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Executive Summary

No. 1327 September 24, 1999

# IMPROVING SECURITY AT THE DEPARTMENT OF ENERGY'S WEAPONS LABS

*RONALD D. UTT, PH.D.*

Inquiries into allegations that the People's Republic of China may have acquired advanced U.S. nuclear weapons technology by illegal means uncovered long-standing security deficiencies at the weapons laboratories under U.S. Department of Energy (DOE) oversight. The revelations led Secretary of Energy Bill Richardson and several Members of Congress to propose ways to enhance lab security.

After hearings this summer, Congress attached a compromise reform proposal as an amendment to the National Defense Authorization Act for Fiscal Year 2000. The Administration is contemplating a veto of the bill, arguing that the compromise would do little to rectify outstanding security concerns.

Many proposals for improving security at the labs have been put forth, yet the debate on the Hill was brief and Congress's efforts were limited primarily to proposals that would preserve the status quo. Recommendations ranged from Secretary Richardson's largely administrative approach, which would mean adding another layer of DOE bureaucracy under a new security chief for the labs, to a bolder plan advocated by Senator Rod Grams (R–MN) and Representative Todd Tiahrt (R–KS), which would shut down the DOE and move its responsibilities for oversight and funding of the three key weapons labs to the Department of Defense (DOD).

Congress's preferred compromise would reorganize the labs within the DOE in a way that might do little to enhance security but would preserve the parochial priorities and billions of dollars in funding these labs represent to the states and some congressional districts. The compromise is based on a proposal put forth by Senators Pete Domenici (R–NM) and Jon Kyl (R–AZ), under which oversight of the three key nuclear weapons labs and several related contractor-operated facilities would be placed under a newly created semiautonomous federal entity within the DOE called the National Nuclear Security Administration. This body would have considerable discretion over its own management and to a large extent would

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operate independently of the DOE by placing limits on the department's involvement with the labs.

Although the sponsors of the amendment contend that this reorganization would improve security, in practice it could diminish federal oversight and perpetuate the third-rate security practices common at the labs by making the lines of responsibility and the chain of command less clear than they are today. Leading experts on government management expressed this concern in recent testimony to Congress.

The compromise would kick lab security responsibilities back to the labs themselves and to the new semiautonomous overseers, and free them from day-to-day DOE oversight. By making this change, Congress would be giving greater control to the very institutions, managers, and employees that were indirectly responsible for the numerous past security breaches documented by the U.S. General Accounting Office (GAO).

Secretary Richardson objected to this compromise proposal and threatened to secure a presidential veto. In the event this threat is carried out, Congress will have an opportunity to give more thought to security improvements at the labs and, ideally, to craft a more effective piece of legislation.

Even though the DOE receives much of the blame for the security breaches at the labs, the labs are not part of the department and not formally a part of the federal government. They are government-owned, contractor-operated facilities (GOCOs)—independent entities managed by private companies or institutions under contract to the DOE. The record clearly indicates that most of the security problems at the labs involved the labs themselves and reflect years of violations by lab employees, managers, and security forces who are not DOE employees and not subject to its direct supervision.

The effect of this "arms length" contractual arrangement on the department's ability to manage the labs was illustrated recently when Secretary Richardson "recommended" disciplinary action against the three Los Alamos lab employees who were responsible for some of that lab's security failures. The Secretary was limited to "recommending" such disciplinary action because the employees in question worked for the lab's private contractor, not the DOE; thus, they were beyond his direct managerial oversight.

The lengthy record of security problems and the DOE's systematic failure to rectify the long-standing inadequacies at its labs make clear that the labs need more and better oversight, not less. The evidence shows that the labs are no more capable of reforming themselves than is the Department of Energy. Congress should revisit other reform proposals and not rush to reject one over another simply because it is opposed by a White House appointee.

A potential reform would combine elements of the Domenici–Kyl proposal and the Grams–Tiahrt approach. For now, such a reform should remove the three labs from DOE oversight and reorganize what remains as a Cabinet-level department focused on civilian energy issues and the environmental concerns that arise from commercial energy production and use. Oversight of the weapons labs and two other contractor-run facilities that are actively involved in maintaining the U.S. nuclear arsenal should be shifted from the DOE to the DOD. The labs would then be under the management of a department that has experience in successfully maintaining high levels of security and for which top-secret status is a day-to-day concern.

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RONALD D. UTT, PH.D.[1]

Recent revelations that the People's Republic of China (PRC) may have illegally acquired advanced nuclear weapons and radar technology from several of the laboratories funded by the U.S. Department of Energy (DOE) provoked the Clinton Administration and Members of Congress to propose ways to enhance security at the labs.

As Representative Douglas Bereuter (R–NE) has stated, this espionage at the DOE's nuclear weapons laboratories facilitated "the most gravely serious thefts by China of sensitive U.S. technology and information that America has ever witnessed."[2] In the wake of these revelations, however, debate in Congress was brief and was limited largely to committees that have a compelling interest in maintaining the status quo as well as the regional benefits that derive from the labs.

The many proposals to improve security at the labs range from adding another layer of DOE bureaucracy under a new security chief for the laboratories to fundamentally restructuring the agency in a way that would move the labs from DOE oversight. Proposals first introduced by Senator Rod Grams (R–MN) in S. 896 and Representative Todd Tiahrt (R–KS) in H.R. 1649 would transfer the three key labs that still perform nuclear weapons work to a more secure setting within the Department of Defense (DOD). They also would redistribute many of the DOE's remaining non-weapons programs to other civilian agencies, privatize the power marketing administrations, and effectively shut down the DOE in recognition of its 25 years of ineffective operation and security lapses.

