DEFENSE NUCLEAR FACILITIES SAFETY BOARD

FY 2011 PERFORMANCE AND ACCOUNTABILITY REPORT

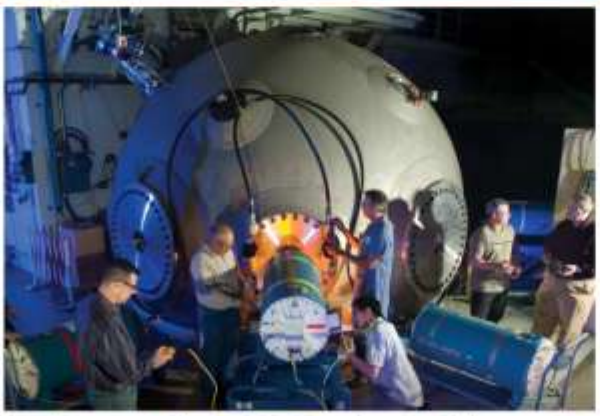


TABLE OF CONTENTS

Chairman's Message

On behalf of the Members and staff of the Defense Nuclear Facilities Safety Board (Board), I am pleased to submit our Performance and Accountability Report (PAR) for FY 2011.

The primary purpose of the Board is to ensure adequate protection of public health and safety by strengthening safety standards and their implementation in Department of Energy (DOE) defense nuclear facilities and operations. In addition to conducting safety oversight on hundreds of existing hazardous nuclear operations, the Board is obligated by law to conduct in-depth reviews of new defense nuclear facilities during both design and construction. Currently, DOE and the National Nuclear Security Administration (NNSA) are pursuing 18 new defense nuclear projects with an estimated value of more than $25 billion, including $12.2 billion for the DOE Waste Treatment and Immobilization Plant (WTP) at the Hanford Site. The design, construction, and initial startup of these new facilities typically requires more than 12 years. The design and construction reviews conducted by the Board on DOE facilities are resource intensive and time consuming, but necessary as these time-sensitive safety reviews are key to preventing safety flaws in design and construction that could render a newly constructed facility unusable. The Board is committed to early integration of safety into design.

The Board also provides a key component of the oversight that prevents an accidental detonation of a nuclear weapon during the evaluation, maintenance, or dismantlement process. Such an accident could result in catastrophic impacts on lives and property, as well as cripple our Nation's nuclear deterrent capability. The Board's oversight is critical in preventing serious safety vulnerabilities and tragic accidents from occurring in very complex and dangerous DOE defense nuclear facilities.

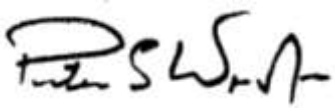
During FY 2011, the Board continued to make significant progress in ensuring the safety of the public and the workers at or near DOE defense nuclear facilities. For example, the Board continued to apply extensive effort to achieving resolution of safety issues regarding the multi-billion dollar Waste Treatment and Immobilization Plant under design and construction at the Hanford Site: holding public meeting and hearing sessions during the period October 7–8, 2010, that addressed concerns with pulse jet mixing in WTP vessels, changes in the design basis due to a reduced material-at-risk, and the design basis for hydrogen in pipes and ancillary vessels. The Board subsequently issued Recommendation 2010-2, *Pulse Jet Mixing at the Waste Treatment and Immobilization Plant*, on December 17, 2010, to address unresolved technical concerns with WTP's mixing and transfer systems. The Board also issued Recommendation 2011-1, *Safety Culture at the Waste Treatment and Immobilization Plant*, on June 9, 2011, following an investigation that revealed a chilled atmosphere adverse to safety as well as suppression of technical dissent that jeopardizes the success of the project. Taken as a whole, the investigative record convinced the Board that the safety culture at WTP is in need of prompt, major improvement and that corrective actions will only be successful and enduring if championed by the Secretary of Energy. The successful completion of WTP's mission to remove and stabilize high-level waste from the tank farms is essential to protect the health and safety of the public and workers at Hanford. However, the safety culture currently embedded in the project has a substantial probability of jeopardizing that mission. Additionally, the Board held a public hearing at the Savannah River Site on June 16, 2011, to discuss safety matters related to liquid waste processing, emergency preparedness, and nuclear material disposition. In response to that hearing, DOE committed to develop a resumption

plan for H-Canyon and to start performing emergency drills for seismic events that could impact multiple nuclear facilities with varied hazards.

The Board is committed to ensuring that the public resources in our trust are used wisely. Office of Management and Budget Circular A-136 requires an assessment of the completeness and reliability of the program performance and financial data contained in this report. I conclude that the data is complete and reliable. In addition, the Circular requires an assessment of internal controls with a separate assessment required for internal controls related to the Federal Managers' Financial Integrity Act (FMFIA). Based on personal observation, internal control assessments on critical areas, which are reviewed and assessed annually by the Board's Executive Committee on Internal Controls, and reasonable assurance statements provided by internal managers, I believe that no material internal control weaknesses exist. In fact, I am pleased to report that FY 2011 marked the fourth consecutive year that the Board's unqualified opinion on its financial statements was coupled with no instances of non-compliance with laws and regulations and no material internal control weaknesses.

The future holds many managerial challenges for the Board, both in terms of technically complex health and safety issues involving the disassembly, refurbishing, reassembly, and re-certifying of nuclear weapons and components, the stabilization and clean-up work at many defense nuclear sites, and high-visibility decommissioning activities; as well the review of new DOE defense nuclear facilities in the critical design and construction phases.

The Board remains committed to improving DOE's management of safety at our country's most sensitive defense nuclear facilities where our nuclear arsenal is maintained, and where hazardous nuclear materials and components are stored in more secure and stable configurations. Our standard of excellence in carrying out this important mission will mirror the best of American excellence, values, and ideals. Our nation deserves nothing less.



Peter S. Winokur, Ph.D.
Chairman
November 14, 2011

Chapter 1
Management's Discussion and Analysis

INTRODUCTION

This Performance and Accountability Report (PAR) summarizes the Defense Nuclear Facilities Safety Board's (Board) oversight activities and associated resource expenditures for the period from October 1, 2010 through September 30, 2011 (FY 2011). This report was prepared pursuant to the requirements of the Accountability of Tax Dollars Act of 2002 and Office of Management and Budget (OMB) Circular A-136, which provides instructions on the preparation of a PAR. Fiscal year 2011 is the eighth year that the Board has prepared and published a PAR.

The Government Performance and Results Act of 1993 (GPRA) requires each agency to prepare and submit a strategic plan establishing long-term programmatic, policy, and management goals. The Board's *Strategic Plan for FY 2011-2016*, which was reviewed and published in FY 2011, is available on the Internet at www.dnfsb.gov. Agencies are also required to develop a performance budget with annual performance objectives that indicate the progress toward achievement of the strategic plan's goals and objectives. The Board's performance objectives for FY 2012 and FY 2013, as well as representative accomplishments for FY 2008 through 2011, will be included in its *FY 2013 Budget Request to the Congress* in accordance with the requirements of OMB Circular A-11. The GPRA requirement to submit an annual performance report is satisfied by this PAR.

Chapter 1, *Management Discussion and Analysis*, provides an overview of Board operations, and is divided into five sections: *About the Board* describes the agency's mission, organizational structure, and the four major performance goals of the Board; *Future Challenges* includes a review of upcoming issues; *Program Performance Overview* discusses the Board's success in accomplishing its performance goals; *Financial Performance Overview* provides highlights of the Board's financial position and audit results; and *Systems, Controls, and Legal Compliance* describes the agency's compliance with key legal requirements such as the Federal Information Security Management Act (FISMA), internal controls, and the Inspector General Act of 1978.

ABOUT THE DEFENSE NUCLEAR FACILITIES SAFETY BOARD

The Board, an independent executive branch agency, is charged with providing technical safety oversight of the Department of Energy's (DOE) defense nuclear facilities and activities in order to provide adequate protection for the health and safety of the public and workers. Congress established the Board in September 1988 in response to growing concerns about the level of health and safety protection that DOE was providing the public and workers at defense nuclear facilities. Congress sought to provide the public with added assurance that the defense nuclear facilities required to maintain the nation's nuclear weapons stockpile are being safely designed, constructed, operated, and decommissioned. The Board commenced operations in October 1989 with the Senate confirmation of the first five Board Members.

Organization

The Board is composed of five full-time Board Members who, by statute, must be respected experts in the field of nuclear safety with demonstrated competence and knowledge relative to independent investigations and oversight. Two members of the Board are designated by the President to serve as Chairman and Vice Chairman. Each Board Member is appointed by the President, with the advice and consent of the Senate, and serves a term of five years. The Chairman serves as the Chief Executive Officer of the Board.

The Board's headquarters facility is located in downtown Washington, D.C., in proximity to the DOE headquarters facility. Our headquarters location was selected to facilitate the interface between Board and DOE management officials and staff, and has proven to be beneficial for the timely exchange of information as the Board conducts its independent oversight mission.

The Board maintains on-site safety oversight of defense nuclear facilities by assigning experienced technical staff members to full-time duty at priority DOE defense nuclear sites. As of September 30, 2011, eleven full-time site representatives were stationed at the following DOE sites:

- Hanford Site (2)
- Lawrence Livermore National Laboratory (LLNL) (1)
- Los Alamos National Laboratory (LANL) (2)
- Pantex Plant (2)
- Savannah River Site (SRS) (2)
- Y-12 National Security Complex (2)

The Site Representative Program provides a cost-effective means for the Board to closely monitor DOE activities, and to identify health and safety concerns promptly by having on-site staff conducting firsthand assessments of nuclear safety management at the priority sites to which they have been assigned. Site representatives regularly interact with the public, union members, congressional staff members, and public officials from federal, state, local, and tribal governments.

The Board's new (net) budget authority for FY 2011 was $23.203 million and its total budgetary resources were $27.521 million (as shown on the Statement of Budgetary Resources, page 54), supporting 109 full-time equivalent staff. Total obligations were $27.155 million, leaving an unobligated balance of less than $400,000. The technical staff comprises 75 to 80 percent of the Board's total workforce and funding, with the remainder comprised of administrative and legal staff. The Board's health and safety oversight activities are funded exclusively from a direct appropriation included in the annual Energy and Water Development Appropriations Act.

Safety Oversight Responsibilities

The Board's specific duties and responsibilities to protect the health and safety of the public and the workers at DOE's defense nuclear facilities are delineated in its enabling statute, 42 U.S.C. § 2286, *et seq.*, which states:

- The Board shall review and evaluate the content and implementation of the standards relating to the design, construction, operation, and decommissioning of defense nuclear facilities of the Department of Energy (including all applicable Department of Energy orders, regulations, and requirements) at each Department of Energy defense nuclear facility. The Board shall recommend to the Secretary of Energy those specific measures that should be adopted to ensure that public health and safety are adequately protected. The Board shall include in its recommendations necessary changes in the content and implementation of such standards, as well as matters on which additional data or additional research is needed.

- The Board shall investigate any event or practice at a Department of Energy defense nuclear facility which the Board determines has adversely affected, or may adversely affect, public health and safety.

- The Board shall have access to and may systematically analyze design and operational data, including safety analysis reports, from any Department of Energy defense nuclear facility.

- The Board shall review the design of a new Department of Energy defense nuclear facility before construction of such facility begins and shall recommend to the Secretary, within a reasonable time, such modifications of the design as the Board considers necessary to ensure adequate protection of public health and safety. During the construction of any such facility, the Board shall periodically review and monitor the construction and shall submit to the Secretary, within a reasonable time, such recommendations relating to the construction of that facility as the Board considers necessary to ensure adequate protection of public health and safety. An action of the Board, or a failure to act, under this paragraph may not delay or prevent the Secretary of Energy from carrying out the construction of such a facility.

- The Board shall make such recommendations to the Secretary of Energy with respect to Department of Energy defense nuclear facilities, including operations of such facilities, standards, and research needs, as the Board determines are necessary to ensure adequate protection of public health and safety. In making its recommendations, the Board shall consider the technical and economic feasibility of implementing the recommended measures.

In support of this mission, the Board has identified the following four interdependent, strategic areas of concentration and has organized its technical staff according to these strategic areas:

AREA 1. **NUCLEAR WEAPON OPERATIONS:** DOE operations that directly support the nuclear stockpile and defense nuclear research.

AREA 2. **NUCLEAR MATERIAL PROCESSING AND STABILIZATION:** The processing, stabilization, and disposition of DOE defense nuclear materials and facilities.

AREA 3. **NUCLEAR FACILITIES DESIGN AND INFRASTRUCTURE:** The design and construction of new DOE defense nuclear facilities, and major modifications to existing facilities.

AREA 4. **NUCLEAR SAFETY PROGRAMS AND ANALYSIS:** The development, implementation, and maintenance of DOE regulations, requirements, and guidance affecting public or worker health and safety; and the establishment and implementation of safety programs at DOE defense nuclear facilities.

The FY 2011 performance goals and accomplishments associated with each of these areas of concentration will be discussed further in Chapter 2 of this report.

FUTURE CHALLENGES

The Board is facing a number of significant challenges that impact the accomplishment of its independent health and safety oversight mission. In addition to conducting nuclear safety oversight of hundreds of existing defense nuclear operations, the Board is obligated by law to conduct in-depth reviews of new defense nuclear facilities during design and construction. DOE has 18 design and construction or major modification projects currently underway or planned for the near future at an estimated value of more than $25 billion.

Second, many existing DOE facilities are unsound and the transition to new facilities is decades long. For example, the Chemical and Metallurgy Research Facility at Los Alamos National Laboratory and the 9212 Complex at the Y-12 National Security Complex are of particular concern because of their deficient structures and advanced age. The Board will need to carefully evaluate the continued safety of programmatic operations in such facilities, particularly the need for upgrades to preserve safety until they can be replaced.

Third, DOE is reducing federal oversight and moving toward reliance on its contractor's assurance systems as part of its self-regulatory model. This is embodied in changes in governance, directives, and contracts. DOE continues to reissue all directives containing safety requirements under the 2010 Safety and Security Reform Plan outlined in the Deputy Secretary of Energy's memorandum of March 16, 2010. Ensuring that DOE preserves the nuclear safety requirements that have been painstakingly developed in the course of more than 60 years of nuclear operating experience will be a resource-intensive and time-consuming task for the Board.

Fourth, the reduction in federal oversight and changes in governance models are coupled with significant organizational changes within DOE. However, DOE has no formal process for managing organizational change to ensure safety-related roles and responsibilities of key federal staff are preserved and safety-related functions remain viable. As a result, DOE's safety philosophy is not consistently applied and DOE's ability to implement, oversee, and enforce its safety requirements is uncertain. The Board will need to closely monitor DOE's organizational changes ensure DOE's safety program remains viable and adequately protective of worker and public health and safety. This will continue to stretch the Board's resources.

Fifth, the President has established a vision and goal of taking concrete steps toward a world without nuclear weapons while (as long as these weapons still exist) maintaining a safe, secure, and effective arsenal to deter any adversary, and guarantee that defense to our allies. The National Nuclear Security

Administration (NNSA) has developed a plan for maintaining and evolving the nuclear weapons stockpile and infrastructure that includes completing a series of life extension activities that will enhance stockpile safety, security, and effectiveness without requiring additional underground nuclear tests. This initiative requires a commensurate degree of safety oversight by the Board.

Sixth, the Board's Congressional oversight and appropriations committees have continued to direct the Board to increase both the scope and pace of its independent health and safety oversight reviews at many DOE defense nuclear facilities, with special attention on new facilities in various design and construction stages, while continuing to ensure that legacy facilities are properly and competently maintained and operated. Having noted repeated problems with DOE's new construction programs and associated cost overruns where significant safety flaws were not identified by DOE or its contractors early in the project development cycle, these committees have called upon the Board to apply its health and safety expertise at the earliest stages of project development.

A seventh challenge is maintaining a focused and well-executed human capital program within the Board. Because the Board's health and safety recommendations and other advisories to the Secretary of Energy are based on in-depth technical information and detailed safety analyses, the recruitment and retention of scientific and technical staff members with outstanding qualifications continue to be critical to the successful accomplishment of the Board's mission. The loss of technical competence due to retirements and other reasons must be countered with an aggressive recruiting campaign for new engineering talent at all levels including entry level engineers.

Oversight of New DOE Design and Construction Projects

The Board is required by law to review design and construction projects to ensure the safety of the public and workers is addressed early in the design process. The Board will continue to expend considerable resources to review the ongoing design effort as well as the construction activities at new DOE defense nuclear facilities.

DOE has 18 design and construction or major modification projects currently underway at an estimated value of more than $25 billion. The Board plans to concentrate its oversight attention on the projects with high risk, significance, and complexity.

One prominent example of a high-risk, new facility undergoing both design and construction is the multi-billion dollar Waste Treatment and Immobilization Plant (WTP) in Richland, Washington. The WTP project consists of three major nuclear facilities to pretreat and vitrify high-level waste stored in underground tanks at Hanford. The WTP is a complex, high-risk program that has changing design and construction parameters, that will take until 2019 to complete and will operate for decades. The design and construction reviews conducted by the Board on WTP and other new DOE facilities are resource intensive and time consuming, but are key to preventing safety flaws in design and construction that could render a newly constructed facility unusable.

Expedited DOE Safety and Security Reform Initiatives

DOE Order 251.1C, *Departmental Directives Program,* was approved in January 2009. This directive codifies a set of principles for the DOE directives system intended to simplify and clarify requirements, reduce redundancy and unnecessary burden, and support improved management and mission accomplishment as outlined in a memorandum issued by the Secretary of Energy on September 10, 2007. Because DOE Order 251.1C establishes the framework for the entire directives system, it affects all DOE safety directives. Further, DOE's Office of Health, Safety and Security (HSS) has been leading a multi-phased, multi-year effort to review and streamline key safety directives to ensure they meet the Secretary of Energy memorandum on an individual basis.

