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# DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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September 11, 1995

The Honorable Victor H. Reis  
Assistant Secretary for Defense Programs  
Department of Energy  
Washington, D.C. 20585

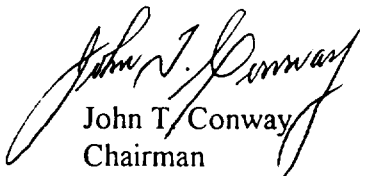
Dear Dr. Reis:

Members of the Defense Nuclear Facilities Safety Board's (Board) staff recently visited Los Alamos National Laboratory to review surveillance of Operational Safety Requirements (OSRs). OSRs are intended to define conditions necessary for safe operation of nuclear facilities. Therefore, adequate surveillance of OSRs is important to assuring safety of facilities' operations. The staff noted significant improvement in surveillance at the TA-55 Plutonium Facility, improved surveillance procedures, better evolution control, improved review of record data, and greater formality of operations.

Observations at the Chemistry and Metallurgy Research (CMR) building, on the other hand, indicated that surveillance procedures and their implementation lacked the needed formality. Subsequent to the review, the Board's staff was informed that CMR intends to take actions to improve formality of operations.

Enclosed is a summary of findings from the review. Mr. Steven Krahn of the Board's staff will be available to provide any additional information you may require.

Sincerely,

  
John T. Conway  
Chairman

c: Mr. Mark Whitaker

Enclosure

Summary of Findings from a DNFSB Staff Review  
at the Los Alamos National Laboratory (LANL)

1. Surveillance of Operational Safety Requirements (OSRs) at the TA-55 Plutonium Facility has significantly improved, although some additional improvements are appropriate. The Chemistry and Metallurgy Research Building appears to need more rigorous OSR surveillance, while surveillance of the Weapons Engineering Tritium facility, a less-complex operation than the Plutonium Facility or the Chemistry and Metallurgy Research Building, appears to be reasonably rigorous.
  - a. TA-55-4, Plutonium Facility
    - Improvements were observed in OSR surveillance since the termination of normal operations during April-July 1994. Surveillance procedures have been improved, the effectiveness of the Operations Center in controlling surveillance procedure performance and in reviewing data has been enhanced, and the formality of operations by facility and support group personnel in performing and supervising performance of procedures has improved.
    - Some remaining deficiencies in procedures were noted such as: (1) records of testing all 24 flow and pressure switches for the Fire Suppression Sprinkler Flow Test were missing from the Operations Center data package; (2) the procedure for adjusting packing during the Weekly Fire Pump Assembly Inspection, Maintenance, and Testing was not updated to permit adjustments with a pump running, although equipment modifications had been made to permit such adjustments; and (3) the stated acceptance criteria for the Weekly Fire Pump Assembly Inspection, Maintenance and Testing included "no discharge" from a tank drain pipe, which was inconsistent with a note in the procedure stating that a small amount of discharge will be present until a relief valve is replaced.
    - The management walk-around program recently begun at the Plutonium Facility, if implemented properly, should be able to identify most such procedural deficiencies.
  - b. TA-3-29, Chemistry and Metallurgy Research (CMR) Building
    - During observations of the Fire Suppression Sprinkler Inspection and Flow Device Testing, it was noted that the Fire Suppression system was disabled by the inspector. This was done without using a formal, detailed procedure specifying the steps to take in disabling and subsequently returning the system to duty. Thus, there was not full assurance that the system was completely operable following the OSR surveillance.
    - A step (9.8.3) of the Fire Suppression and Sprinkler Inspection and Flow Device Testing procedure was marked as completed even though it was not actually performed.

- Technical qualifications were not documented for some personnel designated to perform surveillances.
  - Subsequent to the staff review, laboratory management informed the staff that CMR personnel plan the ranking of OSR procedures by judging the degree of formality of operations and obtaining the assistance of TA-55 subject matter experts in improving the procedures.
- c. TA-16-205, Weapons Engineering Tritium Facility (WETF)
- On some documentation of completed surveillances, the same individual completed the surveillance and verified its completion.
  - A surveillance of an Uninterruptible Power Supply by a vendor reported a possible problem with a related system, but there was no indication of resolution.
2. OSR surveillance procedures need to be reviewed to assure that neither the procedures nor the resulting data packages are more complex than necessary.
- a. At TA-55, for example, the Fire Suppression Sprinkler Flow Test (NMT8-FMP-903) of the Plutonium Facility results in data forms that stack about 1 1/4" high. The multiplicity of forms can make it difficult to check the package for completeness and to review results of the surveillance.
3. Realistic assumptions with respect to the location of the public, as well as LANL's ability to evacuate the public in an emergency, need to be made in developing the Final Safety Analysis Reports (FSARs) for defense nuclear facilities. Such assumptions affect the identification of OSRs and their successor requirements, Technical Safety Requirements. The identification of safety class structures, systems, and components is also affected.
- a. CMR personnel reported that it is assuming the public is located one kilometer away from the facility since LANL can control the road in front of CMR. However, during an emergency, it is possible that the public can be visiting the Otowi Building and its cafeteria, the Administration Building and Visitors Reception Center, the J. Robert Oppenheimer Study Center and its library, and other nearby facilities, all within one kilometer from CMR. In reviewing the FSAR, the Board's staff will assess the realism of any assumptions concerning evacuation of the public during emergencies.