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Updating Nuclear Security Standards: How Long Can the Department of Energy Afford to Wait?

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109-435

UPDATING NUCLEAR SECURITY STANDARDS: HOW LONG CAN THE DEPARTMENT OF ENERGY AFFORD TO WAIT?

SEVENTH REPORT

BY THE

COMMITTEE ON GOVERNMENT REFORM



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LETTER OF TRANSMITTAL

HOUSE OF REPRESENTATIVES,
Washington, DC, April 25, 2006.

Hon. J. DENNIS HASTERT,
Speaker of the House of Representatives,
Washington, DC.

DEAR MR. SPEAKER: By direction of the Committee on Government Reform, I submit herewith the committee's seventh report to the 109th Congress. The committee's report is based on a study conducted by its Subcommittee on National Security, Emerging Threats, and International Relations.

TOM DAVIS,
Chairman.

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the Union and ordered to be printed

Mr. TOM DAVIS, from the Committee on Government Reform
submitted the following

SEVENTH REPORT

On April 6, 2006, the Committee on Government Reform approved and adopted a report entitled, “Updating Nuclear Security Standards: How Long Can the Department of Energy Afford to Wait?” The chairman was directed to transmit a copy to the Speaker of the House.

I. SUMMARY

The Government Reform Committee, National Security, Emerging Threats, and International Relations [NSETIR] Subcommittee conducted an oversight investigation of Department of Energy [DOE] efforts to improve nuclear facility security. The subcommittee examined the DOE National Nuclear Security Administration [NNSA] and the Office of Energy, Science and Environment [ESE] to determine the reasons behind persistent reports of facility security lapses.¹ The Department of Energy is the Nation’s custodian for the protection of nuclear weapons, components and special nuclear material.

¹Pre 9/11 reports include: *NUCLEAR SECURITY: Improvements Needed in DOE’s Safeguards and Security Oversight*, GAO/RCED-00-62, Report to the Chairman, Committee on Commerce, Feb. 24, 2000; Prepared testimony of Gary L. Jones, Associate Director, Government Accountability Office, *NUCLEAR SECURITY: Security Issues at DOE and Its Newly Created National Nuclear Security Administration*, GAO/T-RCED-00-123, before the Subcommittee on Energy and Power and the Subcommittee on Oversight and Investigations, Committee on Commerce, Mar. 14, 2000; *NUCLEAR SECURITY: Lessons to Be Learned from Implementing NNSA’s Security Enhancements*, GAO-02-358, Report to the Committee on Armed Services, Special Oversight Panel on Department of Energy Reorganization, Mar. 29, 2002; *U.S. Nuclear Weapons Complex: Security at Risk*, Project on Government Oversight, Washington, DC, 20001, September 2001.

The oversight investigation conducted by the subcommittee attempted to identify systemic problems within the structure and management of DOE. The investigation sought to make sure risk management policies are threat-based, not artificially constrained by the question, “How much security can we afford?” in the effort to formulate and implement a new, post-9/11 security standard or Design Basis Threat [DBT].

Without question, DOE nuclear warhead production plants, test facilities, research labs, storage locations and decommissioned sites are attractive targets for terrorists determined to turn modern technology against us, and willing to die while doing so. The highly enriched uranium [HEU] and plutonium [PU] held at various locations could be used as the core of an improvised nuclear device or dispersed as a radiological weapon.

At the subcommittee’s request, the Government Accountability Office [GAO] undertook a review of DOE nuclear material security resulting in the release of a series of reports entitled, “Nuclear Security: NNSA Needs to Better Manage Its Safeguards and Security Program, (May 30, 2003, GAO–03–471); *Nuclear Security: DOE Needs To Resolve Significant Issues Before It Fully Meets the New Design Basis Threat*, (April 27, 2004, GAO–04–623); and *Nuclear Security: DOE’s Office of the Under Secretary for Energy, Science and Environment Needs to Take Prompt Action to Meet the New Design Basis Threat*, (July 15, 2005, GAO–05–611).

GAO found that DOE was not aggressively confronting the many challenges posed by the need to secure a sprawling, aging infrastructure against post-9/11 threats. In general, the DOE management structure may not reflect current security imperatives. The oversight investigation found substantial institutional, technical and fiscal challenges faced by efforts to develop and implement a strengthened DBT within a reasonable timeframe.

GAO examined the timeline for DBT implementation and found it unrealistic. After September 11th, it took DOE too long to formulate the May 2003 DBT and the resulting DBT failed to capture some elements of the threat. In significant respects, threats anticipated in the 2003 DBT did not parallel those identified in the intelligence community’s Postulated Threat. Reduced threat levels, called “dumbing down the DBT” by one witness,² were not adequately justified. As a result, the May 2003 DBT was reviewed again in response to GAO findings and congressional criticism. DOE issued a revised DBT in October 2004. The 2004 DBT identified a larger terrorist threat for DOE sites. However, DOE does not require full compliance until October 2008.

During a subcommittee hearing in the summer of 2005, internal Department divisions erupted publicly concerning the 2004 DBT levels. The subcommittee learned ESE officials believed that the DBT was too demanding. Mr. Walsh, ESE Director of Security stated, “ I am not totally convinced that the current intelligence foundation that really does go into developing a design basis threat

² Testimony of Danielle Brian, executive director, Project on Government Oversight, *Emerging Threats: Assessing Nuclear Weapons Complex Facility Security* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108–62, p. 151, June 24, 2003.

supports where we are right now.”³ On June 22, 2005, ESE Environmental Management [EM] directed sites not to comply with some aspects of the DBT.⁴ The following week, the Office of Security and Safety Performance Assurance [SSA] informed ESE that any deviations from the DBT would have to be approved by the Secretary of Energy.⁵ In November 2005, DOE announced revisions⁶ to the 2004 DBT. According to GAO, the 2005 DBT revisions maintain the threat level found in the 2004 DBT for NNSA sites protecting nuclear weapons, test devices, and completed nuclear assemblies. However, the 2005 DBT revisions did reduce the threat level for ESE and NNSA sites protecting Category I special nuclear material [SNM] such as nuclear weapon components, metals, and oxides. The reduced threat level, however, is within the lower range of adversaries contained in the Postulated Threat.⁷

Still, the stringent requirements of the 2004 DBT appear to have transformed possession of special nuclear material from a prestigious credential to a serious institutional liability. Facilities now have a powerful incentive to blend down or consolidate dangerous stocks.

In the aftermath of the September 11 terrorist attacks, DOE took immediate steps to improve physical security by increasing the level of security readiness from Security Condition [SECON] level 4 to SECON 2.⁸ The Secretary of Energy also established a set of 14 security initiatives, and took additional steps, to enhance short and long-term security. DOE has prepared implementation plans for each of the ESE sites possessing Category I special nuclear material. A multi-discipline team has been created to review the DBT and reassess divergence between DBT threat levels and the intelligence community analysis. A Consolidation of Materials Task Force has been formed and has compiled a list of excess material in the effort to reduce the number of facilities housing special nuclear materials but as of the task force had not yet released a report identifying short-term and long-term options for consolidation and relocation, something the task force had promised to do in 2004.⁹ Finally, the Cyber Security Oversight Office under DOE has been working toward assessing and securing information assets and systems.

³Testimony of Robert Walsh, ESE Director of Security, Department of Energy, *DOE/ESE Security: How Ready is the Protective Force?* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 109–104, p. 104, July 26, 2005.

⁴Memorandum from Maurice Daugherty, Director of Safeguards and Security Emergency Management to Ronald Bartholomew, Director, Safeguards and Security Savannah River Operations Office, June 22, 2005 (in subcommittee files).

⁵Memorandum from Marshall O. Combs, Director, Office of Security, SSA to Maurice Daugherty, Director, Safeguards and Security/ ESE Environmental Management, July 1, 2005 (in subcommittee files).

⁶Nov. 29, 2005 memo concerning DBT revisions from Deputy DOE Secretary Clay Sell to Linton F. Brooks, Under Secretary for Nuclear Security/Administrator for the National Nuclear Security Administration [NNSA], David K. Garman, Under Secretary for Energy, Science and Environment [ESE], and Glenn Podonsky, Director-Office of Security and Safety Performance Assurance [SSA] (in subcommittee files).

⁷Email correspondence from Jonathan Gill, Senior Analyst, Government Accountability Office to subcommittee staff, Mar. 28, 2006 (in subcommittee files).

⁸DOE Notice 473.6 established Department security condition [SECON] levels.

⁹Testimony of Glenn Podonsky, Director, Office of Independent Oversight and Performance Assurance, Department of Energy, *Nuclear Security: Can DOE Meet Facility Security Requirements? (II)* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108–237, p. 64, June 22, 2004.

Charged by law to sustain the Nation's nuclear deterrent capabilities, DOE and NNSA have the unenviable task of balancing the demands of that mission against the risks and costs of meeting security threats in a new and dangerous era. That balance must be struck as openly and as effectively as possible so that nuclear security, homeland security and national security will be protected.

