

FY 2008 PERFORMANCE AND ACCOUNTABILITY REPORT

# DEFENSE NUCLEAR FACILITIES SAFETY BOARD



## TABLE OF CONTENTS

### Chairman's Message

### Chapter 1: Management's Discussion and Analysis

Introduction .....	1
About the Defense Nuclear Facilities Safety Board .....	1
Future Challenges .....	4
Program Performance Overview .....	8
Financial Performance Overview .....	12
Audit Results .....	13
Financial Statement Highlights .....	14
Limitation of the Financial Statements .....	15
Systems, Controls, and Legal Compliance .....	15

### Chapter 2: Program Performance

Introduction .....	18
Safety Goals .....	19
Safety Oversight Goal .....	20
Annual Performance Objectives .....	20
Performance Goal 1: Nuclear Weapon Operations .....	22
Performance Goal 2: Nuclear Material Processing and Stabilization .....	28
Performance Goal 3: Nuclear Facilities Design and Infrastructure .....	31
Performance Goal 4: Nuclear Safety Programs and Analysis .....	36

### Chapter 3: Auditors' Reports and Financial Statements

Chief Financial Officer (CFO) Letter .....	39
Independent Auditor's Report .....	41
Principal Statements .....	44

### Appendices

Appendix A – List of Abbreviations and Acronyms .....	60
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## **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 2008.

The primary purpose of the Board is to ensure adequate public health and safety and to prevent failed programs and devastating accidents from becoming a reality in the Department of Energy's (DOE) defense nuclear facilities. For example, the Board was instrumental in identifying and addressing serious design and construction errors associated with DOE's Waste Treatment Plant, which is being constructed at the Hanford Site in Washington State to treat the high level waste that is currently stored in 177 aging tanks. Similarly, the Board 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 is the last line of defense in preventing serious safety vulnerabilities and tragic accidents from occurring in very complex and dangerous DOE defense nuclear facilities.

During FY 2008, the Board continued to make significant progress in ensuring the safety of the public and the workers at or near DOE defense nuclear facilities. Considering that the Board is a small agency (less than 100 FTEs) with new budget authority of \$21.9 million in FY 2008, I am proud to recognize the sustained and dedicated effort of our staff. The detailed performance reports that appear later in this document attest to the accomplishments of this small, but highly talented team. Given the scope and significance of our health and safety oversight responsibilities, the performance accomplishments far exceed the level of resources invested.

The Board is committed to ensuring that the public resources in our trust are wisely used. 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 are 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 and reasonable assurances provided by internal managers, I believe that no material internal control weaknesses exist. In fact, I am pleased to report that FY 2008 marked the first year that the Board's (third consecutive) unqualified opinion on its financial statements from our independent auditors was coupled with no instances of non-compliance with laws and regulations and no material internal control weaknesses identified in the accompanying auditor reports.

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 acceleration of 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. Moreover, the human capital issues will become critical to the viability of future Board operations.

**FY 2008**  
**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**  
Performance and Accountability Report

The Board remains committed to improving DOE's management of the safety and reliability 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.

A handwritten signature in black ink, appearing to read "A.J. Eggenberger". The signature is fluid and cursive, with a large initial "A" and "E".

A.J. Eggenberger, Chairman

November 15, 2008

## 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, 2007 through September 30, 2008 (FY 2008). 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 PAR reports. Fiscal year 2008 is the fifth year that the Board has prepared and published a PAR report.

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 Defense Nuclear Facilities Safety Board's *Strategic Plan for FY 2003-2009* is available on the Internet at [www.dnfsb.gov](http://www.dnfsb.gov). In addition, 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 performance objectives for FY 2009 and FY 2010, as well as representative accomplishments for FY 2005 through 2008, will be included in its *FY 2010 Budget Request to the Congress* in accordance with the requirements of OMB Circular A-11. The final 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, organization structure, and the four major performance goals of the Defense Nuclear Facilities Safety 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 Board's financial position and audit results; and *Systems, Controls, and Legal Compliance* describe the agency's compliance with key legal requirements such as the Federal Information Security Management Act (FISMA) and internal controls.

## 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 protect 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. In so doing, 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 headed by 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, 2008, ten full-time site representatives were stationed at the following DOE sites:

- Pantex Plant
- Hanford Site
- Savannah River Site (SRS)
- Y-12 National Security Complex
- Los Alamos National Laboratory (LANL)

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, and local agencies.

The Board's budget authority for FY 2008 was \$21.9 million supporting 100 planned full-time equivalent staff. The Board's health and safety oversight activities are funded exclusively from a direct appropriation included in the annual Energy and Water Development Appropriation Act. No other cost recovery mechanisms such as fees, annual charges, or reimbursement from the DOE are authorized for the Board.

## **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 2008 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, construction, and operations. DOE has more than 25 design and construction or major modification projects currently underway or planned for the near future at an estimated value of more than \$20 billion.

Second, DOE's nuclear weapon stockpile stewardship and management operations require particular Board oversight attention due to the hazards associated with the nuclear explosive activities and experiments involving collocated high explosives and nuclear material. The Board is especially sensitive to the safety risks due to the potential for explosive dispersal of radioactive materials or inadvertent nuclear detonation.

Third, one of the most significant challenges facing DOE is in the arena of nuclear materials processing and stabilization, such as managing the high-level waste (HLW) stored in underground tanks at various defense nuclear sites, including the Savannah River Site (SRS). The Board has spent a great deal of effort providing oversight of HLW systems at sites such as SRS and plans to continue to do so.

A fourth challenge is maintaining a determined, 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 the design and construction of 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 more than 25 design and construction or major modification projects currently underway at an estimated value of more than \$20 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 Waste Treatment 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. This project is now estimated to cost in excess of \$12 Billion. The WTP is a complex, high-risk program that has constantly changing design and construction parameters, will require more than 15 years 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.

One of the dominant potential accidents at all defense nuclear facilities, both new and existing, is a major fire. The Board must provide constant oversight and vigilance in the area of fire protection, detection, and suppression systems to ensure these key safety controls are designed, installed, and maintained correctly.

### **Safety of Nuclear Weapon Activities**

To maintain the Nation's nuclear deterrent without the design of new weapons and the underground testing of existing weapons, DOE is accelerating its programs to extend the life of weapons in the enduring stockpile, requiring more and increasingly complex operations to disassemble, refurbish, reassemble, and re-certify nuclear weapons and components. DOE's nuclear weapon stockpile stewardship and management operations require particular oversight attention due to the hazards associated with the nuclear explosive activities and experiments involving co-located high explosives and nuclear material. In addition to the criticality safety concerns, the Board is especially sensitive to the safety risks due to the potential for explosive dispersal of radioactive materials or inadvertent nuclear detonation.

A unique and particularly devastating potential accident in the nuclear weapons complex would involve an inadvertent nuclear detonation at the Pantex Plant during nuclear explosive operations, or at the Nevada Test Site (NTS) while working on a damaged nuclear weapon or an improvised nuclear device.

It is anticipated that the increased operational tempo of nuclear explosive operations at the Pantex Plant would also continue to increase due to pressure to dismantle our retired nuclear weapons as we draw down our nuclear weapons stockpile. In response to Congressional oversight and criticism, DOE has begun implementing plans to further increase throughput in the weapons complex.

In addition to the increased operational tempo at the Pantex Plant, production operations at the Y-12 National Security Complex will have to continue to provide essential support to the enduring stockpile. The old defense nuclear facilities at Y-12 are particularly in need of replacement, and significant effort on

the part of the Board is required to oversee the safety of the challenging task of operating aging facilities at a high tempo while designing, constructing, and making the transition to modern replacement facilities.

### **Nuclear Materials Processing and Stabilization**

One of the most significant challenges facing DOE in the arena of nuclear materials processing and stabilization is managing the high-level waste (HLW) stored in underground tanks at the Savannah River Site (SRS). The Board has spent a great deal of effort providing oversight of the SRS HLW system and plans to continue to do so. DOE stores more than 34 million gallons of HLW in 49 HLW tanks at SRS, and the aging systems within the tank farms and the shrinking volume of free space in the tanks pose significant health and safety risks for DOE and its contractor. DOE plans to separate HLW liquids, salts, and sludge, treat each waste stream, and stabilize the waste for packaging and final disposal. This is a complex and hazardous process and requires DOE to work closely with many local and national regulators and stakeholders.

The Board has issued several letters and Recommendations regarding the HLW system at SRS, including Recommendation 2001-1, *High-Level Waste Management at the Savannah River Site*, which is still open and active. On this topic, the Board has interacted closely with DOE, the SRS contractor, the State of South Carolina, and the appropriate committees of the U.S. Senate and House of Representatives.

The Board's oversight is expected to encompass a wide variety of technical safety issues related to the chemical treatment of wastes and to the design, construction, and operation of waste treatment facilities. Examples of these technical safety issues include:

- targeted retrieval of low-curie salt waste from HLW tanks without adding excess dissolution water to the HLW system,
- modifications to and subsequent operation of the Saltstone Disposal Facility for disposal of low-curie salt wastes,
- treatment of unique organic compounds and HLW in Tank 48,
- design, construction and operation of the Salt Waste Processing Facility, which would serve to treat the bulk of the HLW in the SRS Tank Farms,
- coordinated operation of HLW evaporators to avoid introduction of incompatible waste forms to an evaporator,
- coordinated sludge washing and retrieval to maintain a feed stream to the Defense Waste Processing Facility (DWPF),
- assuring adequate tank space to accommodate recycle water from the DWPF, and
- final cleanout and closure of the HLW tanks.

### **Human Capital - The Board's Greatest Asset**

Sixty-five percent of the Board's FY 2008 obligations were dedicated to salaries and benefits for its staff and Board Members. The Board must function as an oversight organization comprised of 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 determined, 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 congressionally mandated mission. After years of experience, 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; general nuclear safety analysis; conventional and nuclear explosive technology and safety; nuclear weapons safety; storage of nuclear materials; nuclear criticality safety; and waste management. Most of the technical personnel all have technical master's degrees, and approximately 22 percent 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 2008, the Board successfully hired up to almost 100% of its current authorized staffing level of 98 positions after starting the year with seven technical staff vacancies. Twelve engineers were hired and on board before the end of the fiscal year. All five Board Member positions are filled. The Board lost ten staff members to retirement or attrition.

Building on its hiring successes of 2008, the Board will continue its 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. Nineteen 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 expected growth of nuclear power generating capacity in the near future, the consequent 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 recruiting of highly qualified technical personnel will continue in a highly competitive job market.

