



## Department of Energy

Washington, DC 20585

September 27, 2005

The Honorable A. J. Eggenberger  
Chairman  
Defense Nuclear Facilities Safety Board  
625 Indiana Avenue, NW, Suite 700  
Washington, D.C. 20004

Dear Mr. Chairman:

This letter provides interim status and reports partial completion of Commitment 12 of the Department's 2004-1 Implementation Plan for Improving Oversight of Nuclear Operations. Commitment 12 calls for structured training for safety professionals, senior managers and decision-makers responsible for nuclear safety, including those responsible for nuclear safety oversight. The Department remains committed to providing the necessary training to make our safety professionals, decision-makers, and managers effective. An important step in this direction is the Nuclear Executive Leadership Training that was developed over the past year.

Enclosure 1 describes the Nuclear Executive Leadership Training that was designed for senior managers with responsibilities for nuclear safety. The Nuclear Executive Leadership Training was first presented May 9-13, 2005, for 26 managers in the National Nuclear Security Administration (NNSA) and Offices within Energy, Science and Environment (ESE). The next session was conducted September 19-23, 2005, for 25 additional managers from these organizations. This training, an important element of professional development for senior managers and decision-makers, will be continuously updated and provided at least annually in the future. A copy of the training materials has been provided to your staff.

The Department's training and professional development plan for safety professionals, senior managers, and decision-makers is not complete. Many ongoing DOE and NNSA training and development initiatives, described in Enclosure 2, are candidates for incorporation in the overall plan. Our approach is to evaluate these initiatives, and strengthen and integrate them as needed to provide the training necessary to make our NNSA and ESE safety professionals, managers, and decision-makers effective. To this end, we are establishing a cross-organizational group of senior representatives from NNSA, ESE, the Office of Environment, Safety and Health (EH), the Office of Human Capital (HR), the Office of Security and Safety Performance Assurance (SP), and the Federal Technical Capability Panel (FTCP) to work for us in developing a recommended path forward. Mr. Raymond Hardwick, Deputy Assistant Secretary, Office of Facility Safety (EH-2), has agreed to lead this group. Ms. Audrey Clark, Acting Deputy Director of the National Training Center (NTC), will serve as vice lead. The NTC has been designated responsibility for safety professional development for the Department.



We will personally monitor the progress of this group. We will brief the Board by December 2005 on our progress. We welcome the input from you and your staff during the development of this program.

If the Board has questions, please do not hesitate to contact us: Linton Brooks at (202) 586-5555 and David Garman at (202) 586-7700.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Garman", with a long horizontal line extending to the right.

David K. Garman  
Under Secretary for Energy,  
Science and Environment

A handwritten signature in black ink, appearing to read "L. Brooks", with a long horizontal line extending to the right.

Linton F. Brooks  
Administrator  
National Nuclear Security Administration

Enclosures

cc: M. Whitaker, DR-1

## Enclosure 1

### Nuclear Executive Leadership Training (NELT)

#### **Objective**

Provide structured supplemental training to DOE/NNSA senior personnel to improve their capability to fulfill safety and leadership responsibilities within the Department's defense nuclear complex. The training will satisfy a commitment in the Department's Implementation Plan for Oversight of Complex, High-Hazard Nuclear Operations (*DNFSB Recommendation 2004-1*).

#### **Description**

The program is planned in modules over a nominal five-day period, and is conducted as an in-residence program. The training includes group discussions, guest speakers, and case studies. The optimal class size is 20. The curriculum, which is summarized below, includes testing to verify comprehension of the material.

#### **Target Audience**

The target audience includes Managers and Deputy Managers from the Site Offices and Deputy Assistant Secretaries (or equivalent) positions from DOE and NNSA Headquarters with responsibility for nuclear safety including responsibility for nuclear safety oversight. Course participants are selected by their respective Assistant Secretary or the NNSA Principal Deputy Administrator.

#### **Course Outline**

##### *Module 1*

##### **Safety Culture in High Reliability Organizations (4 Hours)**

- Safety culture overview
- Principles for a Strong Nuclear Safety Culture (INPO)
- Safety culture and the relationship to recent accidents
- *Case Study* — Recognizing and measuring a sound safety culture
- Review of the safety culture trouble signs

##### *Module 2*

##### **The Nuclear Professional (2 Hours)**

- Overview of INPO
- Special nature of nuclear power – the nuclear professional
- Applications of standards
- Effect of procedures
- Erosion of the work environment

*Module 3*

**Managing Technical Personnel (2 Hours)**

- Recruiting, selecting and retaining hi-caliber employees
- Using the Technical Qualification Program (TQP) to achieve excellence
- Identifying critical capabilities, leveraging resources and succession planning

