



Department of Energy

Washington, DC 20585

February 7, 2007

The Honorable A. J. Eggenberger
Chairman
Defense Nuclear Facilities Safety Board
625 Indiana Avenue, NW, Suite 700
Washington, DC 20004-2901

Dear Mr. Chairman:

In a letter dated September 14, 2005, you requested the Department of Energy (DOE) report on the following issues:

- The adequacy of local DOE and contractor implementation procedures for DOE Order 420.1A, *Facility Safety*; DOE Order 425.1C, *Startup and Restart of Nuclear Facilities*, and 10 CFR 830, Subpart B, *Nuclear Safety Management*, with particular focus on the definition of a “new Hazard Category 1, 2, or 3 nuclear facility,” and “substantial modification.”
- The actions necessary to ensure that any deficient site procedures are corrected and that site contractors appropriately apply design requirements, develop Preliminary Documented Safety Analyses (PDSAs), and perform Operational Readiness Reviews (ORRs) for new Hazard Category 1, 2, and 3 nuclear facilities as required.
- The need for revision or clarification of the definition of a “new Hazard Category 1, 2, or 3 nuclear facility” and/or “substantial modification” within the DOE directives system.

In a letter dated December 13, 2005, DOE reported on these issues and the follow-up actions it intended to take. As part of these follow-up actions in early 2006, the National Nuclear Security Administration (NNSA) performed a high-level review of the processes for developing PDSAs and determining the appropriate level of startup reviews for new facilities and significant modifications at its sites and found them to be appropriate. NNSA briefed the Board staff on these results on February 14, 2006. In addition, as committed in a letter dated May 9, 2006, the Office of Environmental Management (EM) conducted a focused review of the processes for developing PDSAs and determining the appropriate level of startup reviews for new facilities and significant modifications at the Savannah River and Hanford sites where your staff had identified concerns. These reviews were performed in May of 2006 and identified several deficiencies with the application of nuclear safety definitions in determining whether to develop PDSAs or to perform ORRs. These sites have taken appropriate action to correct the deficiencies (see Enclosure).

Further, in December 2006, DOE reviewed the Idaho National Laboratory’s startup procedures and the implementation of their procedures for the recent startup of a remote-handled transuranic waste drum operation in response to some new concerns identified by your staff. This review

also identified deficiencies with the implementation of DOE Order 425.1C. EM is working with the site to ensure the deficiencies are corrected.

DOE's evaluation of all of these reviews indicate that there is a need for more rigorous and conservative implementation of the directives related to startup of new and substantially modified facilities. DOE is taking (or has taken) the following actions to improve the implementation of the directives related to startup of new and substantially modified facilities:

- The Office of Health, Safety and Security (HSS) is coordinating the development and dissemination of a lessons learned document from the NNSA and EM reviews to promote improved implementation throughout the complex.
- Both the NNSA and EM have added evaluations of the startup process to their periodic headquarters oversight reviews of their field operations.
- EM has issued specific direction to its field managers to strengthen management control of the startup process.
- HSS's Office of Independent Oversight is including an evaluation of the implementation of the decision-making process for determining the appropriate level of facility startup analysis and review (e.g., whether a PDSA should be developed and an ORR or RA performed) as part of its Environment, Safety and Health site inspections.
- HSS is establishing a DOE-wide working group to examine the facility restart review process to identify improvements and any appropriate revisions to the restart Order. This working group met in Richland, Washington, in late January with participation by your staff.

Although DOE did not identify a need for revision or clarification of the definition of a "new Hazard Category 1, 2, or 3 nuclear facility" and/or "substantial modification" within the DOE directives system, additional detail on what constitutes a "major modification" is being included in the latest draft of DOE Standard 1189, *Integration of Safety into the Design Process*, and will be considered for inclusion in DOE guidance documents that address "substantial modifications" for consistency.

If you have further questions on our efforts on this issue, please contact me at (301) 903-3777 or have your staff contact Dr. James O'Brien at (301) 903-1408.

Sincerely,



Glenn S. Podonsky
Chief Health, Safety and Security Officer
Office of Health, Safety and Security

Enclosure

**Review Summaries of Savannah River Site, Hanford Site,
and Idaho National Laboratory Implementation
of Startup Requirements**

Savannah River Site

In May 2006, the Office of Environmental Management (EM) led a review at the Savannah River Site that found the site had not fully implemented 10 CFR 830 Subpart B, and had not documented its (1) decision-making process for determining when a major modification had occurred, and (2) startup review level for new facilities. During the assessment, the site committed to developing a procedure for the decision-making process and for implementing 10 CFR Part 830, *Nuclear Safety Management*, and the provisions of Draft DOE Standard 1189, *Integration of Safety into the Design Process*.

In November 2006, EM conducted an integrated assessment of the Savannah River Site that included a review of corrective actions from the May 2006 review. The team found that the site had developed a new procedure that provides appropriate screening criteria for project evaluation and an appropriate evaluation basis for the decision-making process. The procedure relies on informed engineering judgment based on risk and impact to the existing safety basis. The new procedure requires documentation of the basis for the decisions related to startup reviews and generates a semi-annual report, including a listing of new projects, safety basis and startup decisions. This new procedure adequately addresses the previously identified concerns.

Hanford Site

In May 2006, EM reviewed Hanford Site start-up review documents and conducted teleconference discussions with the Hanford Site staff. At the Hanford Site, the decision-making process used a numerical scoring protocol to determine the level of start-up review. The design of the process resulted in a bias toward conducting Readiness Assessments in some cases where an Operational Readiness Review was appropriate. As a result of the review, the Hanford Site committed to revise and improve its procedure. The revised procedure was reviewed by EM headquarters and found to resolve the problems.

Idaho National Laboratory

In December 2006, EM and the Office of Health, Safety and Security jointly reviewed the decision-making process for the Idaho National Engineering Center's recent startup of remote-handled transuranic waste drums. The assessment team found that although both the contractor and Idaho Operations Office had approved procedures that would result in proper startup review level determinations, neither organization followed those procedures. As a result, a Readiness Assessment was conducted when an Operational Readiness Review was appropriate. EM tasked the Idaho Operations Office to take

corrective actions to prevent recurrence and will assess their effectiveness. The issues uncovered by the review team were discussed in an EM Managers call and resulted in EM headquarters issuing specific direction and tasking to their field managers to improve the rigor and conservatism of the startup process at all EM sites. EM also plans to convene a working group in late January 2007 to address startup issues at the Idaho Cleanup Project.