The Board will continue 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. In FY 2007, the Board set a goal to recruit two personnel into the PDP each year, allowing up to six PDP personnel in the program at any one time. The Board hired two PDP personnel in FY 2007 and one in FY 2008, and anticipates hiring at least three in FY 2009 to meet its goal of six personnel.

## 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 Test 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 Savannah River Site, and 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) 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 more than 25 projects in the design and construction phase. Examples of these new projects include the Integrated Waste Treatment Unit, currently in the construction stage at the Idaho National Laboratory; the Hanford Waste Treatment Plant, which is in the construction phase; the Highly Enriched Uranium Materials Facility, which is in the construction phase 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 Pit Disassembly and Conversion Facility, which is in the design stage 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),<sup>1</sup> significant resources are applied to areas such as the technical competence of DOE's Federal workforce, the efficiency 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.

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<sup>1</sup> Integrated Safety Management (ISM) is the means by which the Department of Energy is institutionalizing the process of incorporating into the planning and execution of every major defense nuclear activity those controls necessary to ensure that environment, safety, and health objectives are achieved.

**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 remediation issues before they happen. 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 Highly Enriched Uranium Materials 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 Pit Disassembly and Conversion 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.

**FINANCIAL PERFORMANCE OVERVIEW**

As of September 30, 2008, 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 2008 and FY 2007 are listed as follows:

	<u>FY 2008</u>	<u>FY 2007</u>
New Budget Authority	\$21,909,000	\$21,914,054
Prior Year Unobligated Balance	3,950,891	3,443,743
Recovery of Prior Year Obligations & Offsetting Collections	658,682	975,835
<b>Total Budgetary Resources</b>	<b>\$26,518,573</b>	<b>\$26,333,632</b>

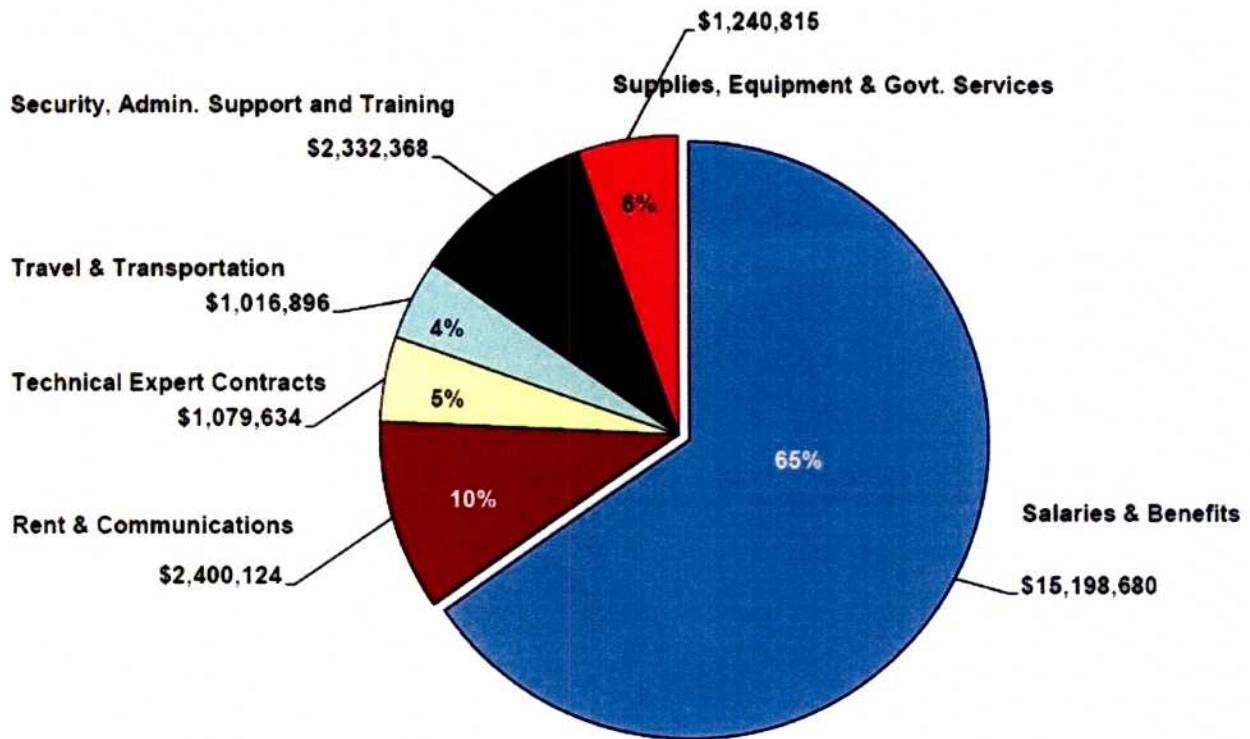
The Board has no reimbursable work for others authority, and is not authorized to collect fees or charges for its oversight services conducted at DOE defense nuclear facilities.

**Uses of Funds by Function**

The Board incurred obligations of \$23,268,517 in FY 2008. As shown on the chart on the following page, the FY 2008 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 five Board Members and employees as they conducted oversight operations.



FY 2008 Total Obligations = \$23,268,517



## AUDIT RESULTS

The Board received an unqualified audit opinion on its FY 2008 financial statements. The auditors disclosed no instances of noncompliance with laws and regulations and identified no material internal control weaknesses.

The Board is pleased to report that the one material internal control weakness (concerning internal control over information systems) identified in the prior-year internal control report was not a repeat finding based on corrective actions taken by the Board during FY 2008.

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**

	<u>FY 2008</u>	<u>FY 2007</u>
Total Assets	\$9,432,387	\$9,858,038
Total Liabilities	\$2,538,420	\$2,214,952
Net Position	\$6,893,967	\$7,643,086

The Board’s assets were \$9,432,387 as of September 30, 2008, a decrease of \$425,651 from the end of FY 2007. Its total liabilities and net position (which together equal total assets) were \$2,538,420 and \$6,893,967, respectively, as of the end of FY 2008, an increase of \$323,468 and decrease of \$749,119, respectively, from the end of FY 2007. The Fund Balance with Treasury (FBWT) represents the Board’s largest asset. The decreases in FBWT and Net Position were due to higher expenditures (e.g., employee pay increases, increased travel costs, etc.) while sources of funds remained relatively constant as FY 2008 new budget authority was essentially unchanged from FY 2007.

**Analysis of the Statement of Net Cost**

	<u>FY 2008</u>	<u>FY 2007</u>
Net Cost of Operations	\$23,275,751	\$21,531,334

The Board’s net cost of operations for the year ended September 30, 2008, was \$23,275,751, an increase of \$1,744,417 or 8.1% over the FY 2007 costs. Costs increased primarily because of higher employee expenses due to Federal pay raises and other non-discretionary compensation and benefits increases, increased travel expenses due primarily to higher airfare costs, increased relocation costs resulting from changes in site representative personnel, increases in contractor and Government services (e.g., building security charges from the Department of Homeland Security) costs, and increases in software and equipment depreciation costs (e.g., depreciation of a new HSPD-12 compliant access control system) .

**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 \$749,119 from FY 2007 to FY 2008 is due primarily from the net change in Unexpended Appropriations. The decrease in Unexpended Appropriations is the result of higher FY 2008 expenditures while appropriations essentially remained unchanged from FY 2007, as explained above.

### **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 2008, the Board had Total Budgetary Resources available of \$26,518,573, the majority of which was derived from new appropriations. Total Budgetary Resources was essentially unchanged from the FY 2007 amount of \$26,333,632 (an increase of \$184,941 or .7%) as there was virtually no change in appropriations received between the two years.

For FY 2008, the Statement of Budgetary Resources showed the Board incurred obligations of \$23,268,517, an increase of \$885,776 or 4.0% over FY 2007 obligations of \$22,382,741. The increase was primarily due to higher personnel costs resulting from Federal pay raises and the need to relocate personnel due to attrition and other changes at the site representative offices. Total Net Outlays for FY 2008 were \$22,337,231, a \$1,093,503 or 5.1% increase over FY 2007 outlays.

### **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.

### **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.

  
A.J. Eggenberger, Chairman

14 Nov 08  
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 EFT payments. The Board does not administer any entitlement, grant, or loan programs. During FY 2008, GSA and the Bureau of the Public Debt made net total payments of \$22,337,734 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 2008, 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 2008, transactions using individual purchase cards totaled \$424,281.

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 2008. 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 2008, the total number of purchase cards issued was 9 at headquarters, and 6 at our field locations.

### **Federal Information Security Management Act (FISMA)**

The Federal Information Security Management Act (FISMA) requires an annual, independent evaluation of each agency's information technology (IT) security program. In FY 2008, the Board has continued to submit all required FISMA reports to OMB.

The prior-year findings of our independent auditor highlighted the need for improvements in the policies and procedures of the Board's IT security program, specifically in the area of Certification & Accreditation (C&A). To address these issues, the Board completed development of its policies and procedures related to C&A activities which were independently assessed by a third party contractor. As a result, the Board's internal general support system was authorized to operate by the Board's authorizing official (marking completion of the Board's first C&A effort).

As a result of this major accomplishment, the sole material weakness identified in the prior-year internal control report was not a repeat finding. As no new internal contract material weaknesses were identified, FY 2008 marked the first year that the Board's independent auditor did not identify any internal control material weaknesses.

### **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 2008, the GAO did not conduct any reviews or investigations of Board oversight programs, and there are no open audit recommendations from previous GAO reviews.

## 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 2008. In a few cases noted in the report, 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 2009.

#### INTRODUCTION

The Board's contribution to the safety of DOE's defense nuclear activities derives from four basic types of activities. 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 space shuttle Columbia tragedy and the subsequent report by the Columbia Accident Investigation Board clearly point out the safety significance of 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 reviews, 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 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 (fewer than 100 FTEs, including five full-time Board Members) and budget (approximately \$21.9 million in FY 2008) 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](http://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 *Nineteenth Annual Report to Congress* will be issued during the first quarter of CY 2009. The Board's annual reports and performance reports are drafted by Federal employees of the Board with only administrative assistance from contractors.

## **SAFETY GOALS**

The Board revised its strategic plan in 2003 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 evolves during the latter half of this decade. Previous performance reports were established and executed to achieve the objectives of the earlier version of the Board's strategic plan. The changes to the plan are evolutionary in nature and primarily result in increased Board attention on ensuring safety in the area of nuclear facility design and infrastructure issues while maintaining vigilance in the areas of nuclear weapons and nuclear materials. The performance goals that result from the current strategic plan are summarized below.

## 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 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.

### 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 2008* 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 2009 Performance Plan***

No changes to the *FY 2009 Performance Plan* have been identified based on a review of actual results achieved in FY 2008.

#### **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](http://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 2008.