A. FINDINGS

1. The Department of Energy lacks an overarching, coordinated security policy to ensure effective safeguards are in place to protect nuclear weapons assemblies, components, designs and special nuclear material.

2. Design Basis Threat [DBT] revisions are taking too long to implement.

3. The Design Basis Threat has not been applied consistently throughout Department of Energy facilities.

4. Maintaining the current far-flung Department of Energy nuclear complex of facilities housing special nuclear materials is not cost effective and increases security risks.

5. Protective forces are experiencing reduced readiness, retention problems, and fewer force-on-force performance tests.

B. RECOMMENDATIONS

1. The Secretary of Energy should designate an office responsible for Department-wide security policies and should clarify the roles and responsibilities of site offices and headquarters for conducting security oversight.

2. The Secretary of Energy should develop and implement a coordinated department-wide, multiyear, fully funded implementation plan for meeting new DBT requirements.

3. The Secretary of Energy should report regularly to relevant congressional oversight committees on the status of DBT implementation plans including which sites and facilities are currently considered to be high risk and what steps are being taken to mitigate those risks to acceptable levels.

4. The Secretary of Energy should develop a plan, timeline and budget for the consolidation of special nuclear material.

5. The Secretary of Energy should develop and implement a comprehensive management plan to improve training, qualifications, and technology available to security protective forces.

II. BACKGROUND

The Department of Energy [DOE] was created in 1977¹⁰ to deal with the oil price shocks caused by the Organization of Petroleum Export Countries [OPEC]. The department was formed from the consolidation of a number of agencies with energy-related missions. These agencies included the Energy Research and Development Administration [ERDA], the former Atomic Energy Commission [AEC], the Federal Energy Regulatory Commission, the Federal

¹⁰The Department of Energy Organization Act, Public Law 95-91. The Department of Energy officially began operations on Oct. 1, 1977. Pursuant to section 901 of the act, President Jimmy Carter issued Executive Order 12009, prescribing Oct. 1, 1977 as the effective date of the act.

Energy Administration, and several programs from the Department of Interior.

DOE manages the Nation's nuclear weapons production complex, cleans up the environmental legacy from the production of nuclear weapons, and conducts research and development on both energy and basic science. The relative emphasis given to these missions has changed over time. Early emphasis by the department on research and initiatives to cope with the global energy crisis quickly shifted to accelerated nuclear weapons production. However, by the late 1980s, DOE funding priorities again shifted to cleaning up the legacy of waste generated by the weapons complex. Since then, DOE has placed increased emphasis on basic scientific research. DOE also has a role in helping to ensure the security of the Nation's energy infrastructure. The result is a department with complex and diverse missions. These diverse missions are largely implemented by contractors to carry out the DOE program and project activities at government-owned facilities and sites across the country.¹¹ The department contracts out more than 90 percent of its budget¹² and has established an extensive network of field offices to directly oversee the work of these contractors and address other departmental responsibilities.

The Department of Energy is responsible for developing the national energy plan by coordinating and administering the energy functions of the Federal Government. In addition, DOE is responsible for long-term, high-risk research and development of energy technology, Federal power marketing, energy conservation, and the nuclear weapons program. In carrying out this multifaceted mission, the department employs a workforce of approximately 120,000 Federal and contractor employees and manages assets valued at more than \$128 billion, including a complex of national laboratories, nuclear weapon production facilities, and other research facilities.¹³

The Department of Energy's overarching mission is to advance the national, economic, and energy security of the United States; to promote scientific and technological innovation in support of that mission; and to ensure the environmental cleanup of the national nuclear weapons complex. The Department has four strategic goals toward achieving the mission:

- Defense Strategic Goal: To protect the national security by applying advanced science and nuclear technology to the Nation's defense.
- Energy Strategic Goal: To protect national and economic security by promoting a diverse supply and delivery of reliable, affordable, and environmentally sound energy.
- Science Strategic Goal: To protect national and economic security by providing world-class scientific research capacity and advancing scientific knowledge.

¹¹ *DEPARTMENT OF ENERGY: Fundamental Reassessment Needed to Address Major Mission, Structure, and Accountability Problems*, Government Accountability Office, GAO-02-51, December 2001.

¹² Response to email inquiry from subcommittee staff to the Department of Energy (in subcommittee files).

¹³ *Special Report: Management Challenges at the Department of Energy*, DOE Office of the Inspector General DOE/IG-0712, December 2005.

- Environment Strategic Goal: To protect the environment by providing a responsible resolution to the environmental legacy of the Cold War and by providing for the permanent disposal of the Nation's high-level radioactive waste.¹⁴

The Department of Energy has two major program offices. The National Nuclear Security Administration and the Office of Energy, Science and Environment have the day-to-day responsibility for all DOE programs under their jurisdiction. NNSA is responsible for developing, producing, and maintaining nuclear weapons, and insuring the security of those weapons, components, and special nuclear material while ESE is responsible for Federal energy-related programs and environmental clean-up of former NNSA nuclear weapon sites.

The Department of Energy has requested a budget of \$23.5 billion for fiscal year 2007.¹⁵ The budget request includes \$1.498 billion for NNSA, ESE, SSA and Information Management Security, a decrease of approximately 1.3 percent over fiscal year 2006, for security programs and implementation of safeguard requirements identified in the Design Basis Threat.¹⁶ The security funding will support DOE efforts to protect nuclear material, conduct performance assurance testing, and support programs to ensure security systems are operational and functioning.

A. THE NATIONAL NUCLEAR SECURITY ADMINISTRATION [NNSA]

In 2000, the National Nuclear Security Administration¹⁷ was established within the Department of Energy as a semi-autonomous agency with a mandate in a variety of security-related domains. The NNSA is responsible for the research and development, production, maintenance, storage, and transportation of the Nation's nuclear weapons arsenal. Congress established the NNSA to correct longstanding management and security problems including ineffective controls over foreign visitors, weaknesses in efforts to control and protect classified and sensitive information, lax physical security controls, ineffective management of personnel security clearance programs, and weaknesses in tracking and controlling nuclear materials.¹⁸ NNSA was established to be distinct from DOE. To clearly show the separation of NNSA management from the DOE organization, Congress laid out chains of command in both DOE and NNSA that would insulate NNSA from DOE management and decision-making, except at the level of the NNSA Administrator.

The nuclear weapons program is a multifaceted and hazardous operation. The Department of Energy must maintain in readiness a nuclear arsenal, maintain aging facilities, dismantle surplus

¹⁴ Department of Energy, *About DOE*, <http://www.doe.gov/about/index.htm> (accessed Feb. 28, 2006).

¹⁵ Fiscal Year 2007, Budget of the Department of Energy, Office of the Chief Financial Officer, Washington, DC.

¹⁶ Department of Energy, Fiscal Year 2007 Congressional Budget Request, Budget Highlights, Office of Management, Budget and Evaluation/CFO, February 2006.

¹⁷ National Security Administration Act, Public Law 106-65, Oct. 5, 1999.

¹⁸ Department of Energy, *Views on DOE's Plan to Establish the National Nuclear Security Administration*, Testimony of Gary L. Jones, Associate Director, Government Accountability Office, GAO/T-RCED-00-113, Mar. 2, 2000.

weapons, dispose of excess radioactive materials, clean up surplus facilities, and construct new facilities.¹⁹

The National Nuclear Security Administration maintains the safety, security, and reliability of the Nation's nuclear stockpile, manages nuclear non-proliferation efforts to reduce the threats from weapons of mass destruction [WMD], and provides the U.S. Navy with nuclear propulsion plants. The United States last produced a new nuclear weapon in 1990 and last conducted a nuclear test in 1992.

The mission of the National Nuclear Security Administration is:

- To enhance U.S. national security through the military application of nuclear energy.
- To maintain and enhance the safety, reliability, and performance of the U.S. nuclear weapons stockpile, including the ability to design, produce, and test, in order to meet national security requirements.
- To provide the U.S. Navy with safe, militarily effective nuclear propulsion plants and to ensure the safe and reliable operation of those plants.
- To promote international nuclear safety and nonproliferation.
- To reduce global danger from weapons of mass destruction.
- To support U.S. leadership in science and technology.²⁰

Nuclear weapons research, development, and production are conducted at eight NNSA facilities,²¹ operated and maintained by outside contractors. Because the facilities house special nuclear materials used in the making of nuclear weapons and nuclear weapons components, DOE and the NNSA administer security programs to protect (1) against theft, sabotage, espionage, terrorism, or other risks to national security and (2) the safety and health of DOE employees and the public.

Currently, the nuclear weapons complex has four production sites:

- The Pantex Plant, Amarillo, Texas;
- The Y-12 Plant, Oak Ridge, Tennessee;
- The Kansas City Plant, Kansas City, Missouri;²² and
- The Savannah River Site, Aiken, South Carolina.²³

In addition to the production sites, the complex includes the Nevada Test Site and three national laboratories that design nuclear weapons:

¹⁹Defense Nuclear Facilities Safety Board, Sixteenth Annual Report to Congress, February 2006.

