Carole

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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

September 1, 1994

Mr. Mark Whitaker, EH-6
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

Dear Mr. Whitaker:

Enclosed for your information and distribution are five (5) Defense Nuclear Facilities Safety Board (DNFSB) staff reports. The reports have been placed in the DNFSB Public Reading Room.

Sincerely,

George W. Cunningham

George W. Cunningham
Technical Director

Enclosures (5)

94-0005067

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 28, 1994

MEMORANDUM FOR: G. W. Cunningham, Technical Director

COPIES: Board Members

FROM: Monique Helfrich

SUBJECT: Report on a Review of Stack Effluent and Ambient Air Monitoring at the Rocky Flats Plant and the Review of Air Effluent Sample Collection and Data Handling used at Building 707, February 8-10, 1994.

1. **Purpose:** This report documents the visit of Monique Helfrich and Steven Stokes of the Defense Nuclear Facilities Safety Board (DNFSB) staff to the Rocky Flats Plant to review the programs for stack effluent and ambient air monitoring at the site. Procedures for effluent sample collection and data handling and their implementation in Building 707 were also reviewed.

2. **Summary:** The environmental programs for stack effluent and ambient air monitoring at the Rocky Flats Plant have been designed to meet the requirements of the Federal and State environmental regulations and the applicable DOE Orders. However, the underlying activities which implement these programs, in areas such as the collection of environmental data and the performance of surveillance activities (by both DOE and the contractor), receive limited regulatory oversight and, therefore, in many cases, are less than disciplined in their conduct of operations (with respect to use of procedures, training and qualifications, self-assessment, and the implementation of the corrective-action process). This lack of formality could undermine the validity of the data being used to prove compliance with environmental requirements.

3. **Background:** Previous environmental protection reviews conducted by the DNFSB staff at the Rocky Flats Plant have been focused on the status of resumption activities and have not explicitly considered the status of the site as a whole. Therefore, as part of an effort to develop a systematic understanding of the site-wide environmental protection program, a review of the stack effluent and ambient air monitoring program was conducted.

   During the January 1994 review of Order Compliance for DOE Order 5400.5, *Radiation Protection of the Public and the Environment*, it became clear that Rocky Flats EG&G

environmental personnel believed that objective evidence of compliance with 40 CFR 61, Subpart H, *National Emissions Standards for Emissions of Radionuclides Other Than Radon From Department of Energy Facilities*, was indicated by the publication in the annual site environmental report of the potential effective dose equivalent (EDE) of less than 10 mrem. Since the requirements of the regulation include a monitoring and modeling protocol, as well as the 10 mrem EDE standard, the staff believed that evidence of adherence compliance should also include an assessment of adherence with these protocols.

4. Discussion/Observations:

a. Site-wide Air Effluent and Ambient Air Monitoring Programs: A review of the site-wide air programs was conducted based on the requirements in DOE Order 5400.1, *General Environmental Protection Program*, and DOE Order 5400.5, *Radiation Protection of the Public and the Environment*. The purpose of this review was to develop an understanding of the ability of the air effluent and ambient air monitoring programs to support current site operations and future transition activities.

1. Both the air effluent (stack) and the ambient air monitoring are designed to support current site operations. With respect to the transition process, the designers of the ambient air monitoring system believe that it is robust enough to support a real change in operations. The designers of the monitoring system do not believe that changes in operation due to transition will have any impact on the requirements of the system. Based on information collected during this review, the Staff found reason to disagree with these assertions.

2. During the January 1994 review of Building 707 order compliance for DOE Order 5400.5, *Radiation Protection of the Public and the Environment*, it appeared that Rocky Flats EG&G (both line management and the self-assessment division) had done very little assessment of environmental protection programs. Their major focus has been on compliance with waste management requirements (both hazardous and radioactive), with little or no review of compliance with air effluent requirements.

3. As a result of the recent restructuring of the DOE Rocky Flats Office (RFO), the staff has become concerned about the potential impact on the technical capability of environmental personnel, especially since a number of the RFO technical specialists have either left or been reassigned. During the reviews of the air effluent and ambient air monitoring programs, a number of RFO staff participated in the discussions, and while they were able to discuss the administrative aspects of the environmental issues (such as budgets and work packages), their grasp of the technical aspects was less evident. In particular, the staff was concerned that the

RFO technical staff who had worked on the upgrades to the ambient air monitoring system had been reassigned. In addition, it was not apparent that an equally qualified individual had replaced this individual.

During the discussions, RFO environmental staff expressed their belief that the facility representatives would be the RFO front-line for environmental issues as they arose in the buildings. The staff had the opportunity to read some draft material which described the environmental training received by facility representatives, and based on this cursory review was left with the impression that the environmental training (especially environmental issues not related to waste management, such as air and liquid emissions monitoring and surveillance) was designed to be a broad overview of the material, with little technical depth.

b. Building 707 Compliance with Air Emissions Requirements: As a follow up to the January 1994 review of Building 707 compliance with the requirements of DOE Order 5400.5, *Radiation Protection of the Public and the Environment*, a subset of the requirements of the emissions monitoring and modeling protocols was chosen for assessment of adherence compliance. These requirements dealt with effluent sample collection and data handling.

1. Examination of the records associated with stack monitoring at Building 707 indicated that a chain-of-custody existed for the sample collection and data analysis process, which could be used to establish adherence to the monitoring protocols for air effluent monitoring.

2. During the observation of sample collection in Building 778 by a Radiological Control Technician (RCT), compliance with the sample collection and handling procedure was not evident. The RCT was not aware of what version of the procedures he was or should be using (in fact, it appeared that he may have been following a draft revision of the procedure); a number of procedural violations were observed; and the technique used by the RCT during the actual handling of the sample could have resulted in a compromise in the integrity of the sample. While the sampling and handling procedure is not a Category 1 procedure, requiring step-by-step compliance, it does form the basis for the validity of the use of the data to demonstrate compliance with regulatory requirements; therefore, a more disciplined use of procedures would be warranted.

c. Effectiveness of Program for Managing Corrective Actions: While not part of the discussions with EG&G environmental protection personnel, an issue was raised by EG&G personnel with respect to the effectiveness of the EG&G corrective action program as related to waste management issues. During early 1993, at the request of

RFO, EG&G Waste Surveillance conducted an assessment of the compliance status of the Hazardous Waste Operating Record and associated record keeping and reporting requirements. The results of the assessment indicated that the Operating Record was incomplete and the responsibility for maintaining the records was decentralized and fragmented. A year later, on January 21, 1994, RFO issued a memorandum which stated that EG&G's corrective actions to date did not show an adequate response or understanding of the need to regain compliance, and that this demonstrated lack of management commitment and implementation of corrective actions had resulted in numerous potential violations of the Colorado Hazardous Waste Regulations (CHWR). This memorandum directed EG&G to develop and implement a corrective-action program that would bring the Operating Record into compliance with the CHWR, and to use the components outlined in the attachment to the memorandum as a basis for the corrective-action program.

5. **Future Staff Actions:** At the present time no follow-up action is required with respect to the review of the stack effluent and ambient air monitoring system; however, in order to further develop the understanding of the site-wide environmental protection program, it is proposed that a review be conducted which is focused on surface and groundwater monitoring. In addition, it is suggested that conduct of operations in the performance of environmental protection activities (including both air and liquid effluents, as well as waste management) be reviewed.