In 2010, the directives improvement effort was redirected by the Deputy Secretary of Energy's announcement of a safety and security reform plan that would, among other things, eliminate half of the HSS directives. This led to an exchange of correspondence between the Board and DOE, and was discussed at public meetings held by the Board on May 12, 2010, and May 25, 2011. DOE has revised its reform plan and brought a parallel effort by the NNSA on governance into compliance with the reform plan, which began to address some of the Board's concerns about the need for a rigorous and comprehensive approach for revising safety directives.

DOE's directives revision effort is occupying a significant portion of the Board's resources. As DOE reissues its directives to comply with the new program, and continues the HSS directive-by-directive reviews under the auspices of the *Department of Energy 2010 Safety and Security Reform Plan*, the Board is reviewing all of them to ensure health and safety requirements are properly included. Although the accelerated schedule for many of these revisions is challenging, the Board feels it is essential to provide timely and thorough feedback.

Increased Congressional Concerns about DOE Facilities and Operations

Congress has continued to express its concern, both during hearings and in legislation, with DOE's ability to manage its nuclear programs. With its well-recognized technical expertise and cost-effective methods for conducting nuclear health and safety oversight, the Board has been asked to do more to assist DOE in meeting mission requirements.

Human Capital - The Board's Greatest Asset

Seventy-two percent of the Board's FY 2011 obligations were dedicated to salaries and benefits for its staff and Board Members. The Board must function as an oversight organization comprising leading technical experts who quickly recognize problems in the hundreds of hazardous operations conducted daily throughout the DOE defense nuclear complex. The Board relies on a focused and well-executed human capital program that uses all available tools to attract and retain the technical talent necessary to accomplish the Board's mission. The Board has determined that its technical staff requires scientists and engineers with extensive backgrounds in technical disciplines such as nuclear-chemical processing; conduct of operations; facility safety analysis; conventional and nuclear explosive technology and safety; nuclear weapons safety; storage of nuclear materials; nuclear criticality safety; and waste management. Virtually all of the technical staff personnel have technical master's degrees or are actively pursuing

graduate degrees. Approximately 25 percent of the technical staff members have doctoral degrees. Because the Board's health and safety Recommendations and other advisories to the Secretary of Energy are based on in-depth technical information and detailed safety analyses, recruitment and retention of scientific and technical staff members with outstanding qualifications continues to be critical to successful accomplishment of the Board's mission.

During FY 2011, the Board increased its personnel from 106 to 111, despite losing one Board member and four other people to retirement and other attrition. Building on its hiring successes of the past several years, the Board continued an aggressive approach to reach out to mid-career and senior-level scientists and engineers. The combination of an aging workforce and high demand for experienced scientists and engineers by other organizations will impact Board operations if not dealt with in an aggressive manner. Approximately 17 percent of the Board's technical staff is eligible for regular retirement today. Competition for scientists and engineers with the Board's required expertise continues to be very stiff due to the need for increased technical expertise by the Nuclear Regulatory Commission, the Department of Defense's emphasis on combating weapons of mass destruction, and DOE's nuclear weapons complex activities. Consequently, the Board expects the need to spend more resources on recruiting highly qualified technical personnel in a highly competitive job market.

The Board continued its highly competitive three-year Professional Development Program (PDP), which brings entry-level technical talent into professional positions within the Board straight from college. Through a technical mentor, individuals are provided a series of individually tailored developmental assignments, formal academic schooling, and a one-year, hands-on field assignment. The Board met its goal of recruiting three people into the program in FY 2011, and now has a total of nine in the program at various stages of development.

PROGRAM PERFORMANCE OVERVIEW

In establishing the Board, Congress chose to establish an independent external oversight organization composed of technical experts in the field of nuclear health and safety. Therefore, the Board was given specific oversight and advisory powers, as opposed to being an independent regulator of the DOE defense nuclear complex. In view of the Board's enabling legislation and specific mission, the Board must focus its expertise and resources on one goal:

The Board will assist DOE in improving safety at existing and proposed defense nuclear facilities by identifying health and safety issues affecting the public and the workers, recommending actions to address these issues, and ensuring that corrective actions are completed.

To achieve this general goal, the Board has identified the following four interdependent, strategic areas of concentration and has developed performance goals and outcome objectives for each:

AREA 1. NUCLEAR WEAPON OPERATIONS

Performance Goal: DOE operations that directly support the nuclear stockpile and defense nuclear research are conducted in a manner that ensures adequate protection of the health and safety of the workers and the public.

Stockpile management is the term used to describe the industrial aspects of maintaining the U.S. nuclear weapon stockpile and complex. Board oversight activities for this strategic area focus on assuring that current and planned operations at the Pantex Plant in Texas, the Y-12 National Security Complex in Tennessee, and tritium operations at the Savannah River Site in South Carolina, are accomplished safely according to approved standards.

Also included in this strategic area is the DOE Stockpile Stewardship Program, which refers to activities carried out by DOE to ensure confidence in the safety, security, and reliability of nuclear weapons in the stockpile, in the absence of underground nuclear weapons testing. The Board's oversight of the stockpile stewardship program is centered on assuring the safety of the research, development, manufacturing, and testing activities conducted at the Los Alamos National Laboratory in New Mexico, the Lawrence Livermore National Laboratory in California, the Nevada National Security Site, and Sandia National Laboratories in New Mexico and California.

Outcome: DOE will have acknowledged, acted upon, and/or resolved the health and safety issues raised by the Board, and the facilities are operated to approved safety standards, rules, orders, and directives. Follow-up technical evaluations of DOE's nuclear stockpile activities will verify necessary improvements in safety.

AREA 2. NUCLEAR MATERIAL PROCESSING AND STABILIZATION

Performance Goal: The processing, stabilization, and disposition of DOE defense nuclear materials and facilities are performed in a manner that ensures adequate protection of the health and safety of the workers and the public.

With the shutdown of major weapon production activities at defense nuclear facilities in the early 1990s, substantial quantities of plutonium, uranium, transuranic isotopes, and irradiated fuel have remained in storage for extended periods under potentially unsafe and deteriorating conditions. The Board's focus in this strategic area is to aid DOE in identifying these excess materials and in reviewing DOE's plans/programs to stabilize the materials and place them in a safe configuration for storage pending future programmatic use or disposition.

Board oversight in this area includes the retrieval, stabilization, and safe interim storage of spent nuclear fuel and sludges in the K-Basin at the Hanford Site in Washington, the L-Basin at the Savannah River Site, and several facilities at the Idaho National Laboratory. The Board exercises oversight of the nuclear waste programs conducted at the Savannah River and Hanford Sites, as well as the Waste Isolation Pilot Plant (WIPP) and Los Alamos National Laboratory in New Mexico and the Idaho National Laboratory. The Board will also provide health and safety oversight of DOE programs to safely deactivate and decommission facilities at the Hanford and Savannah River Sites, the Idaho National Laboratory, the Y-12 National Security Complex in Tennessee, and the Los Alamos and Lawrence Livermore National Laboratories in New Mexico and California.

Outcome: DOE will have acknowledged, acted upon, and/or resolved the health and safety issues raised by the Board. Follow-up technical evaluations of DOE's nuclear materials management and facility disposition activities will verify necessary improvements in safety, as DOE meets its commitments to the Board to stabilize and dispose of hazardous nuclear materials.

AREA 3. NUCLEAR FACILITIES DESIGN AND INFRASTRUCTURE

Performance Goal: New DOE defense nuclear facilities, and major modifications to existing facilities, are designed and constructed in a manner that ensures adequate protection of the health and safety of the workers and the public.

To ensure that safety is addressed early in the process, the Board reviews the design and construction of new DOE defense nuclear facilities. These facilities must be designed and constructed in a manner that will support safe and efficient operations for 20 to 50 years. This requires a robust design process that will ensure appropriate safety controls are identified and properly implemented early in the process. The Board's expectation is that the design and construction phases of defense nuclear facilities will be accomplished under approved nuclear codes and standards, and demonstrate clear and deliberate implementation of Integrated Safety Management principles and core functions.

The Board's reviews of the design and construction of major facilities and projects in this strategic area are resource intensive and time consuming, but they result in significant safety improvements. In recent years, there has been an increase in the number of new DOE projects, with 18 projects in the design and construction phase. Examples of these new projects include the Integrated Waste Treatment Unit, currently approaching readiness to begin operations at the Idaho National Laboratory; the Hanford Waste Treatment and Immobilization Plant, which is in the design and construction phases; the Uranium Processing Facility, which is under design at the Y-12 National Security Complex; the Chemistry and Metallurgy Research Replacement Facility, which is in both the design and construction phases at the Los Alamos National Laboratory; and the Salt Waste Processing Facility, which is under construction at the Savannah River Site.

Outcome: DOE will have acknowledged, acted upon, and/or resolved the health and safety issues raised by the Board. Follow-up technical evaluations will verify necessary safety improvements in the design and construction of DOE's new nuclear facilities and major modifications to existing facilities. New nuclear facility designs will meet acceptable safety standards.

AREA 4. NUCLEAR SAFETY PROGRAMS AND ANALYSIS

Performance Goal: DOE regulations, requirements, and guidance are developed, implemented, and maintained; and safety programs at defense nuclear facilities are established and implemented as necessary to protect adequately the health and safety of the workers and the public.

The Board's oversight effort in this area focuses on issues where a complex-wide perspective on health and safety issues is required to identify and correct generic health and safety problems.

Under the aegis of Integrated Safety Management (ISM), significant resources are applied to areas such as the technical competence of DOE's Federal workforce, the efficacy of DOE's line management and safety oversight, and the development and implementation of ISM systems with particular focus on safety analyses and controls. Key supporting functional areas are also reviewed, such as quality assurance, nuclear criticality safety, and training and qualifications.
The Board's reviews in this strategic area often build on data collected at the field level in the first three areas, integrating and analyzing the results to feed back key information that can be used to direct safety program improvement across multiple management lines. For example, at the Board's urging, DOE issued a quality assurance improvement plan to strengthen the implementation of existing quality requirements for safety-related components and systems. Similarly, the Board continues its efforts to ensure that DOE maintains a vigorous nuclear criticality safety infrastructure to support nuclear operations. The Board has been instrumental in driving recent DOE efforts to verify that vital safety systems have been identified throughout the defense nuclear complex and that their condition is understood and controlled. In addition, the Board has been reviewing the application of ISM at the activity level throughout the complex. DOE and its contractors have launched several initiatives to improve ISM at the working level, which is focused on work planning and control.

Outcome: DOE will have acknowledged, acted upon, and/or resolved the health and safety issues raised by the Board. In addition, follow-up technical evaluation of DOE's safety programs at defense nuclear facilities will verify necessary improvements in safety, and effective implementation of Integrated Safety Management principles.

Interdependency of the Four Performance Goals

The interdependence of these four strategic areas of concentration must be understood to appreciate the efficiency of the Board's operating plan and corresponding organizational alignment. The "lessons learned" from the Board's health and safety oversight activities cut across each of these four areas. Health and safety hazards identified in Nuclear Material Processing and Stabilization (Area 2) must be transferred to the Nuclear Weapon Operations (Area 1) to avoid or mitigate new or existing remediation issues. Likewise, the lessons learned from Nuclear Facilities Design and Infrastructure (Area 3) must be shared with managers responsible for preparing and enforcing health and safety-related guidance, requirements, and regulations in Nuclear Safety Programs and Analysis (Area 4).

For example, in order to oversee safety at the Y-12 National Security Complex, the Board must assess the safety of hazardous activities that support the nuclear weapons stockpile (Area 1). To accomplish its general goal, the Board must also assess processing and stabilization of nuclear materials to support facility deactivation, such as Building 9206 (Area 2), construction of new defense nuclear facilities such as the Uranium Processing Facility (Area 3), and implementation of important safety programs such as nuclear criticality safety (Area 4).

Another example of the interdependence of the four strategic areas of concentration is the safety oversight of the Savannah River Site. At this site, the Board must evaluate not only the safety of nuclear material processing and stabilization activities such as disposing of high-level waste (Area 2), but also the safety of nuclear weapon support activities involving tritium operations (Area 1), the construction of new

defense nuclear facilities such as the Salt Waste Processing Facility (Area 3), and nuclear safety programs such as high-level waste tank integrity inspections (Area 4).

As discussed in Strategic Area 3 above, DOE is designing and constructing many new defense nuclear facilities that will be used to support the nuclear weapon operations and/or nuclear material processing and stabilization. To ensure that DOE protects the health and safety of the public and the workers, the Board must pay close attention to the design, construction, start-up and operation of these facilities, as well as major modifications to existing facilities, including the selection of governing safety standards and requirements. Equally important, the Board evaluates the directives, standards, and programs governing DOE's safe performance of its hazardous defense nuclear activities. The Board's first three strategic areas of concentration heavily rely upon the implementation of specific DOE rules and directives. The Board's integrated, comprehensive oversight of the safety of DOE's defense nuclear facilities requires that the Board carefully evaluate these safety programs.

The synergy gained from constant information sharing among the Board's matrixed staff, which supports all four strategic areas of concentration, is key to achieving the Board's general goal. The Board's technical staff has been organized specifically to achieve the agency's performance goals and to execute its Strategic Plan and Annual Performance Plans. Using a matrix form of organization, the Board gains management flexibility and avoids the need to establish layers of middle management that divert staff resources from performing health and safety reviews. Four interdependent technical groups, staffed with technical specialists having both the education and work experience commensurate with the designated oversight assignments, have been created, each with direct responsibility for achieving one of the four strategic performance goals described in this plan. Depending on the urgency of the issue, the Board may reassign resources among these groups as necessary.

Management Excellence

The Board's *Strategic Plan for FY 2011-2016*, published in FY 2011, included a fifth strategic goal, Management Excellence, to encompass the business operations that support the accomplishment of the Board's mission. Specific performance objectives and targets for this strategic goal were initially included in the Board's *FY 2012 Budget Request to the Congress*, and results will be formally included in the FY 2012 PAR. In the interim, the Board accomplished the following business objectives in FY 2011:

- The Board's public website was redesigned to make it more user-friendly and accessible.
- A successful core telework program was instituted.
- A new performance management system for the Board's engineering and technical specialist staff that is more results oriented was implemented.
- Routing of the Board's internet connection through a Managed Trusted Internet Protocol service to increase security was completed.
- The Board's occupational radiation exposure tracking system was revised to be consistent with DOE's exposure records and to be in compliance with applicable laws and regulations.

FINANCIAL PERFORMANCE OVERVIEW

As of September 30, 2011, the Board had adequate internal controls to conduct its health and safety oversight mission and to ensure that obligations did not exceed its total budget authority. As with many small agencies, the Board has adopted the "economies of scale" philosophy for obtaining needed administrative support services. For financial support, the Board has negotiated interagency agreements with the Bureau of the Public Debt and the National Finance Center for personnel/payroll services, and the General Services Administration (GSA) for accounting services on a fee-for-service basis. The Board's financial statements were prepared in accordance with the accounting standards codified in the Statements of Federal Financial Accounting Standards (SFFAS) and OMB Circular A-136, *Financial Reporting Requirements*.

Sources of Funds

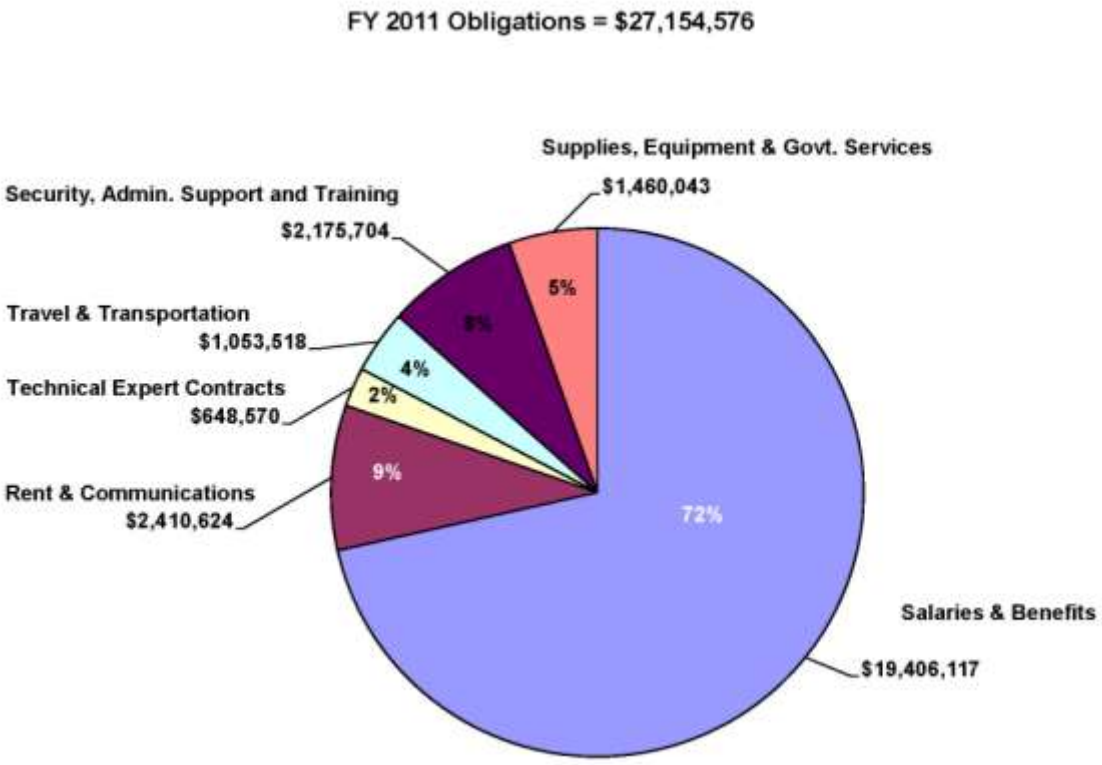
The Board receives an annual appropriation, for Salaries and Expenses, with the funds made available until expended. The sources of funds available for obligation in FY 2011 and FY 2010 are listed as follows:

	FY 2011	**FY 2010**
New Budget Authority	$23,203,500	$26,086,000
Prior Year Unobligated Balance	3,844,724	3,851,686
Recovery of Prior Year Obligations & Offsetting Collections	472,737	481,182
Total Budgetary Resources	**$27,520,961**	**$30,418,868**

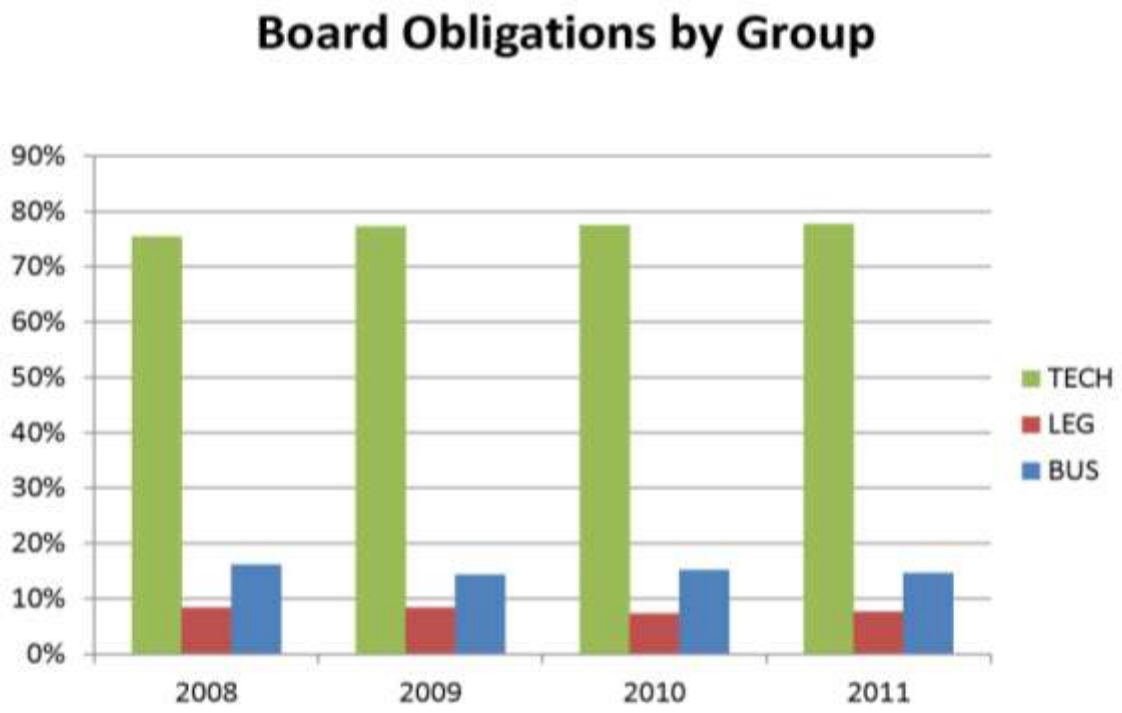
The significant decrease in total budgetary resources from FY 2010 was due to a $2,882,500 (11%) reduction in new budget authority.

Uses of Funds by Function

The Board incurred obligations of $27,154,576 in FY 2011. As shown on the following page, the FY 2011 budget was used primarily to pay the salaries and benefits of our employees, with most of the remaining resources dedicated to rent and the logistical support of the Board Members and employees as they conducted oversight operations.



As shown on the following page, approximately 80% of the Board's obligations support the Board's technical personnel with the remainder supporting its legal and business operations staff, consistent with the past several years.



AUDIT RESULTS

The Board received an unqualified audit opinion on its FY 2011 financial statements. The auditors disclosed no instances of noncompliance with laws and regulations and identified no material internal control weaknesses.

A copy of the full audit report as provided to the Board can be found in Chapter 3 of this PAR.

FINANCIAL STATEMENT HIGHLIGHTS

The Board's financial statements summarize the financial activity and financial position of the agency. The financial statements, footnotes, and required supplemental information appear in Chapter 3, *Auditors' Reports and Financial Statements*. Analysis of the principal statements follows:

Analysis of the Balance Sheet

	FY 2011	FY 2010
Total Assets	$6,671,644	$10,597,711
Total Liabilities	$2,760,160	$2,958,570
Net Position	$3,911,484	$7,639,141

The Board's assets were $6,671,644 as of September 30, 2011, a decrease of $3,926,067 from the end of FY 2010. Its total liabilities and net position (which together equal total assets) were $2,760,160 and $3,911,484, respectively, as of the end of FY 2011, decreases of $198,410 and $3,727,657, respectively, from the end of FY 2010. The Fund Balance with Treasury (FBWT) represents the Board's largest asset. The significant decreases in Total Assets and Net Position were due to the decreased appropriation received in FY 2011 (a reduction of ~ $2.9M), as well as approximately $1M in higher expenditures as the Board operated at an increased FTE level in FY 2011.

Analysis of the Statement of Net Cost

	FY 2011	FY 2010
Net Cost of Operations	$27,873,161	$26,860,574

The Board's net cost of operations for the year ended September 30, 2011, was $27,873,161, an increase of $1,012,587 or 3.8% over the FY 2010 costs. Costs increased primarily because of higher employee expenses as the Board operated at 109 FTEs in FY 2011 versus 103 in FY 2010. Both the FY 2011 and FY 2012 President's Budgets allowed for an increase in Board personnel to address additional workload requirements. As a result of a targeted and successful hiring campaign, the Board increased personnel in FY 2010 from 102 at the start of the year to 106 at the end, and continued this success in FY 2011, ending the year with 111 personnel and a resulting FTE count of 109.

Analysis of the Statement of Changes in Net Position

The Statement of Changes in Net Position reports the changes in net position during the reporting period. Net position is affected by changes in its two components - Cumulative Results of Operations and Unexpended Appropriations. The decrease in Net Position of $3,727,657 from FY 2010 to FY 2011 is due primarily from the decrease in the Unexpended Appropriations.

Analysis of the Statement of Budgetary Resources

The Statement of Budgetary Resources shows the sources of budgetary resources available and the status at the end of the period. It presents the relationship between budget authority and budget outlays, and reconciles obligations to total outlays. For FY 2011, the Board had Total Budgetary Resources available of $27,520,961, the majority of which was derived from new appropriations. Total Budgetary Resources

was decreased by $2,897,907 or 9.5% from the FY 2010 amount of $30,418,868 due to the decreased level of appropriations received.

For FY 2011, the Statement of Budgetary Resources showed the Board incurred obligations of $27,154,576, an increase of $580,433 or 2.2% over FY 2010 obligations of $26,574,143. The increase was primarily due to higher personnel obligations resulting from higher FTEs. Net Outlays for FY 2011 were $27,008,279, a $1,536,689 or 6.0% increase over FY 2010 outlays of $25,471,590.

The Board utilized its beginning unobligated balance of $3,844,724 and $461,358 in recoveries of prior year obligations to fund the $3,951,076 difference between the $27,154,576 in obligations and available appropriations received of $23,203,500, leaving an ending unobligated balance of less than $400,000.

LIMITATION OF THE FINANCIAL STATEMENTS

The principle financial statements have been prepared to report the financial position and results of operations of the Board, pursuant to the requirements of the Accountability of Tax Dollars Act of 2002. While the statements have been prepared from the books and records of the Board in accordance with generally accepted accounting principles (GAAP) for Federal entities and the formats prescribed by OMB, the statements are in addition to the financial reports used to monitor and control budgetary resources which are prepared from the same books and records.

The statements should be read with the realization that they are used for a component of the U.S. Government, a sovereign entity.

The Board's financial statements were audited by Lani Eko & Company, LLC.

COMPLIANCE WITH THE INSPECTOR GENERAL ACT OF 1978

The Board is required to file a report annually under the Inspector General Act of 1978, Pub. L. 95-452, Oct. 12, 1978, 92 Stat. 1101, codified at 5 U.S.C. Appendix 3. The statute mandates a report which:

> (A) States whether there has been established in the Federal entity an office that meets the requirements of this section;
>
> (B) Specifies the actions taken by the Federal entity otherwise to ensure that audits are conducted of its programs and operations in accordance with the standards for audit of governmental organizations, programs, activities, and functions issued by the Comptroller General of the United States, and includes a list of each audit report completed by a Federal or non-Federal auditor during the reporting period and a summary of any particularly significant findings; and
>
> (C) Summarizes any matters relating to the personnel, programs, and operations of the Federal entity referred to prosecutorial authorities, including a summary description of any preliminary investigation conducted by or at the request of the Federal entity concerning these matters, and the prosecutions and convictions which have resulted.

The Board reports as follows for Calendar Year 2011:

(A) The Board did not establish an inspector general's office.

(B) The Board took the following actions to ensure audit of its programs and operations:

Annual Financial Statements Audit in accordance with the Accountability of Tax Dollars Act of 2002.

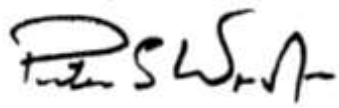
(C) The Board referred a matter to federal prosecutorial authorities in connection with its investigation into a chilled atmosphere adverse to safety and suppression of technical dissent at the Waste Treatment and Immobilization Plant at the Hanford site. The Board is not aware of any prosecutions or convictions resulting from this referral.

SYSTEMS, CONTROLS, AND LEGAL COMPLIANCE

This section provides information on Board's compliance with the Federal Managers' Financial Integrity Act (FMFIA) and the Improper Payments Information Act, as well as other management information, initiatives, and issues. FMFIA requires that agencies establish controls that provide reasonable assurance that: (1) obligations and costs comply with applicable law; (2) assets are safeguarded from waste, loss, unauthorized use, or misappropriation; and (3) revenues and expenditures are properly recorded and accounted for. It also requires the Chairman to provide an assurance statement on the adequacy of management controls.

Assurance Statement (FMFIA)

The Defense Nuclear Facilities Safety Board's (Board) management is responsible for establishing and maintaining effective internal controls that meet the obligations of FMFIA within their areas of responsibility. Based on line managers' knowledge of daily operations and other management reviews, the Board is able to provide an unqualified statement of assurance that the internal controls meet the objectives of FMFIA.



Peter S. Winokur, Ph.D.
Chairman

11/14/2011
Date

Improper Payments Information Act

The Board is considered to be at low risk for improper payments since the functional payment areas are limited to traveler reimbursement, commercial vendors for supplies and services, and the payroll electronic funds transfer payments. The Board does not administer any entitlement, grant, or loan programs. During FY 2011 GSA and the Bureau of the Public Debt made net total payments of $27,008,279 on behalf of the Board. Neither the GSA accounting staff, nor the Board's finance staff, has identified any improper payments during this period.

Federal Travel Card Program

The Board is a full participant in the Federal Travel Card Program, and has issued travel credit cards to employees whose official duties may require them to travel. The Board's funds control staff routinely monitors each employee's usage of the travel card to ensure that charge activities are restricted to official government travel-related expenses, and that the employee is paying his/her credit card bills on-time.

During FY 2011, employees were reimbursed for authorized travel-related expenses no more than five working days after their completed travel vouchers were submitted for processing. During this same period, no Board employee's travel card account was more than 60 days delinquent and no inappropriate usage of the travel card was identified during our monthly review of credit card activity.

Federal Purchase Card Program

The Board has made extensive use of the U.S. Government's purchase card program to expedite the purchase of authorized supplies and services both in its headquarters and field operations. During FY 2010 transactions using individual purchase cards totaled $389,121. The Board established a system of internal controls to ensure that only authorized purchases are made by each card holder. The Board's purchase card procedures were distributed to all new purchase cardholders during FY 2011. These procedures stressed the requirement for completion of the electronic training program necessary to exercise the delegations of procurement authority.

The Board's internal control procedures for the purchase card program feature a review much more stringent than the requirements of the program itself, without sacrificing the overall efficiency and timeliness of this purchasing method. All card purchases are reviewed and approved by the cardholder's supervisor, the purchase card coordinator, and finally, a Board contracting officer who gives final approval of invoices. The number of purchase cardholders is kept at the minimum necessary to effectively conduct Board operations. At the close of FY 2011, the total number of purchase cards issued was 9 at headquarters, and 5 at our field locations.

Federal Information Security Management Act (FISMA)

The Federal Information Security Management Act (FISMA) requires each agency to report annually to OMB on the status of their information technology (IT) security program. In FY 2011, the Board has continued to submit all required FISMA reports to OMB, and for the third consecutive year has used OMB's automated reporting tool, CyberScope, to submit the required FISMA reports.

The Board continued to build on the progress made in the prior year and improve its IT security posture. Based on the standard procedures the Board has instituted, no additional areas of concern or material weaknesses were identified in the independent auditor's internal control report for the fourth year in a row.

Government Accountability Office (GAO) Investigations and Reports

Audit follow-up is an integral part of good management. In accordance with OMB Circular A-50, each agency must establish systems to assure the prompt and proper resolution and implementation of audit recommendations. During FY 2011, the GAO did not conduct any reviews or investigations of Board oversight programs, and there are no open audit recommendations from previous GAO reviews.

Internal Control Program

The Board has a formal internal control program described in its Administrative Directive 211.1, dated March 23, 2007, which delineates the requirements for the program. The Board has an active Executive Committee on Internal Controls (ECIC) composed of the following: General Manager, Technical Director, General Counsel, Deputy General Manager and the Chief Information Officer (CIO). In FY 2011, internal controls for the following areas which have been routinely evaluated over the years were evaluated once again with no significant or reportable issues: Time and Attendance, Metro Transit Subsidies, Purchase Cards, Employee Travel Cards, Property Accountability, Classified Documents, Security Clearances, EEO, Privacy, Ethics, Financial Disclosure and Alternative Dispute Resolution.

Internal controls of the following additional areas were added for assessment during FY 2011; Radiation Exposure Program, Recruitment, Retention and Relocation Bonuses Program, Telework Program, Intranet and Internet (Data Quality), IT Security and Continuity of Operations (COOP). No significant issues were found in these areas by the ECIC. All assessments and a summary of the ECIC meeting were provided to the Board's external auditors for review and use in conducting their audit. Additionally, each Office Director was required to submit a statement of reasonable assurance of appropriate management controls over their respective areas.

Chapter 2
Program Performance

Overall Outcome: Using its expert knowledge, the Board has complied with its statutory mission to ensure that public and worker health and safety are adequately protected at DOE defense nuclear facilities and met its performance goals for FY 2011. The report notes cases where additional safety improvements sought by the Board have not yet been fully achieved by DOE. The Board is actively pursuing these safety improvements in FY 2012.

INTRODUCTION

The Board's contribution to the safety of DOE's defense nuclear activities derives from four basic types of activities that are embodied in the Board's enabling legislation. First, the Board evaluates DOE's organization policies and processes to ensure that fundamental safety requirements necessary to undertake highly hazardous operations exist at DOE. These reviews evaluate topics such as technical competence of DOE and contractor personnel, adequacy of safety requirements and guidance, and the presence of a strong safety culture. The deficiencies in Federal oversight and corporate safety programs revealed by the Deepwater Horizon oil rig accident clearly illustrate the safety risks inherent in deficiencies in these areas and the need for safety organizations, such as the Board, to emphasize reviews of this type. The Board plans this type of oversight in advance, and those plans are generally not affected by unanticipated changes in DOE's plans or activities.

The second major type of safety oversight activity performed by the Board is the evaluation of actual hazardous activities and facilities in the field. These reviews focus on identifying the hazards attendant with DOE's mission activities and evaluating the controls put in place to mitigate those hazards. The Board plans for these types of reviews based on the risk, complexity, maturity, and significance of the activities underway or planned by DOE. However, unanticipated changes in DOE's plans or new, emergent information often change the priority of the Board's oversight in this area. The Board continuously seeks to be proactive and to focus DOE's attention on the most significant safety issues present in the defense nuclear complex at any given time. Therefore, because the priority of safety issues can change rapidly, the Board cannot always predict in advance what activities it will review or what safety outcomes it will ultimately achieve.

Third, the Board provides expert-level reviews of the safety implications of DOE's actions, decisions, and analyses. It is extremely important that the Board provide DOE with independent evaluations of the technical quality and safety impacts of DOE's decisions and actions. For example, well-intended actions by DOE managers can have significant unintended negative consequences if they are based on faulty, inadequate, or misunderstood information.

The Board attempts to be proactive in conducting this type of review, but it is necessary that DOE first develop at least preliminary plans with sufficient detail to allow for a meaningful technical review.

Therefore, it is not possible for the Board to plan all of its efforts in this important area explicitly in advance.

The Board does allocate resources to this form of oversight, and does report the significant outcomes that result from such oversight in its performance reports.

The last major type of oversight performed by the Board is the identification of new safety issues that were otherwise unknown in the DOE complex. Since, by definition, these safety issues would not have been addressed without the Board's efforts, this may be the area in which the Board has the largest impact on the safety of DOE's highly hazardous operations. However, by their very nature, it is impossible to plan for these emergent safety issues in advance. The effectiveness of this type of safety oversight activity relies exclusively on the expertise of the Board and its staff.

The Board uses its Strategic Plan and Annual Performance Plan to ensure that its resources remain focused on the most significant safety challenges and the DOE activities that warrant the most external review. All of the Board's safety activities are closely tied to goals and objectives embodied in these plans. This approach gives the Board confidence that its staff (109 FTEs in FY 2011, including Board Members) and budget (approximately $27.2 million in FY 2011 obligations) are dedicated to the highest-risk activities under the Board's jurisdiction. The Board's strategic plan may be viewed in its entirety on the Board's internet website at *www.dnfsb.gov*.

The information in this *Performance and Accountability Report* is also provided directly to the Congress in the Board's statutorily required annual report, also available on the Board's website. There are slight differences between the two reports because the annual report covers calendar years rather than fiscal years. The Board's *Twenty-Second Annual Report to Congress* will be issued during the first quarter of CY 2012. The Board's annual reports and performance reports are drafted by Federal employees of the Board with only administrative assistance from contractors. The Board also provides periodic reports to Congress and DOE on the status of significant unresolved technical differences between the Board and DOE on issues concerning (1) the design and construction of DOE's defense nuclear facilities and (2) the infrastructure of aging DOE defense nuclear facilities.