²⁰Department of Energy, National Nuclear Security Administration, *About NNSA, Mission Statement*, <http://www.nnsa.doe.gov/aboutnnsa.htm> (accessed Feb. 27, 2006).

²¹DOE, National Nuclear Security Administration, Briefing Slide, DOE/NNSA Nuclear Weapons Facilities (in subcommittee files).

²²The Department of Energy, NNSA, Kansas City, Missouri facility, <http://www.nnsa.doe.gov/siteoffices.htm> (accessed Mar. 6, 2006).

²³DOE, National Nuclear Security Administration, Briefing Slide, DOE/NNSA Nuclear Weapons Facilities (in subcommittee files).

- Lawrence Livermore National Laboratory, Livermore California
- Los Alamos National Laboratory, Los Alamos, New Mexico, and
- Sandia National Laboratory, Albuquerque, New Mexico and Livermore, California.²⁴

NNSA relies on site contractors for implementation of safeguards and security programs. The contractors are responsible for conducting day-to-day security activities and adhering to DOE policies for operation of production and laboratory facilities.

Many of the sites contain substantial quantities of Category I special nuclear material.²⁵ Category I material includes plutonium and uranium in the following forms:

- Assembled nuclear weapons and test devices;
- Products containing high concentrations of plutonium or uranium, such as major nuclear components, and recastable metal; and
- High-grade materials, such as carbides, oxides, solutions, and nitrates.²⁶

The risks this radioactive material poses vary, but include the potential for sabotage, or theft for illegal use in a nuclear device. Because these materials pose such risks, NNSA management of the safeguards and security program, which includes overseeing contractor activities, is essential to prevent an unacceptable, adverse impact on national security.

B. THE OFFICE OF ENERGY, SCIENCE AND ENVIRONMENT [ESE]

The Office of Energy, Science and Environment is responsible for the day-to-day management oversight of energy programs, science and technology programs and environmental programs. The program offices are:

Office of Science—Department of Energy science programs provide through public-private partnerships, the technology capable of developing abundant, reliable, affordable and environmentally sound energy supplies. This includes enhancing the Nation's energy supply by conducting R&D in renewable energy, oil, gas, coal, and nuclear energy. The mission of the Office of Energy Efficiency and Renewable Energy [EERE] is to strengthen energy security, environmental quality, and economic vitality in public-private partnerships that: (1) enhance energy efficiency and productivity; (2) bring clean, reliable and affordable energy technologies to the marketplace; and (3)

²⁴ Ibid.

²⁵ *Nuclear Security: DOE's Office of the Under Secretary for Energy, Science and Environment Needs to Take Prompt Action to Meet the New Design Basis Threat*, p. 2, Government Accountability Office, GAO-05-611, July 15, 2005.

²⁶ *Nuclear Security: NNSA Needs to Better Manage Its Safeguards and Security Program*, Government Accountability Office, GAO-03-471, p. 2, May 2003.

make a difference in the everyday lives of Americans by enhancing their energy choices and their quality of life.²⁷

Office of Nuclear Energy, Science and Technology—The Department of Energy is the single largest Federal Government supporter of basic research in physical sciences in the United States, providing more than 40 percent of total Federal funding for this area. DOE has the oversight and is the principal Federal funding agency for research programs in nuclear physics, and fusion energy sciences.²⁸

Environmental Management—The Department of Energy is responsible for cleaning up contaminated sites and disposing of radioactive waste left behind as a byproduct of nuclear weapons production, nuclear powered naval vessels and commercial nuclear energy production. DOE must mitigate the risks and hazards posed by the legacy of nuclear weapons production and research.²⁹

ESE is responsible for the management of five sites that possess special nuclear material [SNM]. The five sites:³⁰

Responsible program office	Site	Location
Office of Environmental Management	Savannah River Site	Aiken, South Carolina
Office of Environmental Management	Hanford Site	Richland, Washington
Office of Nuclear Energy, Science, and Technology	Idaho National Laboratory	Idaho Falls, Idaho
Office of Nuclear Energy, Science, and Technology	Argonne National Laboratory-West	Idaho Falls, Idaho
Office of Science	Oak Ridge National Laboratory	Oak Ridge, Tennessee

Source: GAO.

NNSA and ESE offices are requesting nearly \$1.194 billion for security for fiscal year 2007.³¹ For the sake of comparison, NNSA is requesting \$746 million for security versus \$448 million for ESE security. Security funding requests by ESE program office are \$296 million for Environmental Management, \$77 million for Office of Science, and \$76 million for the Office of Nuclear Energy, Science, and Technology.³²

ESE relies on site contractors for implementation of safeguards and security programs. The contractors are responsible for conducting day-to-day security activities and adhering to DOE policies for operation of research and laboratory facilities and former nuclear weapons sites. The sites possess Category I special nuclear material. Category I material includes plutonium and uranium in the following forms:

²⁷The Department of Energy, Energy Programs, <http://www.energy.gov/energysources/index.htm> (accessed Feb. 28, 2006); <http://www.energy.gov/energyefficiency/index.htm> (accessed Feb. 28, 2006).

²⁸The Department of Energy, Science and Technology Programs, <http://www.energy.gov/sciencetech/index.htm> (accessed Feb. 28, 2006).

²⁹The Department of Energy, Environmental Programs, <http://www.energy.gov/environment/index.htm> (accessed Feb. 28, 2006).

³⁰*Nuclear Security: DOE's Office of the Under Secretary for Energy, Science and Environment Needs to Take Prompt Action to Meet the New Design Basis Threat*, p. 8, Government Accountability Office, GAO-05-611, July 15, 2005.

³¹Department of Energy, Fiscal Year Congressional Budget Request, Budget Highlights, Office of Management, Budget and Evaluation/CFO, February 2006.

³²Ibid.

- products containing high concentrations of plutonium or uranium, such as major nuclear components, and recastable metal, and
- high-grade materials, such as carbides, oxides, solutions, and nitrates.³³

The risks this radioactive material poses vary, but include the potential for sabotage, or theft for illegal use. Because these materials pose such risks, ESE management of the safeguards and security program, which includes overseeing contractor activities, is essential to prevent an unacceptable, adverse impact on national security.

ESE facilities are operated and maintained by outside contractors.³⁴ Because these facilities house special nuclear materials used for research, DOE administers security programs to protect (1) against theft, sabotage, espionage, terrorism, or other risks to national security and (2) the safety and health of DOE employees and the public.

C. OFFICE OF SECURITY AND SAFETY PERFORMANCE ASSURANCE [SSA]

In December 2003, Secretary of Energy Spencer Abraham announced the establishment of the new Office of Security and Safety Performance Assurance,³⁵ combining the Office of Security [SO] and the Office of Independent Oversight and Performance Assurance [OA], to better coordinate the roles of independent oversight and security policy organizations within the Department.³⁶

According to DOE, SSA is responsible for the development, implementation and assessment of safeguards and security policies and posture. The Director of SSA reports directly to the Secretary of Energy.³⁷ The creation of the SSA office places added emphasis and focus on security with the ultimate goal of providing the highest level of protection for the security of nuclear assets held by DOE. According to the Director of SSA, the merging of SO and OA will provide for better integration and collaboration among the security and oversight functions and will generate a synergy that will facilitate communication and be more responsive to the security needs of DOE.

SSA develops and promulgates DOE security policy. In addition, the office is responsible for developing the Design Basis Threat [DBT] to identify and characterize the range of potential adversary threats to Department of Energy programs and facilities. To carry out this mission, the SSA develops strategies and policies governing the protection of critical assets entrusted to the Department of Energy.

³³ *Nuclear Security: NNSA Needs to Better Manage Its Safeguards and Security Program*, Government Accountability Office, GAO-03-471, p. 2, May 2003.

³⁴ *Nuclear Security: Several Issues Could Impede the Ability of DOE's Office of Energy, Science and Environment to Meet the May 2003 Design Basis Threat*, Testimony of Robin M. Nazzaro, Director, Government Accountability Office, GAO-04-894T, p. 1, June 22, 2004.

³⁵ The Department of Energy, Press Release, Washington DC, Dec. 4, 2003, *DOE Establishes Office of Security and Safety Performance Assurance for Effective Implementation of Safeguards & Security Policies*.

³⁶ The Department of Energy, Office of Security and Safety Performance Assurance [SSA], <http://www.ssa.doe.gov/mission—functions.html> (accessed Feb. 28, 2006).

³⁷ The Department of Energy, Press Release, Washington DC, Dec. 4, 2003, *DOE Establishes Office of Security and Safety Performance Assurance for Effective Implementation of Safeguards & Security Policies*.

