

5.1.5 Ensuring Technical Capability and Capacity to Fulfill Safety Responsibilities

Issue

DOE must establish and maintain the technical capability and capacity to fulfill its safety responsibilities at all levels of the Department.

Basis

Highly qualified people are essential for safety. Recruiting, training, and retaining the right people are central priorities for federal safety assurance. One of the ISM principles is technical capability consistent with responsibilities. In other words, DOE needs the right people with the right experience, qualification and training in the right roles. Decision-makers must have the qualifications and training necessary to fulfill their safety responsibilities. High Reliability Organizations consistently demonstrate the attribute of valuing technical excellence and expertise.

An NNSA team reviewed the Columbia accident report for applicable lessons. The team concluded that erosion of technical capability is a concern within NNSA. The team pointed to major reductions in nuclear safety expertise within NNSA during the recent organization changes. Following organizational changes, EM is re-evaluating its technical expertise to fulfill its safety responsibilities, including its oversight responsibilities. In addition to these issues, DOE is facing a long-term challenge in maintaining a technically capable workforce. Over the next five years approximately one half of the DOE workforce will become eligible to retire. The Department has the opportunity to attract highly-qualified personnel to replenish its technical staff from the loss of an expected large number of technical employees retiring from the Department.

Resolution Approach

To improve the quality and rigor of technical qualifications across the Department, the Department will identify 2-3 people who are the most experienced and technically capable in at least 5 selected functional areas and charge these individuals with a central role in the qualification of others. Once identified, these persons will assist the Department in improving overall technical capability. Potential activities would include providing technical exams to candidates in a particular functional

area, reviewing technical qualification standards, evaluating ongoing proficiency standards, and conducting ongoing training. These personnel could also provide training to others in particular functional areas. This will use the high-quality technical talent that exists within certain areas of the Department to raise the overall standard of technical qualifications across the Department.

To address the identified need to provide supplemental training to DOE senior personnel, including new DOE decision-makers, the Department has developed and implemented a structured training workshop tailored to these senior personnel. This training is called Nuclear Executive Leadership Training and was first conducted May 9-13, 2005. The Under Secretaries for NNSA and ESE identified the individuals who participated. This program tailored training based on the experience and expertise of identified senior personnel. Another session is planned for Fall 2005. The Department will evolve this training into an institutionalized leadership and development program.

The Department's vision is to be recognized among all federal technical agencies for the excellence of its federal staff. Further, the Department wants to have sufficient capacity of technically excellent personnel such that continuous learning and continuous training is a valued norm. The Department needs competent technical personnel with the knowledge and capability to be demanding customers of the Department's contractors. The Department intends to implement new, innovative, and practical ways to achieve its vision of a technically excellent staff.

To begin progress in the direction of this vision, the Department's Federal Technical Capability Panel (FTCP) reviewed past data and assessments of the Department's performance in recruiting, developing, training, qualifying, maintaining proficiency, and retaining technically excellent personnel who are fulfilling safety responsibilities, and identified areas where improvement is needed. This FTCP-led review is intended to raise the sense of urgency on this issue and to focus attention on strong, immediate actions for improvement. Previous assessments had already identified many of the relevant issues. For example, the FTCP review addressed the low participation by headquarters personnel in the Technical Qualification Program. These assessments included: workforce staffing analyses; Facility Representative quarterly reports; FTCP quarterly reports; internal reviews such as annual ISM reviews and OA independent assessments; internal evaluations, such as the NASA Columbia investigation report; and external reports and correspondence, such as those from the Board and the March 1999 Report of the "Chiles Commission" on Maintaining Nuclear Weapons Expertise. The FTCP also evaluated its effectiveness at overseeing these activities. The FTCP identified corrective actions to improve recruiting, developing, training, qualifying, maintaining proficiency, and retaining technical personnel, as well as enhancing FTCP effectiveness. The FTCP will take the Department lead in managing implementation of the corrective actions.

