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

**FY 2002
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

JUNE 1, 2001 to MAY 31, 2002

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

This is the fourth Annual Report issued by the Federal Technical Capability Panel (FTCP). This report covers the period from June 1, 2001, to May 31, 2002, and summarizes the status of the federal technical capability program in the Department. It identifies accomplishments, issues, and recommendations as appropriate.


Roy J. Schepens
Chairman
Federal Technical Capability Panel

INTRODUCTION

The Department of Energy's (DOE) Federal Technical Capability Program (FTCP) was developed for the recruitment, development, deployment, and retention of Federal personnel with demonstrated technical capability to safely accomplish the Department's missions and responsibilities. The Deputy Secretary established the Federal Technical Capability Panel (Panel) to oversee the implementation of the FTCP recognizing that corporate leadership and line management ownership are essential to successful program implementation. 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 submits an annual report to the Secretary of Energy in accordance with the requirements in the Federal Technical Capability Manual (DOE M 426.1-1). This report summarizes the actions taken to ensure that organizations maintain the critical technical capabilities that must be preserved to ensure safe operations at defense nuclear facilities.

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

Work force analysis and staffing plans are maintained by organizations with defense nuclear facilities safety responsibility. The analyses identify 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 are also identified. The analyses are being used as part of the strategy to insure that the Department has the critical technical skills necessary to carry out its missions and as a basis for recruitment and development programs.

In the latter part of 2001, an extensive effort was undertaken by the Panel to compile data associated with the Federal staff that performs technical oversight of safety systems, to determine if critical technical skill gaps exist in that area, and to provide a means to address these gaps. Through this analysis almost 31 additional Full Time Equivalents have been determined to be needed to provide the necessary and sufficient oversight of contractor safety systems. The Panel documented the results of this staffing analysis on January 24, 2002 in a report titled "Analysis of Safety System Federal Staff Expertise and Availability."

The majority of the technical skill gaps from this analysis are in mechanical engineering, fire protection, electrical engineering, and instrumentation and control. Two-thirds of the skill gaps reside within four Operations and Area Offices: Office of River Protection, Los Alamos Area Office, Oakland Operations Office, and Y-12 Site Office. These gaps can be partially addressed in the near-term using technical expertise available at Headquarters and Albuquerque, using DOE support service contractors, and using the Authorization Basis and Facility Representative staff at the sites. Other long-term actions may be warranted. These include: 1) accelerating hiring actions to close technical gaps, 2) assigning existing staff with the necessary technical background doing other duties to these assignments, 3) cross training and qualifying existing Technical Qualification Program (TQP) qualified personnel to develop them into safety system experts, or 4) transferring (at an appropriate time) existing safety system experts from closure

sites to sites that have technical skill gaps. The Panel plans to continue to monitor this area using performance indicators to help ensure that the identified gaps are closed.

Attachment 1 provides a summary of the results of this safety system oversight workforce analysis and resulting identification of critical technical capabilities skill gaps by organization.

ACCOMPLISHMENTS RELATED TO IMPROVING TECHNICAL CAPABILITY

The Panel accomplished a number of items over the period of this report to improve technical capability across the complex. A few of the accomplishments are summarized below.

1. The Panel oversaw the successful implementation of a focused training course for Facility Representatives.

The Department's Facility Representative Program continues to be a centerpiece of Department efforts to provide federal technical capabilities. Over 200 Facility Representatives around the complex provide real-time oversight of operational activities important to mission accomplishment and public safety. In early 2001 a training need was identified by the Facility Representative Steering Committee based on their review of quarterly performance indicators. The Panel approved a proposal to plan and execute a focused training course designed to raise the Facility Representative Qualification percentage above the Department-wide goal of 75%.

The Department held a five week long Facility Representative training course that concluded on June 15, 2001, at the Energy Technical Training Center in Albuquerque, New Mexico. The purpose was to provide a combined curriculum for the General Technical Base and Facility Representative functional area qualification standards to accelerate the qualification time for Facility Representatives. Twenty-five Facility Representatives from around the complex completed the training: this contributed to an increase in the percentage of the qualified Facility Representatives from 71% to 78% in early 2002. Additionally, fifteen personnel from the Department's technical intern program and technical qualification program attended portions of the training related to the General Technical Base competencies. Subject matter experts provided much of the instruction, and qualified Facility Representatives from various Departmental sites assisted with seminars, facility walkthroughs, and practical exercises. Additionally, training provided by qualified Facility Representatives provided a valuable Facility Representative perspective for the instruction topics. The qualified Facility Representatives signed the students' qualification cards as competencies were completed and demonstrated during the various course modules. The Panel was briefed by the Facility Representative Program Manager during their November meeting on lessons learned from the implementation the training course, and the Panel is considering a similar course in the future for the Senior Technical Safety Manager functional area.

