



## Department of Energy

Washington, DC 20585

May 26, 1999

The Honorable John T. Conway  
Chairman  
Defense Nuclear Facilities Safety Board  
625 Indiana Avenue N.W., Suite 700  
Washington, D.C. 20004

Dear Mr. Chairman:

In the Revised Implementation Plan (IP) for Board Recommendation 93-3, *Improving DOE Technical Capability in Defense Nuclear Facilities Programs*, the Department commits to providing the Secretary of Energy an annual report that summarizes actions taken to address the Department's hiring and deployment needs for technical personnel whose duties relate to safe operations at defense nuclear facilities.

As a deliverable pursuant to Commitment 5.3.2 of the IP, the Federal Technical Capability Panel (Panel) reviewed the staffing plans prepared under Commitment 5.3.1 and prepared a report for the Secretary which includes a description of the current critical technical positions and recommendations for the ongoing Federal Technical Capability Program. The Annual Report to the Secretary and a forwarding memo signed by the Chair of the Panel were prepared and submitted to the Office of the Secretary. Copies of those documents are enclosed.

The Department has completed the actions identified under Commitment 5.3.2 and proposes closure of this commitment.

If you have any questions, please call or have your staff contact me at (202) 426-1506.

Sincerely,

A handwritten signature in black ink, appearing to read "David R. Roth".

David R. Roth

Executive Secretary

Federal Technical Capability Panel

Enclosures

cc:

Chairman, Federal Technical Capability Panel  
Panel Members  
Mark B. Whitaker, Jr., S-3.1





## Department of Energy

Washington, DC 20585

May 21, 1999

### MEMORANDUM FOR THE SECRETARY

**THROUGH:** T. J. Glauthier  
Deputy Secretary

**FROM:** Steven D. Richardson, Chair *Steven D. Richardson*  
Federal Technical Capability Panel

**SUBJECT:** Annual Report on the Status of Federal Technical Capability  
Related to the Safe Operation of Defense Nuclear Facilities

**ISSUE:** This report satisfies Commitment 5.3.2 of the Department's  
revised Implementation Plan responding to Defense Nuclear  
Facilities Safety Board Recommendation 93-3.

**BACKGROUND:** In the revised Implementation Plan (IP) for Defense Nuclear  
Facilities Safety Board (Board) Recommendation 93-3,  
"Improving DOE Technical Capability in Defense Nuclear  
Facilities Programs," the Department committed: (1) the  
Department's senior line managers to conduct a workforce  
analysis of their organizations and develop a staffing plan which  
identifies critical technical capabilities and positions which must be  
maintained to assure safe operations at defense nuclear facilities;  
and (2) prepare an annual report to the Secretary of Energy, based  
on the staffing plans described above, summarizing actions taken  
to address the Department's hiring and deployment needs and  
identifying future actions to preserve critical technical capabilities  
to ensure safe operations of defense nuclear facilities. This  
memorandum transmits that report covering the period of January  
1 to December 31, 1998.

**DISCUSSION:** The revised Implementation Plan has resulted in the Department  
enhancing its prior efforts to improve federal technical capability  
by shifting emphasis from a single system element of development  
to a total integrated system of recruitment, deployment,  
development and retention of federal personnel with the  
demonstrated technical capabilities to safely accomplish the  
Department's missions and responsibilities. Successful  
implementation of this new integrated system, the Federal  
Technical Capability Program, inherently required full line  
management ownership of the program.



In implementing the commitments made in the revised IP, the Department established the Federal Technical Capability Panel and issued the Federal Technical Capability Policy. These actions have begun to institutionalize the Federal Technical Capability Program. In addition, workforce analyses and staffing plans were completed by Departmental elements with defense nuclear facility safety responsibility. These analyses identified critical technical skills that must be maintained to assure safe operations of defense nuclear facilities. Existing shortages and plans to deal with the shortages in the near-term were identified. The staffing plans are being used as part of the strategy to reduce the effects of downsizing on technical capabilities and as a basis for recruitment and development programs. The analyses identified 686 positions as critical technical capabilities, including 168 Senior Technical Safety Manager positions and 175 Facility Representative positions.