SAFETY GOALS

The Board revised its strategic plan in March 2011 to refocus its efforts and better align its resources to meet the challenges of ensuring safety in the defense nuclear complex as the DOE mission evolved during the latter half of the previous decade. The performance goals from the previous strategic plan (against which FY 2011 performance objectives were originally developed) are summarized below. The Board also provides periodic reports to Congress and the DOE on the status of significant unresolved technical differences between the Board and DOE on issues concerning the design and construction of DOE's defense nuclear facilities.

SAFETY OVERSIGHT GOAL

The Board will assist DOE in improving safety at existing and proposed defense nuclear facilities by identifying health and safety issues affecting the

public and the workers, recommending actions to address these issues, and ensuring that corrective actions are completed.

To achieve this general goal, the Board has identified the following four interdependent, strategic areas of concentration and has developed performance goals and outcome objectives for each:

AREA 1. NUCLEAR WEAPONS OPERATIONS:

Performance Goal: DOE operations that directly support the nuclear stockpile and defense nuclear research are conducted in a manner that ensures adequate protection of the health and safety of the workers and the public.

AREA 2. NUCLEAR MATERIAL PROCESSING AND STABILIZATION:

Performance Goal: The processing, stabilization, and disposition of DOE defense nuclear materials and facilities are performed in a manner that ensures adequate protection of the health and safety of the workers and the public.

AREA 3. NUCLEAR FACILITIES DESIGN AND INFRASTRUCTURE:

Performance Goal: New DOE defense nuclear facilities, and major modifications to existing facilities, are designed and constructed in a manner that ensures adequate protection of the health and safety of the workers and the public.

AREA 4. NUCLEAR SAFETY PROGRAMS AND ANALYSIS:

Performance Goal: DOE regulations, requirements, and guidance are developed, implemented, and maintained; and safety programs at defense nuclear facilities are established and implemented; as necessary to protect the health and safety of the workers and the public.

ANNUAL PERFORMANCE OBJECTIVES

The Board's *Annual Performance Plan for FY 2011* identified annual performance objectives that consist of reviews that were to be conducted in support of the Board's strategic plan, plus the identification of candidate areas for these reviews. An outcome measure for each objective is described as part of the discussion of each annual performance goal. Qualitative assessments of the outcome associated with each annual performance goal are provided in this chapter of the Board's PAR.

The Board measures progress toward achieving the positive outcomes embedded in each annual performance goal in three stages, by evaluating:

- The DOE's acknowledgment that a safety enhancement is needed after the Board communicates the results of its technical reviews;
- The DOE's subsequent development of appropriate corrective actions to resolve the Board-identified safety issue; and

- The DOE's implementation of the necessary corrective actions, leading to the successful resolution of the safety issue and resulting in improved protection of the public, the workers, and the environment.

The basis of measurement for the qualitative assessment includes formal, publicly-available, correspondence from DOE and its defense nuclear contractors, Board correspondence, staff reports, DOE and contractor public testimony, and other sources. Past reporting (see the Board's annual reports) of Board-identified issues and associated DOE responses demonstrates that the Board has had a clear and positive impact on the safety of DOE defense nuclear activities.

Evaluation of the Fiscal Year 2012 Performance Plan

No changes to the *FY 2012 Performance Plan* have been identified based on a review of actual results achieved in FY 2011.

Assessment of the Reliability and Completeness of Performance Data

The sources used by the Board to measure its outcome are robust, varied, and independent. Documentation of accomplishments includes the Board's Annual Reports to the Congress, correspondence to and from the Department of Energy, Board technical reports, and public meeting records. These documents are available for public review on the Board's Internet web site, *www.dnfsb.gov*. As such, the Board believes that the performance data used in this report are reliable and complete.

The Board did not conduct an independent program evaluation in FY 2011.

Comparison of Fiscal Year 2011 Actual Performance with Planned Performance

The following pages provide detailed information comparing the Board's actual performance driving safety improvements at DOE to its plans for FY 2011. Information concerning the Board's performance accomplishments in FY 2007 through FY 2010 is contained in the Board's FY 2012 Budget Request to Congress, which is published on our website at *www.dnfsb.gov*.

PERFORMANCE GOAL 1: NUCLEAR WEAPON OPERATIONS

DOE operations that directly support the nuclear stockpile and defense nuclear research are conducted in a manner that ensures adequate protection of health and safety of the workers and the public.

OUTCOME: DOE will have acknowledged, acted upon, and/or resolved the health and safety issues raised by the Board, and the facilities are operated to approved safety standards, rules, orders, and directives. Follow-up technical evaluation of DOE's nuclear stockpile activities will verify necessary improvements in safety.

FY 2011 Performance Objectives:

The Board and its staff will verify the safety of DOE's defense nuclear facilities and activities relating to the maintenance, storage, and dismantlement of the nuclear weapon stockpile, quality assurance of the stockpile, as well as its associated research and development, and the capability to test nuclear weapons and disposition damaged or improvised nuclear devices (such as a terrorist device).

The Board and its staff will conduct assessments of DOE's efforts to develop and implement safety management systems for stockpile management activities. The Board's evaluations will be split between DOE efforts to develop safety systems (e.g., system and process designs, safety bases, control schemes, and administrative programs) and DOE efforts to implement safety management systems. These reviews will focus on activities at the Pantex Plant, Y-12 National Security Complex (Y-12), Savannah River Site (SRS) tritium facilities, Los Alamos National Laboratory (LANL), Lawrence Livermore National Laboratory (LLNL), Sandia National Laboratories (SNL), and the Nevada National Security Site (NNSS).

Representative areas for Board and staff review include:

- Development, implementation, and refinement of site-wide and facility-specific safety analyses and controls for nuclear facilities and activities (e.g., safety analysis reports and annual updates developed per 10 CFR 830).
- Weapon-specific safety analyses and controls identification and implementation for nuclear weapon activities (e.g., B53, W76, W84, and W88).
- Nuclear explosive operations at Pantex (e.g., conduct of operations, procedures, lightning protection, electrostatic discharge controls), and adequacy of the Nuclear Explosive Safety Study process.
- Laboratory support of nuclear explosive operations at Pantex (e.g., sensitivity testing of high explosives, electrostatic discharge and lightning protection studies, weapon response evaluation and documentation).
- Cross-cutting functional areas at Pantex, Y-12, NNSS, LANL, LLNL, SNL, or SRS tritium facilities (e.g., legacy material disposition, nuclear criticality safety, fire protection, nuclear explosive safety, seismic design, conduct of operations, work planning, training, maintenance, configuration management).

- Special studies of unique or significant hazards at DOE nuclear facilities (e.g., classified projects, process technology alternatives, and disposition of special items and by-product materials).
- Modernization plans and infrastructure upgrades at Y-12.
- Uranium chemical processing and component assembly/disassembly operations at Y-12 (e.g., conduct of operations, criticality safety, and fire protection).
- Plutonium pit manufacturing and certification at LANL.
- Corrective actions to strengthen institutional safety programs and infrastructure at LANL, LLNL, and SNL including reviews of the adequacy of Vital Safety System assessments and the implementation of Conduct of Operations and Engineering at various LANL facilities.
- Readiness to dispose of damaged nuclear weapons or improvised nuclear devices at NNSS.
- Subcritical experiments at NNSS.
- Nuclear explosive operations at the Device Assembly Facility at NNSS.
- Operation of the Criticality Experiments Facility at NNSS.
- Implementation of Recommendation 2005-1, *Nuclear Material Packaging*.

While performing its reviews, the staff will assess the effectiveness of ISM implementation and the safety controls identified for ongoing operations as well as any new weapon system surveillance, life extension, or dismantlement projects at Pantex, Y-12, or NNSS that start in FY 2011.

FY 2011 Measured Performance:

Safety of Continued Operation of the LANL Chemistry and Metallurgy Research Facility. In response to Board letters dated October 23, 2007, and May 16, 2008, which questioned DOE's decision to operate the 55-year-old Chemistry and Metallurgy Research facility an estimated six years past the previously planned shutdown date of 2010, LANL agreed to limit the radioactive material-at-risk in the facility to reduce the design basis accident consequence to below the Evaluation Guideline.

Integrated Nuclear Planning at LANL. The Board identified that DOE had not demonstrated formal mechanisms to ensure that design requirements and interfaces for pit manufacturing at LANL were appropriately managed and controlled across the suite of projects that contribute to the future plutonium processing infrastructure. In response, DOE developed an Integrated Nuclear Planning process to improve coordination among its projects as national security mission requirements are refined. The Board has continued to participate in these Integrated Nuclear Planning workshops, including two this fiscal year. This process continues to be effective.

Transuranic Waste Operations at LANL. In a letter dated January 18, 2007, the Board urged NNSA to promptly develop a viable pathway for shipping high-activity transuranic waste drums from LANL to the Waste Isolation Pilot Plant for disposal. In response, DOE has bolstered waste disposition work at LANL by facility infrastructure upgrades, new safety basis documents, and training and qualification of operators. During FY 2011, the Board evaluated LANL's preparations to re-establish the capability to vent waste drums potentially containing flammable gases.

LANL Material Disposition Area-B. The Board's oversight of an American Recovery and Reinvestment Act activity to de-inventory the open pit disposal area at LANL's Technical Area-21 is nearly complete. Ninety-eight percent of the waste has been uncovered and packaged for disposal. Sixty-five percent has been shipped off site to disposal.

LANL Plutonium Facility Confinement Ventilation. As part of DOE's implementation plan for the Board's Recommendation 2004-2, *Active Confinement* Systems, NNSA and its contractor evaluated the facility's confinement strategy in parallel with an effort to develop a new safety basis for the facility. In its June 16, 2009, report to the Board, NNSA asserted that some modifications identified as needed in the confinement ventilation evaluation may not be needed to meet the overall safety strategy and goals under the final approved documented safety analysis. As a result, the Board issued Recommendation 2009-2, *Los Alamos National Laboratory Plutonium Facility Seismic Safety*, on October 26, 2009, to which DOE responded with an Implementation Plan on July 13, 2010. The Board is closely following the implementation of near-term improvements in the facility's safety posture and NNSA's development of a strategy for long-term improvements in the facility's safety systems.

LANL Plutonium Facility Seismic Vulnerabilities. In 2007, the Probabilistic Seismic Hazards Analysis was updated indicating that the likelihood of high seismic ground motion (particularly in the vertical direction) was much greater than previously believed. Analysis identified nine facility vulnerabilities that could lead to loss of building confinement or structural collapse. In response, LANL declared a Potential Inadequacy of the Safety Analysis and submitted a Justification for Continued Operations that was approved by the NNSA site office in July 2011. LANL and NNSA are aggressively pursuing physical upgrades to address these new vulnerabilities. The Board believes additional vulnerabilities exist and is working with LANL and NNSA to ensure they are adequately addressed.

LANL Weapons Engineering Tritium Facility. In October 2008, LANL ceased operations at the tritium facility due to a Technical Safety Requirement violation and problems with the pressure safety program. These issues were initially identified by a Board review in July 2007 and communicated to DOE by letter on October 16, 2007. To comply with the facility's safety basis, the laboratory made changes to the piping system, pressure relief components, and the facility's pressure safety procedures. The Board carefully tracked these changes and questioned the laboratory's plan (viewed as acceptable by the NNSA site office) to restart operations without a formal readiness review. As a result, NNSA headquarters held discussions with its site office and the laboratory, ultimately resulting in the decision to perform formal contractor and federal Operational Readiness Reviews. LANL divided the restart into three phases. The Phase I readiness review authorizing low pressure operations was successfully completed in June 2010. The remaining phases were completed in FY 2011.

Nuclear Criticality Safety at LANL. In a September 10, 2007, letter to NNSA, the Board expressed concern that a software tool (MASS) was being relied upon by operators as a control to ensure compliance with criticality safety limits without appropriate software quality assurance. LANL took actions to strengthen the safety posture, and the schedule for bringing the nuclear criticality safety program into full compliance with industry standards and DOE directives appears acceptable. LANL began implementing a new software tool (MARTracker) in FY 2010. The Board anticipates greater oversight and involvement in FY 2012, including reviewing progress on criticality safety programmatic improvements and software upgrades.

Nuclear Explosive Safety. The Board evaluated 8 Nuclear Explosive Safety Studies and change evaluations conducted at Pantex during FY 2011, including the B53 dismantlement Nuclear Explosive Safety Study and the B61 and W87 Operational Safety Reviews.

Quality of Safety-Related Information for Nuclear Explosive Operations. In FY 2011, the Board completed a comprehensive review of the design laboratories' implementation of DOE Standard 3016, *Hazard Analysis Reports for Nuclear Explosive Operations*, and issued a letter on April 5, 2011, informing DOE that the standard had not been adequately implemented and that the technical information used by the laboratories could not be verified to be technically accurate. NNSA is in the process of responding to the Board's concerns.

Pantex Procedures. In 2009, the Board completed a series of onsite reviews and provided immediate feedback to Pantex on areas where improvements could be made in nuclear explosive operating procedures. On October 15, 2009, the Board issued a letter detailing shortcomings in the process for developing and implementing technical procedures at Pantex. In 2011, the Board continued observation of Pantex nuclear operations, providing feedback on shortcomings of procedures. In response to Board concerns, Pantex corrected implementation of immediate action procedures and is working on upgrades to the Writer's Guide for procedures.

Pantex Hazard Analysis Task Teams. In August 2011, the Board conducted a review of the operation of Hazard Analysis Task Teams at Pantex which are used to identify hazards, develop safety, and complete the Hazard Analysis Reports for nuclear explosive operations. NNSA has committed to reviewing its processes and documenting them through its Requirements Modernization and Integration initiative.

Pantex Hazard Analysis Reports. The Board issued a letter on July 6, 2010, detailing specific issues concerning Pantex's compliance with DOE Standard 3016 in developing Hazard Analysis Reports and establishing sufficient controls. On April 28, 2011, NNSA issued guidance for use of the standard. In March 2011, the Board participated in a workshop with NNSA to update guidance for the Pantex Documented Safety Analysis Upgrade Initiative which will bring Pantex Hazard Analysis Reports into compliance with the applicable DOE directives.

Pantex Technical Safety Requirements Calculations. The Board reviewed the technical information and calculations Pantex used to develop its Technical Safety Requirements. The Board discussed a number of discrepancies with NNSA, and NNSA is taking action to address the concerns.

Y-12 Non-Material Access Area Storage. In a letter to DOE dated February 4, 2011, the Board raised questions regarding the safety issues that were considered and the rationale used to evaluate the proposed new mission for an aging structure, Building 9720-5, to be used for storage of enriched uranium and other materials. Through subsequent interactions, the Y-12 contractor committed to (a) reduce combustible loading in the facility by over packing wooden containers of depleted uranium over the next four years and (b) conduct a programmatic and safety evaluation five years after material consolidation is complete.

Highly Enriched Uranium Materials Facility Safety Analysis. In a letter to DOE dated April 20, 2011, the Board raised concerns regarding the elimination of chemical and toxicological hazards from the safety analysis for the Highly Enriched Uranium Materials Facility (HEUMF). After several interactions and a briefing to the Board, NNSA directed the Y-12 contractor to ensure all non-radiological hazards are evaluated and appropriate controls are identified in the Documented Safety Analyses for both HEUMF and the Uranium Processing Facility (UPF). The Board also identified concerns regarding the basis for the potential downgrading of some safety related controls in HEUMF, specifically the lack of bounding

analysis for certain fire scenarios. DOE subsequently directed the Y-12 contractor to provide more detailed analyses for fire scenarios.

Special Material Capability Glovebox Project at Y-12. The Board observed the contractor Readiness Assessment for startup of the new Special Material Capability Glovebox Project. The assessment was thorough, and the facility demonstrated readiness to operate the new glovebox. However, the Board was concerned that issues identified in the area of conduct of operations were likely not limited to operation of the new glovebox, and could indicate facility or site-wide weaknesses. The Board conducted a review of Y-12 technical procedures and conduct of operations in April 2011 to evaluate this concern.

Conduct of Operations at Y-12. In a letter to DOE dated August 19, 2011, the Board identified concerns regarding the Y-12 contractor's failure to adhere to conduct of operations principles during some nuclear operations and inconsistencies in the quality of some operating procedures. The Y-12 contractor has since identified several corrective actions to address the Board's concerns, which are being implemented through execution of a comprehensive Conduct of Operations Improvement Plan. In its letter, the Board requested that DOE provide a report in six months that evaluates the effectiveness of these corrective actions.

Y-12 Fire Protection. Following a component failure, the Board identified concerns regarding the operability of the HEUMF fire suppression system. Through subsequent discussions, DOE and the Y-12 contractor identified numerous lessons learned, which will improve the availability and reliability of vital safety systems at Y-12 once implemented. The Board has also initiated interactions with Y-12 regarding testing to determine operability of aged sprinkler systems in other facilities.

Y-12 Nuclear Criticality Safety. The Board continued to evaluate actions taken in response to the Board's January 23, 2009, letter to NNSA, which raised concern over the adequacy of some criticality safety evaluations. The Y-12 contractor has since implemented a Criticality Safety Program Improvement Plan and upgraded several of its Criticality Safety Evaluations. These actions address weaknesses in both programmatic processes and documentation.

Y-12 Activity-Level Work Planning. The Board conducted a review of Y-12 activity-level work planning and control in August 2011. This review followed a 2008 review, the results of which were transmitted to DOE in a letter dated January 22, 2009. Final results of this follow-on review are pending, but preliminary concerns have been identified with the planning, control, execution, and oversight of work, similar to the issues identified in 2008. Y-12 issued several standing orders as a preliminary corrective action.

Continued Operations of the 9212 Complex. In a letter to DOE dated March 13, 2007, the Board identified concerns regarding NNSA's ability to safely operate the 9212 Complex for an extended period of time and established an annual reporting requirement on the physical condition of the building's systems, structures, and components. On May 17, 2011, DOE briefed the Board on the Facility Risk Review Follow-on Study, which fulfilled the annual reporting requirement. The Board will continue to track the safety of operations in the 9212 Complex and advocate for necessary maintenance and repairs until the transition of these operations to the Uranium Processing Facility.