2. Biennial change in Panel leadership and make-up of the Panel.

In accordance with the requirements in DOE M 426.1-1 to change leadership of the Panel every two years, in November 2001 Mr. Roy Schepens, the Savannah River Operations Office Agent, was selected to serve as Chair and Mr. Robert Poe, the Oak Ridge Operations Office Agent, was selected to serve as Vice Chair. The make-up of the Panel also changed in November with a

number of offices naming new Agents and all offices naming alternate Agents at the request of the Chairman. The alternates provide improved continuity for more frequent Panel meetings and a larger personnel resource pool to work actions assigned by the Panel.

The Chairman held a Panel meeting in December in which he presented an overview of his goals for the Panel to improve Federal technical capabilities through near-term actions, long-term actions, and continuing actions. The Panel also met with the Deputy Secretary in December and discussed his desire to see performance measures routinely gathered and reported to senior managers in the Department in order to better monitor improvements in the technical qualification program.

3. Initiation of Quarterly Performance Indicator Reports to senior management.

In response to the Deputy Secretary's direction and the desires of the Panel Agents, a set of performance indicators and corresponding goals were developed and the first quarterly report was produced and promulgated to senior managers on January 15, 2002. The initial report provided information regarding the status of the TQP throughout the Department. The percent of people fully qualified in the TQP is 59% working toward a goal of 75% qualified. The Panel continued to refine and improve the quarterly report adding performance indicators in a number of areas for the second report in May. The additional areas included performance indicators on the status of filling technical skill gaps, the availability of technical positions at closure sites, and the number and retention rate of entry level technical interns in the Department's technical intern programs. The quarterly performance indicators are useful to both the Agents and the Department's senior managers as a tool to identify areas where progress can be made in improving the technical competence of the workforce.

4. Development of 2002 Action Plan.

Leveraging off of the Chairman's goals from the December meeting, an Annual Action Plan for 2002 was prepared by the Panel and approved in March which identified a set of specific actions with individuals assigned lead responsibilities and with due dates. The Action Plan identified activities in five major areas including the intern programs, closure site workforce plans, annual workforce analyses and staffing plans, senior management involvement in FTCP improvement, and improvement in Panel administration and operation. Progress is continuing on the activities in the 2002 Annual Action Plan and the development of the 2003 Annual Action Plan was begun by the Agents at the May meeting.

5. Progress on updated functional area qualification standards.

One of the major actions from the 2002 Annual Action Plan was to develop a plan and schedule to review and update the 29 functional area qualification standards that are a part of the TQP and to incorporate them into the Department's Technical Standards Program. The plan and schedule were developed and promulgated by the Panel in April 2002. As part of this effort, the competency statements in the standards are being reviewed, updated or added to, if necessary, to cover safety system oversight roles for each functional area. The Panel placed priority on updating the mechanical systems, electrical systems, instrumentation and control, fire protection,

and criticality safety qualification standards since technical skill gaps have been identified in those areas. As of the end of May, five of the qualification standards have been updated and incorporated into the Technical Standards Program.

6. Progress on technical intern program.

The Department has three intern programs: the Career Intern Program (CIP), the Technical Intern Program (TIP), and the Technical Leadership Development Program (TLDP). Two of the three programs, TIP and TLDP, will cease to exist upon graduation of the current classes and be replaced with the CIP.

As part of the Department's Human Capital Management Initiatives, a new corporate intern program was developed. The newly developed Career Intern Program, a two-year entry level program for highly qualified technical and business new hires, focuses on addressing technical skills gaps and succession planning issues. Recruiting is currently taking place and is based on identified skills needs. The CIP Kickoff is scheduled for later this year and has a target of 25 selecting participants.

The Department's two active intern programs – the TIP and TLDP – have a total of 31 interns from 7 different Field and Headquarters offices. Graduation for both programs is latter FY03. Both programs are currently at a 94% retention rate. The following statistics give a cumulative snapshot of both programs.

- 3:1 ratio of men to women
- 55% women/minority representation
- Approx. 40% have Master's Degrees
- Recruited from 21 Colleges/Universities
- 55% are Recent Graduates
- 35% w/ Environmental or Mechanical Engineering Degrees

ISSUES RELATED TO IMPROVING TECHNICAL CAPABILITY

1. Improvements are needed in the transportability of qualifications. Changing missions and organizational changes at the various offices 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 need to work to retain those highly competent technical employees who will be concerned with future employment issues. One of the principles of the Technical Qualification Program defined in DOE M 426.1-1 is that competency requirements identified as having Department-wide applicability must be transferable. All offices need to ensure the transportability of qualifications which will help in retention of technical expertise from closure sites as well as efficient reassignment of personnel with mission changes.

