DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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July 5, 1996

Mr. Mark B. Whitaker, Jr.
Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-0119

Dear Mr. Whitaker:

Enclosed for your information and distribution are three Defense Nuclear Facilities Safety Board staff reports. The reports have been placed in our Public Reading room.

Sincerely,

George W. Cunningham
Technical Director

Enclosures (3)

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 21, 1996

MEMORANDUM FOR: G.W. Cunningham, Technical Director

COPIES: Board Members

FROM: Matthew B. Moury

SUBJECT: Trip Report - Conduct of Operations Implementation at Rocky Flats Plant

1. **Purpose:** This report documents the results of a review by Defense Nuclear Facilities Safety Board (Board) staff members M. Moury, S. Krahn, D. Hayes, and R. Warther and outside expert D. Boyd at the Rocky Flats Plant from January 23-26, 1996. The review focused on conduct of operations, occurrence reporting, issues management, and the facility representative programs in Buildings 371 and 771.

2. **Summary:** The present implementation of conduct of operations at Rocky Flats is not effective. After more than four years of implementing conduct of operations at several Rocky Flats facilities by the previous contractor, implementation outside the "resumption buildings" is still not complete. Instead of clearly stating requirements and holding facility line management accountable for implementation according to a plan of action and milestones, Rocky Flats tends to rely on the activities leading up to and including the Operational Readiness Review (ORR) to implement conduct of operations. As a result, there are many facilities, including Building 371, which have not gone through an ORR and consequently suffer from incomplete conduct of operations implementation.

   Rocky Flats Field Office (RFFO) is completing a major reorganization, which has resulted in changes to most of the programs the Board staff reviewed. Because of the reorganization and changing responsibilities in the organization, many programs, including occurrence reporting, performance indicators, and independent assessments do not have implementing procedures or guidance as required. On a positive note, the Facility Representatives (FRs) are considered knowledgeable, hard working, and have established credibility with the contractor in their surveillance and assessment roles. However, FR effectiveness in surveilling and assessing contractor performance is degraded by the lack of an efficient process to track, follow up, and require correction of deficiencies.

3. **Background:** Building 771 recently completed an Operational Readiness Review (ORR) for limited tank draining operations. This included a period of intense focus on conduct of operations from mentors in Kaiser Hill. Building 371 is the next facility to go through an ORR and is receiving focused mentor support to implement conduct of operations.

4. Discussion:

Rocky Flats Field Office (RFFO):

a. Facility Representative (FR) Program - The FR program has matured significantly since a previous staff review in April 1995. Directives have been revised; industrial and nuclear facilities' programs have been integrated; additional personnel have been assigned; and reorganization of RFFO has grouped the operational assessment and FR functions together. Twelve months ago there were five qualified FRs. In the last six months seven FRs have completed initial qualification and three have requalified. The Board staff identified the following specific issues:

(1) An effective process is not in place to ensure that FR surveillance and assessment findings are tracked, trended, and corrected by the contractor.

(2) Observation of FRs during walkdowns and discussions with them gave the staff the impression that they are not setting high enough standards for conduct of operations performance by the contractor. The FRs who accompanied the staff did not recognize or comment appropriately on deficiencies noted during the tour and drill at Building 371. This may be due to insufficient coaching and guidance in the facility by team and group leads. The staff also noted that the FRs do not perform back shift assessments or observe operations even though several LCO surveillances are conducted on the back shift.

b. Occurrence Reporting - Procedures for implementing occurrence reporting and defining responsibilities at RFFO as required by DOE Order 5000.3B, *Occurrence Reporting and Processing of Operations Information*, have not been developed. In addition, an effective process for ensuring that deficiencies identified as a result of occurrences (as well as audits and surveillances) are properly tracked, corrected, and closed does not exist. As a result, many deficiencies are recurring. Also, FRs are taking about twice as long as allowed (more than 20 days) to concur on final occurrence reports. Less than 30% of the reports are completed on time.

c. Performance Indicators - DOE is currently developing performance measures to support the award fee process. It is not clear how these measures will ensure continuous improvement as required by DOE Order 210.1, *Performance Indicators and Analysis of Operations Information*, rather than meeting a minimum numerical goal or activity. No documentation exists to describe or implement the program at RFFO nor are there any facility-specific Performance Indicators to evaluate operations established by DOE RFFO. Further staff review in this area will be required.

d. RFFO Independent Assessment Program - As presented by RFFO during the review, the FRs and the Technical Assessment Group implement the independent assessment program. Currently the Technical Assessment Group is used only at the request of the FRs. The

Analysis & Evaluation Group is developing an assessment plan that will have the Technical Assessment Group performing assessments to support award fee performance measurements. It is not clear how the technical assessment plan will take into account the status, risk, and complexity of the facility being assessed or whether additional attention will be given to areas of questionable performance as described in DOE Order 5700.6C, *Quality Assurance*. No documentation exists to describe or implement the program.