Although progress has been made, changing missions and resource allocations will continue to challenge the ability of managers to ensure that they have the necessary technical capability to meet the needs of the Department. Not all offices identified immediate shortages in critical technical capabilities. Nearly all of them, however, predicted future vacancies in critical positions based on attrition and mission changes. Continued senior management support will be required to ensure that the Federal Technical Capability Program continues after the commitments in the 93-3 Implementation plan are met and the Recommendation is closed.

The report includes several recommendations from the Panel. These include reestablishment of the Technical Leadership Development Program, continued senior-level emphasis on the preservation of critical technical capabilities, development of an integrated workforce plan to preserve critical technical capabilities at closure sites, continuous updates of the critical technical capability needs and staffing plans on an annual basis, and institutionalization and expansion of the Federal Technical Capability Program. The Panel is working on initiatives related to these recommendations. However, they cannot be accomplished without the continued support and commitment of yourself and the senior managers of the Department.

**SENSITIVITIES:** One of the Panel recommendations is to expand the Federal Technical Capability Program across the Department in a manner similar to the expansion of the Integrated Safety Management

System program. This expansion will have to be accomplished, after consultation with affected offices, using a graded approach so as not to unnecessarily burden non-defense nuclear program offices.

**RECOMMENDATION:** Sign the attached memorandum forwarding the Report to all Department Elements and advising them of the your support of the Panel in implementing the recommendations outlined in the report.

**Attachments**

cc:

Federal Technical Capability Panel Members  
Mark B. Whitaker, Jr., S-3.1



**The Secretary of Energy**  
Washington, DC 20585

**MEMORANDUM FOR HEADS OF DEPARTMENTAL ELEMENTS**

**FROM: BILL RICHARDSON**

**SUBJECT: ANNUAL REPORT ON THE STATUS OF FEDERAL  
TECHNICAL CAPABILITY RELATED TO THE SAFE  
OPERATION OF DEFENSE NUCLEAR FACILITIES**

Attached is the Annual Report on Federal Technical Capability Related to The Safe Operation of Defense Nuclear Facilities. This report was provided by the Federal Technical Capability Panel as part of the Department's revised Implementation Plan responding to Defense Nuclear Facilities Safety Board Recommendation 93-3.

The Deputy Secretary established the Federal Technical Capability Panel (Panel) as committed to by the Department in its revised Implementation Plan to the Defense Nuclear Facilities Safety Board. This Panel consists of senior line managers and is responsible for overseeing the implementation of the Department's Federal Technical Capability Program. The Panel is also responsible for submitting an annual report to the Secretary of Energy that summarizes the actions taken to ensure that organizations maintain the critical technical capabilities that must be maintained to ensure safe operation at defense nuclear facilities.

I am directing the Panel to carry out its recommendations and to include the progress made on those recommendations in its next report. These initiatives will be conducted with other staffing and personnel actions that are part of the Department's Work Force 21.

Your support and commitment are vital to the Panel's success in implementing the recommendations designed to maintain the federal technical capability necessary for the continued safe operation of our facilities.



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**U. S. Department of Energy  
Federal Technical Capability Panel**

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**Annual Report to the  
Secretary of Energy on the Status of Federal  
Technical Capability Related to the Safe  
Operation of Defense Nuclear Facilities**



**Washington, D.C. 20585**

**April 1999**

**FEDERAL TECHNICAL CAPABILITY PANEL  
ANNUAL REPORT ON THE STATUS OF FEDERAL TECHNICAL CAPABILITY  
RELATED TO THE SAFE OPERATIONS OF DEFENSE NUCLEAR FACILITIES**

**INTRODUCTION**

In response to the Defense Nuclear Facilities Safety Board's Recommendation 93-3, the Department initiated a significant effort aimed at improving its overall technical capability. Despite substantial progress, the Department did not fully institutionalize the implementation of those commitments, and the program did not have full line management ownership. In its April 2, 1997, letter the Board suggested that the Department revise the Implementation Plan to reflect current issues and initiatives to address them. The Secretary submitted the *Revised Implementation Plan for Improving DOE Technical Capability in Defense Nuclear Facilities Programs* to the Board on May 5, 1998, and the Board accepted the revised Plan on June 1, 1998.