#### **Comparison of Fiscal Year 2008 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 2008. Information concerning the Board's performance accomplishments in FY 2005 through FY 2007 is contained in the Board's FY 2009 Budget Request to Congress, which is published on our website at [www.dnfsb.gov](http://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 2008 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 Test Site (NTS).

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., W76, B53, W80, W83, and W88).
- Nuclear explosive operations at Pantex (e.g., conduct of operations, process documentation, and tooling).
- Laboratory support of nuclear explosive operations at Pantex (e.g., sensitivity testing of high explosives, electrostatic discharge studies, weapon response evaluation and documentation).
- Cross-cutting functional areas at Pantex, Y-12, LANL, LLNL, 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).
- Startup preparations for the Highly Enriched Uranium Materials Facility.
- Modernization plans for Y-12, including the Beryllium Capability Project, accelerated dismantlement of weapons components, and infrastructure upgrades.
- Corrective actions related to Uranium Holdup Survey Program at Y-12, and development of the next generation program.
- Corrective actions to strengthen institutional safety programs and infrastructure at LANL and LLNL.

- Readiness to dispose of damaged nuclear weapons or improvised nuclear devices at NTS.
- Readiness for nuclear explosive operations at the Device Assembly Facility at NTS.
- Preparations for criticality reactor (Criticality Experiments Facility) operations at the Device Assembly Facility at NTS.
- 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 dismantlement projects at Pantex, Y-12, or NTS that start in FY 2008.

### **FY 2008 Measured Performance:**

**Nuclear Explosive Safety.** The Board evaluated 10 Nuclear Explosive Safety (NES) studies, operational safety reviews, or change evaluations conducted at Pantex, including Master Studies of Pantex onsite transportation and staging and Special Purpose facilities. The Board noted technical and administrative areas of concern regarding the process used in conducting NES activities that if addressed will increase the value of the NES study in consistently ensuring nuclear explosive safety.

**Revised Nuclear Explosive Safety Directives.** In response to changes in operational and organizational realities and observations communicated by the Board, DOE is revising key nuclear explosive safety directives, including DOE Order 452.1C, *Nuclear Explosive and Weapon Surety Program*; DOE Order 452.2C, *Safety of Nuclear Explosive Operations*; and DOE-STD-NA-3016-2006, *Hazard Analysis Reports for Nuclear Explosive Operations*.

**Quality of Safety-Related Information for Nuclear Explosive Operations.** The Implementation Plan for Recommendation 98-2, *Safety Management at the Pantex Plant*, addresses the need for DOE to issue further guidance on its expectations for the evaluation and documentation of weapon response to potential accident environments and stimuli. The Board and DOE agreed that the revised DOE-STD-NA-3016-2006 would include the needed requirements for these analyses. In FY 2007, the Board issued a letter requesting that DOE provide a schedule for implementing these requirements at the weapon design laboratories and the criteria to be used to verify implementation. In FY 2008, DOE evaluated implementation of these requirements at the laboratories and requested significant improvements. The laboratories have now revised their procedures.

**Lightning and Electrostatic Discharge Protection at Pantex.** The Board issued a letter on March 30, 2007, identifying that work remains to adequately address the hazards posed by the indirect effects of a lightning strike on Pantex facilities. DOE has responded by forming the Nuclear Weapons Complex Electromagnetics Committee to analyze both lightning and electrostatic discharge (ESD) hazards. The Committee has prepared a plan to systematically address the Board's concerns and to improve the safety of operations at Pantex relative to lightning and ESD hazards. The Board has engaged experts in the field of lightning effects to verify DOE's analyses. The Board also evaluated the modeling of ESD environments at Pantex as well as the development and implementation of effective ESD controls for tooling and facilities for nuclear explosive operations.

**Pantex Procedures.** In a letter dated April 23, 2007, the Board provided recent examples of inadequacies in technical procedures and noted that improvements are needed in the processes for development, review, validation, and configuration management for procedures at Pantex. In 2008, Board conducted two onsite reviews of procedures and provided immediate feedback to Pantex in an effort to improve nuclear explosive operating procedures.

**Pantex Safety Basis.** In a letter dated July 30, 2007, the Board identified issues with the Pantex safety basis, including the treatment of beyond design basis accidents, the level of detail in some technical safety requirements,

and a systematic lack of timeliness in declaring potential inadequacies in the safety basis. The Board also noted in its letter that DOE has lost configuration control of the safety basis. In response, Pantex developed and implemented a plan to update its safety basis, incorporating outstanding changes and reestablishing configuration control. Pantex also initiated an effort to assess the risk of beyond design basis accidents and evaluate needed controls.

**W76 Restart at Pantex.** On August 8, 2008, the Board issued a letter detailing concerns with the process DOE used to authorize restarting W76 nuclear explosive operations following a safety-related work suspension. The Board was concerned with the process used to develop the technical basis for new controls and the administrative controls for new operations. DOE responded to the concerns raised in the Board's letter and issued a clear plan for controlling W76 operations as they were restarted. DOE committed to review all similar operations for the hazards that caused the work suspension on the W76.

**B53 Dismantlement Planning.** On March 20, 2008, the Board issued a letter to DOE raising the issue that the Pantex contractor's planned process for dismantlement of B53 weapons departed from the established conservative practice of performing operations involving uncased conventional high explosives only in nuclear explosive cell facilities, which provide enhanced mitigation of high explosive violent reactions. The Board's letter requested an evaluation of the relative safety risks of alternative processes that could be used for B53 dismantlement. Subsequently, the Pantex contractor determined that it was feasible to perform this work in a cell facility and evaluated the relative risks of several approaches to B53 dismantlement. The contractor's planning now involves performing operations involving uncased conventional high explosives in a cell facility.

**Pantex Training and Qualification.** The Board conducted a review of training and qualification procedures at Pantex. The Board issued a letter on July 8, 2008, noting concerns with the DOE program for providing weapons training units sufficient to conduct high fidelity training and with the lack of design agency training for Pantex employees on specific weapon critical skills. DOE is taking action to address these shortcomings in its weapon training.

**Degradation of 9212 Complex at Y-12.** The Board has continued its evaluation of DOE's ability to safely operate the 60-year-old 9212 Complex at Y-12. In response to the concerns raised in the Board's letter of March 13, 2007, DOE completed its first annual assessment of the safety of continued operations of the 9212 Complex, and has committed to develop a plan to accomplish essential facility improvements necessary to ensure safe operation until completion of the planned replacement facility, the Uranium Processing Facility.

**Vital Safety Systems at Y-12.** The Board reviewed the design, condition, maintenance, and functionality of a sampling of vital safety systems at Y-12. The Board found that in general the systems could meet their safety functions; however, there were some minor deficiencies in design calculations and maintenance procedures that the Board communicated to DOE.

**Y-12 Technology Development.** The Board reviewed the development of selected technologies intended for insertion into existing facilities and the planned Uranium Processing Facility. The Board did not find any major safety hazards with these technologies given their current level of development, but identified the need to include evaluation criteria related to safety earlier in the technology development process. Y-12 project personnel informed the Board that the Technology Readiness Level process used to evaluate new technologies at Y-12 would be modified to include safety explicitly at an earlier level of development.

**Conduct of Operations at Y-12.** Following several operational events, the Board urged DOE to consider action to achieve consistent, disciplined operations. DOE developed and began to implement corrective actions to address these issues including additional periodic training. The Board also noted that procedure use practices are

inconsistent and that poor procedural compliance has been a contributor to many operational events. DOE committed to evaluating procedure usage and identifying areas for improvement.

**Uranium Holdup Survey Program at Y-12.** The Board continued its review of the Inadvertent Accumulation Prevention Program (IAPP) and implementation of corrective actions for the IAPP and Uranium Holdup Survey Program, which play key roles in prevention of inadvertent nuclear criticality events. Although DOE has identified actions for individual measurement points, implementation of those actions will take more time, and a completion date has not been determined.

**Special Capability Glovebox Project at Y-12.** The Board's review of the Special Capability Glovebox design in late 2007 found no major design issues but did identify questions regarding administrative controls which DOE will revisit in early 2009 as a part of prestart readiness reviews.

**Readiness to Dispose of a Damaged Nuclear Weapon or Improvised Device at NTS.** As a result of the Board's interactions and follow-up discussions in FY 2008, DOE completed some facility improvements, completed a cost/risk benefit analysis of proposed controls and improvements, and is developing a plan for implementation of safety controls and upgrades appropriate for the scope of operations for the facility at NTS (G tunnel) that would be used in disposition of an improvised nuclear device. The Board expects the new plan to be available in 2009.

**Safety Improvements at LANL.** In a letter dated February 1, 2007, the Board highlighted key areas requiring action to substantially improve the laboratory's safety posture. The Board held a public hearing in Los Alamos, New Mexico, on December 5, 2007, to assess the progress made in these areas. Testimony from DOE and the Board's staff revealed that progress had been made in some areas:

- *Strengthening federal safety oversight*—DOE filled several critical oversight positions at the Los Alamos Site Office and is working to reestablish traditional safety oversight processes. DOE recognizes that significant challenges remain to strengthen federal oversight of nuclear safety at LANL.
- *Developing effective institutional safety programs*—Manuals and plans to strengthen key safety programs have been issued; however, progress toward implementation is slow.
- *Improving safety bases and ensuring the efficacy of safety systems*—While some nuclear facility safety bases were updated and implemented this year, many other nuclear facilities are operating with outdated safety bases up to 12 years old. The laboratory continues to struggle to put in place the configuration management and other engineering, maintenance, and operational elements necessary to assure safety systems will perform their credited safety functions.
- *Eliminating known hazards*—DOE has made some progress in disposing of high-activity transuranic waste drums as well as plutonium-238 and other actinide residues, but more work is needed to complete chemical stabilization of actinide residues and achieve timely disposition of the remaining transuranic waste inventory.
- *Increasing federal management of new projects*—DOE has enhanced federal oversight of the Chemistry and Metallurgy Research Building Replacement project. This project and several others are essential to the expanded mission that DOE envisions for LANL. More needs to be done to strengthen the federal oversight for the other projects essential to this expanded mission.

**Continued Operation of the Chemistry and Metallurgy Research Facility.** In letters dated October 23, 2007, and May 16, 2008, the Board 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. Continued operation of this facility in its current condition poses risks to workers and the public that have not been comprehensively evaluated since 1998. Given the age, material condition, nuclear material inventory, and seismic fragility of the facility, the Board encouraged DOE to assess these risks promptly and evaluate alternative means of accomplishing programmatic requirements. In response, DOE has committed to provide a safety rationale for continuing operations to the Board by October 2008.

