



Department of Energy
Washington, DC 20585

February 15, 2011

The Honorable Peter S. Winokur
Chairman
Defense Nuclear Facilities Safety Board
625 Indiana Avenue NW, Suite 700
Washington, DC 20004-2901

Dear Mr. Chairman:

This letter is to inform you of the completion of Commitment 5.4.2 in the Department of Energy (DOE) *Implementation Plan for Defense Nuclear Facilities Safety Board Recommendation 2007-01*, dated October 24, 2007. Commitment 5.4.2 defines and prioritizes requirements, programs, and guidance to address gaps in training and qualification; equipment capabilities; directives; research and development; quality assurance; and oversight. A prioritized action plan with schedule and milestones to address the gap analysis results is attached.

If you have any questions or need further information, please contact me at (301) 903-4218.

Sincerely,

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

Richard H. Lagdon, Jr.
Chief of Nuclear Safety
Office of the Under Secretary
U.S. Department of Energy

Attachment

cc:

C. Zoi, S-3
S. Petras, HS-1.1



Attachment 1

5.4.2 Prioritized action plan with schedule and milestones to address the gap analysis results

Define and prioritize requirements, programs, and guidance to address gaps in training and qualification, equipment capabilities; directives; research and development; quality assurance; and oversight.

| Gap | Priority | Application | Notes | Due date | Funding Status |
|--|----------|-------------|--|-----------|------------------------------|
| Training and Qualification | | | | | |
| a1. Lack of standardized, formal qualification programs for NDA measurement personnel, including rigorous periodic requalification, and on-the-job | 1 | All | | 2/1/2012 | Funded |
| a2. Lack of formal NDA measurement training, including infrastructure support (budget, instructors, and nuclear material standards) for updating and developing advanced course offerings and content. | 1 | All | | 8/1/2012 | |
| Equipment Capabilities | | | | | |
| b1. Lack of capability to identify and measure highly attenuated (i.e. self attenuation up to an including infinitely thick and attenuation by intervening matter between the detector and holdup material) holdup deposits. | 2 | All | | ongoing | Competing for NS R&D funding |
| Directives | | | | | |
| c1. Lack of requirements for new equipment or facilities and changes to existing equipment and facilities to implement best engineering practices for fissile holdup management: evaluation of potential for holdup, design of engineered features to preclude/minimize holdup potential, and design of equipment or facilities to facilitate holdup monitoring and removal; | 3 | All | | open | None |
| c2. Lack of standardization of calculation procedures, uncertainty determinations, and common terms; | 1 | All | Includes lack of understanding in application of NDA results, in particular for criticality safety | 9/30/2012 | Funded |
| c3. Lack of requirements to invoke consensus standards as a basis for NDA holdup measurement programs; | 3 | All | | 2/10/2011 | Complete |
| Research and Development | | | | | |
| d1. Lack of ongoing holdup measurement R&D within the DOE complex in the areas of instrumentation, algorithms, evaluation of applications, evaluation of measurement uncertainty, and software. | 2 | All | | ongoing | Competing for NS R&D funding |

| Gap | Priority | Application | Notes | Due date | Funding Status |
|---|----------|-------------|--|-----------|--|
| Quality Assurance | | | | | |
| e1. Lack of data quality objective (DQO) processes for ensuring that the NDA holdup quality requirements are adequately understood and addressed and the DQOs are clearly established and met, ensuring synergistic interactions between NDA and other disciplines, such as nuclear criticality safety; | 3 | Varies | Hanford best - Y-12 needs formalization of process. Corrective action(s) are available for expeditious implementation. | 9/30/2012 | In conjunction with Standard development |
| e2. Lack of formal documented software verification and validation (V&V) processes for software development and procurement used for holdup calculations; | 3 | All | Did not cause issue but has the potential. Corrective action(s) are available for expeditious implementation. | ongoing | Further development required, current standards being assessed for applicability to address this matter. |
| e3. Lack of formalized measurement validation programs; | 2 | All | Performed occasionally, but not on ongoing basis | 9/30/2012 | In conjunction with Standard development |
| Oversight | | | | | |
| f1. Lack of self assessments of NDA programs by NDA personnel and other stakeholders with sufficient frequency to provide programmatic enhancement; | 2 | All | Corrective action(s) are available for expeditious implementation. | 9/30/2012 | In conjunction with Standard development |
| f2. Lack of a centralized NDA program with a program manager to act as a single point of contact for NDA measurement activities, policy and procedure implementation, V&V, assessment, safety responsibility, training, etc. | 2 | Varies | Important to entire DOE complex, SRS closest | 9/30/2012 | In conjunction with Standard development |