LLNL Tritium Facility Safety Posture. On March 29, 2011, the Board issued a letter expressing concern over the changes proposed in the contractor's annual update to the safety basis, particularly with the selection of credited controls to protect workers from fires and breaches in tritium confinement. NNSA responded to most of the Board's concerns and imposed several conditions of approval when it acted on the contractor's proposed safety basis; however, the Board remains concerned with the lack of a credited fire suppression system.

LLNL Activity Level Work Planning. LLNL implemented some improvements to address weaknesses identified by the Board in the processes used to plan and execute work. In 2010, the Board assessed that the laboratory guidance was vague and that the work planning process suffered as a result. NNSA continues to strengthen oversight in this area and has directed the contractor to undertake long-term improvements to these processes.

Worker Training at LLNL. The Board issued a letter on April 1, 2011, identifying areas where training of nuclear facility workers could be improved to enhance the safety of operations at LLNL. NNSA and the contractor are addressing these areas as they implement the revised DOE directive on training.

NNSS Device Assembly Facility (DAF) Fire Suppression System. In 2008, the Board determined that the DAF fire suppression system had significant deficiencies that should be corrected before beginning more hazardous operations. In response, NNSA initiated a project to assess the condition of the system, analyze and prioritize needed improvements, developed improvement options, and began improvements to the system. In FY 2011, NNSA approved Critical Decision-0 (approval of mission need) for a project to replace the fire suppression system's lead-in piping. The contractor hired additional fire protection engineers to assist in performing walk-downs of the as-built condition of the fire suppression system and re-compute hydraulic calculations, is working toward replacing strainers to filter debris from the system, and is procuring a standalone fire suppression unit for installation in DAF.

NNSS Criticality Experiments Facility (CEF) Safety Basis and Instrumentation and Control. In 2010 and 2011, the Board evaluated NNSS's readiness to begin operations at CEF. The Board identified concerns with the safety analysis, classification of controls, and the reliability of instrumentation and control systems. The Board communicated these issues to NNSA in staff-to-staff discussions. In response, NNSA identified corrective actions for each of the Board's concerns that contributed to the safe startup of CEF.

Readiness to Dispose of a Damaged Nuclear Weapon or Improvised Device at NNSS. NNSA developed a plan for implementation of safety controls and upgrades appropriate for the scope of operations for the facility at NNSS (G tunnel) that would be used in disposition of an improvised nuclear device. As a result of the Board's interactions and discussions in FY 2011, NNSA planned for operational safety improvements and conducted training and exercises.

Formality of Operations for Subcritical Experiments at NNSS. The Board reviewed several safety management programs at NNSS nuclear facilities. In a March 28, 2011, letter to NNSA, the Board identified a number of deficiencies related to work planning and control. As a result of interactions with the Board, NNSA implemented compensatory measures to improve the conduct of operations, work planning, and configuration of safety systems at nuclear facilities at NNSS.

Exemption to Nuclear Safety Management rule at SNL. The Board assessed the adequacy of the controls to process Hazard Category 3 quantities of waste at the Radioactive and Mixed Waste Management Facility at SNL. NNSA granted SNL an exemption to the Nuclear Safety Management rule (10 CFR 830) for the processing of this waste. The Board found that the operation could be accomplished safely under the controls that had been implemented.

SRS Tritium Facilities. On August 19, 2011, the Board issued a letter that communicated deficiencies in both the safety basis and the effectiveness of the Emergency Preparedness program at the SRS Tritium Facilities. These deficiencies include the lack of adequate conservatism in input parameters for the consequence analysis, a change in safety philosophy that replaced several safety-related preventive controls with mitigative or administrative controls, and failure to demonstrate that the Emergency Preparedness program could perform its credited function. NNSA is developing its response to the issues identified by the Board and has already begun addressing some of the deficiencies with the Emergency Preparedness program. For example, Tritium Facilities personnel participated in field drills and underwent classroom training in order to bolster the effectiveness of the program.

PERFORMANCE GOAL 2: NUCLEAR MATERIAL PROCESSING AND STABILIZATION

The processing, stabilization, and disposition of DOE defense nuclear materials and facilities are performed in a manner that ensures adequate protection of health and safety of the workers and the public.

OUTCOME: DOE will have acknowledged, acted upon, and/or resolved the health and safety issues raised by the Board. Follow-up technical evaluation of DOE's nuclear materials management and facility disposition activities will verify necessary improvements in safety, as DOE meets its commitments to the Board to stabilize and dispose of hazardous nuclear materials.

FY 2011 Performance Objectives:

The Board and its staff will conduct assessments of DOE's efforts to characterize, stabilize, process, and safely store plutonium, uranium, and other actinides, residues, spent fuel, and wastes from the nuclear weapons program to ensure that these efforts are performed safely and that the risks posed by these materials are addressed in a timely manner. These reviews will be conducted using the principles of Integrated Safety Management and will include assessments of the adequacy of current storage conditions, evaluations of proposed treatment and disposal technologies, evaluations of the design of new facilities and process lines, assessments of facility readiness to safely begin new operations (including implementation of 10 CFR Part 830, *Nuclear Safety Management*), the safety of ongoing operations, and the suitability of long-term storage and disposal facilities. Representative areas for review include:

- H-Canyon processing campaigns and life extension activities.
- Long-term storage of neptunium oxides at Idaho National Laboratory (INL) (Recommendation 2000-1).
- Complex-wide consolidation and disposition of special nuclear materials.
- Stabilization and disposal of plutonium-bearing residues at LANL (Recommendation 2000-1).
- Efforts to consolidate, store, and disposition spent nuclear fuel at Hanford, INL, and SRS.
- Preliminary design of systems to treat and store spent nuclear fuel sludge at the Hanford Site (Recommendation 2000-1).
- Removal and processing of salt waste from HLW tanks by the Interim Salt Disposition Project at SRS.
- Closure of HLW Tanks 5, 6, 18, and 19 at SRS.
- Design of the fluidized-bed steam reformer for processing the HLW from SRS Tank 48.
- HLW tank structural integrity at SRS and the Hanford Site and application of the results of DOE's corrosion testing program to corrosion chemistry controls.
- Operation of HLW retrieval and transfer systems at the Hanford tank farms.
- Operation of HLW retrieval and transfer systems at SRS tank farms.
- Conduct of operations and work planning at the Hanford Site.
- Design of supplemental processing and treatment of waste from Hanford tanks.
- Retrieval, characterization, and packaging of TRU waste at Hanford, LANL, Oak Ridge National Laboratory (ORNL), SRS, and the Idaho Cleanup Project.

- Design, acquisition and first use of new WIPP remote-handled TRU waste emplacement equipment.
- TRU waste disposal operations at WIPP.
- Operations in support of the Tank W-1A excavation and remediation efforts at ORNL.
- Deactivation and decommissioning of facilities throughout the DOE defense nuclear complex including accelerated and new activities funded by the Recovery Act (e.g., Building 235-F at SRS, the Plutonium Finishing Plant at Hanford, and remote-handled TRU waste treatment at the Idaho Cleanup Project).

FY 2011 Measured Performance:

Nuclear Materials Stabilization. DOE dramatically changed its plans for stabilization of surplus nuclear materials. DOE did not authorize the operation of the H-Canyon facility at SRS to process spent nuclear fuel, leaving the fate of the fuel and other materials in question. The Board sent a letter to DOE on February 28, 2011, outlining associated safety concerns. DOE responded by providing new disposition paths for a significant portion of the nuclear materials but has not developed a new strategy for spent nuclear fuel.

Public Hearing at the Savannah River Site. The Board held a public hearing at SRS on June 16, 2011, to discuss safety matters related to liquid waste processing, emergency preparedness, and nuclear materials disposition. The Board obtained commitments from DOE to develop a resumption plan for H-Canyon and to start performing emergency drills for seismic events that could impact multiple nuclear facilities. The hearing also drew increased DOE attention to integrated operations of liquid waste management facilities.

Electrical Safety at H-Canyon. In response to a Board letter dated February 6, 2009, DOE completed design and installation of a lightning protection system for the H-Canyon fan house at SRS.

Hanford Sludge Retrieval and Disposition Project. The Board reviewed DOE's conceptual design for systems to remove radioactive sludge from the K West Basin at Hanford and noted several design issues. In response to a Board letter on the topic dated December 22, 2010, DOE is enhancing safety systems, improving its accident analysis, and developing a new capability to evacuate members of the public from the Columbia River in the event of a nuclear accident.

Restart of the Cold Vacuum Drying Facility. The Board reviewed the plans to restart operations at the Cold Vacuum Drying Facility. This facility will support K West Basin clean up as well as sludge disposition. The Board suggested that DOE reconsider the planned level of rigor for restarting this inactive facility. DOE now plans to use a formal readiness assessment.

Long Term Storage of Spent Nuclear Fuel at SRS. The Board began assessing the safety of spent nuclear fuel in storage in L Basin at SRS. DOE no longer has an ultimate disposition path for much of this fuel, and its storage time may increase dramatically. After inquiries by the Board, DOE expanded surveillances of the spent nuclear fuel to examine the extent of fuel damage and needed remedial action.

Recommendation 2001-1. In a letter to DOE dated January 28, 2011, the Board accepted a new implementation plan for Recommendation 2001-1, *High Level Waste Management at the Savannah River*

Site, to replace an interim plan from last year. In the new plan, DOE provided concrete interim goals to show progress in meeting the recommendation. To date, DOE has been successful in completing these new milestones.

Structural Integrity of Hanford Tank C-105. In response to a stakeholder's letter, the Board evaluated potential damage to the footing of single-shell Tank C-105 caused by a borehole-drilling rig. As noted in a letter dated June 9, 2011, to the stakeholder, the Board reviewed a DOE analysis that estimated the potential damage to Tank C-105. Although the energy imparted by the borehole-drilling rig would not be sufficient to damage the tank, the Board informed DOE that if radionuclide concentrations in the soil start to increase significantly, DOE should expeditiously remove the remaining waste from the tank.

Safety Basis at Hanford Tank Farms. In response to a Board letter dated August 5, 2010, DOE committed to amend the safety basis to restore the functional classification of the primary ventilation systems of the double-shell tanks to safety significant and identified physical improvements needed in the systems.

HLW Transfer System at Hanford. The Board reviewed the systems used to confine waste at the Tank Farms during waste transfer operations. In a letter dated April 26, 2011, the Board identified issues regarding the qualification, performance, and maintenance of the waste transfer system, as well as deficiencies in the safety basis. DOE is working with the Board to address these deficiencies.

Conduct of Operations at Hanford Tank Farms. The Board reviewed conduct of operations at the Hanford Tank Farms. In a letter to DOE dated March 30, 2011, the Board noted weaknesses in the formality demonstrated by operators and supervisors while conducting nuclear operations. In response, DOE took action to address the issues.

Hanford Waste Encapsulation and Storage Facility (WESF). The Board reviewed the planning and conduct of maintenance at WESF and identified numerous deficiencies. Following the review, contractor managers began addressing the issues.

Work Planning and Control at Hanford Plateau Remediation. The Board reviewed work planning and control processes for work done by the plateau remediation contractor. In a letter dated September 23, 2010, the Board identified weaknesses in the contractor's activity-level hazard analysis process. During fiscal year 2011, the contractor piloted improvements to its work planning process.

Work Planning and Control at Hanford's River Corridor Project. On February 25, 2011, the Board sent a letter to DOE following the Board's review of the activity-level work planning and control process implemented by Washington Closure Hanford, LLC, noting improvements since a review in October 2008.

Transuranic Waste Operations at INL. The Board reviewed transuranic waste operations at INL. The Board discussed procedural compliance issues with DOE and its contractor, who took corrective actions. The Board tracked DOE's development of engineered controls to ensure the safe retrieval of degraded TRU waste boxes and drums at the Advanced Mixed Waste Treatment Project at INL. DOE and the Board identified problems with the contractor's implementation of controls during the DOE readiness assessment in September 2011.

Transuranic Waste Operations at SRS. The Board reviewed the startup of new phases of transuranic waste remediation operations in E-area, F-Canyon, and H-Canyon. The Board found that during the F-Canyon readiness assessments, operators and shift operations managers did not have a strong level of knowledge of topics such as safety basis requirements. DOE conducted remedial training for affected personnel.

Fire Protection at WIPP. The Board reviewed the fire protection program at WIPP and, in a letter dated June 24, 2011, noted a number of deficiencies. DOE acknowledged these problems and agreed to take corrective action. A DOE progress briefing to the Board is required by December 21, 2011.

Work Planning and Control at WIPP. The Board reviewed work planning and control programs for waste handling at WIPP. In a letter dated October 22, 2010, the Board identified problems in conduct of operations and site-wide safety culture. DOE acknowledged these issues and agreed to address them in a letter dated January 20, 2011. The Board has continued to track DOE progress in addressing these issues.

Electrical Safety at WIPP. The Board visited WIPP in March 2011 and discussed DOE progress on corrective actions for electrical safety issues noted previously by the Board. DOE continued to address these issues as noted in the DOE letter dated December 21, 2010, and completed all commitments by the end of FY 2011.

Radiation Protection Program at WIPP. In 2010, the Board noted weaknesses in the requalification process for radiological control technicians. DOE subsequently revised the process to correct the weaknesses. The Board confirmed that the revised process was implemented and effective during a visit to WIPP in March 2011.

Tank W-1A Removal Action Project at ORNL. The Board reviewed the safety basis and radiological controls for the Tank W-1A Removal Action Project at ORNL in December 2010. In response to issues identified by the Board's staff, DOE revised project documents to strengthen their technical bases and improved working-level documents prior to the DOE readiness review in August 2011. Project work began in September 2011.

Plutonium Finishing Plant (PFP) Criticality Safety Controls. During a review of PFP work planning documents, the Board noted that not all of the Criticality Prevention Specification (CPS) requirements were listed in the work instruction, which is contrary to nuclear consensus standards. This concern was communicated to DOE criticality safety personnel who, in turn, discussed the situation with the contractor. Subsequently, the contractor agreed to include the CPS requirements as an appendix to the work instruction.

PERFORMANCE GOAL 3: NUCLEAR FACILITIES DESIGN AND INFRASTRUCTURE

New DOE defense nuclear facilities, and major modifications to existing facilities, are designed and constructed in a manner that ensures adequate protection of the health and safety of the workers and the public.

OUTCOME: DOE will have acknowledged, acted upon, and/or resolved the health and safety issues raised by the Board. Follow-up technical evaluation will verify necessary improvements in the design and construction of DOE's new nuclear facilities and major modifications to existing facilities. New nuclear facility designs will meet acceptable safety standards.

FY 2011 Performance Objectives:

The Board and its staff will continue reviews of DOE's implementation of integrated safety management (ISM) in design and construction activities. At least five reviews will be completed. In general, the reviews will evaluate the adequacy of geotechnical specifications and hazards analyses; the design of safety-related structures, systems, and components (SSCs); and the adequacy of SSC installation, startup, and operational readiness. Candidates for review include:

- Continue design and construction reviews, and initiate review of testing and turnover of safety systems for the Waste Treatment Plant at the Hanford Site.
- Review construction and preparations for startup of the Integrated Waste Treatment Unit at Idaho National Laboratory.
- Review the final design of the Chemistry and Metallurgy Research Replacement facility at Los Alamos National Laboratory.
- Review the construction of the Radioactive Liquid Waste Treatment Facility Replacement Project at Los Alamos National Laboratory.
- Review the design of the Pit Disassembly and Conversion Project at Savannah River Site.
- Review the design of the Plutonium Preparation Project at Savannah River Site.
- Review construction and development of Technical Safety Requirements for the Salt Waste Processing Facility at Savannah River Site.
- Review construction of the Waste Solidification Building at Savannah River Site.
- Review startup activities for modification to Building 3019 at Oak Ridge National Laboratory in preparation for processing of uranium-233.

- Complete review of the preliminary design of the Uranium Processing Facility at the Y-12 National Security Complex.

As a result of these reviews, DOE will have acknowledged, acted upon, and/or resolved the health and safety issues raised by the Board. Follow-up technical evaluation will verify necessary safety improvement in the design and construction of DOE's new nuclear facilities and major modification to existing facilities. New nuclear facilities will meet acceptable safety standards.

FY 2011 Measured Performance:

Waste Treatment and Immobilization Plant (WTP) at the Hanford Site. The Board has continued its review of the design and construction of important-to-safety structures, systems, and components in the Waste Treatment and Immobilization Plant facilities. The Board's activities primarily consisted of the evaluation of emerging issues and the resolution of previously identified issues. Specifically:

- The Board held three separate public meeting and hearing sessions during the period October 7–8, 2010, addressing concerns with pulse jet mixing in WTP vessels, changes in the design basis due to a reduced material-at-risk, and the design basis for hydrogen in pipes and ancillary vessels.
- The Board issued Recommendation 2010-2, *Pulse Jet Mixing at the Waste Treatment and Immobilization Plant*, on December 17, 2010, to address unresolved technical concerns with WTP's mixing and transfer systems.
- The Board identified safety issues in a letter dated April 5, 2011, with the methodology for assessing dose consequences from pressurized spray leaks involving radioactive liquids at WTP.
- The Board identified safety issues in a letter dated May 5, 2011, with the design of instrumentation and control systems for WTP.
- The Board identified safety issues in a letter dated June 27, 2011, with the use of the Low Order Accumulation Model (LOAM) to predict solids accumulation in WTP process vessels.
- The Board identified safety issues in a letter dated August 3, 2011, concerning the heat transfer calculations used to determine when engineered controls would be required to prevent flammable conditions from developing in WTP process vessels.
- The Board identified safety issues in a letter dated September 13, 2011, concerning chemical vapor releases at WTP.