*Module 4*

**Managing Environmental Issues (4 Hours)**

- Overview of DOE's Environmental Protection Program
- Implementing NEPA successfully
- Radiation Protection of the Public and the Environment

*Module 5*

**Managing the Safety Envelope (8 Hours)**

- Overview of nuclear safety management regulations and requirements for DOE nuclear facilities and operations
- Complying with, maintaining, and revising the Authorization Bases
- *Case Study* — Establishing a sound safety basis
- Unreviewed Safety Questions
- The role of Safety Management Programs
- Work planning and hazard analysis
- Quality assurance and quality controls
- Ensuring the readiness of facilities to startup and operate safely

*Module 6*

**Oversight and Self-Assessment (4 Hours)**

- Oversight and self-assessment requirements
- Oversight, operational awareness and self-assessment models
- Attributes of effective programs
- Self-Assessment warning flags
- Facilitated breakout sessions: Developing an oversight plan

*Module 7*

**Problem Solving and Decision Making (6 Hours)**

- *Case Study -Carter Racing*
- The roots of PRA and PSA
- Defining the concept of risk and related terms
- Comparison of risks
- Positive aspects of risk management
- Operational Decision Making Principles

*Module 8*

**Contract Leadership (2 Hours)**

- *Case Study – Construction of SRS Glass Waste Storage Building*
- Managing Subcontractors and Small Businesses

- Determining and flowing down Safety Requirements for small business
- Conducting safety oversight of subcontractors and small businesses

#### *Module 9*

#### **Human Performance Improvement (4 Hours)**

- Overview of human performance
- Recognizing human performance issues and applying improvement techniques at the job site
- The organization and leaders' role in human performance

#### **Status of Training Completion**

NNSA and Environmental Management (EM) Managers or Deputy Managers from the Site Offices and Deputy Assistant Secretary (or equivalent) positions at headquarters are scheduled to complete this training by September 2005 with the following exceptions as described below in the table. The table also indicates managers that still need to attend NELT and will attend during the next course in 2006. The office of Environment, Safety and Health, in partnership with EM and NNSA, will continue to sponsor the NELT. This training will be continuously updated and will be provided at least annually. This training will also be provided to managers in the Office of Science and the Office of Nuclear Energy, Science and Technology that have nuclear safety responsibilities.

The immediate feedback from the participants and course monitors indicates that the training is effective and worth the time spent. Examinations administered at the conclusion of the course indicated that the training was effective and the material well received. The NNSA Administrator monitored half of the modules during the May 2005 course and the other half during the September 2005 course. The modules that were evaluated as above average include nuclear safety culture, managing the safety envelope, problem solving and decision making, and human performance improvement. The training will be continuously improved based on the feedback from the courses. The overall effectiveness of the training will take time to evaluate. A refresher NELT course is also being considered to provide updated information.

**Managers Attending**

<p><b>Managers that attended the May 2005 NELT or will attend the September 2005 NELT</b></p>	<p><b>Managers that still need to attend and will attend during the next NELT in 2006</b></p>
<p><b>EM Site Managers</b></p> <p>Ohio Field Office</p> <ul style="list-style-type: none"> <li>• Manager</li> <li>• Deputy Manager</li> <li>• Director, West Valley Demonstration Project</li> </ul> <p>Officer of River Protection</p> <ul style="list-style-type: none"> <li>• Manager</li> <li>• Deputy Manager</li> </ul> <p>Portsmouth/Paducah Project Office</p> <ul style="list-style-type: none"> <li>• Manager</li> </ul> <p>Rocky Flats Field Office</p> <ul style="list-style-type: none"> <li>• Manager</li> </ul> <p>Carlsbad Area Office</p> <ul style="list-style-type: none"> <li>• Deputy Manager</li> </ul> <p>Richland Operations Office</p> <ul style="list-style-type: none"> <li>• Manager</li> <li>• Deputy Manager</li> <li>• Assistant Manager for River Corridor</li> </ul> <p>Savannah River Operations Office</p> <ul style="list-style-type: none"> <li>• Manager</li> <li>• Deputy Manager for Cleanup</li> </ul> <p>Idaho Operations Office</p> <ul style="list-style-type: none"> <li>• Assistant Manager for Environmental Management</li> </ul> <p>Oak Ridge Operations Office</p> <ul style="list-style-type: none"> <li>• Assistant Manager for Environmental Management</li> </ul> <p><b>EM Headquarters Managers</b></p> <p>Chief Operating Officer Deputy Assistant Secretary for ISM/Operations Oversight (Acting) Director, Office of Licensing</p>	<p><b>EM Site Managers</b></p> <p>Manager, Carlsbad Area Office Waste Treatment Plant Project Manager, Office of River Protection Federal Project Director, Brookhaven National Laboratory</p> <p><b>EM Headquarters Managers</b></p> <p>Principal Deputy Assistant Secretary</p>