Specifically, the Office of Security and Safety Performance Assurance is:

- Responsible for managing the DOE Safeguards and Security Technology Development Program;
- Developing policies designed to protect national security and other critical assets entrusted to the Department of Energy;
- Analyzing department-wide safeguards and security policy and standards designed to protect national security and other critical assets;
- Provide an independent assessment of the effectiveness of security policies and programs.

SSA employs an oversight process that emphasizes performance and performance testing for evaluating the effectiveness of contractor safeguards and security performance. To carry out this function, SSA periodically assesses both Federal and contractor operations for improvement, including the use of force-on-force exercises. The office also performs follow-up reviews to ensure corrective actions are implemented and weaknesses in safeguards and security are addressed appropriately. SSA also conducts ESE and NNSA inspections to determine the effectiveness of safeguards and security policies and programs; identifies and analyzes safeguards and security policy issues, trends and directions; and develops inspection and assessment methods and technologies.

In addition to security oversight provided by SSA, NNSA and ESE have the day-to-day oversight responsibility for contractors' security programs. The program offices conduct annual security surveys or surveillances at sites under their jurisdiction.

The end of the Cold War changed the Department's focus from building new weapons to extending the lives of existing weapons, disposing of surplus nuclear material, and cleaning up no longer needed weapons sites. NNSA is responsible for extending the lives of existing weapons in the stockpile and for ultimately disposing of surplus nuclear material, while ESE, Office of Environmental Management [EM] is responsible for cleaning up former nuclear weapons sites. Contractors, who are responsible for protecting classified information, nuclear materials, nuclear weapons, and nuclear weapons components, operate NNSA and EM sites.

D. NNSA AND ESE SECURITY OFFICES

The SSA guides NNSA and ESE safeguards and security programs. NNSA and ESE are responsible for ensuring contractors' security activities are effective and conform to SSA orders and policy requirements. In conducting this oversight, NNSA and ESE generally use certain key processes intended to identify specific security weaknesses at laboratory, production facility and environmental sites and ensure weaknesses are corrected. These processes include annual comprehensive surveys and ongoing reviews of contractor security programs.

The Office of Defense Nuclear Security is responsible for security activities at NNSA laboratories and production facilities.³⁸ The office develops agency security programs, including protection, control, and accountability for nuclear material and ensuring physical security for all facilities in the complex. Through various contract mechanisms, NNSA provides financial incentives for contractor performance. NNSA assesses this performance based on the extent contractors meet performance standards, which are established in annual performance plans.

Unlike NNSA, ESE does not have a consolidated headquarters security office with direct security budget oversight of program offices. In April 2005, the ESE Undersecretary stated ESE was composed of “institutional stovepipes” and that this structure has hampered strategic security management within ESE.³⁹ As a result, the Undersecretary for ESE appointed a director of ESE security in June 2005. Nevertheless, the ESE Security Director does not have budget authority or policy direction responsibilities nor does he have a dedicated staff as found in NNSA. Because of this, each ESE program office is organized and staffed differently. For example, the Office of Environmental Management’s headquarters security office has more than 17 professional security personnel on staff. In contrast, the headquarters offices of Science and of Nuclear Energy, Science and Technology each have only one or two security professionals on staff respectively. According to GAO, this situation may be problematic because security responsibilities are increasing with the consolidation of sites and special nuclear materials.⁴⁰

DOE’s overall security policy is contained in DOE Order 470.1, Safeguards and Security Program, which was originally approved in 1995. The key component of the DOE approach to security is the Design Basis Threat [DBT], a classified document that identifies the characteristics of the potential threats to DOE assets.⁴¹

E. DESIGN BASIS THREAT

The Design Basis Threat identifies and characterizes potential attacks against DOE programs and facilities. The DBT is based on the Postulated Threat, the official assessment by the intelligence community of potential terrorist strategies against DOE facilities. DOE, DOD, FBI, CIA and the Nuclear Regulatory Commission [NRC] participated in the development of the postulated threat. The DBT is an integral part of DOE efforts to secure and sustain domestic production and control of nuclear materials. Detailed elements of the new DBT are classified.

The DBT describes adversaries, such as terrorists, criminals, and foreign intelligence agents, in terms of their tactics, equipment, level of training, level of motivation, and other characteristics. The DBT is used to assist DOE analysts in evaluating specific vulnerabilities. The DOE DBT has been coordinated historically

³⁸ Department of Energy, NNSA Organization Chart, Feb. 6, 2005, <http://www.nnsa.doe.gov/docs/orgcharts/NNSAOrgcharts.pdf> (accessed Feb. 15, 2006).

³⁹ *Nuclear Security: DOE’s Office of the Under Secretary for Energy, Science and Environment Needs to Take Prompt Action to Meet the New Design Basis Threat*, p. 29, Government Accountability Office, GAO-05-611, July 15, 2005.

⁴⁰ *Ibid.*

⁴¹ *Ibid.* p. 8.

with the Department of Defense [DOD] and the Nuclear Regulatory Commission [NRC]⁴² to ensure that similar national security assets are provided equivalent protection regardless of what agency has primary custody.⁴³

The DBT is used to:

- Develop overall safeguards and security program requirements;
- provide the basis for site specific safeguards and security program planning, implementation, and facility design; and,
- provide the basis for evaluating the effectiveness of systems that are implemented.

After the events of September 11, 2001, DOE began to reassess and improve the physical security at NNSA and ESE sites. In May 2003, the Department of Energy issued an updated DBT. Reflecting the post-September 11, 2001 environment, the 2003 DBT⁴⁴ is substantially different and a somewhat more demanding document than the previous DBT which had last been updated in 1999.

The 2003 DBT represents a departure from earlier DBTs in its basic structure. Specifically, as discussed in the GAO report, *Nuclear Security: DOE Needs To Resolve Significant Issues Before It Fully Meets the New Design Basis Threat*, key differences from the 1999 DBT include the following:

Increased adversary threat levels. The 2003 DBT increases the terrorist threat levels for the theft of the department's highest value assets, special nuclear material, although not in a uniform way. The 1999 DBT required ESE and NNSA sites to protect against a single terrorist threat level. Under the 2003 DBT however, the theft of a nuclear weapon or test assembly is judged to be more attractive to terrorists, and sites that have these assets are required to defend against a substantially higher number of adversaries than are other ESE and NNSA sites that possess other forms of Category I special nuclear material. For example, the Pantex Plant, which, among other things, assembles and disassembles nuclear weapons, is required to defend to a higher level than sites such as Los Alamos or Y-12, both of which fabricate nuclear weapons components. DOE calls this a graded threat approach.

Specific protection strategies. In line with the graded threat approach and depending on the type of materials possessed and the likely objective of the terrorist group, sites are now required to implement specific protection strategies, such as denial of access, denial of task, or containment with recapture for their most sensitive facilities and assets.

Wider range of terrorist objectives. The 2003 DBT recognizes a wider range of terrorist objectives, particularly in the area of radio-

⁴² *Nuclear Security: DOE Needs To Resolve Significant Issues Before It Fully Meets the New Design Basis Threat*, Government Accountability Office, GAO-04-623, p. 17, Apr. 27, 2004.

⁴³ According to GAO, after 2003, there was a lack of coordination between these agencies. As a result, the subcommittee asked GAO to investigate the comparability of the DOE and the NRC DBTs for protection of special nuclear material. The GAO report should be completed by July 2006.

⁴⁴ Design Basis Threat for the Department of Energy Programs and Facilities, (UNCLASSIFIED), Short Title: Unclassified Design Basis Threat, U.S. Department of Energy, Office of Safeguards and Security, May 2003.

logical, chemical, and biological sabotage. The 2003 DBT requires the development of protection strategies for a range of facilities, such as some radioactive waste storage areas, that were not covered under the previous DBT.

Complexity. With a graded approach and broader coverage, the new DBT is a more complex document than its predecessor. The 1999 DBT was 9 pages long, while the 2003 DBT is a far more detailed 48 pages.

Depending on the material, protective systems at DOE Category I special nuclear material sites are designed to accomplish the following objectives in response to the terrorist threat:

Denial of access. For some potential terrorist objectives, such as the creation of an improvised nuclear device, DOE may employ a protection strategy that requires the engagement and neutralization of adversaries before they can acquire hands-on access to the assets.

Denial of task. For nuclear weapons or nuclear test devices that terrorists might seek to steal, DOE requires the prevention and/or neutralization of the adversaries before they can complete a specific task, such as stealing devices.

Containment with recapture. Where the theft of nuclear material is the likely terrorist objective, DOE requires that adversaries not be allowed to escape the facility and that DOE protective forces recapture the material as soon as possible. This objective requires the use of specially trained and well-equipped response teams.