Contractors (Kaiser-Hill and Safe Sites of Colorado)

e. Conduct of Operations Implementation Strategy and Status - Briefing material shows that the full implementation of Buildings 371 and 771 was planned for late 1995, but now is not expected until the end of 1996. The slow progress is troubling considering that Rocky Flats has been implementing conduct of operations for more than four years. There is a wealth of lessons learned, trained personnel, and ORR/RA experience, beginning with Building 559, that could have been previously applied.

The approach at Rocky Flats has been to assign a team of experienced and assertive mentors to a facility preparing for an ORR. The mentors coach, train, and do whatever is necessary to prepare the facility to pass the ORR. This approach has been successful at passing ORRs and implementing conduct of operations in resumption buildings (Buildings 559 and 707 implementation is complete). However, management attention on conduct of operations implementation in other facilities has suffered; consequently, implementation lags behind the resumption buildings significantly (70 percent implemented in many facilities). The failure of senior managers to clearly state requirements and hold facility line management accountable for implementation according to a plan of action and milestones may be contributing to these delays.

f. Specific Conduct of Operations Issues - Despite the progress being made, the following specific deficiencies suggest that much is left to be done:

(1) Radiological Control - Radiological control practices did not meet the specifications of the DOE Radiological Control Manual despite what appeared to be an abundance of Radiation Control Technicians (RCTs) in both facilities. Many observed postings for radiation, contamination, and airborne radioactivity areas did not include the level or expected range of levels in the areas. Room radiation surveys were expired. A Building 371 inspection Radiation Work Permit required review of applicable surveys before entering a work area, but surveys were not posted at entrances to work areas and were not provided before entering the contamination area for the walkdown. Questions during the walkdown revealed that surveys do not exist for some work areas. Several hand and shoe monitors were out of service with deficiency tags that were not filled out to show how long this condition has existed.

During the observation of a Stationary Operating Engineer (SOE) making his rounds, it was noted that the SOE violated radiological control barriers, failed to consistently monitor hands and shoes when moving between rooms, monitored without recognizing that an instrument was out of service, was unfamiliar with routes through contamination areas, and did not correctly remove protective clothing or monitor for contamination at the step-off pad.

(2) Drills - the staff observed a contaminated worker drill in Building 371 and a plutonium nitrate spill in Building 771. The following comments apply:

(a) Simulation was inadequate in both facilities. The participants looked to the controllers and asked if they should simulate their response before taking any action, rather than responding as required for a real casualty. Simulating the initiation of the accident, decontamination, ventilation changes, phone calls, etc., led to confusion and reduced the realism and training benefit. This may have also contributed to the many deficiencies identified by the staff with procedural adherence, contamination isolation, paperwork completion, and decontamination.

(b) The Building 371 drill was especially deficient. Despite only accomplishing two out of four purposes listed for the drill, the drill was considered "successful" by the facility. Although stated as a goal of the drill, none of the required paperwork was completed. The drill critique was very weak with no clear agenda followed in evaluating the drill. Personnel observations were not recorded and a chronology of the drill was neither recorded nor discussed.

Contamination isolation and control during the drill were also problematic. Due to poor communications, RCTs did not get a clear picture of where the contamination had occurred (i.e., the worksite). RCTs seemed at a loss about what actions to take when the source of the contamination was found; no boundaries were set up, the room was not immediately reposted, and the glove portal was not taped shut. The posting for the affected room was changed to "Respiratory Protection Required," not "Contamination Area." A person who had been in the affected room during the event was allowed to exit the area without any additional monitoring.

5. **Future Staff Actions**: The staff will continue to follow the development of issues management and the performance measurement and award fee process.