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1. The author thanks Research Assistant Gregg VanHelmond for his assistance with this paper.

2. Statement by Representative Douglas Bereuter, Chairman, Subcommittee on Asia and the Pacific, Committee on International Relations, to Select Committee on U.S. Security and Military/Commercial Concerns with the People's Republic of China, U.S. House of Representatives, May 26, 1999, at *http://www.house.gov/apps/list/speech/ne01_bereuter/0526chin.html*, September 17, 1999; cited hereafter as Bereuter Statement.

A compromise proposal introduced by Senators Pete Domenici (R–NM) and Jon Kyl (R–AZ) would reorganize the three most important nuclear weapons labs into a semiautonomous entity within the Department of Energy, prospectively called the Agency for Nuclear Stewardship but renamed the National Nuclear Security Administration. This body would have considerable discretion over its own management and operations, and oversight by the Secretary of Energy would be limited. Such a proposal was endorsed in a June 1999 report by a special investigative panel of the President's Foreign Intelligence Advisory Board (PFIAB) headed by former Senator Warren B. Rudman (R–NH).

Energy Secretary Bill Richardson initially opposed the Domenici–Kyl proposal, but after the White House made it clear that it did not necessarily support Richardson's position, he reluctantly endorsed the proposal in early July. Then, in August, when the details of the proposal were included as an amendment to the National Defense Authorization Act for Fiscal Year (FY) 2000, Richardson changed his mind and announced that he would recommend a veto.

The fact that the Domenici–Kyl plan was strongly endorsed by several senior Members of Congress, as well as by a bipartisan, blue-ribbon, independent presidential panel, and opposed by the Cabinet agency whose lax oversight had contributed to the security problems in the first place led many Americans to conclude that it was the sort of reform that would be effective in tightening lab security. Unfortunately, however, by blurring the lines of responsibility and the chain of command even more than they are now, the proposal could very well diminish federal oversight and perpetuate the third-rate security practices common at the labs for nearly two decades.

Two independent experts on government management and reform recently expressed similar concerns in testimony before Congress. Professor Donald F. Kettl of the University of Wisconsin concluded that:

> The proposal for a quasi-independent agency for nuclear stewardship focuses on precisely the right issue: improving national security at the nation's nuclear complex. However, it misdiagnoses the problem. It could well make the real problem worse. It fails to strengthen DOE's links to its field operations and misses the critical imperative to redefine DOE's culture.[3]

Victor Rezendes of the U.S. General Accounting Office (GAO) also expressed skepticism about the proposal:

> One approach would create a separate agency within DOE, to be managed by a new Under Secretary for National Security. Another would create a semiautonomous agency whose director would report directly to the Secretary. Another would transfer DOE's nuclear weapons activities to the Department of Defense. While each of these proposals clarifies some lines of authority in the national security area, they are a piecemeal approach to DOE's structural problems and ignore the broader organizational issues…. Reorganization efforts that ignore the broader picture could create new, unintended consequences.[4]

Notwithstanding the objections of Secretary Richardson, the Domenici–Kyl plan is conceptually similar to the DOE's plan for improving security in that it relies on bureaucratic reshuffling and add-ons conducted within a bureaucratic entity with a decades-long track record of abject failure in addressing its own security problems. Whereas

3. "Restructuring the Department of Energy: Protecting National Security While Promoting DOE's Mission," statement of Professor Donald Kettl before the Subcommittee on Energy and Power, Committee on Commerce, U.S. House of Representatives, 106th Cong., 1st Sess., July 13, 1999.
4. Statement of Victor Rezendes before the Subcommittee on Energy and Power, Committee on Commerce, U.S. House of Representatives, 106th Cong., 1st Sess. July 13, 1999.

Richardson wants DOE to resolve the labs' notorious security problems, the Senate's compromise proposal would have the labs do it themselves, albeit with the help of a new semiautonomous bureaucracy within DOE.

The problem is that this compromise would preserve the status quo. The new body would have considerable discretion over its own management and would operate independently of DOE. Such a "reform" could very well worsen the perennial security problems at the nuclear weapons labs by removing meaningful federal oversight.

If this congressional compromise meets with a veto, as Secretary Richardson has threatened, Congress will then have an opportunity both to initiate a more thorough review of the role these labs play in meeting America's scientific and defense needs and to develop alternative ways to make them more secure. A better solution might be to transfer the three key labs that have exhibited the gravest security breaches from the Department of Energy to the Department of Defense and restructure the DOE to focus solely on energy issues and environmental concerns emanating from energy production and use.

## WHY SECURITY AT NUCLEAR WEAPONS LABS SUFFERS

As the federal agency with direct and primary oversight of America's 17 national labs, including the three nuclear weapons labs, the U.S. Department of Energy received much of the blame for the recently uncovered security breaches in which sensitive missile technology and information may have been leaked to China. As Secretary of Energy Richardson noted, "DOE security at the labs was not given the proper priority that it deserved in the '70s, in the '80s and in the '90s, and there should have been more attention to security at the national laboratories."[5]

But three decades of documented and admitted failure to protect vital secrets is a stunning record of managerial incompetence that demonstrates why it is time to find another federal home for U.S. nuclear weapons research. As the sidebar on page 4 shows, the problems with security are long-standing and have been criticized consistently by the General Accounting Office. The Energy Department receives all the blame for security breaches only because that is where the buck currently stops.