**Integrated Nuclear Planning.** 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 has developed an Integrated Nuclear Planning process to improve coordination among its projects as national security mission requirements are refined. While this process is immature, it should help ensure better integration of the projects and facilities that provide the required support infrastructure, with benefits for both safety and program success.

**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 to the Waste Isolation Pilot Plant for disposal. Postulated accident scenarios involving these drums predict high consequences because of their radiological loading, the proximity of the storage area to the site boundary, and the lack of robust engineered controls. In response, DOE has bolstered waste disposition work at LANL by facility infrastructure upgrades, new safety basis documents, and training and qualification of operators. By April 2008, NNSA had remediated all of the high-activity drums available for processing. Preparations are underway for venting operations on the remaining drums to allow processing and disposal.

**Nuclear Criticality Safety at LANL.** The Board has provided safety oversight of the laboratory's attempt to develop a standards-based nuclear criticality safety program. During 2007, the Board assessed operations in the Plutonium Facility's vault for special nuclear materials and issued a letter on September 10, 2007, expressing concern over the laboratory's Materials Accountability and Safeguards System software and the criticality safety documentation for the vault. Subsequent to these questions, the laboratory determined the adequacy of some criticality safety evaluations to be in doubt. As a result, fissile material operations were paused until limits were reviewed and confirmed to be defensible.

**LANL Plutonium Facility Confinement Ventilation.** The decade-old safety basis for the Plutonium Facility credits a passive confinement strategy instead of active confinement ventilation as a safety-class control to protect the public from postulated accidents. As part of DOE's implementation plan for Recommendation 2004-2, an evaluation of the facility's confinement strategy was completed in parallel with a separate effort to develop a new safety basis for the facility. Unfortunately, the proposed safety basis upgrade continues to rely on a passive confinement strategy. DOE is currently evaluating a list of upgrades that would ultimately bring portions of the ventilation system up to safety-class status.

**Documented Safety Analysis for the LANL Plutonium Facility.** On May 30, 2008, the Board issued a letter identifying concerns regarding the lack of pedigree for software used by LANL to develop safety basis documents at the Plutonium Facility. This issue was the result of a site-wide failure to ensure compliance with software quality provisions of 10 CFR 830 Subpart A and DOE Order 414.1C, *Quality Assurance*. LANL responded quickly to this deficiency and revised internal procedures to apply appropriate quality assurance measures to such software.

**Transition of Contract Management at LLNL.** On October 1, 2007, Lawrence Livermore National Security assumed management responsibility for operations at LLNL. The Board evaluated the nuclear and radiological safety-related directives and standards contained in the new contract and the organizational restructuring of the nuclear facilities and found no issues. In particular, DOE Standard 1098, *Radiological Control Standard*, absent from the previous contract, is contained in the current contract.

**Updated Documented Safety Analysis (DSA) for the Plutonium Facility at LLNL.** The Board reviewed the recently submitted first annual update to the DSA for the Plutonium Facility at LLNL. The first annual update for the Plutonium Facility was delayed one year to complete implementation of the DSA approved in April 2006. The Board found the updated DSA was an improvement from the previously implemented DSA.

**Work Planning and Control at LLNL.** As part of the implementation plan for the Board's Recommendation 2004-1, *Oversight of Complex, High-Hazards Operations*, DOE promulgated a document in 2006 that provided the attributes and best practices of a successful work planning and control process. In a recent review, the Board noted that the LLNL contractor and the Livermore Site Office had little knowledge of the DOE attributes and best practices document. The Board also noted deficiencies with the work planning and control process and ongoing efforts at LLNL to improve and institutionalize the process across the site. The Board encouraged the current efforts to improve and standardize the process.

**Recommendation 2005-1.** The Board issued Recommendation 2005-1, *Nuclear Material Packaging*, to increase protection for workers involved in the storage and handling of nuclear materials. In 2007, the Board worked to ensure that DOE developed a technically justified packaging manual as part of the recommendation's implementation. In March 2008, after making improvements suggested by the Board, DOE issued DOE Manual 441.1-1, *Nuclear Material Packaging Manual*. The DOE sites are currently developing repackaging schedules in support of sending the final complex-wide implementation schedule to the Board.

## PERFORMANCE GOAL 2: NUCLEAR MATERIAL PROCESSING AND STABILIZATION

**The processing, stabilization, and disposition of DOE defense nuclear materials 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 2008 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 830, *Nuclear Safety Management*), the safety of ongoing operations, and the suitability of long-term storage and disposal facilities. Representative areas for review include:

- Safe long-term storage of neptunium oxides at the Idaho National Laboratory (INL) (Recommendations 94-1/2000-1).
- Complex-wide consolidation and disposition of special nuclear materials.
- Stabilization and disposal of plutonium-bearing residues at Los Alamos National Laboratory (LANL) (Recommendations 94-1/2000-1).
- Safety of efforts to consolidate, store, and disposition spent nuclear fuel at Hanford, INL, and SRS.
- Conceptual design of systems to treat and store spent nuclear fuel sludge at the Hanford Site (Recommendations 94-1/2000-1).
- Safety of design of modifications to Building 3019 at the Oak Ridge National Laboratory in preparation for the processing of uranium-233 inventory.
- Design of treatment facilities for high level waste (HLW) liquids and salts at SRS and system improvements to ensure safe management of the SRS HLW (Recommendation 2001-1).
- Waste removal and preparation for closure of selected HLW tanks at SRS.
- Maintaining 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.
- Safe operation of HLW retrieval and transfer systems at the Hanford tank farms.
- Conduct of operations and work planning at the Hanford Site.
- Safety of supplemental processing and treatment of waste from Hanford tanks.
- Safety of the retrieval, characterization, and packaging of transuranic (TRU) waste drums and other containers.
- Safe operations at the Melton Valley TRU/alpha low level waste processing facility at Oak Ridge National Laboratory.



**FY 2008 Measured Performance:**

**Nuclear Materials Stabilization and Storage at LANL.** In response to the Board's Recommendation 2000-1, DOE completed the stabilization of all non-weapons grade plutonium at LANL. DOE plans to complete the four remaining LANL commitments in the Implementation Plan for Recommendation 2000-1 by December 2009.

**Uranium-233 Downblending at ORNL.** The Board issued a Project Letter to DOE following the Critical Decision (CD)-2/3A approval for the Uranium-233 Downblending and Disposition Project. The letter identified several safety concerns for DOE to consider as the project progresses. DOE accepted these issues and is working to address all of them.

**Hanford K-Basin Spent Fuel Disposition.** The Board verified the safety of operations at the Hanford K-West Basin by observing the DOE Operational Readiness Review for the restart of fuel cleaning and packaging. This effort will package the small amounts of fuel remaining after the main fuel retrieval effort was completed in 2004.

**Hanford Sludge Retrieval and Disposition Project.** The Board reviewed the project management processes instituted following the return of the sludge project to the conceptual design phase. The Board noted problems with DOE's planned implementation of the project management requirements such as alternatives analysis and formal project reviews. DOE took corrective actions to implement the requirements.

**Interim Salt Disposition Project at SRS.** In response to the Board's Recommendation 2001-1, *SRS Waste Management*, DOE began operation of the Actinide Removal Process and Modular Caustic Side Solvent Extraction Unit to remove and process salt waste contained in high-level waste (HLW) storage tanks at SRS. The Board monitored the performance of the DOE and contractor readiness reviews prior to the start of radioactive operations and found them to be satisfactory.

**HLW Storage in Tank 11 at SRS.** The Board reviewed DOE's plans to store additional HLW in Tank 11 at SRS. This tank is considered a non-compliant tank due to its single-shell design. To ensure safe storage of the waste, DOE and the Board agreed to a set of stringent controls and compensatory measures to be in place prior to the transfer of waste into Tank 11.

**Vital Safety Systems at SRS HLW Tank Farms.** The Board conducted a review of selected safety systems at the SRS HLW tank farms. The Board found that the contractor's system engineer program did not fully meet the requirements of DOE Order 420.1B, *Facility Safety*, and that DOE had a shortage of safety system oversight engineers in the HLW tank farms. Based on the Board's review, DOE initiated a number of corrective actions to address these deficiencies.

**HLW Tank Integrity Program at SRS.** The Board reviewed the HLW tank integrity program at SRS, focusing on the ultrasonic testing of the HLW tanks. The Board found that the ultrasonic test plan did not require the re-examination of known pitting to evaluate its extent and growth rates. In addition, the Board found that the potential for pitting at the liquid-air interface in stagnant waste was not adequately addressed. The Board issued a letter to DOE requesting a briefing on actions to be taken to address these shortcomings.

**Cleaning of HLW Tanks at SRS.** DOE continues to remove waste from various HLW tanks at SRS in preparation for final closure of the tanks. The Board reviewed the chemical cleaning of HLW Tanks 5 and 6, and found that the cleaning was being safely performed. The Board also observed the contractor readiness assessment for the mechanical cleaning of HLW Tanks 18 and 19, and found that the contractor had prematurely declared readiness to operate.

**Corrective Actions from Waste Spill at Hanford Tank Farms.** Following the spill of radioactive wastes at Hanford's Tank Farms in July 2007, DOE completed several investigations and issued corresponding corrective action plans. The Board conducted reviews of the adequacy of the corrective actions and the implementation of those actions. The Board identified several concerns and made observations regarding conduct of operations, emergency management, oversight, and the issues management program. DOE is working to resolve the issues. The Board also monitored the spill clean-up efforts that were completed in July 2008.

**Complex-Wide HLW Tank Integrity.** The Board encouraged DOE to continue laboratory and in-situ testing of corrosion mechanisms related to the HLW tanks. This effort is expected to help ensure that DOE's tanks can continue to perform as designed for an anticipated 30 or more years. The Board continued to evaluate the overall structural and seismic integrity of the double-shell HLW tanks, and DOE continues to examine double-shell tanks for pitting and wall thinning.

**Safety Systems at the Hanford Tank Farms.** As part of evaluating the infrastructure and life extension of the HLW tanks at Hanford, the Board conducted several reviews that focused on certain vital safety systems. The Board reviewed the maintenance management program, the electrical distribution system, and the digital instrumentation and controls of safety-related systems at the Tank Farms. The Board noted several deficiencies and continued to work with DOE to resolve these issues.

**Electrical Cables at the Plutonium Finishing Plant.** The Board reviewed electrical safety at the Plutonium Finishing Plant at Hanford and found that DOE had not evaluated electrical cables for extended life. The Board pointed out the requirements for such an evaluation and suggested some example programs for DOE to follow.

