

# DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 26, 1993

**MEMORANDUM FOR** G. W. Cunningham, Technical Director  
**COPIES:** Board Members  
**FROM:** Ralph Arcaro  
**SUBJECT:** Rocky Flats, Training and Qualification Review, July 26 - 28, 1993

1. **Purpose:** This memorandum provides comment on the status of training and qualification of DOE as well as contractor employees at the Rocky Flats Plant, specifically Building 771.
2. **Summary:** Presentations and discussions with the management at the DOE Rocky Flats Office (RFO) and EG&G indicate that the safety importance of effective training and qualification programs is fully realized at Rocky Flats. The Rocky Flats Plant "Training User's Manual" (TUM) is a valuable document that ensures that the contractor training and qualification requirements of DOE Order 5480.20, *Personnel Selection, Qualification, Training, and Staffing Requirements at DOE Reactor and Non-Reactor Nuclear Facilities* are implemented consistently for all facilities at the Rocky Flats Plant. The RFO training management has begun to perform detailed analyses to develop training and qualification programs that ensure all federal employees at RFO are trained and qualified to perform their duties. This action is supportive of DOE Order 5700.6C as well as DNFSB Recommendations 92-7 and 93-3. While overall, the procedural and personnel support for training and qualification at Rocky Flats appears to be among the best in the complex, the following comments indicate improvement is still needed in some areas.
  - a. The training and qualification program to be developed for federal employees at RFO is dependent upon the training needs analyses currently being performed. Because of the great detail of the analyses, qualification programs for personnel in the safety and environmental fields will not be complete for two years.
  - b. The training program for resumption of operations in Building 771 has not been fully developed. Procedures for training program development and knowledgeable individuals to develop the program are available, but full implementation of a resumption operation training program has been delayed by lack of a defined mission and lack of funding. The DOE-RFO Training Manager stated that it is his position that the training must be conducted prior to commencement of the Phase II liquid actinide stabilization program.

- c. Training for technical support personnel is not consistent. Systems Engineering personnel are provided training in accordance with a formal qualification card; however, training provided to radiation building engineers is an ad hoc program. Required training is verbally designated by the responsible radiological engineering section manager. Little documentation is maintained to verify completion of the training.
  - d. Building 771 personnel interviews conducted by the DNFSB review team revealed a weakness in the area of procedural compliance.
3. **Background:** Building 771 was previously used for plutonium recovery and laboratory research. The building operations have been shutdown. Resumption of operations is planned in two phases to remediate material left in the building since shutdown. Phase I consists of elimination of solutions that have relatively low concentrations of plutonium through cementation in Building 774. The detailed operations in Phase II have not been determined but will involve processing of the higher concentration plutonium solutions. Sampling and movement of solution-bearing bottles has commenced.

The DNFSB review on July 26-28 was performed by DNFSB staff member Ralph Arcaro and outside expert Theodore Quale. The review consisted of presentations by and discussions with RFO and EG&G management responsible for training and qualification and interviews of selected Building 771 operators and supervisors.

4. **Discussions/Observations:**

- a. DOE-RFO Training and Qualifications - RFO has embarked upon a comprehensive analysis to determine the training needs for all RFO personnel to be qualified for their positions. The analysis results in a complete list of tasks and a listing of knowledge and skills required for a particular position. Each of the tasks is rated with regard to frequency, difficulty, and importance. Each knowledge/skill area is rated with regard to the level of proficiency required. This effort is currently 30% complete. The remaining analyses will reportedly take an additional two years. It was reported that the needs analyses will provide input for the following objectives:
  - 1. Development of qualification standards - All RFO personnel in safety and environmental areas are scheduled to have qualification standards in two years.
  - 2. Identification of needed training - Both immediate and long-term training needs will be identified.
  - 3. Course development - The needs analysis will identify core courses for RFO personnel at the site level and division level.
  - 4. Identification of common responsibilities

## 5. Redesign of Position Descriptions and Individual Development Plans

The level of attention provided to the development of comprehensive training and qualification programs at DOE-RFO is among the best in the complex. The long-term objectives of the training needs analyses are consistent with DOE Order 5700.6C and DNFSB Recommendations 92-7 and 93-3. However, the amount of time required to complete such detailed analyses precludes any substantial near-term benefit. Table-top, abbreviated needs analyses used by other sites to more rapidly develop training programs are not used at Rocky Flats.

- b. EG&G Building 771 Training and Qualification - It was reported that all contractor training for resumption operations at the Rocky Flats Plant is performed in accordance with the Rocky Flats Training User's Manual (TUM). The TUM provides a consistent vehicle by which the training and qualification requirements of DOE Order 5480.20 can be applied site-wide.

Training for the glovebox and bottle handling operations of Phase I of the Building 771 stabilization plan has been conducted in accordance with the TUM, and thus DOE Order 5480.20. It is intended that the training and qualification of operators and supervisors for Phase II operations will also be performed in accordance with the TUM; however, the funding and development for this training has not been accomplished due to the uncertainty of the building mission. During the DNFSB review, the DOE-RFO Training Manager asserted that all training and qualification will be accomplished in accordance with DOE and RFO directives prior to the commence of additional operations in Building 771.

- c. EG&G Engineering Support Training - Significant differences exist in the formality of training provided to two groups of technical support personnel. Systems Engineering personnel are required to complete an extensive and comprehensive number of courses related to their duties and responsibilities. This training and qualification program is documented in a qualification card. However, the training is required concurrently with the performance of their regular duties; i.e., completion of the card is not prerequisite to independent performance.

The training provided for another technical support group, radiation building engineers, is an ad hoc program. Required training is verbally designated by the responsible radiological engineering section manager. Little documentation is maintained to verify completion of the training. Qualification cards are not used.

- d. Personnel Interviews - The DNFSB review team performed interviews of four chemical operators and two supervisors from Building 771. Although most individuals interviewed possessed adequate appreciation of conduct of operations, one supervisor interviewee indicated he had authorized, reportedly with the concurrence of the Assistant Operations Manager, a deviation from the requirements of a procedure. The

change, performed as a matter of convenience rather than emergency, was reportedly not supported with a formal change request until after the fact.