The Deputy Secretary established a Federal Technical Capability Panel (Panel) consisting of senior line managers to oversee the implementation of the Department's Federal Technical Capability Program. The Panel is also responsible for submitting an annual report to the Secretary of Energy that summarizes the actions taken to ensure that organizations maintain the critical technical capabilities that must be maintained to ensure safe operations at defense nuclear facilities.

This report covers the period of January 1 to December 31, 1998 and summarizes the status of the technical capability program in the Department of Energy (DOE). It identifies accomplishments, issues, and provides recommendations as appropriate.

**STATUS OF CRITICAL TECHNICAL CAPABILITIES AND STAFFING RELATED TO SAFE OPERATIONS OF DEFENSE NUCLEAR FACILITIES**

**A workforce analysis and staffing plan were completed** by organizations with defense nuclear facilities safety responsibility. The analysis identified critical technical skills that must be maintained to assure safe operations of those facilities. Existing shortages and plans to deal with the shortages in the near-term were identified. The analyses are being used as part of the strategy to reduce the effects of downsizing on technical capabilities and as a basis for recruitment and development programs.

There is a total of **686 positions identified as critical technical capabilities** across the Department. Of those 686 critical technical capabilities, **60 were identified as vacant** at the time of the analyses. The organizations that identified vacancies also identified actions to fill those vacancies over time. The Albuquerque Operations Office identified the largest number of critical technical capabilities at 300, and the largest number of vacancies at 45. The analyses indicated

that there are 168 Senior Technical Safety Manager positions and 175 Facility Representative positions listed as critical technical capabilities.

Attachment One provides a summary of the results of the workforce analyses and resulting identification of critical technical capabilities for safe operations of defense nuclear facilities.

## **ACCOMPLISHMENTS RELATED TO IMPROVING TECHNICAL CAPABILITY**

**The Federal Technical Capability Panel was established.** The Panel consists of senior line managers who have been designated as Agents to represent Headquarters and Field Offices with defense nuclear facility responsibilities. The Panel reports to the Deputy Secretary and is responsible for overseeing and resolving issues affecting the Department's Federal Technical Capability Program. This includes overseeing the Senior Technical Safety Manager (STSM) Program, conducting periodic assessments of the effectiveness of the Federal Technical Capability Program using internal and external experts, and providing recommendations to senior Departmental officials regarding DOE technical capability.

**A Federal Technical Capability Program was initiated and is being institutionalized.** The Federal Technical Capability Policy, which institutionalizes the Federal Technical Capability Program, was approved and signed by the Secretary. Policies and procedures to preserve Facility Representative and other critical technical capabilities were developed and are being implemented to ensure that critical technical capabilities are preserved during times of downsizing or increased attrition. The Guide entitled *Recruiting, Hiring and Retaining High Quality Technical Staff: A Manager's Guide to Administrative Flexibilities* was reviewed, revised and issued through the Department's directives system. Workshops on administrative flexibilities for recruiting, hiring and retaining high quality technical staff were conducted in the field and at headquarters by Panel agents.

**A workforce analysis and staffing plan were completed** by Departmental elements with defense nuclear facility safety responsibility. This is the first known analysis of its kind for the Department and provided detailed information to support the Workforce 21 initiative.

**The Technical Qualification Program (TQP) is undergoing revision.** The revised program offers greater flexibility for organizations to design a TQP process that meets their individual needs and addresses the Department-wide objectives established by the Panel. Assessments to determine the status of TQP implementation across the Department were conducted by teams of line technical personnel and training personnel using formal written guidance issued by the Federal Technical Capability Panel. The assessment reports underwent a peer review process by the Panel members to ensure that the assessments met the intent of both the guidance and the Implementation Plan. The assessment results formed the basis for the revised Technical Qualification Program Plans that will be implemented in 1999.



**The Senior Technical Safety Manager (STSM) program is being implemented** under the oversight of the Federal Technical Capability Panel. The Senior Technical Safety Manager positions constitute the unbroken line of safety management authority and responsibility within the Department. A Senior Technical Safety Manager, usually at the Senior Executive Service (SES) or GS/GM-15 level, is assigned the direct responsibility to manage technical programs or provide direction, guidance, or evaluation of technical activities affecting the safe operation of defense nuclear facilities. The Panel concurred with a revision to the list of STSMs in 1998 and will periodically review the qualification status of STSMs.