**Oak Ridge National Laboratory Shielded Transfer Tanks.** The Board reviewed the storage conditions of highly radioactive wastes stored in five Shielded Transfer Tanks at Oak Ridge National Laboratory. The Board found the tanks to be sufficiently robust to contain any generated gases and to remain safely in storage for an extended period of time.

**Transuranic (TRU) Waste Remediation at SRS.** The Board provided oversight of TRU waste operations at SRS's Solid Waste Management Facility and F-Canyon, ensuring that the proper safety controls were in place for both planned operations and during the recovery from anomalous events. The Board also observed the venting of bulged TRU waste drums and provided feedback to the site management for reducing risk to workers during these operations. Site workers have subsequently vented all of the legacy TRU waste drums.

**Retrieval, Characterization, and Packaging of TRU Waste.** The Board verified the safety of TRU retrieval, characterization, and packaging activities for TRU waste drums and other containers at the Hanford Site and the Idaho Cleanup Project. The Board also assessed the interface between WIPP's Central Characterization Project and Idaho's operating contractors for the Accelerated Retrieval Project and the Advanced Mixed Waste Treatment Project, providing suggested improvements to DOE.

**Remote-Handled TRU Waste at Oak Ridge National Laboratory.** The Board verified the safety of characterization and packaging of remote-handled TRU waste at Oak Ridge National Laboratory. The verification included a review of the safety basis documents and observation of the DOE operational readiness review.

**National TRU Waste Program.** The Board assessed the overall progress of DOE efforts to eliminate the long-term safety hazard inherent in TRU waste storage at various sites across the complex. The Board evaluated the progress reported by the DOE TRU Waste Corporate Board and made suggestions where appropriate.

### 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 2008 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 (SSC); and the adequacy of SSC installation, startup and operational readiness. Candidates for review include:

- Continue design and construction reviews of the waste Treatment Plant at the Hanford Site.
- Review the final design and review construction of the Demonstration Bulk Vitrification Facility at the Hanford Site.
- Complete review of the design and continue construction reviews of the Integrated Waste Treatment Unit for treatment of sodium-bearing waste at the Idaho National Laboratory.
- Review the final design and start of construction of the Chemistry and Metallurgical Research Replacement Facility at the Los Alamos National Laboratory.
- Review design and construction of the Criticality Experiments Facility at the Device Assembly Facility at the Nevada Test Site.
- Review the final design of the Pit Disassembly and Conversion Facility at SRS.
- Review the final design and construction of the Salt Waste Processing Facility at SRS.
- Continue construction reviews and review preparations for start of operations for the Highly Enriched Uranium Materials Facility at the Y-12 National Security Complex.
- Review 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 facility designs will meet acceptable safety standards.

**FY 2008 Measured Performance:**

**Safety-in-Design:** As a result of the Board's three public meetings on safety-in-design, the DOE concluded new guidance was needed. With significant Board involvement, DOE developed and published DOE Standard 1189, *Integration of Safety into the Design Process*, in March 2008. This standard establishes the Department's expectations for identifying and resolving safety issues earlier in the design process and clarifies expectations associated with seismic design criteria, protection of co-located workers, and the significance of developing a safety design strategy early in the project life cycle.

The Board expects that as this standard is fully implemented, consistent with the strategy outlined in the Joint Report to Congress dated July 19, 2007, the important safety aspects of the design will be addressed earlier and if issues arise, they will be addressed and resolved earlier and without the significant cost or schedule impacts that have been historically observed.

**Board Recommendation 2008-1, *Classification of Fire Protection Systems.*** During reviews of the design of new nuclear facilities, it was apparent that consistent design criteria and operational requirements needed to be developed for safety-related fire protection systems. In this Recommendation, the Board identified the need for standards applicable to the design and operation of fire protection systems relied upon to protect the public and workers in defense nuclear facilities. DOE accepted this Recommendation and is in the process of developing the needed criteria. As a compensatory measure, DOE will quickly develop interim design criteria for the type of fire suppression system most commonly in use.

**Waste Treatment 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 Plant facilities. The Board's activities primarily consisted of evaluating the resolution of previously identified issues.

- Following resolution of issues related to seismic design criteria, DOE submitted for Board review technical reports supporting the final summary structural reports for the Pretreatment and High Level Waste Facilities. DOE is incorporating Board comments and continues to prepare final reports. DOE is continuing to work on the final structural design for these facilities. The Board expects that DOE will satisfactorily complete the structural design for the Pretreatment and High Level Waste Facilities and submit summary structural reports that fully demonstrate that the WTP facilities meet all structural design requirements.
- In a letter dated June 24, 2008, the Board noted concerns with the contractor's proposed implementation of DOE Standard 1066, *Fire Protection Design Criteria*, for protection of confinement ventilation systems from the effects of a fire. The exhaust high-efficiency particulate air filters in the ventilation systems provide a safety function and need to be protected from fires to ensure they perform as expected. DOE rejected the contractor's proposal and directed the contractor to resubmit the safety strategy for protecting the filters with adequate technical justification.
- The Board's June 24, 2008, letter noted that the issues with the contractor's implementation of DOE Standard 1066 provided an example of concerns with the project's Decision to Deviate process; specifically, the delay in resolution of safety concerns resulting in cost and schedule risks.

**Demonstration Bulk Vitrification Facility at the Hanford Site.** The Board had identified concerns with the confinement strategy being developed for the nuclear wastes that would be processed in the Demonstration Bulk Vitrification Facility at the Hanford Site. DOE and project personnel revised the confinement strategy, leading to improvements in the confinement design for the facility. In December 2007, project personnel presented technical analyses and discussions supporting the adequacy of this strategy. The Board is now satisfied that the project's

strategy for confinement is adequate. In 2008, the project was put on hold and placed in a condition to support either restart or termination in FY 2010. The final design was completed and submitted to DOE in May 2008.

**Waste Feed Delivery Transfer System at the Hanford Site.** The Waste Feed Delivery transfer system will deliver high-level waste slurries from the Tank Farms to the Waste Treatment Plant. DOE performed analyses to determine the minimum design pressure rating of the system. In earlier reviews, the Board found that larger or denser particles could lead to plugging the transfer system. In response to Board concerns, DOE formed an expert panel on slurry transfer that evaluated the uncertainties and noted the need for an improved understanding of process variations, additional testing, and model revisions. DOE completed several reports that addressed the technical issues associated with the waste transfer. The Board believes its concerns have been adequately addressed and has no outstanding issues with this facility.

**Integrated Waste Treatment Unit at Idaho National Laboratory.** The Board identified issues with the structural design and design basis ground motion used for the facility. The Board reviewed the resolution of concerns with the structural design, particularly the development of the design basis ground motion, inputs into the soil-structure interaction analysis, and the use of mechanically anchored reinforcing bar, and concluded these issues had been satisfactorily addressed by DOE. The Board also reviewed the resolution of several concerns identified by the Board in a project letter issued at the beginning of 2007; progress has been made on several issues. DOE determined the root cause of an over-temperature event in the pilot plant's charcoal bed, and the subsequent design modifications to address the issue were assessed by the Board to be satisfactory. DOE is still addressing concerns with the design of a small portion of a safety system and validation of some assumptions made in the safety basis.

**Radioactive Liquid Waste Treatment Facility Replacement Project at Los Alamos National Laboratory.** The Board reviewed the preliminary design of the facility, and concluded the weak integration of the safety and design processes and weak federal oversight resulted in problems with safety basis development, material selection, determination of seismic design requirements, and configuration management. The Board continued to pursue the resolution of these concerns.

**Chemistry and Metallurgy Research Replacement Facility at Los Alamos National Laboratory.** The Board's review of the preliminary design and draft Preliminary Documented Safety Analysis for this facility identified several issues with the safety strategy and selection of safety controls. During the past year, progress has been made towards addressing these concerns. DOE has revised the safety strategy and safety documentation and plans to complete a Technical Independent Project Review before proceeding to the final design stage. The Board intends to review the final preliminary design and Preliminary Documented Safety Analysis and subsequently issue a project letter documenting any remaining issues that would need to be addressed during final design.

**Criticality Experiments Facility and Device Assembly Facility at the Nevada Test Site.** The criticality testing capability from TA-18 at Los Alamos National Laboratory is being relocated to the Criticality Experiments Facility, which will be housed in the Device Assembly Facility at the Nevada Test Site. In a letter dated August 16, 2006, the Board noted concerns with extensive cracking and water leaks in the Device Assembly Facility. After further Board urging, DOE has now conducted concrete strength testing and is evaluating the results to ensure the facility can perform its design function. In a letter dated January 18, 2008, the Board also highlighted the lack of progress in addressing ongoing operational problems and design deficiencies in the water supply to the safety-related fire suppression systems. DOE is now conducting several studies to culminate in a recommendation in FY 2009 for correcting the vulnerabilities with the water supply.

**Salt Waste Processing Facility at the Savannah River Site.** The Board reviewed the final design, structural calculations, and chemical processes for the facility. The review of the structural design focused on the resolution of previously identified deficiencies in the analysis of the facility's ability to resist natural phenomena hazards; the Board concluded that the structural design was adequate. The review of the chemical processes identified the need

to evaluate the impact of thermolysis on the generation of flammable gases in the process vessels. As a result of the Board's review, the DOE initiated testing to validate the assumptions made in the safety basis regarding generation of flammable gases.

**Waste Solidification Building at the Savannah River Site.** In a letter dated June 25, 2008, the Board identified structural issues related to the roof design and the analytical approach to differential settlement. The Board has worked closely with the project to bring the issues identified in the letter to resolution. Additionally, the Board identified safety basis issues in a letter dated July 15, 2008, related to the application of DOE Standard 1189 to the design process and the analytical approach to evaluating hydrogen explosions in unvented pipes. The Board will continue to bring open issues to resolution and complete a final design review of the Critical Decision-2/3 design package prior to its approval.

**Pit Disassembly and Conversion Facility at the Savannah River Site.** Despite the slowdown in the Pit Disassembly and Conversion Facility project, the Board continued to review selected aspects of the safety of the design of the Pit Disassembly and Conversion Facility. As a result of the Board questioning the basis for fire loading assumptions in the Documented Safety Analysis for the facility, DOE performed fire testing of gloveboxes typical of those planned for the facility. The results showed that a potential fire could be much more vigorous than expected. The Board's staff provided a list of concerns to DOE regarding the assumptions on combustible loadings in the facility in the event of a facility fire. Further work must be performed by DOE and its contractor.

