

Defense Nuclear Facilities Safety Board
Review of Conduct of Operations, Work Control, and Safety Oversight
at Rocky Flats Environmental Technology Site

This document summarizes the issues from the Defense Nuclear Facilities Safety Board's staff October 20–23, 2003, review of the Conduct of Operations, Work Control, and Safety Oversight at the Rocky Flats Environmental Technology Site.

1. Areas that are weak and/or have worsened:
 - a. Rocky Flats Field Office (RFFO)
 - i. With the exception of the assistant manager, no other safety & health staffer appeared on the automated radiation work permit (RWP) entry list in 2003, and project staff had few entries. New manager's plans for improving field presence are vague and ill-defined.
 - ii. While facility representatives (FR) have a respectable track record of resolving issues directly with the facility management, RFFO has among the weakest processes for formally communicating issues to Kaiser-Hill (K-H) for resolution, and there is questionable senior management support for FR issues.
 - iii. RFFO senior management has a very hands off attitude toward safety oversight of K-H.
 - iv. There is little apparent commitment by RFFO for assessing K-H's performance, especially the effectiveness of the K-H self-assessment program.
 - v. RFFO has not reviewed K-H's Integrated Safety Management (ISM) System for nearly a year and has no definite plans in the future for conducting an ISM annual review.
 - b. Presence by K-H central safety personnel in field is erratic and unacceptable for several radiation protection and occupational safety personnel.
 - c. Pre-Evolutionary Briefs (PEBs) suffered from poor conduct of operations (e.g., use of old forms, workers reading magazines, high background noise, filling out forms ahead of time, signing items as complete that were not discussed) and were not conducted in accordance with the Conduct of Operations manual.
 - d. Standing Orders are poorly maintained (e.g., address systems that no longer exist or moot issues, not incorporated into procedures despite several years).
 - e. K-H exhibited a strong reluctance to utilize more formal causal analysis processes, even when warranted, and relied heavily on apparent causes.

- f. There were complaints that K-H was not always reporting FR-identified issues and was sometimes rewriting them so that they no longer represented the FR's position.
 - g. Very poor use of the Building 371 accountability board and poor location for Building 707's board.
 - h. Procedure requirements for post-job reviews are not known or followed.
 - i. Staff review of work packages identified cases of task instructions that did not address the main task, inadequate post-maintenance testing, missing forms, and Job Hazards Analyses with non-applicable hazards identified.
 - j. Building emergency drills/exercise scenarios are limited and emphasize facility hazards that are less relevant today (i.e., criticality) rather than activity hazards (e.g., a contaminated, injured worker) related to the current mission. Too much use was made of tabletop exercises and actual events as substitutes for planned and evaluated drills.
 - k. Plans-of-the-Day provided little value and did not examine integration issues.
 - l. General RWPs were modified in lieu of generating a job-specific RWP. Personnel are frequently not exiting the RWP (i.e., signing out) when leaving the work area. Potential High Contamination Areas (HCA) would have been better protected if Radiation Control Technicians (RCTs) had posted HCA signs and used radiological control tape versus construction tape. RCTs were performing non-RCT tasks that could distract them from their RCT duties.
 - m. Wooden equipment was labeled "fire retardant" with a black marker rather than with a formal operator aid or tag.
 - n. Not requiring permission to enter Configuration Control Authority office can lead to congestion when responding to an emergency.
 - o. K-H is no longer requiring oral boards for Configuration Control Authority requalifications or building transfers.
 - p. Draft standing order for resumption of hot work in contamination areas was vague enough that it may not result in adequate worker protection.
2. Areas that are strong and/or have improved:
- a. Presence in field and cognizance of changing field conditions by facility operations management, facility safety oversight, and Configuration Control Authorities have greatly improved and is among the best seen.

- b. Union relationship with K-H appears to have greatly improved and is now among the better that the staff has observed, as the result of a number of good initiatives by both parties.
 - c. Deployment of large numbers of work crews into field was very efficient.
 - d. Timely discussions of safety events among facilities and to K-H and Department of Energy (DOE) management has significantly improved. While the identification of issues improved, the value added in resolving issues by the Safety Assessment Center was uncertain.
 - e. K-H management has cracked down on the use of verbal craft work packages for deactivation and decommissioning work despite allowances in the work control procedure.
 - f. The investigation into how a worker caught his fire retardant hood on fire during plasma arc torch work has been proactive.
 - g. Critiques were well run and had good, open discussions.
 - h. Safety and conduct of operations information is provided to supervisors in the form of safety flashes, safety bulletins, and toolboxes for discussion with crews.
 - i. Program to solicit worker observation of good/bad work practices in the field is a positive initiative toward improving operational safety.
 - j. Number of FR in upcoming RFFO reorganization appears adequate.
 - k. Process for overseeing subcontractor work has improved.
3. Areas that were average/mixed:
- a. Communication of recent safety issues at PEBs had mixed success.
 - b. Housekeeping was mostly reasonable for an active decommissioning facility. No problems with glovebox combustible loads or excessive migration of junk into other rooms was observed. However, a roll of plastic sheeting was stored next to a wooden crate, and accumulated equipment blocked access to parts of the facility cold side.
 - c. Corrective action process is mediocre, but typical.
 - d. Shift manager office operations, logs, and records were acceptable. Some minor issues identified while observing stationary operating engineer rounds.

- e. Facility self, targeted, manager-directed, and ongoing assessment programs are limited in scope, but not unreasonable considering facility status. K-H independent assessment program has very limited resources.

4. Review Conclusions:

- a. With the exception of the FR, RFFO's safety oversight performance has decreased considerably over the last few years. It is hard not to conclude that nearly all project and safety staffers are out of touch with field conditions. This is very troubling considering the hazardous work and changing work conditions. The oversight model that RFFO management is advocating requires a strong contractor self-assessment program, but RFFO is making little attempt to assess its effectiveness. While the FR seem to be more field-oriented than in the past, they cannot be solely relied on to oversee the contractor's performance.
- b. Despite sheer work volume, the review team could not discern any widespread evidence that work was overly rushed, that preparations were incomplete, or that management was ignoring worker safety concerns. Compared to many other projects, there were surprisingly few reminders of schedule and progress directed at supervisors and work crews.
- c. Conduct of operations had degraded in several observed areas, but was not at an unacceptable level of performance.
- d. The type of work being performed is complex, hazardous work where surprises are common. It is much more challenging than performing the same stabilization work day after day inside a glovebox. Overall, the K-H operations and safety management is more engaged with day-to-day work activities and cognizant of changing field conditions than most other projects.
- e. Facility management's approach for addressing safety issues and ensuring proper conduct of operations appeared sound. No evidence of malicious disregard for safety was evident.
- f. However, safety performance is not satisfactory. The number and type of events that have occurred in September and October are troubling. A review of significant events indicates a mixture of events that are very hard to predict and prevent and those which are easily preventable. There is no excuse for the two recent cases of unauthorized work being performed, one of which led to several uptakes in Building 707. There has been a rash of sloppy accidents involving fork lifts. Other preventable events include tags being removed in Building 559 and an inadequate fire sprinkler isolation in Building 440. Management is still trying to resolve the various Building 371 Premaire® suit equipment issues and the excessive number of skin contaminations (17 skin contaminations > 1000 dpm/cm² thus far in 2003).

- g. The staff is concerned that K-H's informal causal analysis and heavy reliance on worker input for corrective actions may result in corrective actions that are not addressing the root causes or are not as effective as management would hope. For example, despite the fact that skin contaminations are still occurring, K-H was about ready to declare that its corrective actions had been effective.