GAO released the report, *Nuclear Security: DOE Needs To Resolve Significant Issues Before It Fully Meets the New Design Basis Threat*, (GAO-04-623) at the April 27, 2004 subcommittee hearing and testified about how well DOE is positioned to protect the nuclear weapons, material, and operations from today's threat.⁴⁵ In part, as a result of the subcommittee's investigation of DOE facility security, DOE Secretary Spencer Abraham announced on May 7, 2004 a series of new facility security initiatives. These included enhancing protective forces, consolidating nuclear material, protecting sensitive information and a re-examination of the 2003 Design Basis Threat.⁴⁶

As a result of Secretary Abraham's May 7th Energy Security Initiatives,⁴⁷ DOE issued a revised DBT in October 2004. The 2004 DBT identified a larger terrorist threat for DOE sites than had the previous DBT and merged and simplified threat levels [TL] and sabotage threat levels [STL] into 4 threat levels. In addition, the 2004 DBT required a reexamination of the security posture at each facility, how the threat level will be met and incorporating improvised nuclear device [IND], radiological sabotage and measures to mitigate airborne threats into the highest TL [TL1].⁴⁸

⁴⁵ Prepared testimony of Robin Nazzaro, Director, Government Accountability Office, *Nuclear Security: Can DOE Meet Facility Security Requirements?* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108-237, pps. 10-12, Apr. 27, 2004.

⁴⁶ Department of Energy Security Initiatives, May 7, 2004 (in subcommittee files).

⁴⁷ *Ibid.* p. 3, Revising Threat Assessments.

⁴⁸ Office of Security and Safety Performance Assurance briefing slides, Significant Events Leading to Current DBT Policy, pgs. 8-10, March 2005 (in subcommittee files).

DOE acknowledges that meeting the 2004 DBT requires an integrated security approach for the Department of Energy that will deploy security-based technical solutions to reduce the need for an increased protective force, consolidate special nuclear materials by reducing the quantities of materials and the number of locations at which the materials are stored, and deploy an elite protective force that is trained and equipped to meet a more capable attacking force. Because the 2004 DBT contains more challenging threat levels than the 2003 DBT, achievement of DBT-compliance was changed from October 2007 to August 2008.

In 2005, the DBT was again modified. The Deputy Secretary directed the annual review of the DBT be completed on an accelerated schedule⁴⁹ and as a result, changes to the 2004 DBT were announced in November 2005.⁵⁰ According to GAO, the 2005 DBT reduces the level of threat at most ESE and NNSA sites.⁵¹

III. DISCUSSION

A. FINDINGS

1. The Department of Energy lacks an overarching, coordinated security policy to ensure effective safeguards are in place to protect nuclear weapons assemblies, components, designs and special nuclear material

The Department of Energy lacks a standardized, universally applicable security policy, making it extremely difficult for NNSA and ESE site offices to effectively oversee security activities. GAO reported on security at NNSA sites in May 2003 and April 2004. GAO found that NNSA needed to improve management of safeguards and security programs and that while some action had been taken in response to the terrorist attacks of September 11, 2001, additional action was needed to ensure that DOE sites were adequately prepared to defend themselves. NNSA was criticized for not being effective. Ms.

Robin Nazzaro, Director of Natural Resources and Environment of the Government Accountability Office explained in her June 24, 2003 testimony that the NNSA had not yet fully defined clear roles and responsibilities for headquarters and site operations. The management structure is consistently in flux, rendering NNSA site offices inconsistent in their assessment of contractor safeguards and security activities. When problems are identified, NNSA contractors do not consistently conduct the analysis DOE policy requires in preparing corrective action plans. Ms. Nazzaro also criticized NNSA for being understaffed and having shortfalls in the expertise needed to effectively oversee contractors.⁵² Furthermore, in their

⁴⁹Memorandum for Deputy Secretary Clay Sell, Nov. 28, 2005 from Glenn S Podonsky, Office of Security and Safety Performance Assurance (in subcommittee files).

⁵⁰Memorandum for Linton Brooks, Administrator, National Nuclear Security Administration, Davis Garman, Under Secretary, Energy, Science and Environment and Glenn Podonsky, Director, Office of Security and Safety Performance Assurance, Nov. 29, 2005 from Deputy Secretary Clay Sell (in subcommittee files).

⁵¹Email correspondence from Jonathan Gill, Senior Analyst, Government Accountability Office to subcommittee staff, Mar. 28, 2006 (in subcommittee files).

⁵²Testimony of Robin Nazzaro, Director, Government Accountability Office, *Emerging Threats: Assessing Nuclear Weapons Complex Facility Security* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108-62, pps. 6-7, June 24, 2003.

testimonies on June 22, 2004, both Ms. Nazzaro and Ms. Danielle Brian, executive director of the Project on Government Oversight, claimed the lack of coordination between the labs and the leadership at headquarters within DOE is a major cause for concern and therefore, indicates the need for an overarching security policy.⁵³ Since that time, NNSA has strengthened its security organization and clarified roles and responsibilities. However, the effectiveness of these reforms has not been fully assessed.

According to GAO, ESE headquarters is also not well suited to meet the challenges associated with implementing the 2004 DBT.⁵⁴ Specifically, there is no centralized ESE security organization. The individual who serves as the ESE Security Director has no programmatic authority. The lack of authority limits the director's ability to facilitate ESE and DOE-wide cooperation on such issues as facility security, nuclear material down-blending and SNM consolidation at ESE sites.⁵⁵ It was only in early July 2005 that DOE finally appointed a permanent ESE Director of Security. The reaction of the ESE Director of Security to GAO's concern about the lack of programmatic authority was tepid at best. According to the ESE Director of Security, formalizing the position of ESE Director of Security in early July 2005 was responsive to GAO's recommendation in this area.⁵⁶ However, GAO believes the ESE Director failed to address GAO's underlying concern that the position of ESE Security Director does not have direct programmatic authority for facility security, nuclear material down-blending and SNM consolidation at ESE sites.⁵⁷

2. *The Design Basis Threat [DBT] is taking too long to implement*

The Design Basis Threat for the Department of Energy was revised in 2003, 2004 and 2005. The latest DBT security standards are to be implemented by 2008. Because of this lengthy implementation period, there is a risk that terrorists might seek to exploit lingering vulnerabilities in nuclear facility defenses. There are a variety of factors contributing to the lengthy implementation process. These include development of the 2003 DBT which took almost 2 years because of delays in developing the Postulated Threat, the lengthy comment and review process at DOE for developing a protection policy, the sharp debates within DOE and other government organizations over the size and capabilities of terrorist threats and

⁵³Testimony of Robin Nazzaro, Director, Government Accountability Office and Ms. Danielle Brian, executive director, Project on Government Oversight, *Nuclear Security: Can DOE Meet Facility Security Requirements? (II)* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108-237, p. 38, June 22, 2004.

⁵⁴*Nuclear Security: DOE's Office of the Under Secretary for Energy, Science and Environment Needs to Take Prompt Action to Meet the New Design Basis Threat*, p. 5, Government Accountability Office, GAO-05-611, July 15, 2005.

⁵⁵Ibid. p. 6.

⁵⁶Prepared testimony of Robert Walsh, ESE Director of Security, Department of Energy, *DOE/ESE Security: How Ready is the Protective Force?* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 109-104, pps. 90-91, July 26, 2005.

⁵⁷Prepared testimony of Gene Aloise, Director, Government Accountability Office, *DOE/ESE Security: How Ready is the Protective Force?* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 109-104, p. 25, July 26, 2005.

the availability of resources to meet those threats.⁵⁸ As a result, GAO doubts DOE will be able to fully implement the standards set in the DBT before 2008.⁵⁹ According to GAO, serious improvements must be made at each Category I nuclear site under DOE in order to meet the DBT implementation deadline.⁶⁰ Second, it is taking too long to implement because there is a lack of coordination among DOE offices, sites and contractors, and a lack of focused funding needed to implement the DBT.⁶¹

Ronald E. Rimm, president of RETA Security Inc., in testimony on June 24, 2003, explained that “the necessary implementation schedule for funding security improvements are not required to be completed until 2009 with the actual implementation to follow some time later.”⁶² Ms. Nazzaro, in April 27, 2004 testimony explained that a faster process to reach consensus on policy within DOE is needed since adversaries have the ability to move and adapt extremely quickly.⁶³

GAO reported that DOE has been slow to resolve a number of significant issues, such as issuing additional DBT implementation guidance, developing DBT implementation plans, and developing budgets to support these plans, that may affect the ability of its sites to fully meet the threat contained in the DBT in a timely fashion. Consequently, DOE’s deadline to meet DBT requirements is probably not realistic and will not be met for some sites.⁶⁴

As an example, in March 2006, subcommittee staff met with GAO and learned the ESE Savannah River site [SRS] and Oak Ridge site (Y-12) are at different stages in complying with the 2003 DBT. SRS expects to be fully compliant with all aspects of the DBT by the end of the fiscal year 2006. Compliance relies on the completion of a number of projects and efforts including the installation of interlocking vehicle barriers, deployment of armored vehicles, and installation of hardened fighting positions, all of which appear to be funded and on schedule.