**Highly Enriched Uranium Materials Facility at the Y-12 National Security Complex.** In a letter dated February 6, 2008, the Board identified that the water supply for the safety-significant fire suppression system in the facility was not classified as safety-significant consistent with design basis requirements. This safety classification would help ensure that the water supply system was reliable through more rigorous design, construction, maintenance, and configuration control. Subsequently, DOE developed actions to increase the reliability of the fire protection water supply system for the facility. These actions include: a commitment to connect to the Uranium Processing Facility safety-significant water supply tanks when completed, to provide a safety-significant water supply pressure monitor, and to incorporate safety-related configuration controls to assure availability of a dedicated flow path in the current supply system. The Board believes these actions address the Board's concern with the water supply system and considers this item closed.

**Highly Enriched Uranium Materials Facility at the Y-12 National Security Complex.** As the Highly Enriched Uranium Materials Facility was being constructed, numerous quality problems with concrete placements became evident. The Board ensured that evaluations of defects were technically appropriate and reviewed the corrective actions proposed by the project. The Board believed additional actions were necessary. These actions were subsequently incorporated into the corrective action plan. These actions helped ensure that the building met its functional design requirements.

**Uranium Processing Facility at the Y-12 National Security Complex.** The project entered the preliminary design phase in FY 2008. The Board has also conducted reviews of the project management, DOE oversight, geotechnical and structural design, design criteria development, subcontract requirements, and technology development. These reviews have served to address other open items from the Board's August 9, 2007, project letter and have provided timely input to improve the project design inputs. In a letter dated January 17, 2008, the Board identified issues with the radiological dose consequence methodology to be used for the project. Discussions with DOE following this letter resulted in DOE instituting an acceptable methodology, closing a significant issue identified in the Board's project letter and Quarterly Report to Congress.

**Filter Test Facility.** Nuclear-grade high-efficiency particulate air (HEPA) filters are used in essentially all new nuclear facilities and are tested in the Filter Test Facility to ensure the filters meet performance requirements. In a letter dated March 17, 2008, the Board expressed concerns with degradation in quality of the nuclear filters as

**FY 2008**  
**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**  
Performance and Accountability Report

reported by the Filter Test Facility. At the time, little DOE action was underway to try to resolve these quality concerns. In response to the Board's letter, DOE developed a plan of action to: (1) investigate and correct the root cause of increased rejection rates of HEPA filters, (2) assess the potential degradation of critical quality manufacturing attributes that are not explicitly tested, and (3) reassess the adequacy of filters considered non-safety-related that are not tested at the facility. The Board considers these actions appropriate.

## 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.**

### **FY 2008 Performance Objectives:**

The Board will continue to assess the adequacy of proposed changes to DOE directives to ensure that any revisions are appropriate and adequate. The results of reviews completed by the Board will be provided to DOE for action. The Board anticipates that approximately 20 DOE directives that may impact public and worker health and safety require review, of which two or three are likely to require significant Board and staff interaction to ensure satisfactory resolution of potential issues. In those rare cases in which new directives are determined to be required, the Board will work with DOE to ensure that the applicable documents are developed adequately. The Board also expects to continue its involvement in the efforts of the National Nuclear Security Administration (NNSA) to establish its own directive system. It is estimated that 15 NNSA directives will also require review. As a result of these reviews, new or modified health and safety directives will be issued in an enhanced form, resulting in improved safety through standardized requirements and guidance that provide for adequate protection of the workers and the public.

The Board will continue its reviews of DOE's implementation of Integrated Safety Management (ISM), as well as ongoing efforts to make ISM more effective. At least five reviews will be completed. Candidates for review include:

- Activity-level ISM implementation at sites with performance indicators judged to have higher than expected rates of abnormal occurrences related to worker protection.
- Validation of at least one site office review of activity-level ISM.
- Validation of at least one ISM review by the DOE Office of Independent Oversight
- Implementation and effectiveness of ISM at defense nuclear facilities.

The Board has noted that considerable progress has been made in the implementation of ISM, but that 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, 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, DOE will be expected to provide an adequate approach and schedule for resolution of identified issues that supports safe operation of defense nuclear facilities.

### **FY 2008 Measured Performance:**

**DOE Directives.** As part of its continuing review of new and revised DOE directives, the Board and its staff evaluated and provided constructive critiques of over 50 directives associated with, but not limited to nuclear design criteria, radiological protection, maintenance management, worker protection, and project management. At year's end, the staff was in the process of resolving issues regarding revisions or drafts of 14 pending directives to improve the content, clarity, and consistency of safety requirements and guidance. Examples of directives completed in 2008 include:

- DOE Order 450.1A, *Environmental Protection Program*
- DOE Manual 460.2-1A, *Radioactive Material Transportation Practices Manual for Use with DOE Order 460.2A*



- DOE Guide 441.1-1C, *Radiation Protection Programs Guide for Use with Title 10, CFR, Part 835, Occupational Radiation Protection*
- DOE Handbook-1113-2008, *Radiological Safety Training for Uranium Facilities*
- DOE Manual 441.1-1, *Nuclear Material Packaging Manual*
- DOE-Standard-1189-2008, *Integration of Safety Into the Design Process*
- DOE-Standard-1185-2007, *Nuclear Explosive Safety Study Functional Area Qualification Standard*

**Use of Quantitative Risk Assessment Methodologies.** The Board continued to follow DOE's activities associated with the use of quantitative risk assessment at defense nuclear facilities. Previously, the Board conducted a comprehensive assessment of DOE's policies, programs, processes, and procedures with respect to the use of quantitative risk assessment and related methodologies and found that additional guidance was warranted. DOE developed a number of draft policies and implementation guides to address the use of risk methodologies in the defense nuclear complex. The Board provided numerous comments on the documents and continues to aid DOE in refining and revising these documents with a goal of issuing a draft Policy and Guide to the complex for formal comment and review.

**Recommendation 2007-1, Safety-Related In Situ Nondestructive Assay of Radioactive Materials.** DOE issued an Implementation Plan addressing the actions from the Recommendation in October 2007. After DOE made several changes including additional DOE commitments, the Board accepted the plan in April 2008. DOE has accomplished the first milestones under the plan, including establishment and funding of the Technical Support Group, which is comprised of senior DOE and contractor personnel with significant experience in nondestructive assay. The Technical Support Group is currently developing lines of inquiry to be used during site reviews, which are planned to start in early calendar year 2009.

**Nuclear Criticality Safety (NCS).** In a letter to DOE in January 2008, the Board expressed concerns that DOE reviews of criticality safety may not be of sufficient depth to accurately assess the health of NCS programs. NCS problems discovered by the Board at Los Alamos National Laboratory in late FY 2007 underscore the need for an effective review strategy, since these problems had been missed during earlier reviews by DOE. The Board modified the annual reporting requirements from the closure of Recommendation 97-2, *Continuation of Criticality Safety at Defense Nuclear Facilities in the Department of Energy*, to obtain more specific information on the status of criticality safety throughout the DOE complex. This includes line management assessments by DOE on the adequacy of contractor and site office NCS programs, metrics used to monitor contractor NCS performance, and NCS engineer staffing for contractors and site offices. DOE submitted the 2007 annual report on nuclear criticality safety in July 2008, and briefed the Board in September 2008. The Board is currently evaluating the activities described in DOE's report.

**Justifications for Continuing Operations.** The Board continued its review and oversight of DOE's processes and practices associated with the use of justifications for continuing operations (JCO) 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 is developing revised guidance for use in the field in the development and implementation of JCOs.

**Safety System Design, Functionality, and Maintenance Reviews.** In 2008 the Board conducted reviews of safety system design, functionality, and maintenance at a number of defense nuclear facilities. These reviews identified a number of deficiencies and weaknesses related to ensuring that credited safety systems can adequately perform their required functions in all operating regimes. DOE will be working throughout FY 2009 to properly disposition these findings.

**Readiness Reviews.** The Board continues to review directives related to startup and restart of nuclear facilities, as well as their implementation at defense nuclear facilities. DOE formed a readiness review working group to ensure a more rigorous and conservative implementation of DOE Order 425.1C, *Startup and Restart of Nuclear Facilities*, and to address other complex-wide startup and restart issues. The working group evaluated the directives concerning the startup and restart of nuclear facilities and has proposed revisions to the DOE Order 425.1C and DOE Standard 3006, *Planning and Conduct of Operational Readiness Reviews*. The Board observed many of the discussions concerning the proposed revisions to understand the basis for any changes that were proposed. The Board is evaluating the revisions and working with the authors to ensure the specific tenets of Recommendation 92-6, *Operational Readiness Reviews*, are not minimized in the updated directives.

**Recommendation 2002-1, *Quality Assurance for Safety Related Software*.** On February 7, 2008, the Chief Health, Safety and Security Officer for DOE proposed a path forward for closure of the one remaining open action of DOE's Implementation Plan for the Board's Recommendation 2002-1. This action item required DOE to perform a gap analysis on the six original toolbox codes to determine the actions needed to bring the codes into compliance with Software Quality Assurance criteria. Although the gap analyses were completed, follow-up actions needed to resolve the gaps for each code have yet to be completed. DOE has now developed a plan and schedule along with the approach that will be used to resolve the gaps identified in the toolbox code gap analysis reports to allow closure of Recommendation 2002-1 by the end of 2008.

**Recommendation 2004-2, *Active Confinement Systems*.** During 2008, all the candidate Environmental Management (EM) facilities were reviewed against the confinement ventilation system evaluation criteria, and many gaps were identified. DOE-EM officials are to review these gaps and the sites' proposed actions for their resolution, and submit to the Board recommended actions for modifications to meet the commitments in the Implementation Plan. Similarly, the National Nuclear Security Administration has performed an assessment of about a dozen facilities and identified gaps that need to be resolved through facility modifications or compensatory measures. The Board has also reviewed the DOE design and construction projects to ensure that the proposed design would meet the intent of the Recommendation and DOE expectations as documented in the Implementation Plan. Resolution of the identified design improvements will significantly enhance the safety posture of these facilities.

**DOE Technical Capability.** The Board continues to follow the state of technical competency throughout the complex. The Board conducted a review of contractor training and qualification programs at Pantex and provided comments to DOE in a July 8, 2008, letter. The review identified a number of improvements that could enhance the training and qualification program. DOE is currently working to properly disposition these improvement areas.

**Activity-Level Work Planning.** During 2008, the Board reviewed work planning processes at four sites. The reviews of LANL and LLNL work planning and control processes indicate that their programs have not been fully implemented and weaknesses still remain. DOE efforts to address these weaknesses to date have been inadequate.

**Implementation of Safety Basis Controls.** Independent validation of implementation of safety basis controls is important to nuclear safety. Some DOE sites have protocols for performing such validations, but DOE lacks complex-wide requirements and guidance for independent reviews of the implementation of nuclear safety basis controls. The Board issued a letter on February 5, 2008, identifying this deficiency and requesting DOE to evaluate the need for such requirements/guidance.