### **ISSUES RELATED TO IMPROVING TECHNICAL CAPABILITY**

**Changing missions** at the various sites will continue to challenge the ability of managers to ensure that they have the necessary technical resources. Mission changes range from new mission areas to site closure. As site missions change, so must the skill mix of employees at that site. Additionally, as sites move toward closure, managers will struggle to retain those highly competent technical employees who will be concerned with future employment issues.

Although not all offices identified immediate **shortages in critical technical capabilities**, nearly all of them predicted vacancies in the future based on attrition or mission changes. All offices will be required to monitor and update their staffing plans to ensure those existing vacancies are filled quickly and potential candidates are identified for anticipated vacancies.

The Department is in the process of **reestablishing the Technical Leadership Development Program** (the technical intern program). There are a number of significant issues that must be resolved to implement an effective program. These include funding, allocation of FTEs, preservation of interns during downsizing and program management. The Federal Technical Capability Panel has chartered a working group to develop a draft program plan for Departmental review.

**Senior management support** will be required to ensure that the Federal Technical Capability Program continues after the commitments in the 93-3 Implementation plan are met and the Recommendation is closed.

There are several ongoing Departmental initiatives related to the identification of critical resources and staffing. These include the effort to ensure adequate long-term staffing of Research and Development (R&D) Managers, the Workforce 21 initiative, Succession Planning and the response to the Chiles Commission Report. **It is imperative that the Federal Technical Capability Program initiatives are integrated with these other initiatives** to ensure a coordinated effort and proper prioritization of resources.

## **RECOMMENDATIONS TO MAINTAIN OR IMPROVE TECHNICAL CAPABILITY**

1. The Department should **aggressively pursue the reestablishment of a corporate Technical Leadership Development Program** (the technical intern program) to provide a pool of experienced technical leaders for the future. This program should be integrated with the Intern Program described in the Research and Development (R&D) Managers Action Plan championed by the Under Secretary.
2. The Department must **continue to place senior-level emphasis on the preservation of critical technical capabilities** to ensure the safe operation of nuclear facilities. This is especially true during times of declining budgets, downsizing and changing missions. Line managers must continue to be allowed the flexibility to recruit, develop and retain the necessary personnel to ensure that the critical technical capabilities identified in their staffing plans are maintained.
3. The Department should **develop an integrated workforce plan to preserve critical technical capabilities at closure sites**. The plan should address the transition of workers as missions are transferred or completed.
4. The Department should **require senior managers to update their critical technical capability staffing plans** annually, or more often if necessary, to ensure they matched the mission(s) and needs of the organization. The staffing plans should **include a succession planning element** to ensure that critical positions, particularly at the senior level, can be readily filled.
5. The Department should **institutionalize the Technical Capability Program**, as defined in the Technical Capability Policy, through the issuance of a Technical Capability Program Manual.
6. The Department should **begin consideration of the expansion of the current Federal Technical Capability Program** to include all federal technical capability requirements, not just those associated with the safe operations of defense nuclear facilities. The Panel will work with the affected non-defense nuclear program offices in preparing recommendations to the Secretary regarding how such an expansion can be implemented, using a graded approach so as not to unnecessarily burden affected offices, over the next three to five years.