The 17 national laboratories are not formally part of the federal government. Although they are managed by the Department of Energy and play an integral role in national security, they are administratively and organizationally independent of DOE, and their employees are not part of the federal civil service.

Technically, these 17 labs are organized as government-owned, contractor-operated facilities (GOCOs). In effect, the federal government owns the land, facilities, equipment, and technology, but direct day-to-day management and operation are contracted out to private entities. For example, the Lawrence Livermore National Laboratory in California and Los Alamos National Laboratory in New Mexico are operated and managed by the University of California. Together with the Sandia National Laboratory in New Mexico, which is managed by Lockheed Martin Corporation, these labs and two non-lab GOCOs form America's largely mothballed "atomic bomb factory."

No nuclear bombs have been built in the United States since 1988, yet these weapons facilities are still the repositories of all U.S. nuclear secrets and research geared toward nuclear weapons. Given the grave responsibility of oversight, the managers of these labs should regard secrecy and security as matters of paramount importance. But recent reports from the Cox Committee[6] and the PFIAB,[7]

5. Bill Sammon, "Clinton Distances Himself from Scandal, Agrees to Implement Security Measures," *The Washington Times*, May 26, 1999, p. A1.

6. Formally called the Select Committee on U.S. National Security and Military/Commercial Concerns with the People's Republic of China, the Cox Committee was chaired by Representative Christopher Cox (R–CA). The unclassified portion of the committee's report is available at *http://www.house.gov.*

as well as nearly two decades of critical GAO assessments (see sidebar), document the long-standing pattern of serious security lapses at the labs. The independent status of these labs could be an important contributing factor in these pervasive security problems.

### GAO's Consistent Scrutiny of DOE Lab Oversight

For nearly two decades, the U.S. General Accounting Office has issued critical reports on security problems in the DOE's nuclear weapons labs. The following titles are indicative of the GAO's findings:

- *Safeguards and Security at DOE's Weapons Facilities Are Still Not Adequate (1982)*
- *Security Concerns at DOE's Rocky Flats Nuclear Weapons Production Facility (1985)*
- *Nuclear Security: DOE's Reinvestigation of Employees Has Not Been Timely (1987)*
- *Major Weaknesses in Foreign Visitor Controls at Weapons Laboratories (1988)*
- *Potential Security Weaknesses at Los Alamos and Other DOE Facilities (1990)*
- *Accountability for Livermore's Secret Classified Documents Is Inadequate (1991)*
- *Safeguards and Security Weaknesses at DOE's Weapons Facilities (1991)*
- *Poor Management of Nuclear Materials Tracking System Makes Success Unlikely (1995)*
- *National Laboratories Need Clearer Missions and Better Management (1995)*
- *DOE Needs to Improve Controls Over Foreign Visitors to Weapons Laboratories (1997)*

After the recent security breaches involving Chinese espionage became known, Secretary Richardson immediately promised that the DOE would find a way to solve the labs' security problems. But the DOE heretofore has failed consistently in its efforts to do so. Its managerial morass also may have contributed to the inconclusive outcome of an investigation by the Federal Bureau of Investigation to evaluate the evidence of internal espionage accumulating over the years.[8]

As if to underscore these problems, DOE's new security chief, retired General Eugene Habiger, committed a security gaffe shortly after his appointment. On his first visit to the Sandia lab, he inadvertently revealed classified information on nuclear weapons in a speech to an audience of 200.[9]

## How Congress's Compromise Would Diminish Oversight

In contrast to Secretary Richardson's promise to accept responsibility for and act on the labs' security problems, the proposal from Senators Domenici and Kyl included in the Defense authorization bill before Congress would kick this responsibility down to the labs themselves and free them from day-to-day DOE oversight. This change could give greater control to the very institutions, managers, and employees who are most responsible for the scores of security breaches at the labs in the first place. Putting the three key nuclear weapons labs and several related contractor-operated facilities under the oversight of a new semiautonomous body within the DOE will not increase oversight enough to change the status quo (see sidebar).

The labs are independent entities whose operations are managed by private contractors. Most of the security problems involved the contractors' employees; they reflect years of neglect and/or

7. President's Foreign Intelligence Advisory Board, *Science at Its Best, Security at Its Worst: A Report on Security Problems at the U.S. Department of Energy,* June 1999.
8. Sean Paige, "GAO Warned U.S.," *The Washington Times*, May 14, 1999, p. A19.
9. Walter Pincus and Vernon Loeb, "Back Channels: The Intelligence Community," *The Washington Post*, August 9, 1999, p. A13.

### Reinventing Government: A New Nuclear Security Bureaucracy

Under a compromise congressional proposal attached to the National Defense Authorization Act for Fiscal Year 2000, a new federal entity called the National Nuclear Security Administration (NNSA) would be located within the Department of Energy. This new agency would be responsible for three nuclear weapons labs and two non-lab contractors that have been associated historically with the development and manufacture of nuclear weapons. It would also be responsible for a few other components of these labs.

The new body would be run by an administrator who would be a new Under Secretary in the DOE. Other new management positions would include three new deputy administrators and a general counsel. New "Offices" supervised by deputy administrators would also be created within the agency.

To emphasize the body's separate, semiautonomous status within the DOE, the President would be required to submit a separate NNSA budget to Congress. The NNSA would have its own offices for personnel, legislative, public, procurement, and legal affairs and would maintain staff to conduct liaison with the Department of Energy, other federal entities, state and local governments, and Indian tribes.

