

Statement of Darrel P. Kohlhorst

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On  
Modernization of the Nuclear Weapons Complex

Before the  
Subcommittee on Strategic Forces  
Committee on Armed Services  
U.S. House of Representatives

July 17, 2008

Thank you for the opportunity to submit this statement regarding the National Nuclear Security Administration's (NNSA) plans for transforming the nuclear weapons complex and the role of the Y-12 National Security Complex (Y-12), located in Oak Ridge, Tennessee, in those plans.

Babcock & Wilcox Technical Services Y-12 (B&W Y-12) is the management and operating contractor for Y-12, a vital production component of today's nuclear weapons complex. Today, the Y-12 missions include manufacturing, dismantlement, and assessment of nuclear weapon secondaries, cases, and other weapons components; safely and securely storing and managing highly enriched uranium (HEU); supplying HEU for use in naval reactors; promoting international nuclear safety and nonproliferation; and reducing global dangers from weapons of mass destruction. We are committed to increased productivity while maintaining a focus on continued safety improvement and workforce restructuring.

B&W Y-12 fully supports NNSA's desire and approach to accelerate the fundamental transformation of the nuclear weapons complex over the next 10 years and, more specifically, endorses NNSA's preferred alternative contained in the *Draft Complex Transformation Supplemental Programmatic Environmental Impact Statement* (SPEIS) released in December 2007. That preferred alternative, the distributed centers of excellence, names Y-12 as the Uranium Center of Excellence with the continuation of our currently assigned missions. It also endorses completion of construction and operation of the Highly Enriched Uranium Materials Facility (HEUMF) and design of the Uranium Processing Facility (UPF). The relocation of the Y-12 mission to another site would require a major, upfront facility investment; the establishment and training of a new workforce; overlapping operations to ensure a proper transition and mission continuation; relocation of special nuclear material, fixtures, and tooling; and the initiation of a full shutdown, decommissioning, and demolition program for Y-12. Studies and analyses performed to date indicate that Y-12 represents the least cost, lowest risk approach for transforming NNSA's uranium mission.

I'd like to specifically address the need for transformation at Y-12. Most of the uranium facilities at Y-12 were constructed in the 1940s and 1950s and were not designed to meet today's nuclear safety and security standards. They are oversized to support the stockpile of today and the future. While Y-12 operates in a safe and compliant manner today, it requires ever-increasing operations and maintenance funding with increasing risk to the mission as the facilities continue to exceed normal operating lifetimes. Compliance with today's more stringent security requirements demands a manpower-intensive approach, because decades ago the facilities were not designed to address security concerns. From an overall transformation perspective, Y-12 has been referred to as the "poster child" for the aging nuclear weapons complex, but we have also been recognized for our aggressive approach to transformation. Y-12 has created a clear path to resolve these infrastructure issues and we are well on our way to the future.

The Y-12 transformation plan that is being implemented focuses on downsizing, consolidating, and rebuilding mission-critical facilities with a special emphasis on health, safety, environmental, and security solutions. Construction of HEUMF will be completed this summer, and the preliminary design of UPF is well under way. Completion of these two facilities, which will house all enriched uranium production and storage operations, will lead to a 90% reduction (from 150 acres to 15 acres) in the high security area and a 60% reduction in the nuclear facility footprint. In addition, it will lead to a reduction of approximately \$200M per year in operations, maintenance and security costs. In light of the age and condition of our existing enriched uranium facilities and the opportunity for substantial savings in annual operating costs, it is imperative that we keep UPF on an aggressive schedule.