2. Qualification progress is below the Department's 75% completion goal. The Panel established a Department-wide goal in December 2001 of 75% fully qualified for all personnel participating in the Technical Qualification Program. The Department's Technical Qualification Program has been in place since the mid-1990's at all of its offices and sites, but the overall qualification of personnel is lagging at some locations. As of the end of this annual reporting period, the Department-wide qualification rate is 59% and only 11 of 24 reporting offices meet the 75% qualified goal. An additional related goal established by the Panel is that there will be no personnel overdue in their qualifications and only 6 of 24 offices meet this goal. Most all offices need to refocus efforts and assist those personnel in an overdue or incomplete status to finish their qualifications.
3. Improvements are needed in knowledge, skills, and abilities statements to capture operational experience.

At the Facility Representative Workshop held in May, 2002, several Facility Representatives (FR) expressed a concern that their field experience was not adequately credited in the job posting and selection process. The FRs noted that the "Knowledge, Skills, and Abilities" identified for many job postings, including those for DOE management positions, did not give adequate credit to operational and technical experience. This has the effect of minimizing the value of operational experience in the facilities and, therefore, the potential for FR and functional area Subject Matter Experts being selected to more senior positions.

RECOMMENDATIONS TO MAINTAIN OR IMPROVE TECHNICAL CAPABILITY

At the May 2002 meeting, the Panel members discussed the three issues above and determined that the FTCP Annual Action Plan will be used to capture and guide the actions being taken to address these issues. No additional recommended actions are necessary by the Secretary to address the issues. The following is a summary of the actions being taken by the Panel related to the three issues.

1. The Panel Chairman will send a memo to senior Department managers at Headquarters and the Field emphasizing the importance of the Technical Qualification Program principle of transportability of qualifications. The managers will be asked to review their local programs to be sure that the competency requirements in the Department's General Technical Base qualification standard and functional area qualification standards are the requirements that are, in fact, reflected in the first two tiers of the local qualification cards. Any additions, modifications, or unique aspects of the competency requirements should be addressed in the third tier local office or site specific qualification cards. Additionally, the Panel recently approved an updated General Technical Base qualification standard and is currently reviewing and updating all of the functional area standards to ensure the competency requirements are appropriate and transportable around the complex. A qualification card template that matches the Department-wide standards has been prepared and has been promulgated to the Panel Agents for use at their sites. In this way, as personnel relocate from office to office the first two tiers of their completed qualifications cards will look the same and be transportable so that qualification at a new location will be more rapid and efficient.
2. The Panel developed a set of quarterly performance indicators this year and initiated a quarterly report to monitor the qualification progress across the Department. The Panel will continue using and refining the quarterly performance indicators, as necessary, to guide the overall qualification progress to reach the 75% goal. For those offices that are below 60% fully qualified, the respective Agents have been tasked to develop a plan and schedule to achieve the 75% goal. Also, the Panel plans to run a focused training course in the coming year at the Savannah River Operations Office for personnel in the Senior Technical Safety Manager program, one of the areas lagging in qualification progress across the Department. The Panel Chairman has asked other offices to develop and run similar courses for some of the other functional areas in the Technical Qualification Program with the larger percentages of lagging qualifications.
3. The Panel Chairman will send a memo to senior Department managers at Headquarters and the Field emphasizing the importance of operational experience when filling open positions. The managers will be asked to review the sets of knowledge, skills, and abilities statements and Quick Hire questions that they are using to better capture operational experience requirements. Not emphasizing operational experience has the effect of minimizing the value of operational experience in the facilities and, therefore, the potential for Facility Representatives and other functional area Subject Matter Experts being selected to more senior positions.

Attachment 1

**Table A1 – NNSA Technical Capability by Site and System Category
(Status as of 1/24/02 Report “Analysis of Safety System Federal Staff Expertise and Availability”)**