**Safety Culture Improvement Project.** During FY 2008, DOE and its contractors established a jointly sponsored task team to develop tools for assessing and improving the safety culture of the federal and contractor workforces. The initial effort is intended to focus on improving leadership, workforce engagement, and organizational learning. Improvements in these areas will significantly contribute to improving the implementation of integrated safety management as well as other functional areas related to safety at defense nuclear facilities. The Board has been closely observing the team's efforts and will continue to evaluate and encourage this effort as it continues to mature.

## Chapter 3

# CFO Letter, Auditor's Report and Financial Statements

## CFO LETTER

I am pleased to report that the Board's FY 2008 financial statements received an unqualified opinion from its independent auditors, its third consecutive unqualified opinion since its FY2004 financial statements were initially audited pursuant to the Accountability of Tax Dollars Act (ATDA) of 2002. In addition, with the removal of the sole prior-year material weakness from the internal control report, I am pleased to report that FY 2008 marked the first 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 reports.

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 DNFSB 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 2008 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 second 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.

The auditors' FY 2007 internal control report noted several significant weaknesses in the Board's management of information systems which together constituted a significant deficiency. I am pleased to report that (primarily) as a result of the efforts the Board undertook to complete its Certification & Accreditation (C&A) program, which resulted in the Board's General Support System being authorized to

**FY 2008**  
**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**  
Performance and Accountability Report

operate, the material weakness was not a repeat finding. I consider this achievement especially noteworthy and a credit to the Board's IT staff.

The auditor's report, together with accompanying reports 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 sheet of the Defense Nuclear Facilities Safety Board (DNFSB) as of September 30, 2008, and the related statements of net cost, changes in net position, and budgetary resources for the year 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 audit. The financial statements of the DNFSB as of September 30, 2007, were audited by other auditors whose report dated November 2, 2007, expressed an unqualified opinion on those statements.

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 applicable Office of Management and Budget (OMB) guidance for audits of federal financial statements. Those standards require that we plan and perform the audit 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 significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides 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, 2008, and its net cost, changes in net position, and budgetary resources for the year then ended in conformity with accounting principles generally accepted in the United States of America.

Management's Discussion and Analysis (MD&A) and other accompanying information are not required as part of the DNFSB's basic financial statements. For the MD&A, which is required by OMB Circular A-136, *Financial Reporting Requirements*, 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 information for consistency 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. We did not audit the MD&A or other accompanying information and, therefore, express no opinion on them.

**FY 2008**  
**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**  
Performance and Accountability Report

In accordance with *Government Auditing Standards*, we have also issued a report dated October 31, 2008, on our consideration of the DNFSB's internal control over financial reporting and a report dated October 31, 2008, on its compliance with laws and regulations. These reports are an integral part of an audit performed in accordance with *Government Auditing Standards* and should be read in conjunction with this report in considering the results of our audit.

*Lani Eko & Company, CPAs, PLLC*

October 31, 2008  
Alexandria, VA

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**INDEPENDENT AUDITOR'S REPORT ON COMPLIANCE  
WITH LAWS AND REGULATIONS**

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, 2008, and have issued our report thereon dated October 31, 2008. 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 applicable Office of Management and Budget (OMB) guidance for audits of federal financial statements. These standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

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, 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 OMB guidance for audits of federal financial statements.

This report is intended solely for the information and use of the management of the DNFSB, 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, 2008  
Alexandria, VA

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**INDEPENDENT AUDITOR'S REPORT ON  
INTERNAL CONTROL OVER FINANCIAL REPORTING**

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, 2008, and have issued our report thereon dated October 31, 2008. 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 applicable Office of Management and Budget (OMB) guidance for audits of federal financial statements.

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 the DNFSB's internal control over financial reporting.

A control deficiency 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 misstatements on a timely basis. A significant deficiency is a control deficiency, or combination of control deficiencies, that adversely affects the entity's ability to initiate, authorize, record, process, or report financial data reliably in accordance with generally accepted accounting principles such that there is more than a remote likelihood that a misstatement of the entity's financial statements that is more than inconsequential will not be prevented or detected by the entity's internal control.

A material weakness is a significant deficiency, or combination of significant deficiencies, that results in more than a remote likelihood that a material misstatement of the financial statements will not be prevented or detected by the entity's internal control.

Our consideration of internal control was for the limited purpose described in the second paragraph and would not necessarily identify all deficiencies in internal control that might be significant deficiencies or material weaknesses. We did not identify any deficiencies in internal control that we consider to be material weaknesses, as defined above.



**FY 2008**  
**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**  
Performance and Accountability Report

We noted certain matters involving internal control and its operation that we have reported to the DNFSB's management in a separate letter.

This report is intended solely for the information and use of the management of the DNFSB, 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, 2008  
Alexandria, VA

**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**

**APPROPRIATED FUND**

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**FINANCIAL STATEMENTS**

**As Of and For the Years Ended September 30, 2008 and 2007**

FY 2008  
**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**  
 Performance and Accountability Report

**BALANCE SHEET**

As Of September 30, 2008 and 2007

		2008	2007
<b>Assets:</b>			
<b>Intragovernmental:</b>			
Fund Balance With Treasury	(Note 2)	\$ 8,720,666	\$ 9,149,400
Other	(Note 3)	155,000	263,000
<b>Total Intragovernmental</b>		8,875,666	9,412,400
Accounts Receivable, net	(Note 4)	32,698	74,535
General Property, Plant and Equipment	(Note 5)	524,023	371,104
<b>Total Assets</b>		\$ 9,432,387	\$ 9,858,038
<b>Liabilities:</b>			
<b>Intragovernmental:</b>			
Accounts Payable	(Note 7)	\$ 29,931	\$ 26,296
Employee Benefits	(Note 8)	130,389	106,258
<b>Total Intragovernmental</b>		160,320	132,554
Accounts Payable		794,595	676,787
Other	(Note 9)		
Accrued Funded Payroll and Leave		704,665	602,130
Unfunded Leave		871,316	794,541
Worker's Compensation	(Note 10)	7,523	8,941
<b>Total Liabilities</b>		2,538,420	2,214,952
<b>Net Position:</b>			
Unexpended Appropriations - Other Funds		8,049,967	8,838,029
Cumulative Results of Operations - Other Funds		(1,156,000)	(1,194,943)
<b>Total Net Position</b>		6,893,967	7,643,086
<b>Total Liabilities and Net Position</b>		\$ 9,432,387	\$ 9,858,038

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

*The accompanying notes are an integral part of these statements.*

**STATEMENT OF NET COST**

**For The Years Ended September 30, 2008 and 2007**

	2008	2007
<b>Program Costs:</b>		
<b>DNFSB:</b>		
Gross Costs (Note 12)	\$ 23,275,751	\$ 21,531,334
Net Program Costs	23,275,751	21,531,334
<b>Net Cost of Operations</b>	\$ 23,275,751	\$ 21,531,334

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

*The accompanying notes are an integral  
 part of these statements.*

FY 2008  
**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**  
 Performance and Accountability Report

**STATEMENT OF CHANGES IN NET POSITION**  
 For The Years Ended September 30, 2008 and 2007

	2008	2007
<b>Cumulative Results of Operations:</b>		
Beginning Balances	\$ (1,194,943)	\$ (1,423,814)
<b>Budgetary Financing Sources:</b>		
Appropriations Used	22,697,062	21,133,097
<b>Other Financing Resources (Non-Exchange):</b>		
Imputed Financing	617,632	627,108
<b>Total Financing Sources</b>	23,314,694	21,760,205
<b>Net Cost of Operations (+/-)</b>	23,275,751	21,531,334
<b>Net Change</b>	38,943	228,871
<b>Cumulative Results of Operations</b>	\$ (1,156,000)	\$ (1,194,943)
<b>Unexpended Appropriations:</b>		
Beginning Balances	\$ 8,838,029	\$ 8,057,072
<b>Budgetary Financing Sources:</b>		
Appropriations Received	21,909,000	21,914,054
Appropriations Used	(22,697,062)	(21,133,097)
<b>Total Budgetary Financing Sources</b>	(788,062)	780,957
<b>Total Unexpended Appropriations</b>	8,049,967	8,838,029
<b>Net Position</b>	\$ 6,893,967	\$ 7,643,086

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

*The accompanying notes are an integral part of these statements.*

FY 2008  
**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**  
Performance and Accountability Report

**STATEMENT OF BUDGETARY RESOURCES**  
For The Years Ended September 30, 2008 and 2007

	2008	2007
<b>Budgetary Resources:</b>		
<b>Unobligated Balance:</b>		
Beginning of Period	\$ 3,950,891	\$ 3,443,743
Recoveries of Prior Year Obligations	651,757	956,307
<b>Budget Authority:</b>		
Appropriations Received	21,909,000	21,914,054
Earned		
Collected	6,925	19,528
Subtotal	\$ 21,915,925	\$ 21,933,582
<b>Total Budgetary Resources</b>	\$ 26,518,573	\$ 26,333,632
<b>Status of Budgetary Resources:</b>		
<b>Obligations Incurred</b>		
Direct	\$ 23,268,517	\$ 22,382,741
Subtotal	\$ 23,268,517	\$ 22,382,741
<b>Unobligated Balances</b>		
Apportioned	2,591,374	2,975,056
Subtotal	\$ 2,591,374	\$ 2,975,056
Unobligated Balances - Not Available	658,682	975,836
<b>Total Status of Budgetary Resources</b>	\$ 26,518,573	\$ 26,333,632
<b>Change in Obligated Balances:</b>		
<b>Obligated Balance, Net:</b>		
Unpaid Obligations, Brought Forward, October 1	\$ 5,198,508	\$ 5,035,834
Total, Unpaid Obligated Balance, Brought Forward, Net	\$ 5,198,508	\$ 5,035,834
Obligations Incurred	23,268,517	22,382,741
Gross Outlays (-)	(22,344,659)	(21,263,759)
Recoveries of Prior-Year Unpaid Obligations, Actual (-)	(651,757)	(956,307)
<b>Obligated Balance, Net, End of Period:</b>		
Unpaid Obligations (+)	(Note 13) 5,470,610	5,198,508
Total, Unpaid Obligated Balance, Net, End of Period	\$ 5,470,610	\$ 5,198,508
<b>Net Outlays:</b>		
Gross Outlays (+)	22,344,659	21,263,759
Offsetting Collections (-)	(6,925)	(19,528)
<b>Net Outlays</b>	(Note 14) \$ 22,337,734	\$ 21,244,231

\*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, 2008, 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 account period less the amount contributed by the employees. 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. A worksheet adjustment was made for a credit of \$534 for FY 2007 for payroll charges that were reflected in the U.S. Treasury cash balance but were not yet recorded in the GSA accounting system. The status of these funds as of September 30, 2008 and 2007 are as follows:

A. Fund Balance with Treasury	<u>2008</u>	<u>2007</u>
Appropriated Fund	\$8,720,666	\$9,149,400
B. Status of Fund Balance with Treasury		
1) Unobligated Balance		
(a) Available	2,591,374	2,975,056
(b) Unavailable	658,682	975,836
2) Obligated Balance not yet Disbursed	<u>5,470,610</u>	<u>5,198,508</u>
	\$8,720,666	\$9,149,400

**Note 3 – Other Assets**

At the end of FY 2007, the Board entered into an Interagency Agreement (IA) with the Public Research Division of the Library of Congress for a research and report project. Per the Library of Congress's enabling authority and the terms of the IA, they billed in advance for the services. This line item represents the Advance (the FY2007 amount is the original advance and the FY2008 amount is the balance for services still to be rendered).