Integrated Waste Treatment Unit at Idaho National Laboratory. The Board continued its review of the design and construction of the Integrated Waste Treatment Unit. The Board's most significant activities focused on evaluating the Technical Safety Requirements and Documented Safety Analysis and monitoring implementation of the safety basis. Additionally, the Board evaluated the design of the safety-significant instrumentation and worked with DOE to resolve issues associated with construction completion and system testing.

Chemistry and Metallurgy Research Replacement (CMRR) Project at Los Alamos National Laboratory (LANL). In December 2010, the Board learned that LANL requested that NNSA contemplate several changes to the CMRR Nuclear Facility safety strategy and design. These changes included the elimination of one or more major safety-related systems and revisions to the seismic design requirements for certain safety systems. As a result, the Board sent a letter to NNSA on February 8,

2011, expressing concern that any change to the CMRR Nuclear Facility safety strategy and design must be properly justified and documented. NNSA subsequently informed that Board that major changes to the CMRR Nuclear Facility safety strategy are no longer being pursued.

The Board continued its review of seismic analysis input assumptions and the project approach to soil structure interaction. The Board provided feedback on seismic analysis issues including time history development and the approach to defining foundation input seismic motions. The Board continued its review of the revised CMRR Preliminary Documented Safety Analysis and initiated reviews of updated System Design Descriptions, the facility Process Hazard Analysis, and the analysis to assess habitability concerns with the Entry Control Facility, the location where operators will respond to design basis accidents including earthquakes.

Radioactive Liquid Waste Treatment Facility Upgrade Project at LANL. The Board tracked DOE's evaluation of alternatives to reduce project cost. Board oversight activities will continue when NNSA decides upon a path forward.

Transuranic Waste Facility Project at LANL. The Board continued its review of the design and safety basis development activities for the Transuranic (TRU) Waste Facility project, focusing on resolution of outstanding safety issues from conceptual design, as well as the development of the preliminary safety design report and preliminary design documents. The Board observed that the project took positive actions during preliminary design to resolve safety issues previously identified by the Board. These actions included relocating the facility to an alternate site where an aircraft crash event is not credible and modifying accident analysis parameters for the seismic evaluation to comply with DOE technical standards.

Pit Disassembly and Conversion (PDC) Project at the Savannah River Site (SRS). The Board reviewed the Safety Design Strategy, the Facility Design Description, the Conceptual Safety Design Report, Hazard Analysis, and the Risk and Opportunity Analysis Report and provided comments to NNSA. Major comments identified involved the potential for seismic soft zones, the development of safety-class gaseous fire suppression systems, the need to consider Seismic Design Category 4 (SDC-4) because of high unmitigated accident consequences, the use of a plutonium storage container as a safety-class component, and the definition of "backfit" process. Even through the PDC project is being redirected, the comments provided should have a timely impact on the revised project. This will allow NNSA to address some major issues early in conceptual and preliminary design.

Salt Waste Processing Facility (SWPF) at SRS. The Board reviewed calculations related to the heat-up of the SWPF process vessels including a calculation of the Time-to-Combined Lower Flammability Limit (CLFL). The Time-to-CLFL calculation showed that safety-significant controls are needed to shut down the large recirculation pumps. The SWPF project will utilize high process vessel temperature as the set point for shutting down recirculation pumps and air pulse agitators for selected process vessels. Other smaller pumps that impact vessel heat-up will be shut down manually after loss of cooling caused by an earthquake or other natural event. In addition, the Board obtained agreement from DOE to conduct additional tests to characterize mixing of process tanks, including additional rheology tests and 1/5 scale mixing tests. The testing piggybacked on tests already planned to evaluate an improved material for adsorbing actinides from the high-level salt waste.

Waste Solidification Building at SRS. The Board has been following the construction activities at the Waste Solidification Building. The Board reviewed the corrective actions related to an unplanned construction cold joint in the concrete structure. The project took the appropriate actions to repair the structure. The Board is currently working with the Waste Solidification Building project to ensure that appropriate lessons learned are developed and shared with other DOE construction projects.

Uranium-233 Downblending at Oak Ridge National Laboratory. The Board reviewed DOE's alternatives analysis process to develop a new pathway for disposal of the U-233 inventory in Building 3019 at Oak Ridge National Laboratory. The downblending project will no longer be accomplished which makes Board's previous issues with the design no longer relevant. The Board is now reviewing the new plans for U-233 disposition.

Uranium Processing Facility. In response to Board concerns that the project's critical decision strategy did not facilitate verification that safety was integrated into the preliminary design, DOE decided to develop preliminary safety documentation along with a detailed safety control set. This information would serve as a technical basis to validate the integration of safety into the preliminary design. The Board identified concerns with the adequacy of the developed control set, and DOE determined that the control set was not adequate. DOE decided that the UPF project would need to fully follow the safety basis development process expected at preliminary design to correct the deficiencies.

The Board also identified safety concerns with the project's safety design strategy and other safety documentation to aid DOE in the development of an acceptable preliminary safety design report. The Board worked closely with the project to review and provide feedback on the calculations being developed that address the geotechnical and structural issues transmitted to DOE on March 15, 2010.

The Board has provided comments related to the long-lead procurement equipment design contracts. These comments are being updated or resolved as the overall facility safety documentation is developed to address the revised equipment requirements.

Electrical Safety. The Board reviewed the electrical safety program at the Waste Isolation Pilot Plant (WIPP) and Idaho Nuclear Technology and Engineering Center (INTEC). The Board issued a letter to DOE on September 22, 2010, identifying several areas of the electrical safety program at WIPP which did not meet guidance in DOE's Electrical Safety Handbook (DOE-HDBK-1092-2004). WIPP has subsequently improved its electrical safety program. The Board concluded that the INTEC site-wide electrical safety program appeared adequate and complied with the model provided in DOE's Electrical Safety Handbook with a few exceptions. The staff reviewed and commented on a revision of DOE's electrical safety handbook, expected to be issued by DOE in FY 2012.

Filter Test Facility. Nuclear-grade high-efficiency particulate air (HEPA) filters are used in essentially all new DOE nuclear facilities and are tested in the Filter Test Facility to ensure the filters meet performance requirements. DOE continues to address deficiencies previously identified by the Board at the Filter Test Facility. In particular, the Board continues to monitor DOE corrective actions to address the continuing unacceptably high filter failure rates.

Central and Eastern United States (CEUS) Seismic Source Characterization (SSC) Project. The CEUS SSC project is a cooperative effort sponsored by the Department of Energy, the Electric Power Research Institute (as the nuclear industry representative), and the United States Nuclear Regulatory Commission. The Board's staff is participating as a member of the participatory peer review panel.

The final CEUS SSC model shows that locations with geologic and geotechnical evidence of repeated large magnitude earthquakes (magnitude greater than about 6.5) will have significantly higher seismic hazard compared to other seismic sources. Ground motion estimates using the CEUS SSC model are anticipated to show higher seismic hazard at most nuclear facility locations compared to historical probabilistic seismic hazard estimates. This may be significant for SRS, which is about 100 to 150 kilometers from the Charleston seismic source. DOE has deferred the probabilistic seismic hazard analysis update for SRS pending completion of this project.

Probabilistic Seismic Hazard Analysis for SRS and Hanford. The Board has been reviewing activities associated with the SRS probabilistic seismic hazard analysis update, which has been deferred pending completion of the CEUS SSC project. The Board participated in the initial discussions at Hanford as DOE decides whether an update to the current probabilistic seismic hazard analysis for Hanford is necessary.

Deficiencies with the SASSI Computer Software. The DOE complex uses the computer program SASSI (A System for the Analysis of Soil-Structure Interaction) to evaluate soil-structure interaction effects between nuclear facility structures and supporting soils. In an April 8, 2011, letter to DOE, the Board highlighted its concern that issues with the program could lead to erroneous conclusions that affect safety-related structural design at DOE defense nuclear facilities. DOE agreed with the concerns and is developing corrective actions.

Periodic Reports to Congress. The Board issued three periodic reports to Congress on the status of significant unresolved technical differences between the Board and DOE on issues concerning the design and construction of DOE's defense nuclear facilities. These reports have been highly effective in communicating Board concerns to Congress as well as DOE senior management. The reports were issued December 30, 2010, June 15, 2011, and September 23, 2011.

PERFORMANCE GOAL 4: NUCLEAR SAFETY PROGRAMS AND ANALYSIS

DOE regulations, requirements, and guidance are developed, implemented, and maintained; and safety programs at defense nuclear facilities are established and implemented; as necessary to protect adequately the health and safety of the workers and the public.

OUTCOME: DOE will have acknowledged, acted upon, and/or resolved the health and safety issues raised by the Board. In addition, follow-up technical evaluation of DOE's safety programs at defense nuclear facilities will verify necessary improvements in safety, and effective implementation of Integrated Safety Management principles.

FY 2011 Performance Objectives:

DOE Directives. The Board will continue to assess the adequacy of proposed changes to DOE directives to ensure that any revisions are appropriate. The results of the directives reviews completed by the Board will be provided to DOE. The Board anticipates that approximately 30 DOE directives that may impact public and worker health and safety will require review, of which five to ten are likely to require significant Board and staff interaction to ensure satisfactory resolution of potential safety issues. In 2009, the Board issued a recommendation that DOE establish a policy on the use of quantitative risk assessment for nuclear safety applications and establish the necessary requirements and guidance for quantitative risk assessment in a directive or directives. The Board will work with DOE to ensure that the applicable documents are appropriately developed. The Board also expects to continue its involvement in the efforts of the National Nuclear Security Administration (NNSA) to establish its own directives system. It is estimated that ten NNSA directives will also require review. As a result of these reviews, new or modified health and safety directives will be issued, resulting in improved safety through standardized requirements and guidance that provide for adequate protection of the workers and the public as well as the protection of the environment.

Integrated Safety Management. The Board will continue its reviews of DOE's implementation of integrated safety management (ISM) and associated nuclear safety programs. In addition, while the Board has noted that considerable progress has been made in the implementation of ISM, continued DOE efforts are necessary to maintain ISM systems and ensure continuous improvement across the complex. Specific functional areas will be sampled to a greater depth. In addition, during FY 2010–2011, the Board will conduct a series of public hearings that will assess progress made in response to Recommendation 2004-1, *Oversight of Complex, High-Hazard Nuclear Operations*, and will be devoted to specific aspects of the implementation plan such as the role of the Central Technical Authority; feedback and improvement mechanisms; and the integration and support of research, analysis, and testing in nuclear safety technologies.

Safety Management Programs. Safety management programs are designed to ensure defense nuclear facilities are operated in a manner that adequately protects workers, the public, and the environment. At least five reviews will be completed in areas such as training and qualification, quality assurance, nuclear criticality safety, software quality assurance, conduct of operations, configuration management,

maintenance management, and readiness preparations. As a result of these reviews, it is anticipated that DOE will provide an acceptable approach and schedule for resolution of any identified issues to support the safe operation of defense nuclear facilities.

FY 2011 Measured Performance:

DOE Directives. As part of its continuing review of new and revised DOE directives, the Board evaluated the DOE 2010 Safety and Security Reform Plan, which commenced on March 16, 2010. As a result of the 2010 Safety and Security Reform Plan, the Board evaluated more than 50 DOE directives including technical standards and NNSA supplemental directives. The Board provided constructive comments on directives being developed or revised, and evaluated the safety impact for directives that DOE proposed to cancel. Examples of reviews of DOE directives completed in FY 2011 include:

- DOE Policy 420.1, *Department of Energy Nuclear Safety Policy*
- DOE Policy 450.4A, *Integrated Safety Management Policy*
- DOE Order 450.2, *Integrated Safety Management*
- DOE Policy 226.1B, *Department of Energy Oversight Policy*
- DOE Order 226.1B, *Implementation of Department of Energy Oversight Policy*
- DOE Order 414.1D, *Quality Assurance*
- DOE Order 252.1, *Technical Standards Program*
- DOE Order 442.2, *Differing Professional Opinions for Technical Issues Involving Environment, Safety and Health*
- DOE Standard 1195-2011, *Design of Safety Significant Safety Instrumented Systems Used at DOE Non-Reactor Nuclear Facilities*

At year's end, the Board was in the process of resolving issues regarding revisions or drafts of 18 pending directives to improve the content, clarity, and consistency of safety requirements and guidance. These directives include draft DOE Order 420.1C, *Facility Safety*, draft DOE Guide 420.1-1A, *Nonreactor Nuclear Safety Design Criteria and Guide for use with DOE O 420.1, Facility Safety*, and draft DOE Guide 421.1-2, *Implementation Guide for Use in Developing Documented Safety Analyses to Meet Subpart B of 10 CFR 830*. As a result of DOE's proposed revisions to these directives, the Board expects that DOE technical standards will need to be revised to ensure consistency and clarity of requirements and guidance. Examples of these DOE technical standards include DOE Standard 1066-99, *Fire Protection Design Criteria*, and DOE Standard 1020-2002, *Natural Phenomena Hazards Design and Evaluation Criteria for Department of Energy Facilities*.

Recommendation 2011-1*, Safety Culture at the Waste Treatment and Immobilization Plant*. The Board issued this Recommendation 2011-1 on June 9, 2011, following an investigation that revealed a chilled atmosphere adverse to safety as well as suppression of technical dissent. On June 30, 2011, the Secretary of Energy responded by affirming the importance of a robust safety culture and identifying several near-term actions to improve the safety culture on the project and to evaluate safety culture at other sites and projects, but disagreed with some of the Board's findings. The Board provided additional detail to the Secretary of Energy in a letter on August 12, 2011, to assist DOE in developing a satisfactory response to the recommendation. On September 19, 2011, the Secretary of Energy provided clarification of his acceptance of the recommendation. The Implementation Plan for this recommendation is due to the Board in January 2012.

Recommendation 2010-1, ***Safety Analysis Requirements for Defining Adequate Protection for the Public and the Workers.*** The Board issued this Recommendation on October 29, 2010. The Board intended for this recommendation to lead to clear identification of the requirements and criteria that contractors must meet in preparation of documented safety analyses and identification of safety-related controls for protection of the public and the workers, as well as the requirements that the DOE approval authorities must meet prior to giving their approval. DOE agreed that clearer requirements are needed and committed to revising two fundamental standards to provide better guidance. DOE partially rejected this recommendation on February 28, 2011, but committed to submit an Implementation Plan that would meet the intent of the recommendation. The Board received the DOE Implementation Plan on September 26, 2011, and is assessing whether it meets the intent of the Board's recommendation.

Recommendation 2009-1, ***Risk Assessment Methodologies at Defense Nuclear Facilities*****.** The Board's recommendation identified the need for adequate policies and associated standards and guidance on the use of quantitative risk assessment methodologies for safety applications at DOE defense nuclear facilities. During this fiscal year, the Board followed DOE's efforts to implement the recommendation. DOE issued a complex-wide Information Notice that discusses permitted uses of risk assessment under existing policy and guidance and the need for effective quality assurance. Further, DOE chartered a risk assessment working group and completed studies on the use of risk assessment in the DOE and other government agencies. DOE also issued a new Nuclear Safety Policy and developed a draft standard on the use of probabilistic risk assessment in nuclear safety applications.

Recommendation 2007-1, ***Safety-Related In Situ Nondestructive Assay of Radioactive Materials*****.** The Board continued to evaluate DOE's progress in implementing Recommendation 2007-1. Although responsibility for this recommendation was transferred from the DOE Office of Environmental Management to NNSA, milestones from the implementation plan continued to be met, including development of an action plan to address gaps in training and qualification, equipment capabilities, directives, research and development, quality assurance, and oversight.

Recommendation 2004-1, ***Oversight of Complex, High-Hazard Nuclear Operations*****.** All commitments made in the DOE Implementation Plan responding to Recommendation 2004-1 were due to be accomplished by 2009. Although one commitment was closed this year, several commitments were late or had no discernable response from DOE. The Board was concerned that some previous improvements had degraded as result of changes in directives, management/oversight approach, and/or neglect. To address these concerns, the Board held a public hearing and meeting on the efficacy of DOE's safety oversight on May 25, 2011. This public meeting and hearing was the third in a series, and examined federal safety management and oversight policies being developed. Senior DOE and NNSA leadership confirmed their ongoing support for and commitment to integrated safety management and shared their vision for oversight across the DOE complex. The public meeting and hearing was effective in heightening the awareness of senior DOE and NNSA leadership to the need for maintaining effective safety management and oversight systems for defense nuclear facilities. The Board will continue to conduct reviews related to key aspects of this recommendation.

Integrated Safety Management. In addition to oversight activities related to Recommendation 2004-1, the Board continued its reviews of DOE's implementation of ISM and associated nuclear safety programs. The Board commented on revisions to the ISM Policy and Guide, and on the newly developed ISM Order. The Board observed that these revisions reduced the requirements and guidance developed

during 15 years of implementing ISM systems. Continued DOE efforts are necessary to maintain ISM systems and ensure continuous improvement across the complex. The Board reviewed the effectiveness of the implementation of ISM in activity-level work planning processes at three sites. The reviews revealed shortcomings in the implementation of the ISM programs at Washington Closure Hanford, Nevada National Security Site, and Y-12 National Security Complex at the activity level. In all cases, weaknesses were identified in the processes used to analyze activity-level hazards and to provide adequate controls to ensure worker safety. In response to the Board's reviews, the DOE contractor URS Global Management and Operations Services developed a work planning standard that is now implemented at five DOE defense nuclear facilities. Additionally, the Energy Facility Contractors Group in concert with DOE and NNSA is tailoring the URS standard so that it can be used at all DOE sites operating defense nuclear facilities.

Leading Indicators for Safety Performance. During the last several years, DOE and its contractors have worked to develop and maintain performance-based contractor assurance systems. These systems are typically large databases of performance metrics selected to monitor contractor performance in satisfying DOE's contractual expectations. With the Board's encouragement, DOE and its contractors are beginning to consider whether data in those systems may provide leading indicators for facility safety programs. The Board has suggested a methodology for identifying and using leading indicators for facility safety programs and will continue to encourage DOE and its contractors in their efforts.