In addition to the staff required to perform these administrative functions, the administrator would be authorized to hire up to 300 scientific, technical, and engineering employees to carry out his or her responsibilities. These new employees would be exempt from the provisions of existing federal civil service law and would instead be covered by the more flexible provisions of the Atomic Energy Act of 1954.

violations by personnel who are not DOE employees and are not subject to direct day-to-day DOE supervision. The effect of this "arms length" arrangement on the DOE's ability to oversee lab operations was painfully illustrated when Secretary Richardson merely "recommended" disciplinary action against the three Los Alamos employees responsible for some of that lab's security failures. The Secretary was limited to recommending such action because the employees in question worked for the lab's contractor, the University of California, not for DOE; thus, they were beyond his managerial reach.[10]

The record of security problems at DOE labs and the DOE's systematic failure to rectify long-standing inadequacies indicate that what the labs need most is more and better federal oversight, not less. The record also suggests that they are no more capable of reforming themselves than is the Department of Energy. For this reason, Congress should revisit some of the other lab-security reform proposals that have been offered and not rush to reject one over another simply because it is opposed by a White House appointee.

## Other Approaches to Reform

Unlike the administrative changes proposed by Senators Domenici and Kyl, Secretary Richardson, and the President's Foreign Intelligence Advisory Board, elements of the plan in the bills offered by Senator Grams and Representative Tiahrt offer a potentially effective solution to the security problems by shifting the three key weapons labs to the Department of Defense. In addition to helping to solve the weapons security problem, the Grams–Tiahrt proposal would dismantle the DOE. The comprehensiveness of this approach has discouraged support for the overall proposal because it attempts to do too much and would affect many other Energy programs that benefit influential constituencies. It would stir up additional political opposition that likely would kill the bill and end any chance of achieving the important goal of creating a more secure environment for America's nuclear weapons programs.

10. Associated Press, "Richardson Wants 3 Los Alamos Workers Punished," *The Washington Times*, August 13, 1999, p. A3.

A potential remedy that combines elements of the Domenici–Kyl proposal with those of the Grams–Tiahrt approach would be to transfer the key weapons labs from the Department of Energy to the Department of Defense, and then to re-engineer what remains of the DOE to focus solely on energy issues and environmental concerns that arise from energy production and use. Specifically, oversight of the three key weapons labs and the two other contractor-run facilities still actively involved in the maintenance of the U.S. nuclear arsenal would be shifted from the DOE to the DOD. The labs would then be under the day-to-day management of a department that has experience in maintaining high levels of security and for which "top secret" status is a day-to-day concern. The DOE's main policy objectives, by contrast, focus on civilian and commercial sectors for which issues of secrecy and security are of incidental concern.

Removing the labs from the DOE is clearly something that Congress and the Administration should have an opportunity to consider more thoroughly, yet some Members of Congress oppose this approach as well as further investigation into its potential viability. Such an opportunity for additional study was squelched when the House–Senate conference committee on the recently passed National Defense Reauthorization Act formally excluded a House amendment that would have required the President to prepare a report on whether the Department of Energy should continue to maintain nuclear weapons responsibility. Given the long-standing security problems at the weapons labs, Congress should not have dismissed so quickly any opportunity to study promising reforms.

## WHY DOE LAB OPERATIONS NEED NEW OVERSIGHT

### How the Labs Originated

America's 17 national labs can trace their origins to World War II, when the federal government created the Manhattan Project to accelerate the development of an operational nuclear bomb. To accomplish this extraordinary objective in a short period of time, the federal government combined the talents of many of the world's leading scientists and technicians, working at universities and test sites throughout the country, with the vast financial and material resources needed to develop and test the weapon. This effort was, of course, successful; but then, rather than close the sites as was done with many other wartime weapons production facilities, the government, facing the advent of the Cold War and Russia's subsequent development of its own atomic bomb, made the lab sites permanent and expanded them to meet the new challenges.

Referring to these facilities as laboratories may have accurately reflected the experimental and speculative nature of the effort when the Manhattan Project was created, but the accelerated production of nuclear weapons in response to the Cold War effectively made them bomb factories. By 1988, they had produced an estimated 30,000 nuclear weapons devices. Since then, after a series of arms treaties with the former Soviet Union and the end of the Cold War, no nuclear bombs have been produced and none are planned for the foreseeable future.

As a result, the labs have experienced a substantial decline in their traditional activities; efforts throughout most of this decade have focused on identifying civilian research activities and additional defense-related work that would be appropriate for the various talents of the labs. However, because these talents are concentrated in nuclear technologies, and because concerns for safety and environmental impact severely limit the application of nuclear technologies to civilian purposes, recent efforts to redirect laboratory talents to other purposes have been challenging, with mixed success.

Until 1947, the labs fell under the management of the U.S. Department of Defense (specifically, the U.S. Army Corps of Engineers); in 1947, the management and oversight of the labs were consolidated under the newly created Atomic Energy Commission, which was tasked with overseeing military and civilian applications of nuclear science.

Nuclear technology was developed first for weapons purposes, but it quickly became apparent that modifications in the technology could have civilian applications, the most important of which would be to produce a substitute fuel for electricity generation and other power needs. The laboratories, as well as responsibility for the nation's nuclear programs, remained with the Atomic Energy Commission and then the Energy Research and Development Administration until 1977, when the labs and several other government programs were combined into a new Department of Energy.