	<u>2008</u>	<u>2007</u>
1. Intragovernmental	\$155,000	\$263,000
2. With the Public – Associates	<u>\$ 0</u>	<u>\$ 0</u>
Total Other Assets	\$155,000	\$263,000

**Note 4 – 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	<u>2008</u>	<u>2007</u>
Claims	\$32,698	\$74,535

**Note 5 - 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, 2008 and 2007 are as follows.

<u>2008</u>	<u>Equipment</u>	<u>Furniture &amp; Fixtures</u>	<u>Software</u>	<u>Total</u>
Cost	\$901,448	\$52,644	\$392,629	\$1,346,721
<u>Accum. Depr.</u>	<u>(574,229)</u>	<u>( 52,644)</u>	<u>(195,825)</u>	<u>(822,698)</u>
Net book value	\$327,219	\$ 0	\$196,804	\$ 524,023

<u>2007</u>	<u>Equipment</u>	<u>Furniture &amp; Fixtures</u>	<u>Software</u>	<u>Total</u>
Cost	\$652,937	\$52,644	\$355,762	\$1,061,343
<u>Accum. Depr.</u>	<u>(561,925)</u>	<u>(46,918)</u>	<u>(81,396)</u>	<u>(690,239)</u>
Net book value	\$ 91,012	\$ 5,726	\$274,366	\$ 371,104

**Note 6 - Liabilities Not Covered by Budgetary Resources**

The liabilities on the Board's Balance Sheets as of September 30, 2008 and 2007 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, 2008 and 2007 is as follows:

	<u>2008</u>	<u>2007</u>
Unfunded Leave	\$ 871,316	\$ 794,541
<u>Workers' Compensation</u>	<u>\$ 7,523</u>	<u>\$ 8,941</u>
Total liabilities not covered by budgetary resources	\$ 878,839	\$ 803,482
<u>Total liabilities covered by budgetary resources</u>	<u>\$1,659,581</u>	<u>\$1,411,470</u>
Total Liabilities	\$2,538,420	\$2,214,952

**Note 7 - Intragovernmental Liabilities**

Intragovernmental liabilities arise from transactions with other federal entities. Of the FY 2008 accounts payable intragovernmental liabilities, \$7,978 is with GSA, \$10,784 is with DHS and the balance (\$11,169) is with OPM. Of the FY 2007 accounts payable intragovernmental liabilities, \$7,142 were with GSA and the balance (\$19,154) were with OPM. Employee benefits are the amounts owed to OPM and Treasury as of September 30, 2008 and 2007 for Federal Employees Health Benefits Program (FEHBP), Federal Employees' Group Life Insurance Program (FEGHIP), 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.

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.

**Note 9– Other Liabilities**

Other liabilities with the public for the years ending September 30, 2008 and 2007 consist of Accrued Funded Payroll and Leave and Unfunded Leave in the amounts shown below.

	<u>With the Public</u>	<u>Non-Current</u>	<u>Current</u>	<u>Total</u>
2008	Other Liabilities	\$871,316	\$704,665	\$1,575,981
2007	Other Liabilities	\$794,541	\$602,130	\$1,396,671

**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 employers 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, 2008 and 2007, as follows:

	<u>2008</u>	<u>2007</u>
Worker’s Compensation	\$7,523	\$8,941

**Note 11 – Leases**

The Board has not entered into any existing capital leases and thus has incurred no liability resulting from such leases. Its one operating lease is for headquarters office space from GSA. Lease costs for office space for FY 2008 and FY 2007 under the terms of its leases amounted to \$2,196,340 and \$2,148,974, 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:

<b>Fiscal Year Ending September 30</b>	<b>Payment</b>
2009	\$ 2,173,851
2010	\$ 2,252,410
2011	\$ 2,285,643
2012	\$ 2,319,873
2013	\$ 2,355,130
2014 and thereafter	\$ 5,838,888
<b>Total Estimated Future Lease Payments</b>	<b>\$17,225,795</b>

**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).

	<b>Intragovernmental Costs</b>	<b>Costs with the Public</b>	<b>Total Program Costs</b>
FY2008	\$3,695,928	\$19,579,823	\$23,275,751
FY2007	\$3,618,015	\$17,913,319	\$21,531,334

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

<b>OC</b>	<b>Description</b>	<b>FY 2008</b>	<b>FY 2007</b>
11	Personnel Compensation	\$11,844,915	\$11,312,375
12	Personnel Benefits	\$ 3,990,545	\$ 3,600,670
21	Travel & Transportation of Persons	\$ 845,006	\$ 765,662
22	Transportation of Things	\$ 86,137	\$ 7,229
23	Rent, Communications, & Utilities	\$ 2,326,078	\$ 2,287,898
24	Printing & Reproduction	\$ 20,989	\$ 10,987
25	Other Contractual Services	\$ 3,453,861	\$ 3,032,239
26	Supplies & Materials	\$ 196,606	\$ 181,491
31	Acquisition of Assets	\$ 511,614	\$ 332,783
	<b>Total</b>	<b>\$23,275,751</b>	<b>\$21,531,334</b>

**Note 13 – 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 good and services received). The amount of each is as follows:

	<b>Undelivered Orders</b>	<b>Accounts Payable</b>	<b>Unpaid Obl. Balance, Net</b>
FY2008	\$3,811,029	\$1,659,581	\$5,470,610
FY2007	\$3,787,038	\$1,411,470	\$5,198,508

In addition, the Board has \$155,000 in prepaid Undelivered Orders relating to the advance payment to the Library of Congress (reference Note 3).

**Note 14 – 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 2007, no material differences exist between the amounts on the Statements of Budgetary Resource and the amounts in the fiscal year 2009 President’s Budget which are rounded to the nearest million. As the FY 2010 President’s Budget is not yet available, comparison between the Statement of Budgetary Resources and the actual FY 2008 data in the FY 2010 Budget cannot be performed.

**Note 15 – 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 2008

	FY2007	FY2008	Change
Unfunded Annual Leave	\$794,541	\$871,316	\$76,775
Workers Compensation	\$ 8,941	\$ 7,523	(\$ 1,418)
Total	\$803,482	\$878,839	\$75,357

FY 2007

	FY2006	FY2007	Change
Unfunded Annual Leave	\$830,076	\$794,541	(\$35,535)
Workers Compensation	\$ 5,376	\$ 8,941	\$ 3,565
Total	\$835,452	\$803,482	(\$31,970)

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 16 – 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)):

	<b>FY 2008</b>	<b>FY 2007</b>
Budgetary Resources Obligated	\$23,268,517	\$22,382,741
Spending Authority from Recoveries and Offsetting Collections	(658,682)	(975,836)
Imputed Financing from Costs Absorbed by Others	617,632	627,108
Changes in Budgetary Resources Obligated for Goods, Services, and Benefits Ordered but Not Yet Provided	84,009	(276,874)
Resources that Finance the Acquisition of Assets	(363,353)	(305,403)
Financing Sources Yet to be Provided (see Note 15)	75,357	(31,970)
Components Not Requiring or Generating Resources	252,271	111,568
Net Cost of Operations	\$23,275,751	\$21,531,334

## APPENDIX A: LIST OF ABBREVIATIONS AND ACRONYMS

<b>C&amp;A</b>	<b>Certification &amp; Accreditation</b>
<b>CD</b>	<b>Critical Decision</b>
<b>CFR</b>	<b>Code of Federal Regulations</b>
<b>CY</b>	<b>Calendar Year</b>
<b>DAF</b>	<b>Device Assembly Facility</b>
<b>DNFSB</b>	<b>Defense Nuclear Facilities Safety Board</b>
<b>DOE</b>	<b>(U.S.) Department of Energy</b>
<b>DWPF</b>	<b>Defense Waste Processing Facility</b>
<b>EM</b>	<b>DOE Office of Environmental Management</b>
<b>FBWT</b>	<b>the Fund Balance with Treasury</b>
<b>FY</b>	<b>Fiscal Year</b>
<b>GSA</b>	<b>General Services Administration</b>
<b>GPRA</b>	<b>Government Performance and Results Act</b>
<b>HEPA</b>	<b>High-Efficiency Particulate Air (filter)</b>
<b>HLW</b>	<b>High-Level Waste</b>
<b>HSPD-12</b>	<b>Homeland Security Presidential Directive -12</b>
<b>INL</b>	<b>Idaho National Laboratory</b>
<b>ISM</b>	<b>Integrated Safety Management</b>
<b>JCO</b>	<b>Justification for Continuing Operation</b>
<b>LANL</b>	<b>Los Alamos National Laboratory</b>
<b>LLNL</b>	<b>Lawrence Livermore National Laboratory</b>
<b>NCS</b>	<b>Nuclear Criticality Safety</b>
<b>NNSA</b>	<b>National Nuclear Security Administration</b>
<b>NTS</b>	<b>Nevada Test Site</b>
<b>OMB</b>	<b>Office of Management and Budget</b>
<b>ORNL</b>	<b>Oak Ridge National Laboratory</b>
<b>PAR</b>	<b>Performance and Accountability Report</b>
<b>PDP</b>	<b>Professional Development Program</b>
<b>SDOR</b>	<b>Saltless Direct Oxide Reduction</b>
<b>SNL</b>	<b>Sandia National Laboratories</b>
<b>SRS</b>	<b>Savannah River Site</b>
<b>WIPP</b>	<b>Waste Isolation Pilot Plant</b>
<b>WTP</b>	<b>Waste Treatment Plant (at Hanford)</b>
<b>Y-12</b>	<b>Y-12 National Security Complex</b>
<sup>233</sup> U	<b>Uranium-233</b>
<sup>238</sup> Pu	<b>Plutonium-238</b>