In contrast, Y-12 has been compliant with portions of the 2003 DBT since February 2004. This includes strict protection requirements for some assets and facilities. However, the universal application of stricter protection requirements will not be completed until 2008. Both sites have developed broadly similar visions for complying with the 2004 and 2005 DBT. Implementation of those plans, however, will require adequate funding and the completion of key and often interdependent activities, especially at Y-12. Ac-

⁵⁸ *Nuclear Security: DOE Needs To Resolve Significant Issues Before It Fully Meets the New Design Basis Threat*, Government Accountability Office, GAO-04-623, Highlights Page, Apr. 27, 2004.

⁵⁹ *Ibid.* p. 6.

⁶⁰ *Ibid.* p. 7.

⁶¹ *Nuclear Security: DOE’s Office of the Under Secretary for Energy, Science and Environment Needs to Take Prompt Action to Meet the New Design Basis Threat*, pps. 29–30, Government Accountability Office, GAO-05-611, July 15, 2005.

⁶² Prepared testimony of Ronald E. Rimm, president, RETA Security, Inc., Emerging Threats: Assessing Nuclear Weapons Complex Facility Security before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108-62, p. 169, June 24, 2003.

⁶³ Testimony of Robin Nazzaro, Director, Government Accountability Office, *Emerging Threats: Assessing Nuclear Weapons Complex Facility Security* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108-62, p. 37, June 24, 2003.

⁶⁴ *Nuclear Security: DOE Needs To Resolve Significant Issues Before It Fully Meets the New Design Basis Threat*, Government Accountability Office, GAO-04-623, Highlights Page, Apr. 27, 2004.

cordingly, Y-12 appears at greater risk for not meeting its 2005 DBT requirements by the end of fiscal year 2008.

3. *The Design Basis Threat has not been applied consistently throughout the Department of Energy*

One of the reasons DOE officials have not applied the DBT consistently throughout the Department of Energy is because of cultural resistance and the belief by some that the Postulated Threat applied only to sites containing nuclear weapons and or weapon parts. As an example, ESE Hanford sites were required to implement the original 2003 DBT denial strategy by fiscal year 2006 even though the 2004 DBT denial strategy changed the implementation date to fiscal year 2008.⁶⁵ However, a June 22, 2005 a memo from Maurice Daugherty, Director of Safeguards and Security Emergency Management, delayed the Hanford denial strategy until 2008 even though the sites had not yet begun implementation of the 2003 DBT denial strategy.⁶⁶ On July 1, 2005, in a memorandum to ESE EM, SSA objected to delaying the implementation of the denial strategy and ESE rescinded the delay.⁶⁷

GAO disagreed with that assessment. According to Ms. Nazzaro, “we felt that the Department did not do an adequate job of justifying why they were differentiating between sites that had nuclear weapons and those that had nuclear materials.”⁶⁸ Ms. Nazzaro went on to say, “there was no justification for these deviations other than we understand there were serious concerns over budget, as to whether they would have enough money to be able to implement the new design basis threat.”⁶⁹ Ms. Brian testified that “the threat of an improvised nuclear device should really be the standard of whether a site should be reaching the highest levels of security, and not whether there is a full-up weapon there.”⁷⁰ The subcommittee notes that the 2004 and 2005 DBT, when fully implemented, will have largely addressed this issue.

To successfully defend against the larger terrorist threat contained in the 2004 DBT, DOE and ESE officials recognized they need to take several prompt and coordinated actions. These include transformation of the protective force into an elite force, development and deployment of new security technologies and the consolidation of special nuclear material.⁷¹

GAO is concerned about the use of inconsistent assessments of contractor security activities. According to GAO, this lack of consistency occurs in part because site offices have assumed new oversight responsibilities without clear guidance on how to carry out

⁶⁵ Memorandum from Maurice Daugherty, Director of Safeguards and Security Emergency Management to Ronald Bartholomew, Director, Safeguards and Security Savannah River Operations Office, June 22, 2005 (in subcommittee files).

⁶⁶ Ibid.

⁶⁷ Memorandum from Marshall O. Combs, Director, Office of Security, SSA to Maurice Daugherty, Director, Safeguards and Security/ ESE Environmental Management, July 1, 2005 (in subcommittee files).

⁶⁸ Testimony of Robin Nazzaro, Director, Government Accountability Office, *Emerging Threats: Assessing Nuclear Weapons Complex Facility Security* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108-62, p.43, June 24, 2003.

⁶⁹ Ibid.

⁷⁰ Ibid.

⁷¹ *Nuclear Security: DOE's Office of the Under Secretary for Energy, Science and Environment Needs to Take Prompt Action to Meet the New Design Basis Threat*, p. 4, Government Accountability Office, GAO-05-611, July 15, 2005.

those responsibilities.⁷² DOE policy requires contractors to prepare corrective action plans for identified problems and to ensure those actions are based on documented root cause analysis,⁷³ risk assessment, and cost-benefit analysis.⁷⁴ GAO found NNSA contractors have not consistently prepared effective, formal root cause analyses when developing corrective action plans for identified deficiencies. GAO found that less than half of the contractors had performed the required root cause analysis. In some cases, the root cause analysis was poorly prepared.⁷⁵ This resulted in confusion and contradictions in correcting site security deficiencies.

4. *Maintaining the current far-flung Department of Energy nuclear complex of facilities housing special nuclear materials is not cost effective and increases security risks*

There are many reasons why maintaining Department of Energy nuclear materials and components across the country is not cost effective and poses higher security risks. Ms. Brian, in her June 24, 2003 testimony, explained that “DOE weapons-quantity special nuclear materials are stored at 10 fixed sites even though most have virtually no national security mission. DOE cannot currently adequately protect this material, and security at each site unnecessarily increases redundancies and costs. Not only do the unnecessary sites cost the taxpayers billions annually, but they also present a significant health and safety risk to nearby communities.”⁷⁶

Those 10 major sites have weapons-grade plutonium [PU] and/or highly-enriched uranium [HEU] in sufficient quantities for a nuclear device. Ms. Brian stated that these sites which house nearly 1,000 tons of weapons-grade plutonium and highly enriched uranium have at times failed to protect this material during force-on-force exercises. Many of these sites are located near metropolitan areas, including the San Francisco Bay area, Albuquerque and Knoxville.⁷⁷ Furthermore, the Office of Secure Transportation [OST] under DOE moves weapons-grade Special Nuclear Materials [SNM] across the country on public, interstate highways, creating even more vulnerabilities.⁷⁸ Glenn Podonsky, Director of the Office of Independent Oversight and Performance Assurance of the DOE, explained that having so many sites makes DOE and the United States more vulnerable because more targets are created.⁷⁹ With

⁷²Testimony of Robin Nazzaro, Director, Government Accountability Office, *Emerging Threats: Assessing Nuclear Weapons Complex Facility Security* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108-62, p. 7, June 24, 2003.

⁷³Failure analysis reports provide a clear picture of the root cause, and include recommendations to avoid future failures from security design through implementation.

⁷⁴*Nuclear Security: NNSA Needs to Better Manage Its Safeguards and Security Program*, GAO-03-471, pps. 2-3, May 30, 2003.

⁷⁵*Nuclear Security: NNSA Needs to Better Manage Its Safeguards and Security Program*, GAO-03-471, p. 5, May 30, 2003.

⁷⁶Prepared statement of Danielle Brian, executive director, Project on Government Oversight, *Emerging Threats: Assessing Nuclear Weapons Complex Facility Security* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108-62, p. 103, June 24, 2003.

⁷⁷*Ibid.* p. 149.

⁷⁸*Ibid.* p. 107.

⁷⁹Testimony of Glenn Podonsky, Director, Office of Independent Oversight and Performance Assurance, Department of Energy, *Nuclear Security: Can DOE Meet Facility Security Require-*

fewer sites, DOE could better coordinate efforts, focus and further enhance security measures. The number of DOE sites containing nuclear material has remained a security concern. In July 2005, Mr. Aloise stated, “the consolidation of materials in fewer places would increase security.”⁸⁰

5. Protective forces are experiencing reduced readiness, retention problems, and fewer force-on-force performance tests

The subcommittee found weapon specifications, protective equipment and training were not consistent at DOE sites containing special nuclear material. DOE Inspector General Friedman stated, “Between 2003 and 2005, we identified issues regarding protective force overtime and training. In one review, which included five Department sites, we found the Department faced significant increases in unscheduled protective force overtime. Further, we noted protective force morale and retention problems due to mandatory overtime and reduced training opportunities. In a review with the Department’s Oak Ridge Reservation, we found that contractor protective force personnel spent, on average, about 40 percent less time on combat readiness refresher training than that specified in the training plan approved by Federal site managers, and that the personnel worked in excess of the Department’s optimum 60-hour per week threshold. In a third review we found that 10 of the 12 sites made significant modifications to the Department’s established protective force core curriculum. This raised questions about the effectiveness of the training received by the affected protective force personnel, as well as the validity of the core curriculum.”⁸¹

While GAO found that protective forces at ESE sites are generally meeting current DOE requirements, some weaknesses were identified in ESE protective force practices that could adversely affect the current readiness to defend ESE sites. These include protective force officers’ lack of regular participation in force-on-force exercises; the frequency and quality of training opportunities; the lack of dependable communications systems; and insufficient protective gear, including protective body armor and chemical protective gear; and the lack of armored vehicles.⁸²

Mr. Aloise of GAO stated:

Regarding readiness, we found that protective forces at the five ESE sites, with weapons-grade nuclear material, generally meet readiness requirements. Specifically, protective forces at the Savannah River site, Hanford site, Idaho, and Argonne West, and Oak Ridge National Lab generally comply with DOE standards for firearms proficiency, physical

ments? (II) before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108–237, p. 90, June 22, 2004.