Site	System Category																											Total FTE Needs		
	Confinement Ventilation			Fire Protection			Electrical Power			Radiation Monitoring			Hoist & Crane			Process			Comuni-cations			Gas & Air			Other					
	# of Sys.	# FT Av.	# FT Nd.	# of Sys.	# FT Av.	# FT Nd.	# of Sys.	# FT Av.	# FT Nd.	# of Sys.	# FT Av.	# FT Nd.	# of Sys.	# FT Av.	# FT Nd.	# of Sys.	# FT Av.	# FT Nd.	# of Sys.	# FT Av.	# FT Nd.	# of Sys.	# FT Av.	# FT Nd.	# of Sys.	# FT Av.	# FT Nd.	# of Sys.	# FT Av.	# FT Nd.
LAAO	12	0	1	16	0	1	5	0	1	16	0	1	1	0	0.5	20	0	1.5	4	0	0	6	0	0.5	6	0	0	86	0	6.5
AAO	0	0	0	13	1	1.6	14	0	0.1	15	0	0.2	12	0	0.1	4	0	0.3	0	0	0	0	0	0	9	0	1.4	67	1	3.7
KAO	2	0	0.5	0	0	0	1	0	0	1	0	0.1	1	0	0.2	23	0	1.2	0	0	0	0	0	0	0	0	0	28	0	2
AL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0
NV	3	2	3.5	6	1	1.5	1	2	2	1	2	2	0	0	0	4	0	0.5	0	0	0	1	0	0.2	0	0	0	16	7	9.7
OAK	13	0.4	1.3	11	0	1.5	2	0	0.5	2	1	1	0	0	0	0	0	0	0	0	0	2	0	0.1	0	1	2.2 5	30	2.4	6.6 5
ORO	4	3	2	2	1	1	0	0	0	1	1	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	9	6	5
YSO	5	0.9	0.9	10	1	2.5	0	0	0	15	1	2.5	0	0	0	0	0	0	0	0	0	1	0.1	0.1	0	0	0	31	3	6

of Sys. = number of Safety Systems, # FT Av. = number of available FTEs, # FT Nd. = number of needed FTEs. The NNSA Savannah River site office federal numbers are included in the data compiled by EM (Table A2).

Attachment 1

**Table A2 – EM Technical Capability by Site and Safety System Category
(Status as of 1/24/02 Report “Analysis of Safety System Federal Staff Expertise and Availability”)**

Site	System Category																											Total FTE Needs		
	Confinement Ventilation			Fire Protection			Electrical Power			Radiation Monitoring			Hoist & Crane			Process			Communi-cations			Gas & Air			Other					
	# of Sys.	# FT Av.	# FT Nd.	# of Sys.	# FT Av.	# FT Nd.	# of Sys.	# FT Av.	# FT Nd.	# of Sys.	# FT Av.	# FT Nd.	# of Sys.	# FT Av.	# FT Nd.	# of Sys.	# FT Av.	# FT Nd.	# of Sys.	# FT Av.	# FT Nd.	# of Sys.	# FT Av.	# FT Nd.	# of Sys.	# FT Av.	# FT Nd.	# of Sys.	# FT Av.	# FT Nd.
RF	9	0	.3	10	.3	.3	5	.3	.3	11	.5	.5	0	0	0	4	.1	.1	6	.1	.1	3	.1	.1	0	0	0	48	1.4	1.7
ID	3	.3	.3	2	.2	.2	1	.1	.1	6	.6	.6	3	.3	.3	5	.5	.5	0	0	0	0	0	0	2	.3	.3	22	2.3	2.3
SR	24	2.6	2.6	7	1.6	1.6	105	2.2	2.2	31	.7	.7	3	.1	.1	39	10.4	10.4	0	0	0	16	1.6	1.6	4	2.8	2.8	229	22	22
RL	31	1.2	1.4	27	1	2	5	.1	.4	14	2	2	1	.2	.2	16	.4	.8	2	0	0	5	.1	.5	1	0	0	102	5	7.3
RP	9	0	2	7	0	1	1	0	1	12	0	2	0	0	0	4	0	.75	0	0	0	2	0	.25	0	0	0	35	0	7
OH-F	0	0	0	1	1.3	1.3	0	0	0	1	.2	.2	0	0	0	0	0	0	0	0	0	0	0	0	4	.5	.5	6	2	2
OH-M	2	1.5	1.5	2	.2	.2	0	0	0	5	.5	.5	0	0	0	0	0	0	0	0	0	3	1	1	4	1	1	16	4.2	4.2
CB	2	.3	.3	1	.2	.2	0	0	0	1	.3	.3	2	.2	.2	0	0	0	1	.2	.2	0	0	0	1	.1	.1	8	1.3	1.3
ORO	0	0	0	0	0	0	0	0	0	3	.1	.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	.1	.1
Total	80	6.9	9.4	57	5.8	6.8	117	2.7	4	84	6.9	8.9	9	.8	.8	68	11.4	12.95	9	1.3	1.3	29	2.8	3.45	16	4.7	4.7	469	38.3	47.9

of Sys. = Number of Safety Systems, # FT Av. = Number of available FTEs, # FT Nd. = Number of needed FTEs. The NNSA Savannah River site office federal numbers are included in the data compiled in this table.