<p><b>NNSA Site Managers</b></p> <p>Savannah River Site Office</p> <ul style="list-style-type: none"> <li>• Manager</li> <li>• Deputy Manager</li> </ul> <p>Y-12 Site Office</p> <ul style="list-style-type: none"> <li>• Deputy Manager</li> <li>• Assistant Manager for Operations</li> </ul> <p>Pantex Site Office</p> <ul style="list-style-type: none"> <li>• Manager</li> </ul> <p>Sandia Site Office</p> <ul style="list-style-type: none"> <li>• Manager</li> <li>• Deputy Manager</li> </ul> <p>Los Alamos Site Office</p> <ul style="list-style-type: none"> <li>• Manager</li> <li>• Deputy Manager</li> </ul> <p>Livermore Site Office</p> <ul style="list-style-type: none"> <li>• Manager</li> <li>• Deputy Manager</li> </ul> <p>Kansas City Site Office</p> <ul style="list-style-type: none"> <li>• Manager</li> <li>• Deputy Manager</li> <li>• Assistant Manager for Safety</li> </ul> <p>Nevada Site Office</p> <ul style="list-style-type: none"> <li>• Manager</li> <li>• Deputy Manager</li> </ul> <p>NNSA Service Center</p> <ul style="list-style-type: none"> <li>• Director</li> <li>• Associate Director for Technical Services</li> </ul> <p><b>NNSA Headquarters Managers</b></p> <p>Deputy Administrator for Defense Programs</p> <ul style="list-style-type: none"> <li>• Assistant Deputy Administrator for Military Application &amp; Stockpile Operations</li> <li>• Assistant Deputy Administrator for Research, Development and Simulation</li> </ul> <p>Chief Defense Nuclear Security Deputy Administrator for Defense Nuclear Proliferation Deputy Associate Administrator for</p>	<p><b>NNSA Site Managers</b></p> <p>Deputy Manager, Pantex Site Office</p> <p><b>NNSA Headquarters Managers</b></p> <p>Associate Administrator for Infrastructure and Environment</p> <p>Associate Administrator for Emergency Operations</p>
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<p>Emergency Operations  Deputy Associate Administrator for  Infrastructure and Environment  Deputy Associate Administrator for  Nuclear Safety</p>	
<p><b>EH Managers</b></p> <p>Principal Deputy Assistant Secretary  Deputy Assistant Secretary for Corporate  Performance Assessment  Deputy Assistant Secretary for Facility  Safety (developed and facilitated  course)</p>	<p><b>EH Managers</b></p> <p>Deputy Assistant Secretary for Health</p> <p>Director, Office of Price-Anderson  Enforcement</p> <p>Deputy Assistant Secretary for  Environment</p>



## Enclosure 2

### Professional Training and Development Program

The Department remains committed to providing the necessary training to make our safety professionals, decision-makers, and managers effective. The Department's approach is to evaluate ongoing initiatives, and strengthen and integrate them as needed to provide the training necessary to make our NNSA and ESE safety professionals, managers, and decision-makers effective. To this end, NNSA and ESE are establishing a cross-organizational group of senior representatives from NNSA, ESE, the Office of Environment, Safety and Health (EH), the Office of Human Capital (HR), the Office of Security and Safety Performance Assurance (SP), and the Federal Technical Capability Panel (FTCP) to work for us in developing a recommended path forward. Mr. Raymond Hardwick, Deputy Assistant Secretary, Office of Facility Safety (EH-2), will lead this group. Ms. Audrey Clark, Acting Deputy Director for the National Training Center, will serve as vice lead. In 2004, the Department designated the NTC as the Center of Excellence for Safety Professional Development for the Department.

The team will develop this program building on the training and development initiatives described below. The team expects to develop the path forward for the Department's training and professional development program by December 2005. The scope of the program will range from new hires/interns to senior Department managers including site managers and Deputy Assistant Secretaries (or equivalents). The team will solicit input from the Board staff during the development of this program.

#### Future Leaders/Intern Program (Lead Program: NNSA)

In August 2004, NNSA announced the establishment of an intern program recognizing that the average age of the NNSA employee was approximately 50 years old and that there had been no systematic intake of recent college graduates into the workforce since the NNSA was stood up in March 2000. In September 2004, a full time position was identified to manage the intern program. Several other government intern development programs were benchmarked in developing the NNSA program.

