Defense Nuclear Facilities Safety Board

The Board & Technical Staff Quality Assurance Perspectives for 2011

2010

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Defense Nuclear Facilities Safety Board
Topics

- Basic Information on Board
  - Who, what, mission, size, location
  - Organization of the Board and the Board's staff

- Quality Assurance and Software Quality Assurance Perspectives of the Board's Technical Staff

- Questions

Who and What is the Board

- **What or Who is the Defense Nuclear Facilities Safety Board (Board)?**

The Board is an independent, executive, federal agency established by Congress in 1988. The enabling statute is 42 U.S.C. § 2286 et seq.

- **What is the mission of the Board?**

The Board provides safety oversight of the Department of Energy's (DOE) of defense nuclear facilities. This safety oversight spans the DOE activities to maintain the readiness of the nuclear arsenal, dismantle surplus nuclear weapons, dispose of excess radioactive materials, decontaminate and decommission clean up surplus facilities, and construct new defense nuclear facilities. The Board's safety independent oversight ensures that all DOE activities in these defense nuclear facilities are carried out with adequate protection for the public, workers, and the environment. (www.dnfsb.gov)

Board Staffing & Quartering

- **What is the size of the staff at the Board?**
  - The Board has approximately 110 federal employees (**Compare that with the NRC which has >1800 federal employees.**)
  - Board has some contractor support.—(approximately 18 administrative personnel & 12 outside experts)
  - All of the technical staff is degreed in multiple engineering and natural science disciplines including >90% at the doctorate and masters level.

- **Where is the Board staff located?**
  - The Board Headquarters is in Washington DC.
  - Technical Staff posted at Hanford, Los Alamos National Laboratory, Lawrence Livermore National Laboratory, Oak Ridge National Laboratory, PANTEX Plant , and Savannah River Site.

Board Organization

Defense Nuclear Facilities Safety Board

Dr. Peter Winokur, Chairman
Ms. Jessie H. Roberson, Vice Chairperson
Mr. Joseph F. Bader, Board Member
Dr. John E. Mansfield, Board Member
Vacant, Board Member

Administration
General Manager
Brian Grosner

Deputy General Manager
Debra H. Richardson

Technical
Technical Director
Timothy J. Dwyer

Deputy Technical Director
Richard E. Tontodonato

Legal
General Counsel
Richard A. Azzaro

Deputy General Counsel
Joel R. Schapira

Nuclear Materials Processing Stabilization Group
Matt Forsbacka

DOE Existing Radiological waste efforts

Nuclear Programs & Analysis Group
Matt Forsbacka, Acting

ISM, Crit Safety, QA, SQA, Directives, etc.

Nuclear Weapons Programs Group
Dan Ogg

NNSA activities

Nuclear Facility Design & Infrastructure Group
Roy Kasdorf (Dec 2011)

New facility construction projects

2011 Board Technical Staff QA & SQA Perspectives (1/4)

1. DOE Order 414.1D, *Quality Assurance*—overall pleased with the new Order. There is concern about the adoption schedule/progress across the complex

2. Quality Assurance program staffing & qualification—concern that the Federal and contractor workforce continues to atrophy in both numbers and qualification resulting in inadequate oversight, poor quality work, unsafe practices, and more costly products & services. DOE has standards in place, e.g., FTCP but the implementation is inconsistent and likely not satisfactory across the complex.

3. Safety Software Quality Assurance staffing and qualification—concern that the Federal and contractor workforce continues to atrophy in both numbers and qualification resulting in inadequate oversight, poor quality work, unsafe practices, and more costly products & services. DOE has standards in place, e.g., FTCP but the implementation is not satisfactory across the complex.

2011 Board Technical Staff QA & SQA Perspectives (2/4)

4. Inconsistent implementation & oversight of vendors by primes and the government to ensure there is appropriate and sufficient flow down of quality assurance requirements (QA & SQA). This oversight is a combined effort by Engineering personnel, procurement personnel, and safety personnel from both Federal and contractor organizations.

5. Suspicion is that the Suspect/Counterfeit Item (S/CI) program implementation and effectiveness across the complex is inconsistent and inadequate. The program includes not only hardware but components of Digital Instrumentation and Control (DI&C) systems. This oversight is a combined effort by organizations of different disciplines.

6. Safety Software. Framework is in place. Reluctance to identify safety-related computer programs and implementation of procedures is inconsistent across the complex. Some safety software areas that need attention include: timely functioning of the Safety Software User's Forum, expansion of computer programs in the toolbox, a rigorous and consistent approach to ensure the quality of existing (legacy) safety related computer codes, and improved identification of safety software within safety basis documentation.

2011 Board Technical Staff QA & SQA Perspectives (3/4)

7. Inconsistent implementation & oversight of vendors by primes and the government to ensure there is appropriate and sufficient flow down of quality assurance requirements (QA & SQA). This oversight is a combined effort by Engineering personnel, procurement personnel, and safety personnel from both Federal and contractor organizations.

8. Commercial Grade Dedication—improved understanding and application but needs to be extended across the complex (number, experience, and qualification of personnel) and application to hardware, DI&C components and software

9. Rumored direction by DOE to incorporate quality assurance requirements into an "integrated management system" that is based on consensus standards other than NQA-1 for defense nuclear facilities. There are concerns about dropped requirements, inadequate rigor in meeting requirements, and interface gaps.

2011 Board Technical Staff QA & SQA Perspectives (4/4)

10. Organizational Changes and constrained resources—NNSA-EM organizational change may degrade or eliminate past EM QA initiatives and performance in the QA and SQA areas.

Questions?