Although much of their work has been directed toward national security objectives, shortly after World War II the labs were kept deliberately outside of and independent of the DOD. It was believed that civilian control over weapons of mass destruction would better ensure that such power would not be misused by the military. Former Secretary of Energy Hazel O'Leary summed up this line of thinking in a 1995 interview: "You need a clear wall between the technical people who design the weapons and certify their safety and reliability and those who would use and deploy and maybe, in their haste to deploy, would not make the careful review of the reliability and safety."[11]

This reasoning, however, is absurd. The notion that the military would be disinterested in a weapon's safety and reliability makes no sense; nor does the idea that the armed forces may use such a weapon in "their haste." Only the President can launch a nuclear strike, and neither the DOE nor any of the thousands of people working in the laboratories have any say in the matter.

Indeed, recent allegations of sustained and systemic security lapses at the labs suggest that instead of enhancing America's safety, this historic separation of responsibility led to several decades of negligent oversight which severely jeopardized the safety and security of every American. As Representative Bereuter rightly noted after the Cox Committee released an abridged version of its report to the public last May, the alleged espionage at the weapons labs facilitated "the most gravely serious thefts by China of sensitive U.S. technology and information that America has ever witnessed."[12]

## How the Labs Are Organized and Managed

Although the weapons labs play an integral role in national security and fall under DOE oversight, they are not formally part of the federal government or of the DOE, and their employees are not part of the federal civil service. Formally, the labs are government-owned, contractor-operated (GOCOs) facilities. In effect, the government owns the land, facilities, equipment, and technology, but the direct day-to-day management and operation of the labs has been contracted to private entities.

For example, the Lawrence Livermore National Laboratory in California and Los Alamos National Laboratory in New Mexico are managed by the University of California. Together with the Sandia National Laboratory, also in New Mexico but managed by Lockheed Martin Corporation, these three labs, along with two non-lab GOCOs, form the heart of America's "bomb factory." When fully operational in the manufacture of a bomb, the division of labor among the seven GOCOs was as follows:

1. Los Alamos and Lawrence Livermore designed the nuclear components, which are the explosive material in any nuclear bomb.
2. Sandia performed the non-nuclear work (for example, electronics, trigger mechanisms, and safety features).
3. Kansas City Plant manufactured the mechanical and electronic components of the bomb.
4. Rocky Flats, Colorado, and Y–12 at Oak Ridge, Tennessee, produced the nuclear material.

11. Aaron Steelman, "Is Energy Dept. on Chopping Block?" *Investor's Business Daily*, May 24, 1999, p. A1.

12. Bereuter Statement, *op. cit.*

5. Pantex in Amarillo, Texas, assembled these components into an operational bomb and shipped it to the military.

Because no nuclear weapons have been built since 1988 and none are planned, the duties of five of these GOCOs changed. Neither Rocky Flats nor Y–12 is now involved in weapons work. Three other labs still conduct research on nuclear devices but have branched out into other scientific fields and weapons research. Lawrence Livermore, for example, conducted the advanced research on submarine-detecting radar devices that became the target of alleged Chinese espionage.[13] Pantex, which once assembled the bombs, now does necessary maintenance work on existing nuclear weapons and disassembles other atomic weapons as part of the shrinkage of the U.S. nuclear arsenal. Kansas City still manufactures bomb parts, but only as replacements in existing weapons, which may have deteriorated through age.

## How the Labs Are Funded

With no bombs to build, funding for the weapons program decreased throughout the early and mid-1990s. That trend has since been reversed, and lab spending is scheduled to increase each year between FY 1998 and FY 2000.

Of the DOE's estimated spending of $15.5 billion for FY 1999, $12.4 billion (or 80 percent) of the department's budget is for "Atomic energy defense activities." Of this amount, $4.4 billion is for "weapons activities" at the labs, while another $4.3 billion is for the environmental remediation of former weapons production sites, including the labs. The remaining amount, less than $4 billion, is spread among a variety of smaller defense-related activities. Only three-fourths of $1 billion from the Department of Energy's budget, or less than 5 percent of its total budget, will go to programs defined as "energy supply."[14]

Because the labs are not formally part of the government and are operated by private contractors, neither the President's budget nor the congressional appropriations bills include any specific reference to lab funding. Rather, a lump sum—$4.4 billion in FY 1999—is appropriated by Congress to the Department of Energy for "Weapons Activities." In turn, the DOE, nominally at its discretion, reallocates these funds to a variety of research, development, and weapons-related projects that are performed by the 17 national labs and six related entities that work under contract to the department. Of this lump sum, $3.2 billion, or 73 percent of the total, goes to the five facilities described above as the bomb factory. On a regional basis, about three-quarters of the bomb factory money is spent in facilities located in New Mexico.

A look at two of the DOE's contract labs illustrates their differences in focus. Oak Ridge National Laboratory was established in Tennessee in 1942 to assist in the development of the first atomic bomb and through the 1960s was an important component of the nuclear weapons programs. It currently employs 4,453 workers under a budget of nearly half a billion dollars from all sources, including the DOE. In recent years, Oak Ridge has shifted increasingly toward civilian programs, and defense programs account for just 7 percent of the $385 million it received from the DOE in FY 1998.[15]

In contrast, the Sandia National Laboratory in Albuquerque, New Mexico, employs a work force of 7,374 and operates with a budget of nearly $1.3 billion from all sources. Of this amount, about $1 billion is from the DOE, and 82 percent of that allocation, or $822 million, is for national defense purposes. At Los Alamos, with 6,900 workers, the percentage of weapons work is 69 percent, while the same share accounted for the defense work of the 7,300 employees at Lawrence Livermore.

