DEFENSE NUCLEAR FACILITIES SAFETY BOARD

625 Indiana Avenue, NW, Suite 700, Washington, D.C. 20004
(202) 208-6400

May 16, 1997

The Honorable Alvin L. Alm
Assistant Secretary for
Environmental Management
Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-0113

Dear Mr. Alm:

In a letter dated September 20, 1996, the Defense Nuclear Facilities Safety Board (Board) accepted an Integrated Program Plan for implementation of Recommendation 94-3, *Rocky Flats Seismic and Systems Safety*. This plan committed the Department of Energy (DOE) to completing an authorization basis document, implementing specified safety controls, and completing upgrades to ensure that Building 371 could safely perform its mission as the primary special nuclear material storage facility at the site. In its letter accepting the plan, the Board noted that to ensure adequate progress toward fulfilling its commitments, both DOE and the contractor must provide leadership for its completion.

The Board staff has recently reviewed progress toward implementation of the commitments made in the Integrated Program Plan. The staff observations are reflected in the enclosed trip report. The results of this review and a Board review in February 1997 have highlighted that both the Rocky Flats Field Office (RFFO) and the contractor have given insufficient attention to implementation and follow-through on commitments made by DOE. Completion of the authorization basis document for Building 371 and implementation of the safety controls will be late by almost one year, and the priority upgrades appear to be in jeopardy.

As a result of the Board reviews and RFFO's own internal review, the contractor and RFFO now appear to recognize the Board's concerns and have taken corrective actions. However, it is too early to determine whether these actions have been sufficient. Again, both RFFO and the contractor must provide leadership to ensure that the authorization basis document is completed, the safety controls are implemented in a timely manner, and the upgrades are completed as scheduled.

The Board believes it would be prudent for RFFO to repeat periodically its internal review, which used outside expertise, to ensure that appropriate progress is being made on the upgrades to Building 371.

If you have comments or questions, please call me. Our staff contact for your staff is Mr. R. E. Kasdorf.

Sincerely,

John T. Conway
Chairman

Enclosure

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 23, 1997

MEMORANDUM FOR: G. W. Cunningham, Technical Director

COPIES: Board Members

FROM: R. E. Kasdorf

SUBJECT: Rocky Flats Environmental Technology Site Recommendation 94-3 Implementation Review

1. Purpose

This trip report documents a review of the Integrated Program Plan (IPP) for implementation of Defense Nuclear Facilities Safety Board (Board) Recommendation 94-3 at the Rocky Flats Environmental Technology Site (RFETS). Following its February 1997 review at Rocky Flats, the Board was not satisfied that adequate progress was being made toward commitments in the IPP. The Board requested that its staff evaluate progress on implementation of the priority upgrades and the Basis for Interim Operations (BIO) required by the recommendation. The review was performed April 16 and 17, 1997, by Board staff members F. Bamdad, J. Blackman, R. Kasdorf, and B. Warther.

2. Summary

When the Board accepted the IPP, it noted that to ensure adequate progress toward the commitments, both the Department of Energy (DOE) and the contractor must provide leadership for completion of the IPP. The results of this and an earlier Board staff review in January 1997 highlighted insufficient management attention from both Kaiser-Hill (K-H) and the Rocky Flats Field Office (RFFO) to implementation and follow-through on commitments made by DOE in the IPP. The K-H organizational structure had become partitioned without overall integration of the multiple facets of the IPP; consequently, commitments in the IPP are substantially late. As a result of the Board review in February 1997 and Board staff reviews, K-H and RFFO have taken action to correct the situation, but must continue to provide leadership as requested by the Board.

During this most recent Board staff review, K-H executive management acknowledged for the first time that completion of the priority upgrades by the end of the year is in jeopardy. K-H told the staff that no work packages for the priority upgrades in the IPP were complete and that design work was still being performed. The staff believes that the design work, particularly for less

complicated upgrades, would have to have been completed if the priority upgrades are to be accomplished on schedule.

The contractor and RFFO recently completed a review that resulted in numerous comments on the draft BIO. RFFO is aggressively working toward providing adequate safety controls for Building 371 (B371). Accordingly, the contractor is substantially revising the hazard analysis and safety control sections of the BIO. The extent and nature of the comments, however, have caused a delay in the projected completion of the BIO until mid-June 1997.