⁸⁰Testimony of Gene Aloise, Director, Government Accountability Office, before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, *DOE/ESE Security: How Ready is the Protective Force?* Serial No. 109–104, p. 105, July 26, 2005.

⁸¹Testimony of Gregory H. Friedman, DOE Inspector General, *DOE/ESE Security: How Ready is the Protective Force?* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 109–104, pps. 27, July 26, 2005.

⁸²*Nuclear Security: DOE’s Office of the Under Secretary for Energy, Science and Environment Needs to Take Prompt Action to Meet the New Design Basis Threat*, p. 16, Government Accountability Office, GAO–05–611, July 15, 2005.

fitness and equipment, and had the required training programs and facilities. However, we did find weaknesses that could impact the protective forces' ability to defend their sites. For example, most officers we spoke with were concerned about the quality and realism of their training. Further, because DOE neither sets standards for, nor tracks individual participation in force-on-force exercises, it was difficult to determine how many officers had this important training.⁸³

Mr. Aloise went on to say:

Another weakness identified by protective force officers at all five sites concerned problems with their radios. Some said that the radios could not be relied on in the event of a terrorist attack. In addition, although most protective forces are required to have access to body armor, at one site we found that body armor had not been issued for most officers. Another site did not have its own special response team. In the event of an attack, one of the jobs of a special response team would be to recover stolen nuclear material. In addition, the capability of some of the protective forces to fight during a chemical or biological attack varied. Specifically, two sites expected and provided equipment for most of their forces to fight in contaminated areas. Another site did not provide any equipment. Indeed, it expected its teams to evacuate the site with other workers. Yet another site expected its forces to fight in a chemically contaminated area, but did not provide protective gear. Another weakness we observed was that only one of the five sites had armored vehicles. In contrast, all six NNSA sites with weapons-grade nuclear material have armored vehicles.⁸⁴

Ms. Nazzaro and Mr. Podonsky also described problems associated with the Department of Energy's protective force in their June 24, 2003 testimonies. Ms. Nazzaro stated "DOE and NNSA took immediate steps to improve security in the aftermath of the September 11 terrorist attacks. For example, DOE and NNSA moved to a higher level of security that required, among other things, more vehicle inspections and security patrols. DOE and NNSA also conducted a number of security-related reviews, studies and analysis and increased communication with Federal, State and local officials. While these steps are believed to have improved DOE's and NNSA's security posture, they have been expensive. These steps have required extensive overtime, which has had a considerable negative effect on DOE's and NNSA's protective force through fatigue, reduced readiness, retention, and reduced training."⁸⁵

⁸³Testimony of Gene Aloise, Director, Government Accountability Office, *DOE/ESE Security: How Ready is the Protective Force?* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 109-104, p. 8, July 26, 2005.

⁸⁴Ibid.

⁸⁵Testimony of Robin Nazzaro, Director, Government Accountability Office, *Emerging Threats: Assessing Nuclear Weapons Complex Facility Security* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108-62, pps. 7-8, June 24, 2003.

Mr. Podonsky also explained that because of the heightened security level, DOE must rely on the use of overtime until new hires are cleared and trained to perform their duties. “As a result, protective force personnel testing and training have been reduced or deferred because existing manpower is stretched to the limit.”⁸⁶ Mr. Podonsky believes enhancing the integration of manpower and technology, creating more effective barriers, further consolidating security assets, and initiating extensive performance testing to ensure system effectiveness are necessary to mitigate the aforementioned problems with the security forces.⁸⁷

B. RECOMMENDATIONS

1. *The Secretary of Energy should designate an office responsible for Department-wide security policies and should clarify the roles and responsibilities of site offices and headquarters for conducting security oversight*

Many of the problems found in security management, consensus on security policy and implementation of the DBT would be mitigated with the creation of an overarching security office that would delegate the role and responsibilities of all security divisions within DOE. This is especially important to bridge the gulf between NNSA and ESE security. According to GAO, there is no centralized security organization within the Office of the Under Secretary, ESE.⁸⁸ The ESE Security Director does not have programmatic or budget control of security at ESE sites. Mr. Aloise stated, “DOE needs to establish a centralized security office within ESE to help meet the challenges of implementing the new design basis threat.”⁸⁹

Mr. Podonsky stated, “we also endorse GAO’s recommendation to establish an ESE security organization. As it is up to the Under Secretary to determine the best way to manage ESE, we believe that an appropriate security organization at the highest level within ESE and with appropriate authorities delegated could facilitate effective and efficient management of security resources and implementation of required upgrades. Security upgrades will involve substantial effort over the next two years, and if ESE is to achieve protection upgrade goals by October 2008, this sizeable effort must be well coordinated and well managed and fully endorsed by the Under Secretary for ESE.”⁹⁰

⁸⁶Testimony of Glenn Podonsky, Director, Office of Independent Oversight and Performance Assurance, Department of Energy before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, *Emerging Threats: Assessing Nuclear Weapons Complex Facility Security* Serial No. 108–62, p. 32, June 24, 2003.

⁸⁷Prepared statement of Glenn Podonsky, Director, Office of Independent Oversight and Performance Assurance, Department of Energy before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, *Emerging Threats: Assessing Nuclear Weapons Complex Facility Security* Serial No. 108–62, pps. 34–38, June 24, 2003.

⁸⁸*Nuclear Security: DOE’s Office of the Under Secretary for Energy, Science and Environment Needs to Take Prompt Action to Meet the New Design Basis Threat*, p. 31, Government Accountability Office, GAO–05–611, July 15, 2005.

⁸⁹Testimony of Gene Aloise, Director, Government Accountability Office, *DOE/ESE Security: How Ready is the Protective Force?* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 109–104, p. 8, July 26, 2005.

⁹⁰Prepared statement of Glenn Podonsky, Director, Office of Independent Oversight and Performance Assurance, Department of Energy before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform,

If not, some see the need to take the entire security enterprise out of DOE hands. In her June 24, 2003 testimony, Ms. Brian argued that it would be beneficial to take both security management and the Independent Oversight Office out of DOE and to set up an independent agency to provide security and to oversee nuclear security from outside DOE.⁹¹

2. The Secretary of Energy should develop and implement a coordinated department-wide, multiyear, fully funded implementation plan for meeting the new DBT requirements

In order to fully meet the new DBT requirements, a coherent department-wide, multiyear and fully funded implementation plan is needed. In the April 27, 2004 hearing, Ms. Nazzaro claimed that DOE had not yet developed official estimates of the overall costs of DBT implementation.⁹² Furthermore, current DBT implementation cost estimates do not include items such as closing unneeded facilities, transporting and consolidating materials and completing line-item construction projects.⁹³ Therefore, Ms. Nazzaro suggested creating a department-wide implementation plan including the involvement of Environmental Management and the Transportation Security Agency, and the estimates for construction.⁹⁴ Ms. Nazzaro explained that, “because of the importance of successfully integrating multiple program activities with security requirements, we continue to believe, as we recommended in April 2004, that DOE needs to develop and implement a Department-wide, multi-year, fully resourced implementation plan for meeting the DBT requirements that includes important programmatic activities such as the closure of facilities and the transportation of special nuclear materials.”⁹⁵

In July 2005, Mr. Aloise stated, “to protect these sites, an effective security program is essential. DOE’s security program begins with a document known as the design basis threat, which identifies the size and capabilities of potential adversaries. The 2004 design basis threat identified a much larger terrorist threat than before, and it could cost between about \$400 million and \$600 million to develop the force necessary to defeat this larger threat.”⁹⁶

Emerging Threats: Assessing Nuclear Weapons Complex Facility Security Serial No. 108–62, p. 48, June 24, 2003.

⁹¹Testimony of Danielle Brian, executive director, Project on Government Oversight before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, *Emerging Threats: Assessing Nuclear Weapons Complex Facility Security* Serial No. 108–62, p. 151, June 24, 2003.