13. William J. Broad, "U.S. Loses Hold on Submarine Exposing Radar Technique," *The New York Times*, May 11, 1999, p. A6.

14. DOE funding data in this paragraph are taken from U.S. Department of Energy, *FY2000 Congressional Budget*, p. 3.

15. Sandia and Oak Ridge budget and employment data are from U.S. Department of Energy, Laboratory Operations Board, "Laboratory Profile Report: Laboratory by Laboratory Section," Final Draft, March 4, 1999.

## How Badly Have the Department and Its Labs Failed?

The lack of institutional interest in security is obvious from a review of the Department of Energy's 108-page Annual Performance Plan for FY 2000, submitted to Congress prior to the full disclosure of the espionage allegations. Nowhere in this report is there any direct mention of setting, or meeting, performance goals related to enhanced lab security, despite the existence of more than 30 critical GAO reports on lab security deficiencies produced since 1980.[16] (See sidebar on page 4 for titles of representative GAO reports on lab security deficiencies.)

The problem is likewise illustrated by the DOE Inspector General's semiannual reports to Congress, which have barely touched on security problems while devoting dozens of pages to hammering employees and contractors who have submitted false or exaggerated reimbursement claims.

The Department of Energy's failure to establish secrecy and security as important objectives of management and of its contractors despite the fact that a variety of warnings, investigations, and expressions of concern on the subject had been raised repeatedly since the late 1980s—if not earlier—represents one more managerial crack-up in a train wreck masquerading as a government agency. As these most recent security lapses reveal, and as the department's response to earlier independent evaluations illustrates, the leadership at Energy just did not understand the seriousness of the problem.

It is therefore time to give the responsibility for the labs to a federal department that does understand the problem, as the Grams–Tiahrt proposal would require. Because the labs, their management, and their employees are not formally part of the Department of Energy, let alone the federal government, such a shift in responsibility would require minimal bureaucratic upheaval.

Although the security lapses at Energy's contractor-run labs have been widely reported and were a key focus of the Cox Committee report, the many prior GAO reports paint a picture of a self-indulgent bureaucracy suffering from managerial incompetence to willful neglect of basic procedures normally expected of an organization responsible for national security issues. In fairness to DOE bureaucrats, however, similar criticisms should be directed toward Congress and the President. This is where the buck really stops, and it was their neglect that allowed these problems to persist for two decades. Had anyone in Congress or the Administration paid attention to the findings of more than 30 reports—all of which were prepared for Congress—these security problems could have been resolved long ago, and the American people would not be subject to the nuclear security risk that now confronts them as a consequence of the loss of secrets to a hostile power.

In 1994, for example, the House Armed Services Committee asked the GAO to study and report on the adequacy of DOE security measures as they related to foreigners' visits to the labs. In its September 25, 1997, report to Committee Chairman Floyd Spence (R–SC),[17] the GAO revealed the frightening magnitude of the ongoing security lapses that characterize the weapons labs, particularly the two in New Mexico (Los Alamos and Sandia). Noting that it had raised the alarm fully 10 years earlier in a 1988 report to former Senator John Glenn (D–OH),[18] the GAO went into explicit detail in quantifying the scope of the security collapse.

Among the many examples cited in the GAO's 1997 report was the near absence of security checks on visitors to the weapons labs from what

16. *Department of Energy Annual Performance Plan for FY 2000,* at *http://www.doe.gov/policy/sms/sms.html*.

17. U.S. General Accounting Office, *DOE Needs to Improve Controls Over Foreign Visitors to Weapons Laboratories,* September 1997, GAO/RCED–97–229.

18. U.S. General Accounting Office, *Nuclear Proliferation: Major Weaknesses in Foreign Visitor Controls at Weapons Laboratories*, October 1988, GAO/RCED–89–31.

Table 1 B1327

**Sensitive Country Visitors to DOE Weapons Labs, 1994–1996**

| | Number of Visits | Number of Background Checks | Percent Checked |
|---|---|---|---|
| Los Alamos | 2,714 | 139 | 5% |
| Livermore | 1,602 | 700 | 44% |
| Sandia | 1,156 | 53 | 5% |
| Total | **5,472** | **892** | **16%** |

**Source:** U.S. General Accounting Office, *DOE Needs to Improve Controls Over Foreign Visitors to Weapons Laboratories*, GAO/RCED–97–229, September 1997, p. 26.

are referred to as Sensitive Countries. There currently are 25 such countries, drawn largely from countries still under communist regimes (China, Cuba, and North Korea); countries recently communist (Russia and Ukraine); and regional belligerents (India and Pakistan, Israel and Iraq).

Table 1 quantifies the laboratory security collapse as it relates to visitors from sensitive countries. As Table 1 reveals, security officials at the two New Mexico labs—Sandia and Los Alamos—conducted background checks on no more than 5 percent of the visitors from sensitive countries.