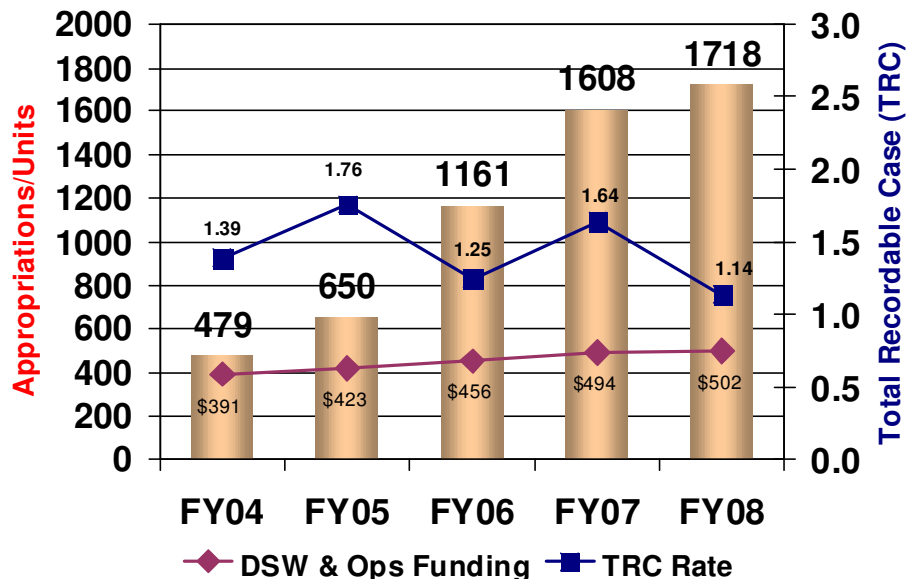
During the past 3 years we have consolidated our surveillance and depleted uranium metal cycle operations from four facilities to two, allowing us to cease operations in two 1940s production facilities encompassing approximately 900,000 sq ft. We have demolished more than 1 million sq ft of Cold War-era structures and consolidated technical and administrative functions into two new facilities eliminating the use of 35 Cold War-era facilities. One of our two new technical and administrative facilities is LEED (Leadership in Energy and Environmental Design) certified and is one of only eight such facilities in Tennessee. We are proactively addressing legacy facilities that have or will become excess to NNSA by teaming with Department of Energy-Oak Ridge Operations Environmental Management and Oak Ridge National Laboratory on an Integrated Facilities Disposition Project (IFDP) that will disposition 15 major facilities at Y-12, many of which are process contaminated, totaling approximately 3.8 million sq ft. The Critical Decision 0 (approval of mission need) for IFDP was approved in 2007, and Critical Decision 1 (approval to start preliminary design) was submitted for approval in June 2008.

Investments made through the Facilities and Infrastructure Recapitalization Program (FIRP), the Readiness Campaign, and the Plant Directed Research and Development (PDRD) programs are making a great contribution to transformation of the site. FIRP investments have enabled infrastructure upgrades, reduced the deferred maintenance backlog by more than \$133M, and supported major renovation to our compressed air, potable water, and steam generation systems. Similarly, Campaigns and PDRD investments have supported replacement of key production equipment and the development and deployment of new technologies such as microwave casting, specialized infrared heating applications, and agile machining to more capably and efficiently

perform our mission. These upgrades will help bridge the gap to the new Y-12 and allow us to take advantage of new technologies contributing to cost reductions.

Y-12 is a recognized leader in its safeguards and security program and is providing innovative solutions for the timely and cost-effective compliance with increasing Design Basis Threat (DBT) requirements. We have been actively dismantling retired systems, consolidating special nuclear material into fewer locations, and implementing physical security improvements that allow us to meet the DBT policy without significant increases in our protective force staff. Our designed denial facility approach for HEUMF and UPF will support the most cost effective approach for the safe and secure management of the U.S. HEU stockpile.

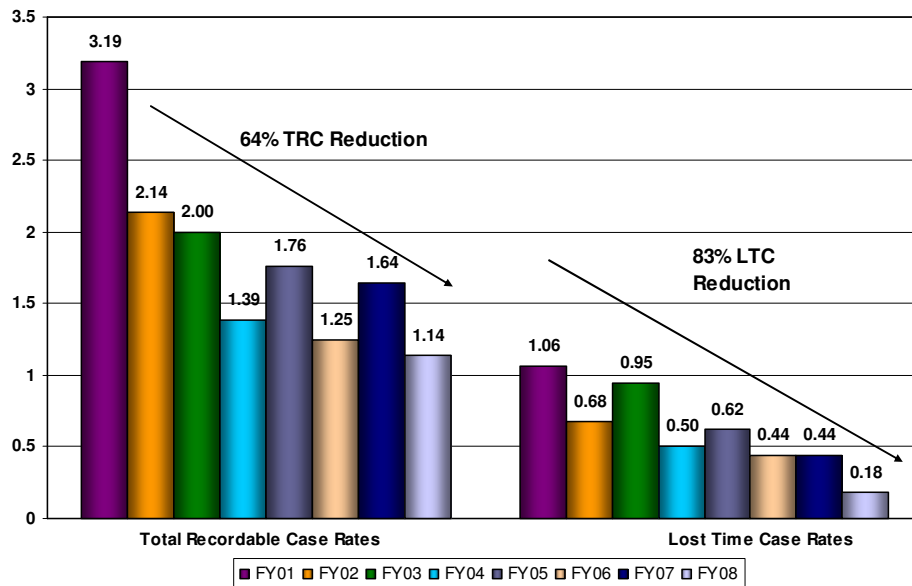
As you can see, we are already well on our way to transforming Y-12 to a smaller, modern, and more responsive complex. At the same time, it's important to note that Y-12 continues to provide and improve critical mission support for weapons refurbishment and dismantlement. We completed the W87 Life Extension Program in FY 2004. This year we will complete the B61 Alt 357 Program, reducing the average cost per unit by approximately 46% of the original estimate, and achieve first production unit and production ramp-up on the W76 Life Extension Program. In FY 2006 we more than tripled weapons dismantlement rates, and in FY 2007 and FY 2008 we sustained these accelerated rates. Savings achieved from these dismantlement efficiencies were used to provide funding for consolidation of our surveillance operations to ultimately achieve greater productivity and reduced cost. These achievements were realized while maintaining safety as our number one priority with modest increases to our annual operating funds.