Nuclear Criticality Safety. The Board followed progress made by DOE contractors on nuclear criticality safety issues identified in previous years, specifically at the Y-12 National Security Complex and Los Alamos National Laboratory. The Board reviewed nuclear criticality safety evaluations from several sites, including the Nevada National Security Site, Los Alamos National Laboratory, Y-12, Savannah River Site, and Hanford. The Board also reviewed the technical basis for not requiring a criticality alarm system at Device Assembly Facility at the Nevada National Security Site. The Board continued to evaluate complex-wide activities as described in DOE's annual report on criticality safety. Each of these reviews confirmed that the various criticality safety programs and associated documentation were adequate, but the Board noted several opportunities for improvement and communicated them to DOE and its contractors.

Readiness Reviews. The Board evaluated Startup Notification Reports for defense nuclear facilities under its cognizance and reviewed startup and restart activities accordingly. Additionally, defense nuclear sites started implementing DOE Order 425.1D, *Verification of Readiness to Start Up or Restart Nuclear Facilities*, which requires site offices and contractors to develop local implementation procedures for readiness reviews. The Board started reviewing local implementation procedures in FY 2011 and expects to continue reviewing the local procedures. The Board provided constructive critiques of the local implementation procedures in an attempt to ensure clarity and consistency with the requirements in DOE Order 425.1D and the guidance in DOE Standard 3006-2010, *Planning and Conducting Readiness Reviews*.

Conduct of Operations. The Board reviewed conduct of operations and maintenance at three Hanford facilities, the Idaho National Laboratory, and the Y-12 National Security Complex in FY 2011. The Board noted weaknesses in the quality and use of technical procedures, supervisory control of work activities, and execution of work. The Board formally communicated its concerns on Hanford and Y-12 and will continue to evaluate DOE's efforts to improve conduct of operations throughout the complex.

Justifications for Continued Operations. The Board continues to review DOE's processes and practices associated with the use of justifications for continued operations (JCOs) at defense nuclear facilities. Previously, the Board found a number of weaknesses in the JCO process and its implementation at defense nuclear facilities. In response to the Board's concerns, DOE developed and promulgated new and improved guidance in this important safety basis area. The Board continues to assess DOE's implementation of JCOs via the Unreviewed Safety Question (USQ) process. The most recent example involves the review of the JCO for structural vulnerabilities at LANL's Plutonium Facility. The Board will closely follow the implementation and effectiveness of the improved guidance.

Safety System Design, Functionality, and Maintenance. During this fiscal year, the Board continued to conduct reviews of safety system design, functionality, and maintenance at defense nuclear facilities and to follow up on previously identified issues. Examples of reviews conducted this year include safety system and control adequacy assessments of the Tritium Facility at Lawrence Livermore National Laboratory and the Hanford Tank Farms. A number of important safety issues were identified during these reviews and communicated to DOE for resolution. As a result of these interactions, several engineered systems were identified for upgrades to their safety classification.

Federal Technical Capability Program (FTCP). The Board participated in FTCP meetings and activities during FY 2011 to ensure DOE maintained a competent and highly capable federal workforce at its defense nuclear facilities. The Board reviewed the FTCP's FY 2011 Operational Plan and provided input on potential enhancements to the Functional Area Qualification Standards, including expanding the depth and applicability of human factors competencies to a broader range of functional areas. The Board also reviewed all newly issued and revised Functional Area Qualification Standards and provided feedback to DOE on ways to improve them.

Quality Assurance. The key quality assurance activity of the Board was reviewing DOE's revised directive on quality assurance. The revised order is stronger and clearer than the previous version. The Board continued to encourage and provide timely feedback to the efforts of DOE to improve awareness and performance in the areas of commercial grade dedication, suspect/counterfeit items, software quality assurance, and overarching quality assurance programs. The Board conducted five reviews in 2011 in multiple quality assurance areas. The Board issued a letter in April 2011 underscoring the software quality assurance issues with a soil-structure interaction model used to assess the seismic response of defense nuclear facilities.

Safety Culture Improvement Project. Since FY 2008, DOE and its contractors have worked to develop tools for assessing and improving the safety culture of the federal and contractor workforces. In FY 2009 and early FY 2010, the tools developed by the task team were piloted at several DOE sites, and lessons learned were incorporated into the tools. Two recurring observations from the pilot efforts were that safety culture improvement must be a long-term initiative, and that a cadre of personnel knowledgeable on safety culture should be available to advise and support the sites during their efforts. In FY 2011, the Board identified significant deficiencies in safety culture at the Waste Treatment and Immobilization Plant that resulted in issuance of Recommendation 2011-1, *Safety Culture at Waste Treatment and Immobilization Plant*, as noted above. Implementation of this recommendation is expected to assist DOE in identifying other facilities and activities needing improvements in safety culture.

Chapter 3
CFO Letter, Auditor's Report and Financial Statements

CFO LETTER

I am pleased to report that the Board's FY 2011 financial statements received an unqualified opinion from its independent auditors, our sixth consecutive unqualified opinion since our FY2004 financial statements were initially audited pursuant to the Accountability of Tax Dollars Act (ATDA) of 2002. In addition, FY 2011 marked the fourth consecutive year that the Board's unqualified opinion was coupled with no instances of non-compliance with laws and regulations and no material internal control weaknesses identified in the accompanying report.

The financial statements that follow were prepared and audited as part of this performance and accountability report within 45 days after the end of the fiscal year. To ensure that scarce resources are dedicated to fulfilling the demanding health and safety oversight mission, the Board has adopted the "economies of scale" philosophy for obtaining needed administrative support services and "contracts" (through an Interagency Agreement) with the General Services Administration (GSA) to act as its accounting services provider. The Board's financial staff worked diligently with our GSA accountants in preparing our FY 2011 financial statements and providing the necessary supporting documentation to our auditors, and credit should be given to both those organizations for achieving these accomplishments.

Compliance with Laws and Regulations

The auditors tested the Board's compliance with certain provisions of laws and regulations, non-compliance with which could have a direct and material effect on the determination of financial statement amounts, and certain other laws in regulations specified in OMB Bulletin 07-04, *Audit Requirements for Federal Financial Statements*. For the fifth consecutive year, the auditors found no instances of non-compliance with such laws or regulations.

Internal Controls

In planning and performing the financial statements audit, the independent auditors considered the Board's internal controls over financial reporting by obtaining an understanding of our internal controls, determining if internal controls had been placed in operation, assessing controls risk, and performing tests of controls. Testing of internal controls was limited to those controls necessary to achieve objectives described in OMB Bulletin 07-04. The auditors noted no internal control material weaknesses for the fourth consecutive year.

The auditor's report, together with the accompanying report on compliance with laws and regulations, and internal control are included in their entirety in this Chapter.

Brian Grosner, Chief Financial Officer

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INDEPENDENT AUDITOR'S REPORT

Chairman of the Board
Defense Nuclear Facilities Safety Board

We have audited the accompanying balance sheets of the Defense Nuclear Facilities Safety Board (DNFSB) as of September 30, 2011 and 2010, and the related statements of net cost, changes in net position, and budgetary resources for the years then ended. These financial statements are the responsibility of the DNFSB's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and Office of Management and Budget (OMB) Bulletin No. 07-04, *Audit Requirements for Federal Financial Statements*, as amended. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and the significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the DNFSB as of September 30, 2011 and 2010, and its net cost, changes in net position, and budgetary resources for the years then ended in conformity with accounting principles generally accepted in the United States of America.

In accordance with *Government Auditing Standards*, we have also issued our report dated October 31, 2011, on our consideration of the DNFSB's internal control over financial reporting and on our tests of its compliance with certain provisions of laws and regulations. The purpose of those reports are to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. Those reports are an integral part of an audit performed in accordance with *Government Auditing Standards* and should be considered in assessing the results of our audit.

Management's Discussion and Analysis (MD&A) and other accompanying information are not a required part of the DNFSB's basic financial statements but are supplementary information

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required by OMB Circular A-136, *Financial Reporting Requirements*, as amended, and the Federal Accounting Standards Advisory Board's Statement of Federal Financial Accounting Standards No. 15, *Management's Discussion and Analysis*. We made certain inquiries of management and compared the MD&A information with the DNFSB's audited financial statements and against other knowledge obtained during our audit. We also compared the other accompanying information with the audited financial statements. However, we did not audit the MD&A or other accompanying information and, therefore, express no opinion on them.

Lani Eko & Company, CPAs, PLLC

October 31, 2011
Alexandria, Virginia

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INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS

Chairman of the Board
Defense Nuclear Facilities Safety Board

We have audited the financial statements of the Defense Nuclear Facilities Safety Board (DNFSB) as of and for the year ended September 30, 2011, and have issued our report thereon dated October 31, 2011. We conducted our audit in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and Office of Management and Budget (OMB) Bulletin No. 07-04, *Audit Requirements for Federal Financial Statements*, as amended.

Internal Control Over Financial Reporting

In planning and performing our audit, we considered the DNFSB's internal control over financial reporting as a basis for designing our auditing procedures, obtained an understanding of the design effectiveness of internal controls, determined whether the internal controls have been placed in operation, assessed control risk, and performed tests of the DNFSB's internal controls for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the DNFSB's internal control over financial reporting. Accordingly, we do not express an opinion on the effectiveness of DNFSB's internal control over financial reporting.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A *material weakness* is a deficiency, or combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the DNFSB's financial statements will not be prevented, or detected and corrected on a timely basis. A significant deficiency is a deficiency, or combination of deficiencies, in the internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over financial reporting was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over financial reporting that might be deficiencies, significant deficiencies or material weaknesses. We did not identify any deficiencies in internal control over financial reporting that we consider to be material weaknesses or significant deficiencies, as defined above.

Compliance and Other Matters

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The management of DNFSB is responsible for complying with laws and regulations applicable to the DNFSB. As part of obtaining reasonable assurance about whether the DNFSB's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of applicable laws and regulations and contracts, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards* or Office of Management and Budget (OMB) Bulletin No. 07-04, *Audit Requirements for Federal Financial Statements*, as amended.

This report is intended solely for the information and use of the management of the DNFSB, the OMB, the Government Accountability Office, and Congress and is not intended to be and should not be used by anyone other than these specified parties.

Lani Eko & Company, CPAs, PLLC

October 31, 2011
Alexandria, VA

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

APPROPRIATED FUND

FINANCIAL STATEMENTS

For The Years Ended September 30, 2011 and 2010

DEFENSE NUCLEAR FACILITY SAFETY BOARD

BALANCE SHEET

As Of September 30, 2011 and 2010

		2011	2010
Assets:			
Intragovernmental:			
Fund Balance With Treasury	(Note 2)	$ 6,487,264	$ 10,292,042
Accounts Receivable, net	(Note 3)	18,067	23,231
General Property, Plant and Equipment	(Note 4)	166,670	282,438
Other	(Note 5)	643	
Total Assets		$ 6,671,644	$ 10,597,711
Liabilities:	(Note 6)		
Intragovernmental:			
Accounts Payable	(Note 7)	$	$ 39,634
Employee Benefits	(Note 8)	187,572	195,816
Total Intragovernmental		187,572	235,450
Liabilities With the Public:			
Accounts Payable	(Note 7)	492,057	727,232
Other:	(Note 9)		
Accrued Funded Payroll and Leave		944,565	
Employer Contributions and Payroll Taxes Payable		35,976	1,008,265
Unfunded Leave		1,080,545	987,623
Worker's Compensation	(Note 10)	19,445	
Total Liabilites With the Public		2,572,588	2,723,120
Total Liabilities		2,760,160	2,958,570
Net Position:			
Unexpended Appropriations - Other Funds		4,827,737	8,321,095
Cumulative Results of Operations - Other Funds		(916,253)	(681,954)
Total Net Position		3,911,484	7,639,141
Total Liabilities and Net Position		$ 6,671,644	$ 10,597,711

*Amounts may be off by a dollar due to rounding.

The accompanying notes are an integral part of these statements.

DEFENSE NUCLEAR FACILITY SAFETY BOARD

STATEMENT OF NET COST

For The Years Ended September 30, 2011 and 2010

		2011	2010
Program Costs:			
DNFSB:			
Gross Costs	(Note 12)	$ 27,873,161	$ 26,860,574
Net Program Costs		27,873,161	26,860,574
Net Cost of Operations		$ 27,873,161	$ 26,860,574

*Amounts may be off by a dollar due to rounding.

The accompanying notes are an integral part of these statements.

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

STATEMENT OF CHANGES IN NET POSITION

For The Years Ended September 30, 2011 and 2010

		2011	2010
Cumulative Results of Operations:			
Beginning Balances		$ (681,954)	$ (1,239,673)
Adjustments:			
(b) Corrections of Errors (+/-)	(Note 13)		830,557
Beginning Balances, as Adjusted		$ (681,954)	$ (409,115)
Budgetary Financing Sources:			
Appropriations Used		26,696,859	25,618,257
Other			(1,868)
Other Financing Resources (Non-Exchange):			
Imputed Financing		942,004	971,346
Total Financing Sources		27,638,863	26,587,735
Net Cost of Operations (+/-)		27,873,161	26,860,574
Net Change		(234,298)	(272,839)
Cumulative Results of Operations		$ (916,253)	$ (681,954)
Unexpended Appropriations:			
Beginning Balances		$ 8,321,095	$ 8,683,910
Adjustments:			
(b) Corrections of Errors (+/-)	(Note 13)		(830,557)
Beginning Balances, as Adjusted		$ 8,321,095	$ 7,853,353
Budgetary Financing Sources:			
Appropriations Received		23,250,000	26,086,000
Other Adjustments		(46,500)	
Appropriations Used		(26,696,859)	(25,618,257)
Total Budgetary Financing Sources		(3,493,359)	467,743
Total Unexpended Appropriations		4,827,737	8,321,095
Net Position		$ 3,911,484	$ 7,639,141

*Amounts may be off by a dollar due to rounding.

The accompanying notes are an integral part of these statements.

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

STATEMENT OF BUDGETARY RESOURCES

For The Years Ended September 30, 2011 and 2010

		2011	2010
Budgetary Resources:			
Unobligated Balance:			
Beginning of Period		$ 3,844,724	$ 3,851,686
Recoveries of Prior Year Obligations		461,358	479,484
Budget Authority:			
Appropriations Received		23,250,000	26,086,000
Earned			
Collected		11,379	1,698
Subtotal		$ 23,261,379	$ 26,087,698
Permanently Not Available		(46,500)	
Total Budgetary Resources		$ 27,520,961	$ 30,418,868
Status of Budgetary Resources:			
Obligations Incurred			
Direct	(Note 14)	$ 27,154,576	$ 26,574,143
Unobligated Balances			
Apportioned		355,006	3,363,543
Unobligated Balances - Not Available		11,379	481,181
Total Status of Budgetary Resources		$ 27,520,961	$ 30,418,868
Change in Obligated Balances:			
Obligated Balance, Net:			
Unpaid Obligations, Brought Forward, October 1		$ 6,447,318	$ 5,825,946
Total, Unpaid Obligated Balance, Brought Forward, Net		$ 6,447,318	$ 5,825,946
Obligations Incurred		27,154,576	26,574,143
Gross Outlays (-)		(27,019,658)	(25,473,287)
Recoveries of Prior-Year Unpaid Obligations, Actual (-)		(461,358)	(479,484)
Obligated Balance, Net, End of Period:			
Unpaid Obligations (+)	(Note 15)	6,120,878	6,447,318
Total, Unpaid Obligated Balance, Net, End of Period		$ 6,120,878	$ 6,447,318
Net Outlays:			
Gross Outlays (+)		27,019,658	25,473,287
Offsetting Collections (-)		(11,379)	(1,698)
Net Outlays	(Note 16)	$ 27,008,279	$ 25,471,590

*Amounts may be off by a dollar due to rounding.

The accompanying notes are an integral part of these statements.

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

APPROPRIATED FUND

Note 1 – Significant Accounting Policies

(a) Reporting Entity

The Defense Nuclear Facilities Safety Board (Board) is an independent Federal government agency with responsibility for the oversight of the Department of Energy (DOE)'s defense nuclear facilities located throughout the United States. The Board is directed by a Chairman and four members appointed by the President. The Board's mission as described by the Atomic Energy Act is to ensure that the public health and safety are adequately protected at the DOE defense nuclear facilities.

(b) Basis of Presentation

These financial statements have been prepared from the accounting records of the Board in accordance with generally accepted accounting principles (GAAP) as promulgated by the Federal Accounting Standards Advisory Board (FASAB), and Office of Management and Budget (OMB) Circular A-136, "Financial Reporting Requirements". GAAP for Federal entities is the hierarchy of accounting principles prescribed in the American Institute of Certified Public Accountants' (AICPA) Statement on Auditing Standards No. 91, *Federal GAAP Hierarchy*.

Circular A-136, requires agencies to prepare principal statements, which include a Balance Sheet, a Statement of Net Cost, a Statement of Changes in Net Position, and a Statement of Budgetary Resources. The balance sheet presents, as of September 30, 2011, amounts of future economic benefits owned or managed by the Board (assets), amounts owed by the Board (liabilities), and amounts, which comprise the difference (net position). The Statement of Net Cost reports the full cost of the Board's operations and the Statement of Budgetary Resources reports Board's budgetary activity.

(c) Basis of Accounting

Transactions are recorded on the accrual accounting basis in accordance with OMB Circular A-136. Under the accrual basis of accounting, revenues are recognized when earned, and expenses are recognized when a liability is incurred, without regard to receipt or payment of cash. The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results may differ from those estimates.

(d) Revenues and Other Financing Sources

The Defense Nuclear Facilities Safety Board receives its funding needed to support its programs through congressional appropriations. Appropriated funds are received annually and remain available until expended (i.e., no year funds). None of the appropriations are "earmarked" funds.

An imputed financing source is recognized to offset costs incurred by the Board and funded by another Federal source (see Notes 1(i) and 8).

(e) Assets and Liabilities

Intra-governmental assets and liabilities arise from transactions between the Board and other Federal entities.