The recruitment strategy designed for the intern was to recruit graduates who had received either bachelors or masters degrees in the past two years. A needs assessment of all the different organizational entities within the NNSA was conducted. NNSA dedicated funding to support an intern Class of 30 for FY 2005 and the next several years. The 29 members of the NNSA intern Class of 2005 began its employment on July 11, 2005, with a two-week orientation. An extensive training curriculum for the two years of the program has been developed. At least two rotational assignments are a requirement of the program.

In the Corrective Action Plan in response to Commitment 13 of the 2004-1 Implementation Plan, the Federal Technical Capability Panel has committed to

reestablish the corporate Technical Leadership Development Program and institutionalize it through commitments to funding and recruitment for classes on an annual basis.

Technical Qualification Program (TQP) (Lead Program: FTCP/Line)

The Federal Technical Capability Panel (FTCP) has recently undertaken activities to work with the Office of Security and Safety Performance Assurance, the NNSA, and Office of Environment, Safety and Health to assist the NTC with its expanded training mission encompassing safety and authorization basis curriculum. The FTCP continues to pursue other opportunities to improve the technical competency of Departmental personnel. One such activity includes the revision of more than 30 Functional Area Qualification Standards to improve their technical content and rigor, assure their consistency in application across the DOE Complex, and establish a standard for personnel performing software quality assurance responsibilities.

A prime example of a mature program that meets the expectations and standards set by the Department is the Facility Representative program. Another program that is improving the technical capability of the Department is the Safety System Oversight program. These personnel are a key technical resource qualified to oversee contractor management of safety systems at defense nuclear facilities. Unlike Facility Representatives, who are responsible for monitoring the safety performance of the Department's defense nuclear facilities and day-to-day operational status, individuals assigned to safety system oversight are responsible for overseeing assigned systems to ensure that they will perform as required by the safety basis. The NTC has piloted two Safety System Oversight courses in FY 2005 and will fully implement the delivery of these courses in FY 2006.

The Department is pursuing efforts to enhance the capability of Federal personnel performing authorization basis work due to the importance and technical difficulty of the work, and its foundation to all safety management activities. The FTCP formed a working group of experts from across the complex that reviewed current practices and experience in performing DOE authorization basis reviews in order to identify good practices and opportunities for improvement. The working group identified specific actions to be pursued to upgrade and enhance the capability and qualifications of DOE authorization basis personnel, to improve the training and development process, and to enhance the pipeline of Federal authorization basis personnel.

Specific actions are being taken by the Department in the FTCP Corrective Action Plan in response to commitment 13 of the Department's 2004-1 Implementation Plan to raise the overall standard of technical qualifications across the Department. The Department committed to establish and implement a corporate accreditation process and plan based on the Institute of Nuclear Power Operation (INPO) model for the Technical Qualification Program (TQP). Additionally, the Department committed to build on the Facility Representative program as a model for Senior Technical Safety Manager qualification program and other Functional Area qualification programs.

The FTCP held some preliminary discussions on the NNSA professional development model under development. This was discussed at the May 2005 FTCP meeting, and model will be considered in developing a Professional Training and Development Program.

National Training Center (Lead Program: SP)

In December 2004, the Director of the Office of Security and Safety Performance Assurance established a Safety Professional Development and Training Advisory Committee chartered to advise the National Training Center. The Committee has met with the NTC staff for preliminary discussion. A curriculum is being discussed that could cover technical and professional topics all safety professionals should know, such as roles and responsibilities of Senior Technical Safety Managers and Safety System Oversight personnel, conduct of operations, and contractor oversight. It would also cover personal development topics such as written and oral communications, conflict resolution, time management, and stress management.

Nuclear Executive Leadership Training (Lead Program: EH/EM/NNSA)

To address the identified need to provide supplemental training to DOE senior personnel, including new decision makers, the Department has developed and implemented a structured training workshop tailored to these senior personnel as discussed in the previous attachment. The objective of this training is to improve the capability of DOE/NNSA senior personnel to fulfill safety and leadership responsibilities within the Department's defense nuclear complex. This training is expected to be offered annually and will become a critical element of the professional development program for senior managers and decision makers.

NNSA Site Office Manager Training Program (Lead Program: NNSA)

NNSA has developed a site officer manager-training program to address critical issues that a manager should know. It is intended for existing site managers as well as perspective managers. NNSA considers this training as an important part of the professional development program of individuals being assigned to site leadership positions.