



## Department of Energy

Washington, DC 20585

JUL 19 2001

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

Dear Mr. Chairman:

Consistent with the Department of Energy's (DOE) Implementation Plan (IP) for the Defense Nuclear Facilities Safety Board (Board) Recommendation 2000-2, *Configurations Management, Vital Safety Systems*, I am forwarding information concerning Deliverables 17, 18, and 19. Commitment 17 was to be completed in March 2001. It calls for DOE to identify needed federal expertise, and survey the staffing necessary to ensure effective oversight of contractor safety systems at Defense Nuclear Facilities. Commitment 18, due in April 2001, calls for the Department to compile a report identifying DOE needs for federal technical personnel determined in Commitment 17. Commitment 19, due in June 2001, calls for changes to the Technical Qualification Program based on conclusions and recommendations in Commitment 18. I have worked with the Chairman of the Federal Technical Capabilities Panel (Panel) to develop a plan to complete these overdue commitments, discussed below.

Safety system lists were completed and forwarded to the Panel in February 2001. Using these lists, the Panel developed a conceptual model for ensuring adequate system expertise is available to perform technical oversight of DOE's contractors. The model and the process to analyze federal expertise are described in an enclosure to this letter. The Panel agents are working with line management to complete the analysis at each site, and we expect to forward the results to the Board by the end of August 2001. When this information is available, we will complete Commitments 18 and 19 as expeditiously as possible.

Sincerely,

A handwritten signature in black ink that reads "Steven V. Cary".

Steven V. Cary  
Acting Assistant Secretary  
Office of Environment, Safety and Health

Enclosure

cc:  
M. Whitaker, S-3.1



## **Federal Technical Capabilities Panel Process for Evaluating Technical Oversight Staffing**

The Implementation Plan for Defense Nuclear Facilities Safety Board Recommendation 2000-2 cites the guidance of DOE STD 1073-93 regarding the system engineer concept with emphasis on three activities:

- Configuration management
- Assessment of system status and performance
- Technical support for operation and maintenance activity

On February 20, 2001, the Secretary of Energy initiated action to establish contractor system engineer programs. In carrying out DOE duties, Federal subject matter experts and Facility Representatives play a key role in the technical oversight of contractor system engineer activities.

Senior line managers in the Department determine the need for daily safety monitoring of field work and the need for in-depth technical and programmatic assessments of contractor activities. These line managers also ensure that subject matter experts are available to oversee technical work completed by DOE contractors. In addition to duties already assigned to subject matter experts by line management, the Federal Technical Capabilities Panel (Panel) has identified two primary functions with respect to vital safety systems:

- **Technical Review** of the authorization basis, hazard analysis, hazard control systems and TSRs, design review, modification to existing safety systems, Unreviewed Safety Questions and operational issues, changes in facility mission and operations, and periodic evaluations;
- **Operations oversight:** Upon approval of authorization basis, safety systems oversight includes monitoring of operational status, maintenance, configuration management, system testing and calibration, and safety support systems to ensure that safety is not compromised.

Qualified subject matter experts, scientists, and engineers are assigned by senior line managers to execute the assessments and monitoring plans along with facility representatives. The requirement for daily facility oversight, including verification of vital safety system operation, is also a responsibility of facility representatives who interface directly with senior facility engineering personnel responsible for ensuring availability and reliability of vital safety systems. The technical review function described above is performed by subject matter experts.

Subsequent to authorization basis approval, facility representatives are assigned to oversee facility operation and maintenance. Facility Representatives also coordinate vital safety system issues with the subject matter experts so as not to detract from their primary duties.

Beginning with a list of vital safety systems, the Panel Agents will coordinate the grouping of systems by type (e.g. mechanical, electrical, etc.) and identify the approximate number of each type of vital safety system and the subject matter expert functions described above. Line management will determine the subject matter expertise needed considering the status of the safety documentation and safety systems. Panel Agents will then update the annual workforce analysis and compare the list of needed subject matter experts with the list of available subject matter experts. Gaps will be documented and forwarded to line management for action. The analysis process, and a sample for documenting the analysis results, are provided below.

### **The Analysis Process**

- Review the list of vital safety systems identified for each site under Commitment 2.
- Group the vital safety systems into similar technical areas such as:
  - Mechanical – (piping, tanks, vessels, structures, cranes, purge systems, water conditioning, gloveboxes, hot cells, etc.);
  - Confinement Ventilation;
  - Instrumentation and Control;
  - Electrical – (facility power distribution, grounding, lightning, emergency power supply, etc.);
  - Criticality Safety;
  - Fire protection, etc.
- Describe system/program for identifying existing SMEs
- Determine expertise needed for technical review and operations oversight (by position, numbers and type). Consider the status of safety systems documentation, safety systems condition, future workload, etc.
- Review list of current capabilities resulting from the Annual Technical Workforce Analysis.
- Compare the list of positions needed with the list of positions available and document the differences. Determine how any identified gaps or shortfalls will be addressed (e.g. new hires, shared resources on call, service contracts, etc.) and any compensatory measures.

### Sample Form for Analysis Results

Vital Safety System (VSS) Type	VSS (approx. #'s)	Types of SME's Needed	SME's Available
Mechanical	Pressurized Air (6) Cooling Water (10) Hoists (2)	Mechanical (3) Electrical (1)	
Confinement			
Instrumentation & Control			
Electrical	120V 4KV Emergency Diesel Generators	Mechanical (1) Electrical (2)	
Criticality			
Fire Protection			