**Y-12 safety, production performance, and funding.**

The federal budget profiles for FY 2009 and beyond compel us to accelerate and expand productivity and cost-reduction efforts at Y-12. We are engaging all Y-12 organizations to assess and improve the effectiveness and efficiency of how we create and deliver our products and services. As part of this initiative, I chartered an Indirect Review Board, accountable to me, to foster success in productivity improvement, to properly resource site-wide efforts, and to maximize the value for the U.S. taxpayer funding we receive. By becoming more efficient in every activity, cost savings will support improved site conditions and responsiveness. To achieve further costs savings, B&W Y-12 and B&W Pantex are working together to optimize mission, laboratory, and business operations through cooperative inter-site initiatives. These initiatives include sharing of best business practices and continuation of collaborative improvement programs like the Y-12 Throughput Improvement Plan and the Pantex Throughput Improvement Plan.

A major attribute of Y-12 today is our highly skilled workforce, which cannot be easily replaced. Y-12 is implementing an integrated human capital strategy to recruit, retain, and develop a highly skilled, flexible, and diverse workforce. In addition to expanding on-the-job training and training development, we are increasing our community outreach and manufacturing partnership and apprenticeship programs with labor unions and area schools to create the skilled crafts talent pool for future essential skills. Finally, we are expanding our Knowledge Preservation and Management activities to ensure we do not lose critical scientific, engineering, and manufacturing knowledge. As we downsize and modernize our operations and facilities over the next 10–15 years, we expect to see a 20–30% decrease in the workforce funded by NNSA Defense Programs. If allowed to be managed, most of that change can be achieved through attrition. B&W Y-12 has a strong safety culture which is supported by our workforce. We have seen a 64% improvement in our recordable injuries rate and an 83% improvement in our lost time case rate. Our goal is zero accidents and zero injuries.



**Y-12 total recordable case and lost time case rates.**

Much of my prior discussion has been associated with NNSA's stockpile stewardship efforts. Y-12 plays a vital role in the U.S. nuclear nonproliferation efforts by managing NNSA's Fissile Material Disposition Program. This program has dispositioned more than 113 metric tons of HEU (uranium enriched to contain 20% or more of the fissionable isotope U-235), down blended more than 97 metric tons to commercial nuclear fuel, and supplied 80% of the world's low enriched uranium research reactors with down blended HEU. Y-12 is also the supplier of HEU feedstock to the US Navy's Nuclear Fleet, supplying more than 18 metric tons of HEU for use by the Naval Reactors Program.

I believe it is important to note the overwhelming support Y-12 is receiving for its transformation efforts and future as the Uranium Center of Excellence from the State of Tennessee, the local community, and our local partners and collaborators. Y-12 is situated in a strong scientific and technical community and enjoys the benefit of working with the Oak Ridge National Laboratory, the Tennessee Valley Authority, the University of Tennessee, the Oak Ridge Associated Universities, and the Tennessee Valley Corridor. These relationships strengthen Y-12's ability to attract and retain a world-class workforce, to team on projects of national security importance, and to share production and technology solutions. Y-12 has long been and continues to be a strong corporate citizen, both giving to and receiving benefit from this thriving community. About one thousand people, mostly in support of transformation, attended the Complex Transformation SPEIS Public Hearings in Oak Ridge early this year.

In closing, I want to reiterate B&W Y-12's strong commitment to NNSA Complex Transformation, to the completion of the ongoing Y-12 transformation plans, and to the continuation of aggressive productivity improvement initiatives that are increasing efficiency and improving product quality. There are six major facilities included in Y-12's transformation plan. Two facilities (Jack Case Center and New Hope Center) are complete, HEUMF will complete construction this summer, UPF is in preliminary design, the Complex Command Center will request Critical Decision 1 this summer, and the Consolidated Manufacturing Complex is in pre-conceptual planning phase. In the meantime, we must manage wisely and invest appropriately in our aging infrastructure to ensure it supports our critical uranium mission until we complete our new facilities. You can see that Y-12 will be ready for the next century; we are up to the challenge and are making visible progress.

Thank you again for the opportunity to submit this statement.