Even more shocking is how these figures stack up for the individual countries in the sensitive category. Of the 244 visitors to Sandia from the PRC, only two, or less than 1.0 percent, were subjected to a background check. Los Alamos did a little better; 12 of the 746 Chinese visitors, or 2 percent, were subject to a check. At Livermore, only one of the four Cubans was subjected to a background check, and the two visitors from Libya came in unchecked even though the United States has no diplomatic relations with the country. A similar pass was given to the three Iraqis who went to Los Alamos and the four who visited Sandia, although Sandia did see fit to investigate two of the 58 Israelis who came through the facility.[19]

The nearly complete neglect of background checks allowed nations potentially hostile to the United States to introduce intelligence operatives into the labs. As the GAO report notes:

> [P]eople with suspected foreign intelligence connections were allowed access without background checks. We were able to document 13 instances where persons with suspected foreign intelligence connections were allowed access without background checks—8 visitors went to Los Alamos and 5 went to Sandia–during the 1994 through 1996 period. Available records also indicated that 8 other persons with suspected connections to foreign intelligence services were approved for access to Sandia during the period.[20]

Once they get inside the labs, the pervasive lack of basic security measures continues as foreign intelligence operatives find themselves in a veritable supermarket of open secrets. The following anecdotes reported by the GAO provide a good sense of the inadequacy of security at the New Mexico labs:[21]

19. GAO, *DOE Needs to Improve Controls*, p. 55

20. *Ibid.*, p. 27.

21. *Ibid.*, pp. 36–37.

- Unclassified sensitive documents and materials had been discarded improperly in trash, recycling bins, or hallways. At one of the labs, six boxes of materials marked "Sensitive material" in red letters on the outside were left in an open hallway in an area accessible to foreign visitors.
- Classified information had been divulged inadvertently by laboratory employees to foreign visitors from sensitive countries during workshops or conferences.
- A department newsletter containing classified information was sent to 24 uncleared individuals, some of whom were from a sensitive country.
- On 10 separate occasions, a laboratory employee hosted visitors from sensitive countries without following visit approval procedures.
- On several occasions, there were miscellaneous failures to follow security procedures, including computers left on and unattended without password protection, improper escorting of foreign visitors, and unauthorized backdoor entry to controlled areas to which foreign visitors had access.
- At both Los Alamos and Sandia, unescorted after-hours access to controlled areas has been permitted for visitors from sensitive countries. These laboratories have required the host to monitor the foreign visitor—that is, be aware of the foreign visitor's location and activities—but not necessarily to be physically present.

These examples are drawn from just one of the 30 GAO reports exposing deficiencies in lab security. Examples of similar findings in four other GAO reports from the late 1980s and early 1990s are provided in the accompanying sidebar on security deficiencies at the labs.

Although DOE officials now acknowledge these failures and attribute them to mismanagement on the part of unnamed former officials, a review of lab budgets indicates that little was spent on security and counterintelligence. Indeed, the financial

## Selected GAO Findings on Security Deficiencies at DOE Labs

"During calendar year 1989, DOE inspections identified 364 weaknesses in the protection programs at 30 of the 39 facilities included in our review, and another 454 weaknesses at 22 of the facilities during the first 9 months of calendar year 1990…. Examples...include the...inability of members of the security force to appropriately demonstrate such basic skills as the apprehension and arrest of individuals who could represent a threat to security interests." (*Nuclear Security: Safeguards and Security Weaknesses at DOE's Weapons Facilities*, December 1991, p. 4.)

"After [a 1989 strike by the Los Alamos security force] an unannounced exercise showed that as late as April 1990 more than 75 percent of the regular force did not meet one or more of the nine required skills…. [S]ome inspection findings went uncorrected for as much as five years." (*Nuclear Safety: Potential Security Weaknesses at Los Alamos and Other DOE Facilities*, October 1990, p. 2.)

"DOE generally does not follow its own requirements and obtain background information on foreign visitors and assignees from communist or sensitive countries. DOE does not identify and review all visits that involve sensitive weapons-related subjects. DOE does not enforce various internal control requirements for approving, monitoring and reporting foreign visits." (*Nuclear Proliferation: Major Weaknesses in Foreign Visitor Controls at Weapons Laboratories*, October 1988, p. 3.)

"[C]ommunist controlled nations, countries suspected of developing nuclear weapons, or those viewed as a national security risk—have obtained information dealing with detonators, explosives and firing sets that could assist or enhance nuclear weapons development…. Further, sensitive countries have obtained hardware that has both commercial and weapons-related uses. Twelve sensitive countries submitted about 1,160 export requests in calendar year 1987 for such hardware; all but 23 of the requests were approved. At least 290 of the approved requests were destined for facilities in countries suspected of conducting nuclear weapons activities." (*Nuclear Proliferation: Better Controls Needed Over Weapons-Related Information and Technology,* June 1989, p. 3.)

Table 2 B1327

**Contractor Travel Cost Comparisons**

| Lab/Contractor | Travel Cost per $1,000 of Funding | | |
|---|---|---|---|
| | 1996 | 1997 | 1998 |
| Pacific Northwest | $25.71 | $28.68 | $33.73 |
| Los Alamos | $25.75 | $28.67 | $28.53 |
| Sandia | $29.96 | $31.26 | $31.00 |
| Average for 33 DOE Contractors | $16.24 | $17.75 | $18.32 |

Source: U.S. General Accounting Office, *DOE Management: Opportunities for Saving Millions in Contractor Travel Costs*, GAO/RCED–99–107, April 1999, pp. 26–29.

resources devoted to security were so small that it would have been impossible for even the most dedicated security staff to do better than described above. According to the September 1997 GAO report, "For fiscal year 1996, DOE's three weapons laboratories had counterintelligence budgets that allowed for funding of $552,000 for 5.5 staff years at Livermore, $100,000 for 1.1 staff years at Los Alamos, and $253,000 for 2.8 staff years at Sandia."[22]

