and Program Manual M473. 2-2. This mandatory testing only reflects "life" or "death" results; it does not indicate how many of the "surviving" protective force officers may suffer significant or career-ending injuries.

[12] Department of Energy by University of California Lawrence Livermore National Laboratory. *Environment, Safety, and Health Manual*, September 9, 2003. Document 22.6.

Federalizing DOE's Protective Force

The fact that Livermore Lab protective force officers are being asked to die for their country, but are not given full protections from the government, creates a security vulnerability at the Lab.[13] Federalizing the protective force, including SRTs, would address a number of issues.

There are a number of different security contractors protecting the various sites, each with their own standards for personnel, equipment, and benefits. Transitioning the protective force officers to federal employee status would standardize front-line medical availability; equipment and training for the protective force; the retirement system and health, disability, life, and other benefits; and prohibit the striking of the protective force, which could seriously undermine the security of the nuclear weapons facility.[14] (In fact, if authority, equipment, training, and benefits are standardized, there would be no need to strike.) Federalization would also provide the protective force with law-enforcement authority and the power to make arrests, eliminating a whole raft of jurisdictional and legal barriers.

There is a precedent within DOE for federalizing protective forces. Office of Secure Transportation officers, who protect DOE's truck convoys, are federal agents and receive all of the authority, equipment, training, and benefits associated with the status.

While federalization of the guard force is not yet a reality, its importance has not been lost on DOE. A 2004 NNSA memorandum, "Review Options for the Protective Force: Phase II," concludes that:

> In the final analysis, the fundamental argument for federalization is that being asked to die or to kill for one's country should mean having the unmistakable full measure of government involvement and support. Protective force members deserve nothing less.[15]

[13] This is true for all DOE sites housing SNM.
[14] Memorandum for Kyle McSlarrow from Linton Brooks and Glenn Podonsky, October 22, 2004, memorandum "Review Options for the Protective Force: Phase II."
[15] Ibid.

Attachment

Letter from Richard Haddock,
Occupational Health and Safety Manager of the
Environmental, Safety, and Health Division of
the National Nuclear Security Administration
to
Mr. Matthew Zipoli
regarding
Safety and Health Concerns at
Lawrence Livermore National Laboratory

March 25, 2002

Department of Energy
National Nuclear Security Administration
1301 Clay Street
Oakland, California 94612-5208

MAR 25 2002

Mr. Matthew Zipoli
3430 Schooner Drive
Stockton, CA 95219

Subject: Safety and Health Concerns at Lawrence Livermore National Laboratory (LLNL)

Dear Mr. Zipoli:

The concerns you expressed to DOE were investigated carefully. We did not find that Security Police Officers (SPOs) were required to work in an unsafe manner. We found SPOs are adequately monitored for hazards they may be potentially exposed to while performing their duties. We also found changes have been made in the last year that satisfied some of your concerns.

Based on 10 CFR 835 requirements, and after a review of SPO routine activities, it is concluded that SPOs do not need to be placed in the routine bioassay program. The LLNL policy of providing bioassays on request, as a voluntary program, will continue as a best management practice. We have recommended that the Facility Safety Procedure and the area posting be reviewed to ensure they are in complete agreement.

You pointed out that some other DOE facilities train their security personnel to the more extensive Radiation Worker Two levels. The pre-CY2000 training program appeared to have been short of the radiation training and examination required for all possible situations by CFR 835.901c.

The radiation safety training program has been improved since CY 2000, however, we have recommended LLNL review the radiation training program for SPOs to ensure it can be certified to meet all the requirements of 10 CFR 835.901.

The concern about whether SPOs should be trained on and wear self-contained breathing apparatus falls under the realm of a security issue that should not be discussed. However, LLNL will continue to evaluate changing security tactics where SPOs may be exposed to airborne hazards and provide appropriate respirators. The respirators being stored were found to be in good condition and safe for use; however we have recommended that LLNL more thoroughly document respirator servicing and inspections.

Your concern about the need to provide permanent nuclear accident dosimeter (NAD) monitoring badges to SPOs was evaluated and, though the temporary NAD badges available to SPOs were adequate for anticipated exposures, NAD monitor chips have been added to the badges issued to SPOs as a best management practice.

The basic training provided to SPOs who observe the radiography program you mentioned is adequate. We have recommended training for that specific activity be reevaluated to ensure all aspects are covered. Further discussion falls under the realm of a security issue that should not be discussed.

We appreciate you bringing these safety concerns to our attention. We take them seriously and have spent a great deal of time investigating and considering their application to present and future security operations. Changes have been made or are being recommended based on some of your concerns to ensure our security personnel work in a safe and secure environment.

Please contact me if your concerns were misinterpreted or have not been resolved to your satisfaction. You may also contact:

Mr. Tom Rollow, EH-21
19901 Germantown Road
Germantown, MD 20874-1290
(202) 586-7449

Sincerely,

Richard Haddock
Occupational Health and Safety Manager
Environmental, Safety, and Health
Division