Funds with the U.S. Treasury compose the majority of assets on the Board's balance sheet. All other assets result from activity with non-federal sources.

Liabilities represent amounts that are likely to be paid by the Board as a result of transactions that have already occurred. The accounts payable portion of liabilities consist of amounts owed to federal agencies and commercial vendors for goods, services, and other expenses received but not yet paid.

Liabilities covered by budgetary or other resources are those liabilities of the Board for which Congress has appropriated funds, or funding is otherwise available to pay amounts due. Liabilities not covered by budgetary or other resources represent amounts owed in excess of available congressionally appropriated funds or other amounts. The liquidation of liabilities not covered by budgetary or other resources is dependent on future congressional appropriations or other funding.

(f) Fund Balance with the U.S Treasury

The U.S. Treasury processes the Board's receipts and disbursements. Funds with the U.S. Treasury are cash balances from appropriations as of the fiscal year-end from which the Board is authorized to make expenditures and pay liabilities resulting from operational activity.

(g) Property, Plant, and Equipment (PPE)

PPE consists of capitalized equipment, furniture and fixtures, and software. There are no restrictions on the use or convertibility of property, plant, or equipment.

The Board capitalizes PPE with a useful life of at least two (2) years and individually costing more than $10,000 ($25,000 for leasehold improvements). Bulk purchases of lesser value items are capitalized when the cost is $25,000 or greater.

Assets are depreciated on a straight-line basis over the estimated used life of the property. Information Technology (IT) equipment and software is depreciated over a useful life of three (3) years. All other equipment is depreciated over a five (5) year useful life. Furniture and fixtures are depreciated over a seven (7) year useful life and leasehold improvements over a ten (10) year useful life.

The Board owns no land and leases its office space from the General Services Administration. The lease costs approximate commercial lease rates for similar properties.

(h) Annual, Sick, and Other Leave

Annual leave is recognized as an expense and a liability as it is earned; the liability is reduced as leave is taken. The accrued leave liability is principally long-term in nature. Sick leave and other types of leave are expensed as leave is taken.

(i) Federal Employee Benefits

The Board recognizes its share of the cost of providing future pension benefits to eligible employees over the period of time that they render service to the Board. The pension expense recognized in the financial statement equals the current service cost for the Board's employees for the accounting period less the amount contributed by the employees. The Office of Personnel Management (OPM), the administrator of the plan, supplies the Board with factors to apply in the calculation of the service cost. These factors are derived through actuarial cost methods and assumptions. The excess of the recognized pension expense represents the amount being financed directly by OPM. This amount is considered imputed financing to the Board (see Note 8).

The Board recognizes a current-period expense for the future cost of postretirement health benefits and life insurance for its employees while they are still working. The Board accounts for and reports this expense in a manner similar to that used for pensions, with the exception that employees and the Board do not make current contributions to fund these future benefits.

Federal employee benefit costs paid by OPM and imputed to the Board are reported as a resource on the Statement of Changes in Net Position.

(j) Contingencies

The Board has no material pending claims or lawsuits against it. Management believes that losses from other claims or lawsuits, not yet known to management, are possible, but would not likely be material to the fair presentation of the Board's financial statements. Thus, there is no provision for such losses in its statements. The Board has not entered into any contractual arrangements which may require future financial obligations.

Note 2 – Funds Balance with the U.S. Treasury

The Board's funds with the U.S. Treasury consist only of appropriated funds. Worksheet adjustments were made for credits of $166 and $6,152 for FY 2011 and FY 2010, respectively, for payroll charges that were reflected in the U.S. Treasury cash balance at year end but were not yet recorded in the GSA accounting system. There was also a credit adjustment in FY2011 of $267 for a keying error of a refund that was booked to the incorrect Treasury Symbol. The status of these funds as of September 30, 2011 and 2010 are as follows:

	FY 2011	FY 2010
A. Fund Balance with Treasury		
Appropriated Fund	$6,487,264	$10,292,042
B. Status of Fund Balance with Treasury		
1) Unobligated Balance		
(a) Available	355,006	3,363,543
(b) Unavailable	11,379	481,181
2) Obligated Balance not yet Disbursed	6,120,878	6,447,318
Total	$ 6,487,264*	$10,292,042

Note 3 – Accounts Receivable, Net

The line item represents the gross amount of monies owed to the Board. The Board has historically collected receivables due and thus has not established an allowance for uncollectible accounts.

Accounts Receivable	FY 2011	FY 2010
Claims	$18,067	$23,231

Note 4 – General Property, Plant and Equipment, Net

The Board's total cost, accumulated depreciation, and net book value for PPE for the years ending September 30, 2011 and 2010 are as follows.

2011	Equipment	Furniture & Fixtures	Software	Software in Development	Total
Cost	$840,395	$40,174	$582,740	$0	$1,463,309
Accum. Depr.	(767,150)	(40,174)	(490,315)	(0)	(1,297,639)
Net Book Value	$ 73,245	$ 0	$ 92,425	$0	$ 165,670

2010	Equipment	Furniture & Fixtures	Software	Software in Development	Total
Cost	$840,395	$52,644	$531,104	$26,240	$1,450,383
Accum. Depr.	(689,943)	(52,644)	(425,359)	(0)	(1,167,946)
Net Book Value	$150,452	$ 0	$105,745	$26,240	$ 282,438*

**Rounding*

Note 5 – Other Assets

The FY 2011 Other Assets amount represents an unliquidated advance.

	FY 2011	FY 2010
Intragovernmental	$ 0	$0
With the Public – Associates	$643	$0
Total Other Assets	$643	$0

Note 6 – Liabilities Not Covered by Budgetary Resources

The liabilities on the Board's Balance Sheets as of September 30, 2011 and 2010 include liabilities not covered by budgetary resources, which are liabilities for which congressional action is needed before budgetary resources can be provided. Although future appropriations to fund these liabilities are likely and anticipated, it is not certain that appropriations will be enacted to fund these liabilities. The composition of liabilities not covered by budgetary resources as of September 30, 2011 and 2010 is as follows:

	2011	2010
Unfunded Leave	$1,080,545	$ 987,623
Workers' Compensation	$ 19,445	$ 0
Total liabilities not covered by budgetary resources	$1,099,990	$ 987,623
Total liabilities covered by budgetary resources	$1,660,170	$1,970,947
Total Liabilities	$2,760,160	$2,958,570

Note 7 – Intragovernmental Liabilities

Intragovernmental liabilities arise from transactions with other federal entities. As of September 30, 2011, the Board had not intragovernmental liabilities. Of the FY 2010 accounts payable intragovernmental liabilities, $6,961 is with GSA and the balance of $32,673 is with OPM. Employee benefits are the amounts owed to OPM and Treasury as of September 30, 2011 and 2010 for Federal Employees Health Benefits Program (FEHBP), Federal Employees' Group Life Insurance Program (FEGLIP), Federal Insurance Contributions Act (FICA), Federal Employees Retirement System (FERS), and Civil Service Retirement System (CSRS) contributions (reference Note 8).

Note 8 – Federal Employee Benefits

All permanent employees participate in the contributory CSRS or FERS. FERS employees are covered under FICA. To the extent that employees are covered by FICA, the taxes they pay to the program and the benefits they will eventually receive are not recognized by the Board's financial statements. The Board makes contributions to CSRS, FERS and FICA and matches certain employee contributions to the thrift savings component of FERS. All of these payments are recognized as operating expenses.

Note 8 – Federal Employee Benefits (Continued)

In addition, all permanent employees are eligible to participate in the contributory FEHBP and FEGLIP and may continue to participate after retirement. The Board makes contributions through the OPM to FEHBP and FEGLIP for active employees to pay for current benefits; these contributions are recognized as operating expenses. The Board does not report on its financial statements these programs' assets, accumulated plan benefits or unfunded liabilities, if any, applicable to its employees. Reporting such amounts is the responsibility of OPM; however, the financing of these costs by OPM and imputed to the Board are reported on the Statement of Changes in Net Position. Employee benefits liabilities are current (versus non-current liabilities).

Note 9 – Other Liabilities

Other liabilities with the public for the years ending September 30, 2011 and 2010 consist of Accrued Funded Payroll and Leave, Withholdings Payable, Unfunded Leave and Workers Compensation in the amounts shown below:

	With the Public	Non-Current	Current	Total
2011	Other Liabilities	$1,080,545	$ 999,986	$2,080,531
2010	Other Liabilities	$987,623	$1,008,265	$1,995,888

Note 10 – Workers' Compensation

The Federal Employees' Compensation Act (FECA) provides income and medical cost protection to covered federal civilian employees injured on the job, employees who have incurred a work-related disease, and beneficiaries of employees whose death is attributable to a job-related injury or occupational disease. Claims incurred for benefits for Board employees under FECA are administered by the Department of Labor and are paid, ultimately, by the Board.

The Board recorded an estimated liability for claims incurred, but not reported as of September 30, 2011 and 2010, as follows:

	FY 2011	FY 2010
Worker's Compensation	$19,445	$0

Note 11 – Leases

The Board has not entered into any existing capital leases and thus has incurred no liability resulting from such leases. The Board's one operating lease is for headquarters office space from GSA. Lease costs for office space for FY 2011 and FY 2010 under the terms of its leases amounted to $2,192,377 and $2,174,341, respectively. The Board entered into a new ten (10) year lease agreement effective March 8, 2006. Estimated future minimum lease payments under the terms of the lease are as follows:

Note 11 – Leases (Continued)

Fiscal Year Ending September 30	Payment
2012	$ 2,192,377
2013	$ 2,218,238
2014	$ 2,391,445
2015	$ 2,428,849
2016 (through March 7)	$ 1,018,594
Total Estimated Future Lease Payments	$10,249,503

Note 12 – Intragovernmental Costs

The portion of the Board's program costs (note as the Board earns no revenue from its operations, gross and net costs are identical) related to Intragovernmental Costs and Costs with the Public are shown as follows. Intragovernmental Costs are costs incurred from exchange transactions with other federal entities (e.g., building lease payments to GSA). Costs with the Public are incurred from exchanged transactions with non-federal entities (i.e., all other program costs).

	Intragovernmental Costs	Costs with the Public	Total Program Costs
FY 2011	$4,506,644	$23,366,517	$27,873,161
FY 2010	$4,057,394	$22,803,180	$26,860,574

The Board's program costs/net costs of operations by OMB Object Class (OC) are as follows:

OC	Description	FY 2011	FY 2010
11	Personnel Compensation	$14,978,938	$14,273,538
12	Personnel Benefits	$ 5,315,011	$ 4,930,046
13	Former Personnel Benefits	$ 8,616	$ (5,065)
21	Travel & Transportation of Persons	$ 965,821	$ 996,112
22	Transportation of Things	$ 76,487	$ 54,327
23	Rent, Communications, & Utilities	$ 2,398,111	$ 2,370,329
24	Printing & Reproduction	$ 32,857	$ 20,061
25	Other Contractual Services	$ 3,476,249	$ 3,407,177
26	Supplies & Materials	$ 272,373	$ 297,319
31	Acquisition of Assets	$ 348,698	$ 516,730
	Total	$27,873,161	$26,860,574

Note 13 – Correction to Beginning Balances in Statement of Changes in Net Position

The correction adjusted the FY 2010 beginning balances of Cumulative Results of Operations and Unexpended Appropriations to reflect past year transactions that were inadvertently not recorded as Unexpended Appropriations Used, thereby also reducing Unexpended Appropriations. There was no impact on the Board's Net Position in prior years.

Note 14 – Apportionment Categories of Obligations Incurred

The Board is subject to apportionment. All obligations are incurred against Category A (budgetary resources are distributed by fiscal year quarter) amounts apportioned on the latest Standard Form (SF)-132, *Apportionment and Reapportionment Schedule*.

	FY 2011	FY 2010
Direct		
Category A	$27,154,576	$26,574,143

Note 15 – Undelivered Orders at the End of the Period

The amount of Unpaid Obligated Balance, Net, End of Period shown on the Statement of Budgetary Resources includes obligations relating to Undelivered Orders (goods and services contracted for but not yet received at the end of the year) and Accounts Payable (amounts owed at the end of the year by the Board for goods and services received). The amount of each is as follows:

	Undelivered Orders	Accounts Payable	Unpaid Obl. Balance, Net
FY 2011	$4,460,708	$1,660,170	$6,120,878
FY 2010	$4,476,371	$1,970,947	$6,447,318

Note 16 – Explanation of Differences between the Statement of Budgetary Resources and the Budget of the United States Government

Budgetary resources made available to the Board include current appropriations, unobligated appropriations and recoveries of prior year obligations. For fiscal year 2010, no material differences exist between the amounts on the Statements of Budgetary Resource and the amounts in the fiscal year 2012 President's Budget which are rounded to the nearest million. As the FY 2013 President's Budget is not yet available, comparison between the Statement of Budgetary Resources and the actual FY 2011 data in the FY 2013 Budget cannot be performed.

Note 17 – Explanation of the Relationship between Liabilities Not Covered by Budgetary Resources on the Balance Sheet and the Change in Components Requiring or Generating Resources in Future Periods

The Change in Components Requiring or Generating Resources in Future Periods equals the difference between the opening and ending balances of Liabilities Not Covered by Budgetary Resources (as shown on the Balance Sheet, reference Note 6), shown as follows:

FY 2011

	FY 2010	FY 2011	Change
Unfunded Annual Leave	$987,623	$1,080,545	$ 92,922
Workers Compensation	$ 0	$ 19,445	$ 19,445
Total	$987,623	$1,099,990	$112,367

FY 2010

	FY 2009	FY 2010	Change
Unfunded Annual Leave	$904,000	$987,623	$83,623
Workers Compensation	$ 4,243	$ 0	($ 4,243)
Total	$908,243	$987,623	$79,380

Note accrued funded payroll liability is covered by budgetary resources and is included in the net cost of operations, whereas unfunded annual leave liability includes the expense related to the increase in annual leave liability for which the budgetary resources will be provided in a subsequent period.

Note 18 – Reconciliation of Net Cost of Operations (proprietary) to Budget

Budgetary resources obligated are obligations for personnel, goods, services, benefits, etc. made by Board in order to conduct operations or acquire assets. Other (i.e., non-budgetary) financing resources are also utilized by Board in its program (proprietary) operations. For example, spending authority from offsetting collections and recoveries are financial resources from the recoveries of prior year obligations (e.g., the completion of a contract where not all the funds were used) and refunds or other collections (i.e., funds used to conduct operations that were previously budgeted). As explained in Notes 1(i) and 8, an imputed financing source is recognized for future federal employee benefits costs incurred for Board employees that will be funded by OPM. Changes in budgetary resources obligated for goods, services, and benefits ordered by not yet provided represents the difference between the beginning and ending balances of undelivered orders (i.e., good and services received during the year based on obligations incurred the prior year represent a cost of operations not funded from budgetary resources). Resources that finance the acquisition of assets are budgetary resources used to finance assets and not cost of operations (e.g., increases in accounts receivables or capitalized assets). Financing sources yet to be provided represents financing that will be provided in future periods for future costs that are recognized in

determining the net cost of operations for the present period. Finally, components not requiring or generating resources are costs included in the net cost of operations that do not require resources (e.g., depreciation and amortized expenses of assets previously capitalized).

A reconciliation between budgetary resources obligated and net cost of operations (i.e., providing an explanation between budgetary and financial (proprietary) accounting) is as follows (note: in prior years this information was presented as a separate financial statement (the Statement of Financing)):

	FY 2011	**FY 2010**
Budgetary Resources Obligated	$27,154,576	$26,574,143
Spending Authority from Recoveries and Offsetting Collections	(472,737)	(481,181)
Imputed Financing from Costs Absorbed by Others	942,004	971,346
Changes in Budgetary Resources Obligated for Goods, Services, and Benefits Ordered but Not Yet Provided	15,020	(474,705)
Resources that Finance the Acquisition of Assets	(20,232)	(78,384)
Financing Sources Yet to be Provided (see Note 17)	112,367	79,380
Components Not Requiring or Generating Resources	142,163	269,975
Net Cost of Operations	$27,873,161	$26,860,574

APPENDIX A: LIST OF ABBREVIATIONS AND ACRONYMS

C&A	**Certification & Accreditation**
CD	**Critical Decision**
CFR	**Code of Federal Regulations**
CY	**Calendar Year**
CMRR	**Chemistry and Metallurgy Research Replacement**
DAF	**Device Assembly Facility**
DNFSB	**Defense Nuclear Facilities Safety Board**
DOE	**(U.S.) Department of Energy**
FASAB	**Federal Accounting Standards Advisory Board**
FBWT	**Fund Balance with Treasury**
FISMA	**Federal Information Security Management Act**
FMFIA	**Federal Managers Financial Integrity Act of 1982**
FTCP	**Federal Technical Capability Program**
FTE	**Full-Time Equivalent**
FY	**Fiscal Year**
GAAP	**Generally Accepted Accounting Principles**
GSA	**General Services Administration**
GPRA	**Government Performance and Results Act**
HEPA	**High-Efficiency Particulate Air (filter)**
HLW	**High-Level Waste**
INL	**Idaho National Laboratory**
ISM	**Integrated Safety Management**
JCO	**Justification for Continuing Operation**
LANL	**Los Alamos National Laboratory**
LLNL	**Lawrence Livermore National Laboratory**
NCS	**Nuclear Criticality Safety**
NNSA	**National Nuclear Security Administration**
NNSS	**Nevada National Security Site**
OMB	**Office of Management and Budget**
OPM	**Office of Personnel Management**
ORNL	**Oak Ridge National Laboratory**
PAR	**Performance and Accountability Report**
PDP	**Professional Development Program**
PFP	**Plutonium Finishing Plant**
SNL	**Sandia National Laboratories**
SRS	**Savannah River Site**
SSC	**Structures, Systems, and Components**
UPF	**Uranium Processing Facility**
WIPP	**Waste Isolation Pilot Plant**
WTP	**Waste Treatment and Immobilization Plant (at Hanford)**
Y-12	**Y-12 National Security Complex**