To review the Department's path forward toward achieving the vision of technical excellence, the Department, consistent with the provisions of the Federal Advisory Committee Act, will enlist the help of an emeritus-level panel with experience and expertise in Federal and large commercial technical organizations, particularly High Reliability Organizations. This panel will review Department performance in this area and make recommendations to the Secretary for improvements.

The Department will provide the panel with a summary of previous reviews and findings in the DOE technical capabilities area. This panel will take a fresh look at the status of the Department's efforts to upgrade technical capability. The main emphasis for this panel will be on high-impact, practical recommendations to achieve change. The panel will be charged to provide specific attention on the following topic areas:

- The overall Department goal, strategy, priority, and processes related to recruiting, developing, and retaining excellent technical personnel
- The use of incentives and rewards for attracting and retaining excellent technical personnel
- The relationship between position descriptions, technical capability expectations, and performance evaluations
- The ability of DOE to move federal technical staff between site locations as needed
- The ability of DOE to make changes in federal technical assignments based on personnel performance
- The use and effectiveness of the Technical Qualification Program
- The effectiveness of ongoing technical training and development
- The effectiveness of the Federal Technical Capability Panel
- The top Federal staffing needs to enhance nuclear safety

To address the staffing and technical qualification for the federal safety assurance roles described in this implementation plan, and to address inconsistencies in current staffing and technical qualification for federal safety roles, the Department will take the following steps:

- Complete a comprehensive federal staffing analysis at headquarters and the field offices with federal safety assurance responsibilities.
- Identify gaps based on the staffing analysis, and hire or re-assign personnel with the proper education and experience to fill gaps.
- Provide the new and reassigned personnel the training and mentoring necessary to fulfill their safety responsibilities.
- Assign appropriate technical qualification standards to the identified federal safety assurance personnel and individual objectives for completing qualifications.
- Identified individuals will complete technical qualifications to identified standards.

Deliverables/Milestones

Commitment 11: DOE will identify highly qualified and experienced personnel who will assist the Department in improving overall technical capability.

Lead Responsibility: Chairman, FTCP (as an agent for the Deputy Secretary)

Deliverable: A report identifying high-qualified and experienced personnel in select functional areas and describing their roles in improving overall technical capability, as well as a plan for implementing this concept and a mechanism for maintaining the list.

Due Date: July 2005

Commitment 12: DOE will provide structured training (such as the Nuclear Executive Leadership Training) for safety professionals, senior managers and decision-makers responsible for nuclear safety, including those responsible for nuclear safety oversight.

Lead Responsibility: NA-1 and US-ESE

Deliverable: A report describing the Nuclear Executive Leadership Training program, including the training materials, training periodicity, the criteria for and status of personnel identified for training, the date when all identified personnel will complete training, an assessment of the training's effectiveness, and plans for fully developing the Department's training and professional development program.

Due Date: August 2005

Commitment 13: The FTCP will develop corrective actions to improve recruiting, developing, training, qualifying, maintaining proficiency, and retaining technical personnel, as well as FTCP effectiveness. The corrective action plan will include a prioritized list of key positions that should be filled to enhance safety.

Lead Responsibility: Chairman, FTCP

Deliverable: Corrective Action Plan, approved and issued by the Deputy Secretary

Due Date: August 2005

Commitment 14: DOE will commission an emeritus-level panel to review the Department's efforts for recruiting, developing, and retaining technically excellent personnel to fulfill safety responsibilities, evaluate the FTCP's effectiveness, evaluate associated organizational systems and impediments, and make recommendations to the Secretary for improving the Department's effectiveness in the areas reviewed.

Lead Responsibility: Deputy Secretary

Deliverable: Report to the Secretary

Due Date: September 2006

Commitment 15: DOE will complete technical staffing of the personnel placed in identified positions needed to perform the federal safety assurance function for nuclear facilities.

Lead Responsibility: Deputy Secretary

Deliverable: A report on completed DOE staffing actions, with status of technical qualifications.

Due Date: December 2006

Integration with ISM system

This topic is clearly focused on improving consistency and completeness of implementation of ISM Guiding Principle #3 – Competence Commensurate with Responsibility. This principle permeates the performance of all ISM core functions at all levels.