## ATTACHMENT ONE

### *Critical Technical Capabilities Profile for Defense Nuclear Facilities*

Office	Critical Technical Capabilities	Current Vacancies	Comments
Defense Programs	26	0	All of the positions are designated as Senior Technical Safety Managers and currently staffed. DP is requesting authority to initiate recruitment actions to fill three positions relating to safety of nuclear weapons and facilities. The three positions supplement the technical support staff and include two Nuclear Explosive Safety Engineers and a Nuclear Safety Engineer.
Environment, Safety and Health	0	0	EH does not have any "critical positions" as defined by the criteria issued by the Federal Technical Capability Panel. The EH mission differs from other program offices and field elements that have direct responsibility for safety and mission accomplishment at defense nuclear facilities. EH has determined that they have sufficient principal and backup personnel with technical capabilities needed to perform the safety functions of the office.
Environmental Management	23	0	EM's Headquarters workforce is 43.5 percent smaller than its highest level of 756 in October 1995. In 1995, about 57 percent of the EM Headquarters workforce were in technical positions, while about 43 were in non-technical positions. Although the percentage of the technical workforce remains constant, downsizing has reduced the overall number of technical experts. EM does not currently have any critical technical capability shortages.
Albuquerque	300	45	The two categories with the largest numbers of vacancies are facility representative and authorization basis review. Albuquerque continues to rely on the transfer of DP technical personnel from Headquarters as a key element in filling authorization basis review positions. To fulfill their technical recruitment needs they have requested buyout and early-out authority for personnel not in scientific or technical positions to provide slots that can be used to fill critical technical positions. They do not project any dramatic shortages or surpluses in critical technical capabilities over the next three years.
Idaho	36	6	Internal recruitment is in progress to fill two Facility Representative and four subject matter expert vacancies. Reassigning ID employees to those positions can resolve most of the technical skill shortages by the end of 3 <sup>rd</sup> quarter FY99. Idaho anticipates shortages in the following technical areas based on retirements and other form of attrition over the next three years: FY99- Facility Representative; FY00- Facility Representative; FY01- Facility Representative, SME-Nuclear Criticality Safety Engineer, and SME-Nuclear Safety Engineer.
Nevada	26	0	Nevada currently has no critical shortages in its technical capability/position requirements. Nevada does not project surpluses in critical technical capabilities/positions over the next three years, nor can it accurately project shortages in these areas. They are using a Career Development Program, the STSM Program, the Technical Qualification Program, Succession Planning, the Technical Leadership Development Program, and the DP Fellowship Program to ensure technical capability is maintained.

## ATTACHMENT ONE

### *Critical Technical Capabilities Profile for Defense Nuclear Facilities*

Office	Critical Technical Capabilities	Current Vacancies	Comments
Oak Ridge	35	0	Oak Ridge's planned critical hires include: nuclear criticality engineer, Facility Representative, industrial safety engineer, and fire protection engineer. Oak Ridge identifies future vacancies in the positions of Director, Operations Team, ORNL Site Office; Director, Nuclear Safety Division; and Facility Representatives. They will fill those positions through recruitment within the Department.
Oakland	25	1	Oakland is in the process of filling the new Senior Technical Advisor - ESH position. They do not anticipate shortages in critical technical positions over the next three years. They have been successful in ensuring the retention of critical technical capabilities by using TQP training, retention allowances, relocation bonuses, and the Excepted Service authorities.
Ohio	19	0	Ohio found it difficult to project surpluses or shortages in critical technical positions. They have an Employee Transition Plan to help Ohio employees with career development while at Ohio, and with future employment when their particular position is projected as surplus beyond a certain date. A prioritized focus will be placed on the retention of critical technical skills using features of Ohio's TQP and the Employee Transition Plan.
Richland	90	4	Richland expects that the newly created Office of River Protection may cause an impact on their existing critical technical capabilities/positions within the next three years. They have experienced difficulty in recruiting Excepted Service technical talent because of the excessively long review times at Headquarters for approval of job offers. Richland suggests that more authority for Excepted Service hiring be delegated to the field offices.
Rocky Flats	37	4	The current shortages at Rocky Flats are in fire protection, transportation, ventilation/HEPA Filters and radiation protections. They are filling these positions using temporary staff, internal training and hiring. They project shortages due to retirement in areas of Facility Representative, nuclear safety, plutonium facility operations, engineering management, plutonium chemistry, and occupational medicine. They will continue to define required capabilities and pursue authorities to address their skill mix concerns through closure.
Savannah River	69	0	Savannah River employs a "defense-in-depth" strategy that requires more than the minimum technical competencies to ensure safe operations always. They have evaluated potential mission changes over the next five years and do not anticipate any critical gaps in their workforce. They will recruit and develop sufficient defense-in-depth capabilities for the technical expert subcategories of criticality safety, materials control and accountability, natural phenomena, and tritium.
<b>TOTAL</b>	<b>686</b>	<b>60</b>	