⁹²Testimony of Robin Nazzaro, Director, Government Accountability Office and Ms. Danielle Brian, executive director, Project on Government Oversight, *Nuclear Security: Can DOE Meet Facility Security Requirements?* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108–237, p. 6, Apr. 27, 2004.

⁹³Ibid.

⁹⁴Ibid. p. 45.

⁹⁵Testimony of Robin Nazzaro, Director, Government Accountability Office, *Nuclear Security: Can DOE Meet Facility Security Requirements? (II)* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108–237, p. 15, June 22, 2004.

⁹⁶Testimony of Gene Aloise, Director Government Accountability office, *DOE/ESE Security: How Ready is the Protective Force?* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 109–104, p. 7, July 26, 2005.

3. *The Secretary of Energy should report regularly to relevant congressional oversight committees on the status of DBT implementation plans including which sites and facilities are currently considered to be high risk and what steps are being taken to mitigate these risks to acceptable levels*

Regular reports to relevant congressional oversight committees will assure a more efficient and expedient DBT implementation. It will also allow Congress to hold DOE accountable for achieving specific goals and objectives for security reform. Both Ms. Nazzaro and Ms. Brian strongly supported this recommendation in their testimonies. Ms. Nazzaro explained that DOE should regularly report to Congress in order to assure that the implementation will be fully funded.⁹⁷ Ms. Brian further highlighted this recommendation since consistent reporting will force DOE to maintain DBT implementation as a top priority.⁹⁸ In the June 24, 2003 testimony, Ms. Brian explained that “there are two things that move any bureaucracy: one is sustained press attention to a problem and second is congressional oversight . . . without sustained and intensive scrutiny and oversight, DOE briefings and testimony will not reveal the actual status of security.”⁹⁹

4. *The Secretary of Energy should develop a plan and timeline for the consolidation of special nuclear material*

During the course of the DOE nuclear facility security investigation, the subcommittee heard from a number of witnesses who support the consolidation of special nuclear material. Ms. Nazzaro stated, “as far as the category I special nuclear materials, there is a lot of confusion. We have sites where the site is managed by one entity within the organization and yet there are materials that are owned by another entity. One of the strategies that we have proposed in the past is to consolidate materials, move materials to other sites.”¹⁰⁰

In order to consolidate the special nuclear material, Ms. Brian offered several recommendations in her June 24, 2003 testimony. She explained that unneeded facilities should be closed, nuclear materials need to be consolidated and that excess materials should be immobilized.¹⁰¹ In addition, Ms. Brian explained that “two of the most secure facilities in the world would provide enough storage for the entire DOE weapons complex—a secure underground weapons

⁹⁷Testimony of Robin Nazzaro, Director, Government Accountability Office, *Nuclear Security: Can DOE Meet Facility Security Requirements?* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108–237, p. 39, Apr. 27, 2004.

⁹⁸Testimony of Danielle Brian, executive director, Project on Government Oversight, *Nuclear Security: Can DOE Meet Facility Security Requirements? (II)* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108–237, pps. 45–46, June 22, 2004.

⁹⁹Testimony of Danielle Brian, executive director, Project on Government Oversight, *Emerging Threats: Assessing Nuclear Weapons Complex Facility Security* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108–62, p. 152, June 24, 2003.

¹⁰⁰Testimony of Robin Nazzaro, Director, Government Accountability Office, *Nuclear Security: Can DOE Meet Facility Security Requirements? (III)* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108–237, p. 46, June 22, 2004.

¹⁰¹Prepared statement of Danielle Brian, executive director, Project on Government Oversight, *Emerging Threats: Assessing Nuclear Weapons Complex Facility Security* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108–62, p. 103, June 24, 2003.

storage facility at Kirtland Air Force Base in New Mexico and the Device Assembly Facility at the Nevada Test Site.”¹⁰² Developing a plan and timeline for the consolidation of special nuclear material is critical. If nuclear materials are consolidated to fewer, more easily-protected sites, less money will be spent on unnecessary sites and significant health and safety risk to nearby communities will be mitigated.¹⁰³ Mr. Podonsky assured that DOE had already undertaken measures to address the consolidation of special nuclear material. In his June 22, 2004 testimony, he stated, “consolidation of special nuclear material has perhaps the greatest potential impact on our future protection requirements and programs.”¹⁰⁴ Mr. Podonsky goes on to explain that “protecting these materials is among our most difficult security challenges. We can greatly reduce the difficulty, risk, and costs associated with this mission by disposing of material we no longer need and consolidating the remainder in as few locations as operationally feasible.”¹⁰⁵

In June 2004, Mr. Podonsky told the subcommittee, “the Department formed a Consolidation of Materials Task Force to identify opportunities to relocate and consolidate special nuclear materials. They have already compiled and consolidated a list of excess material, a difficult and necessary step toward a comprehensive consolidation plan. In August, they will issue a report identifying short-term, which is 1 year, and long-term, beyond 1 year, options for consolidation and relocation. We are making progress in this area, but the balancing of programmatic cost and risk against security-related cost and risk is especially difficult. While everyone wants to see this effort finalized and implemented, we must allow adequate time to prepare a comprehensive plan that is prudent and affordable.”¹⁰⁶ As of February 2006, the Task Force had not yet released recommendations or options for consolidating special nuclear material.

5. *The Secretary of Energy should develop and implement a comprehensive management plan to improve training, qualifications, and increase force strength of the security protective force*

According to GAO, DOE’s response to the call to develop a comprehensive plan to meet the new design basis threat does not go far enough. Without such a plan, DOE may not be successful in meeting the requirements of the design basis threat by October 2008.¹⁰⁷

Measures must be taken in order to improve the training and qualifications of an enlarged security protective force. In her June

¹⁰² Ibid.

¹⁰³ Ibid. p. 156.

¹⁰⁴ Prepared statement of Glenn Podonsky, Director, Office of Independent Oversight and Performance Assurance, Department of Energy, *Nuclear Security: Can DOE Meet Facility Security Requirements? (II)* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108–237, p. 74–75, June 22, 2004.

¹⁰⁵ Ibid.

¹⁰⁶ Testimony of Glenn Podonsky, Director, Office of Independent Oversight and Performance Assurance, Department of Energy, *Nuclear Security: Can DOE Meet Facility Security Requirements? (II)* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108–237, p. 64, June 22, 2004.

¹⁰⁷ Testimony of Gene Aloise, Director Government Accountability office, *DOE/ESE Security: How Ready is the Protective Force?* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 109–104, p. 8, July 26, 2005.

24, 2003 testimony, Ms. Brian explained that DOE must increase the size of its protective force and improve weaponry, tactics, and command, control and communication.¹⁰⁸ In both his June 24, 2003 and June 22, 2004 testimonies, Mr. Podonsky explained that integrating manpower and technology will help achieve more effective solutions within the security forces, such as the issue of relying on overtime.¹⁰⁹ He also explained that with better training and a higher set of standards for security forces and security managers, the security protective force and will be stronger. “We believe rigorous force-on-force performance testing against tough, skilled aggressor forces is one of the most important elements in measuring the effectiveness of our protective forces and in carrying us forward to an elite force. We are determined to do our part in advancing the Department’s ability to conduct effective and informative force-on-force performance tests as well as improving our ability to analyze the results of those tests.”¹¹⁰

There are many factors to consider in ameliorating the status of the security protective force and all its components. A comprehensive management plan is necessary to help achieve this level of security. GAO assessed the current readiness of protective forces at ESE sites and the steps still needed to defend those facilities against the larger, more capable attackers postulated in the DBT.¹¹¹ Their findings point to a generally proficient guard staff prepared to meet existing standards. But the way forward to meet the higher DBT threat level is far less clear. Efforts to deploy an elite protective force, utilize new security technologies and effectively manage ESE security initiatives require coordination and resource commitments that GAO is not sure will materialize.¹¹²



¹⁰⁸Prepared statement of Danielle Brian, executive director, Project on Government Oversight, *Emerging Threats: Assessing Nuclear Weapons Complex Facility Security* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108–62, p. 103, June 24, 2003.

¹⁰⁹Testimony of Glenn Podonsky, Director, Office of Independent Oversight and Performance Assurance, before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, *Emerging Threats: Assessing Nuclear Weapons Complex Facility Security* Serial No. 108–62, p. 32, June 24, 2003.

¹¹⁰Prepared statement of Glenn Podonsky, Director, Office of Independent Oversight and Performance Assurance, Department of Energy, *Nuclear Security: Can DOE Meet Facility Security Requirements? (II)* before the Subcommittee on National Security, Emerging Threats, and International Relations, House Committee on Government Reform, Serial No. 108–237, p. 81, June 22, 2004.

¹¹¹*Nuclear Security: DOE’s Office of the Under Secretary for Energy, Science and Environment Needs to Take Prompt Action to Meet the New Design Basis Threat*, Government Accountability Office, GAO–05–611, July 15, 2005.

¹¹²*Ibid.* pps. 30–31.