Some may argue that the limited resources applied to security are the result of congressional budget cuts that left the DOE with too little money, but this does not seem to be the case. Although the DOE's budget has been reduced, DOE contractors have been spending money with apparent abandon on personal travel. According to the Senate report accompanying the FY 2000 Energy and Water Development Appropriation Bill, "Certain Department of Energy contractors are being reimbursed for exorbitant travel expenses."[23]

In FY 1998 alone, DOE contractors incurred travel costs of a staggering $249 million. Employees at the Sandia National Laboratory reported taking over 4,500 trips to Washington, D.C., in 1998—the equivalent of 87 trips per week. Sandia spent only $253,000 for counterintelligence in 1996—enough for three people overseeing facilities in New Mexico and California. As a result of these inadequate counterintelligence resources, Sandia was able to do background checks on only 5 percent of the 1,156 visitors from sensitive countries.[24]

Taxpayers with a strong stomach may want to explore further the world of travel abuse by DOE lab contract employees in a recently published GAO report on the subject.[25] The GAO's 1999 travel report stems from a 1995 DOE initiative to reduce burgeoning travel costs, particularly those incurred by the department's contractors (about 80 percent of all DOE travel expenses). The DOE's goal was to reduce contractor travel costs, then amounting to $261 million, by $175 million over the next five years in incremental reductions of $35 million per year. The effort was successful in the first year (1996), but soon thereafter contrac-

22. *Ibid.*, p. 41.

23. *Energy and Water Development Appropriation Bill, 2000—Report*, Committee on Appropriations, U.S. Senate, 106th Cong., 1st Sess., June 2, 1999, p. 89.

24. For example, former Energy Secretary O'Leary maintained an active travel schedule and spent $3.2 million on visits to India, China, Pakistan, and South Africa during her tenure, and $4.5 million altogether on foreign travel. As excessive as this may have been at a time when lab security was woefully underfunded, Secretary O'Leary's travel spending looks positively responsible compared with that of the contract employees at the labs.

25. U.S. General Accounting Office, *DOE Management: Opportunities for Saving Millions in Contractor Travel Costs,* GAO/RCED–99–107, April 1999.

tor travel costs resumed their upward march despite the fact that overall DOE spending on all contractor activities and operations has declined over the same period.

Table 2 illustrates how DOE contractor travel costs have increased as a share of all costs, and how much worse the travel problem appears to be at the two New Mexico weapons labs compared with all DOE contractors, including the other labs. Pacific Northwest National Lab is included as an upper-limit benchmark because its share of travel expenses was the highest of all contractors and labs.

Although the stated purpose of much of this travel is "business," the $209 million appears to be an excessive amount of "business" conducted over the airways rather than, say, by telephone, facsimile, or e-mail. Given that the contract employees at Sandia, for example, are primarily conducting research, it is hard to understand why this would require staff to visit Washington, D.C., 87 times a week—although the right to earn and keep frequent flier mileage arguably is a compelling reason. Congress might want to forbid contractor employees from accumulating such mileage awards when traveling on the taxpayers' tab. Under current law, federal employees who fly at taxpayer expense are prohibited from receiving such awards. Extending the prohibition to contract employees could take the wind out of this GAO-documented wanderlust.

Other taxpayer-reimbursed travel includes trips for conventions and meetings. In May 1997, 520 DOE contract employees attended the same conference in Vancouver, British Columbia, and in January 1976, 176 such employees attended a conference in Santa Fe, New Mexico. Santa Fe would seem to be an odd choice for a meeting and convention site because it has no air service. However, both the choice and its seasonal scheduling make sense when one considers that the trip date coincides with prime ski conditions at a nearby ski resort at Taos, and the absence of air service required all contractor attendees to rent cars after flying into the closest airport at Albuquerque.

Putting all of this in perspective, in FY 1996, Los Alamos spent $100,000 on counterintelligence and $28.5 million on employee travel. In that same year, Sandia spent $253,000 on counterintelligence but $39.3 million on employee travel.[26] The 1997 Vancouver conference alone cost more than $1 million in travel reimbursements, more than twice what the two labs spent on counterintelligence.

Given such a track record of twisted priorities, Congress should reconsider its proposal to let the DOE labs fix themselves under diminished federal oversight. The security problems and the DOE's systematic failure to rectify long-standing inadequacies at its labs make clear that what the labs need is more and better oversight, not less. The history of their security problems suggests that they are no more capable of reforming themselves than is the Department of Energy.

## CONCLUSION

Although federal law enforcement agents may never be able to prove that the DOE weapons labs were the source of the nuclear secrets now in possession of the People's Republic of China, the investigation to date has revealed that the labs have been woefully deficient in meeting basic security standards and that the existence of these deficiencies stretches back two decades. In response, both Congress and the President have put forward a number of proposals to enhance lab security, but a review of most of these proposals suggests that they either might not be very effective or could actually make the security situation worse. These proposals attempt to solve the problem with more money and more bureaucracy, but a review of the labs' security difficulties suggests that the real problem is a lack of accountability, not a lack of financial resources.

The exception to this pattern of inadequate proposals is found in elements of the Grams–Tiahrt

26. *Ibid.*, p. 27.

bill that would shift oversight responsibility for the key weapons labs from the Department of Energy to the Department of Defense, thereby placing the weapons labs under the guidance of an agency for which effective security is second nature. With the President indicating that he might veto the compromise proposal, Congress may have an opportunity both to initiate a more thorough review of the role the labs play in meeting America's scientific and defense needs and to develop alternative ways to make these facilities more secure.

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