

**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**

June 6, 1994

**MEMORANDUM FOR:** G.W. Cunningham, Technical Director**COPIES:** Board Members**FROM:** Paul F. Gubanc**SUBJECT:** Report of Visit to the Savannah River Site (SRS) F-Canyon and FB-Line to Review Order Compliance, February 28 - March 4, 1994.

1. **Purpose:** This trip report documents a DNFSB Staff review of DOE order compliance at the F-Canyon and FB-Line facilities at the DOE Savannah River Site (SRS). The review was conducted by Paul Gubanc, Chip Martin and Rick Schapira, of the DNFSB Staff, and outside experts, Ahmad Famarzi, Len Skoblar, and Douglas Volgenau during the period February 28, 1994, to March 4, 1994.
2. **Summary:** The team reviewed the current status of DOE order compliance at the F-Canyon and FB-Line facilities for both the Westinghouse Savannah River Company (WSRC) and the DOE Savannah River Operations Office (DOE-SR). The review included pertinent documentation, discussions with individuals who had participated in the compliance effort and facility/area management, facility tours and observation of actual work practices to provide first-hand data. The demonstration of both administrative compliance (Phase 1) and field adherence (Phase 2) were included in this review for the 52 DOE Orders of interest to the DNFSB (Attachment A). WSRC had commenced their compliance assessment efforts during the July 1993, time frame at both facilities and indicated completion of both phases at the F-Area facilities near the end of February 1994. The following summarizes the major comments of this review.
  - a. The compliance reviews (both Phase 1 and 2) had been completed by WSRC for the 52 DOE orders and the results had been reviewed by DOE-SR. The FB-Line appears to be ahead of the F-Canyon in its efforts to demonstrate compliance, however, neither facility can claim full compliance at this time. Additional SRS effort and DNFSB reviews will be required to assure an adequate order compliance posture.
  - b. Most of the WSRC assessments suffered from inadequate preparation, inadequate training or supervision of the assessors, and/or inadequate definition of the final products. This applied to both Phases 1 and 2. Many of the Phase 2 assessments were not performance-based and simply revalidated the existence of the administrative requirements (i.e., a repeat of Phase 1).

- a. Order Compliance Definition: DOE procedure DP-AP-202, *Order Compliance Self-Assessment Instruction*, Revision 2, dated August 3, 1992, defines order compliance as follows:

"Compliance exists when applicable DOE Order statements (mandatory and non-mandatory) are included in appropriate documented policies, programs, procedures, and practices AND these documented policies, programs, procedures, and practices are demonstrably adhered to during office or facility activities."

This definition is divided it into two component parts: Administrative or Phase 1 compliance and Adherence or Phase 2 compliance. SRS utilizes DP-AP-202 as the primary instruction for its order compliance program.

- b. Phase 1 Compliance: The objective evidence which SRS utilizes to support an assertion of Phase 1 compliance includes the local site or facility implementing documents (e.g., procedures) and matrices which cross-reference each order requirement to the local implementing documents. For WSRC, these matrices are contained in documents called Compliance Assessment Packages (CAPs), one for each DOE order of interest to the Board. At SRS, DOE-SR reviews each of the WSRC CAPs for acceptability.
- c. Phase 2 Compliance: The objective evidence which SRS utilizes to support an assertion of Phase 2 compliance includes three major elements:
1. A collection of recent, formally documented assessments which have competently assessed a representative portion of the significant health and safety requirements.
  2. An on-going program of technical assessments which envelopes the DOE health and safety related order requirements and can be expected to identify non-compliances when they are observed.
  3. A corrective action program that ensures that identified deficiencies are prioritized and tracked and that corrective actions are completed.

WSRC uses manual SCD-4, *Operational Readiness Functional Area Requirements*, as the basis for developing its Phase 2 assessment program. This manual attempts to provide a linkage between the significant health and safety requirements to the facility level management programs for their implementation.

- d. Disposition of Non-Compliances: The above referenced Phase 1 and 2 assessments will identify non-compliances to the requirements of DOE orders. In accordance with DP-AP-202, those non-compliances which cannot be corrected immediately must be

compensated for in the interim. These compensatory measures require formal DOE approval and are termed Requests for DOE Approval (RFAs). The most common form of RFA is the Compliance Schedule Approval (CSA) which provides an interim program of compensatory measures until full compliance can be achieved.

- e. DNFSB Staff F-Area Order Compliance Review Approach: At the time of the review, SRS advised that the Phase 1 CAPs were nearly complete, including DOE-SR review, for both F-Canyon and FB-Line. An initial set of Phase 2 assessments had also been completed although WSRC did not claim they had yet demonstrated Phase 2 compliance. The review team scrutinized both phases by reviewing the CAPs, the field adherence (Phase 2) assessments, by interviewing those individuals responsible for the assessments and the training administered to the participants to prepare them to conduct the assessments. In addition, discussions with facility, area, and supporting organizations' management were held. This practice was accomplished for both facilities and for site level orders. Lastly, numerous facility tours and work practices were observed to provide first-hand data.
5. **Future Staff Actions:** A follow-up DNFSB Staff review will be required to assess whether DOE-SR and WSRC have demonstrated order compliance prior to the resumption of F-Canyon and FB-Line operations. This follow-up review is currently scheduled for June 1994 however it is subject to change based on SRS F-Area schedules and preparations.