3. Background

The IPP for Recommendation 94-3 committed DOE to implementing a valid, updated authorization basis based on a two-step process. First, operations in the facility were to be conservatively analyzed in the BIO to provide sufficient detail to supersede the current authorization basis, which is based on a 1981 Final Safety Analysis Report (FSAR). The BIO was to have been completed, approved, and implemented by December 1996. Second, a final authorization basis was to be prepared using either an FSAR or Basis for Operation format, with a more rigorous hazard analysis for the planned mission of the facility.

The Board staff reviewed implementation of Recommendation 94-3 in January 1997. As a result of that review, the staff considered the safety controls specified in a draft BIO to be inadequate. Additionally, the staff was unable at that time to determine independently whether the work scope for the priority upgrades had been adequately developed and whether the upgrades were on schedule.

4. Discussion

During this review, the status of the priority upgrades committed to in the IPP for Recommendation 94-3 and preparation of the BIO were discussed. The results of this review and the Board staff review in January 1997 highlighted insufficient management attention from both K-H and RFFO to implementation and follow-through on commitments made by DOE in the IPP. The K-H organizational structure had become partitioned without overall integration of the multiple facets of the IPP. The Board staff made the following specific observations.

Implementation of Recommendation 94-3 IPP Priority Upgrades. K-H executive management acknowledged that completion of the priority upgrades by the end of the year is in jeopardy. However, neither K-H nor RFFO has altered its commitment to completing the priority upgrades as scheduled. K-H has made recent management changes to bring in a technically competent manager as the single point of contact and has changed its organizational structure to meet the intent of Recommendation 94-3.

The Board staff attempted to assess the progress on priority upgrades by reviewing engineering work packages. The staff was told by K-H that no work packages were complete and that design work was still being performed. Accordingly, it was not possible to assess progress on the priority upgrades. The Board staff believes most of the design work, particularly for less complicated upgrades, could be expected to be complete by now. The Board staff will review progress on the priority upgrades in the near future.

Review of the Basis for Interim Operations. The contractor and RFFO recently completed a review of the draft BIO. This review resulted in approximately 1000 comments. The extent and nature of these comments have resulted in a delay in projected completion of the BIO until mid-June 1997.

Based on a preliminary review of proposed changes to the Technical Safety Requirements (TSR) section of the BIO, the TSRs are substantially improved over the draft BIO. The contractor provided resolutions to most of the Board staff concerns raised during the meeting. However, several concerns have not yet been resolved:

- The BIO does not state which activities are authorized for performance within its scope.

- Except for certain ventilation system components, the TSRs would allow SC-1 and SC-2, as well as SC-3 safety systems/components, to be inoperable for maintenance for up to 30 and 45 days, respectively. The technical rationale for allowing this time duration is not clear. One particular concern to the Board staff is that, should emergency power be inoperable, a loss of off-site power could lead to a passive building confinement condition for an extended period of time. Passive building confinement would not accord with the guidance contained in industry standards such as Nuclear Regulatory Commission Regulatory Guide 3.12, *General Design Guide for Ventilation Systems of Plutonium Processing and Fuel Fabrication Plants*. K-H and RFFO executive management indicated they would review this situation.

The differences between the current safety controls specified in the B371 FSAR and the BIO, the safety significance of the differences, and the length of time implementation will take are still unclear. K-H and RFFO stated that they believe the current conditions are acceptable for the building mission, but could be improved. They noted that most activities are not difficult or overly hazardous. For the more hazardous activities, (1) a process hazard analysis would be completed to identify needed safety controls, (2) the activity would be performed by a core team of specially trained personnel, (3) readiness assessments would be performed, and (4) there would be an increased management presence.

Based on the expected safety controls in the BIO, the facility management believes that:

- The engineered controls (e.g., differential pressure) are currently implemented and meet the intent of the BIO. The priority upgrades still need to be completed.

- With the exception of a self-assessment program, the safety management programs (e.g., criticality, fire protection, radiation protection, worker control/safety, conduct of operations, training, maintenance) as identified in the administrative controls are in place, but require some improvement and more consistency. Training of building personnel in the nuclear safety aspects of the facility is expected to be the most time-consuming task. A sound combustible control and material management program is needed. Reduction of the maintenance backlog is expected to be lengthy and costly.

5. Future Planned Activities

The Board staff intends to follow the progress of implementation of the Recommendation 94-3 IPP. A review of the priority upgrades is planned for the near future, and the final BIO will be reviewed when it becomes available.