

Nuclear Weapons Performance Excellence - An end-to-end approach to defining and operating the nuclear weapons business management system.

The Nuclear Weapons Complex must adopt American industry's best practices.

Both government and the Nuclear Weapons Complex (NWC) recognize that changes are needed in the Nuclear Weapons Program. The stockpile and its supporting facilities and test sites must be reduced. Increased scrutiny for reliability and surety will preserve the current deterrence until the Nation resolves the public policy question on replacing the stockpile. The NWC must improve operations effectiveness and efficiency by adopting best business practices of American industry. Lines of accountability and interfaces must be improved. Third party certification of management systems is expected.

Sandia is helping transform the nuclear weapons enterprise.

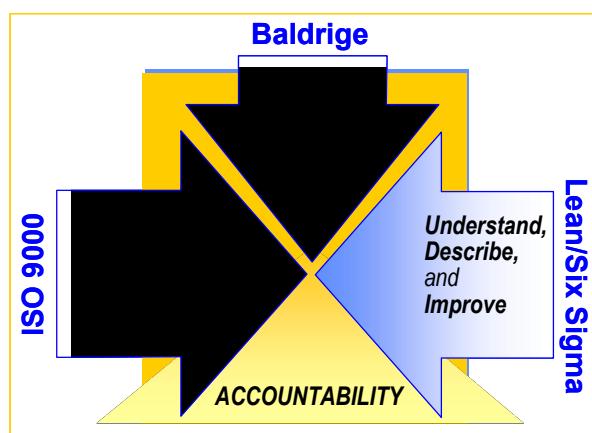
The Sandia Nuclear Weapons program has Performance Excellence goals and measures that, when achieved, will transform our business and that of the NWC. The Sandia Nuclear Weapons Strategic Management Unit will “design, develop and implement an easy-to-use, integrated tool set [business processes, policies, systems, rewards, procedures, and practices] that enables us to consistently deliver on our commitments with increasing value and customer confidence. Achieve ISO registration.” Sandia is also partnering across the NWC to “design, develop, implement a common, integrated tool set [business processes, policies, systems, rewards, procedures, practices] that enables the NWC to manage interdependencies more efficiently and effectively for the weapons lifecycle so the NWC can dramatically reduce cycle time to get new or modified weapons into the stockpile and effectively manage NWC operations.”

Performance Excellence means continuously doing the right things well.

Sandia achieves mission success by delivering measurable solutions that meet or exceed customer requirements. Performing all of the appropriate work processes right every time produces operations excellence. Sandia’s achievements depend on a diverse, inclusive, world-class workforce with strategic capabilities and modern, state-of-the-art facilities and equipment.

Nuclear Weapons Performance Excellence is based on proven business practices.

Nuclear Weapons Performance Excellence (NWPE) is our integrated approach to defining and operating our business management system. We began by recognizing that end-to-end work, rather than piecemeal, stove-piped activities, enabled us to consistently deliver on our commitments and measure our results. This switch in orientation led directly to the development of the foundation for NWPE.



Our mindset now focuses on customers, outcomes and teams. Assuring Performance Excellence requires constant attention and balance in managing what work we do and how we do it. First, and rather counter-intuitively, we focus on how we do work. Integrating all work as end-to-end processes focuses us on **understanding, describing, and then improving** how we perform work to produce and measure results. We employ proven improvement tools, including Six Sigma, to document, redesign, create and maintain high performance work processes. We rely on industry and professional standards such as ISO9000, project management practices, earned value criteria, etc. to guide, improve and achieve **excellence in integration**. A thorough review of how we do work yields many insights into how to improve the work we do for our customers.

Then we focus on the **results** we deliver to our customers by **aligning** all objectives and goals, from strategic vision to individual reward. Again we employ proven tools—such as management dashboards and scorecards, corrective action systems, enterprise-wide information systems and architectures, clear management reviews and Baldrige criteria—to continuously improve performance. For example, management dashboards help operationalize strategy by creating the line of sight from visions to goals, plans, and milestones. Strategy drives initiatives needed by us to serve our customers future needs. Management scorecards cascade throughout the NWSMU. Organizational and individual goals are aligned through personal commitment and **accountability**. Reward and recognition are directly linked to scorecard results. This framework provides the foundation upon which Sandia's NWSMU transformation efforts are based.

Ongoing transformation projects include the NW enterprise model, developing a core set of common business policies and practices, corrective action system, management dashboards and redesigning the NWSMU management review processes and meetings. Projects getting underway include (1) integrating technical and business information practices and systems; (2) developing robust training and communications programs to support new business practice rollout and maintenance, and (3) ISO registration (based on a fully defined work breakdown structure developed cooperatively with other SMU's and ISO registrars and consultants). Planned projects include (1) preventive action systems; (2) information architecture and records management improvements; and (3) how to better align and couple performance reviews, rewards and recognitions.

Key issues and challenges to be addressed

NNSA's 2004 Performance Evaluation Report states that Sandia's overall performance in Defense Programs, Science and Technology and Defense Nuclear Nonproliferation is outstanding. However, over the last five years Sandia has not adequately addressed necessary improvements in mission critical operations support. Sandia's inability to correct previously identified weaknesses detracts from its performance in mission-related programs. Sandia has managed change and self-improvement since 1990 with average success. Along the way we often grasped at processes, programs, tools, philosophies, and initiatives as silver bullets. Fifteen years of experience has taught us to look beyond short term responses to discover significant opportunities for improvement and change. Responses to root causes for our average performance must include the discipline to address the following: (1) define a strategic agenda with sound, realistic, and systemic objectives; (2) provide continuous executive support to drive follow-through; (3) state simply why we are changing; (4) avoid the tyranny of current fads; (5) calculate the true energy and resources needed and for how long; (6) clearly define roles, responsibilities, and accountability; (7) continuously improve organizational processes and (8) do not confuse philosophy, processes, tools, and management systems.

The challenge will be to sustain the executive and management discipline necessary to drive improved operations.

Over the last decade, the popular press has published several derogatory headlines about the national laboratories—on missing keys, illegal storage, can't keep secrets, etc.. Many stakeholders outside of the Nuclear Weapons Complex believe the NWC has a history of low operational performance using antiquated business practices. This view is typified by Congressman David Hobson's statement to the National Academy of Science on August 11, 2004. "I saw a weapons complex that could be viewed as a jobs program for Ph.Ds – the ultimate in white-collar welfare – where the federal oversight organization did not demand accountability for performance and where the business practices were two decades behind the times. Visiting the nuclear weapons complex is like stepping back in a time capsule. It is not just that some of the facilities date back to the early Cold War years, but some of the staff and certainly much of the thinking is of the same vintage."

The challenge will be to demonstrate improved operational performance (and performance excellence overall) through evidence-based reporting, trending, robust self-assessments and independent audits.

Key questions to be answered for Sandia and the NWC

- How do we effectively align and couple performance reviews, rewards and recognitions to operational excellence and mission success?
- Do we have the personal and institutional will to continuously exercise the discipline that is required?
- How do we design and apply the relevant best practices across manufacturing, engineering and research capabilities and competencies within one institutional model?
- How do you integrate various institutional models within the NWC?
- How do we then integrate a transformed GOCO NWC with traditional Government practices?