**LIST OF 52 DOE ORDERS OF INTEREST TO DNFSB  
ARRANGED BY TOPICAL AREA**

**I. Nuclear Safety and Standards**

- A. 1300.2A DOE Standards Program
- B. 5480.5 Safety of Nuclear Facilities
- C. 5480.6 Safety of DOE-Owned Nuclear Reactors
- D. 5480.21 Unreviewed Safety Questions
- E. 5480.22 Technical Safety Requirements
- F. 5480.23 Nuclear Safety Analysis Reports (replaced 5481.1B for nuclear facilities)
- G. 5480.24 Nuclear Criticality Safety
- H. 5480.25 Safety of Accelerator Facilities
- I. 5480.28 Natural Phenomena Hazards Mitigation
- J. 5480.30 Nuclear Reactor Safety Design Criteria
- K. 5481.1B Safety Analysis and Review System
- L. 6430.1A General Design Criteria

**II. Management Systems**

- A. 1360.2B Unclassified Computer Security Program
- B. 4330.4A Maintenance Management Program
- C. 4700.1 Project Management System
- D. 5000.3B Occurrence Reporting and Processing of Operations Information
- E. 5480.26 Trending and Analysis of Operational Information Using Performance Indicators
- F. 5480.29 Employee Concerns
- G. 5700.6C Quality Assurance

**III. Personnel, Training and Operations**

- A. 5480.17 Site Safety Representatives
- B. 5480.18A Accreditation of Performance-Based Training for Category A Reactors and Non-Reactor Nuclear Facilities
- C. 5480.19 Conduct of Operations Requirements for DOE Facilities
- D. 5480.20 Personnel Selection, Qualification, Training and Staffing Requirements at DOE Reactor and Non-Reactor Nuclear Facilities
- E. 5480.31 Startup and Restart of Nuclear Facilities

**IV. Emergency Preparedness**

- A. 5500.1B Emergency Management System
- B. 5500.2B Emergency Categories, Classes, and Notification and Reporting Requirements
- C. 5500.3A Planning and Preparedness for Operational Emergencies
- D. 5500.4A Public Affairs Policy and Planning Requirements for Emergencies

- E. 5500.7B Emergency Operating Records Protection Program
  - F. 5500.10 Emergency Readiness Assurance Program
- V. Environmental Protection and Radioactive Waste
- A. 5400.1 General Environmental Protection Program
  - B. 5400.2A Environmental Compliance Issue Coordination
  - C. 5400.3 Hazardous and Radioactive Mixed Waste Program
  - D. 5400.4 Comprehensive Environmental Response, Compensation, and Liability Act Requirements
  - E. 5400.5 Radiation Protection of the Public and the Environment
  - F. 5440.1E National Environmental Policy Act Compliance Program
  - G. 5820.2A Radioactive Waste Management
- VI. Occupational Health and Safety
- A. 5480.8A Contractor Occupational Medical Program
  - B. 5480.9 Construction Safety and Health Program
  - C. 5480.10 Contractor Industrial Hygiene Program
  - D. 5483.1A Occupational Safety and Health Program for DOE Contractor Employees at Government-Owned Contractor-Operated Facilities
- VII. Transportation and Fire Safety
- A. 1540.2 Hazardous Material Packaging for Transport - Administrative Procedures
  - B. 1540.3A Base Technology for Radioactive Material Transportation Packaging Systems
  - C. 5480.3 Safety Requirements for the Packaging and Transportation of Hazardous Materials, Hazardous Substances and Hazardous Wastes
  - D. 5480.7A Fire Protection
  - E. 5632.11 Physical Protection of Unclassified Irradiated Reactor Fuel in Transit (superseded DOE Order 1540.4A, same title)
- VIII. Environment, Safety and Health and Radiation Protection
- A. 5480.1B Environment, Safety and Health Program for DOE Operations
  - B. 5480.4 Environmental Protection, Safety and Health Protection Standards
  - C. 5480.11 Radiation Protection for Occupational Workers, including DOE/EH-0256T, Radiological Control Manual (compliance with this DOE Manual is invoked through DOE 5480.11)
  - D. 5480.15 DOE Laboratory Accreditation Program for Personnel Dosimetry
  - E. 5482.1B Environment, Safety, and Health Appraisal Program
  - F. 5484.1 Environmental Protection, Safety and Health Protection Information Reporting Requirements