

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 7, 1993

MEMORANDUM FOR: G.W. Cunningham, Technical Director

COPIES: Board Members

FROM: Paul F. Gubanc

SUBJECT: Report on Review of Order Compliance at the Savannah River Site (SRS) HB-Line Conducted November 30 - December 1, 1993

1. Purpose: This purpose of this trip was to review Westinghouse Savannah River Company (WSRC) compliance with safety-related DOE Orders at the SRS HB-Line. The review was conducted on November 29, 1993 through December 1, 1993 by DNFSB staff members P., Gubanc, M. Merritt, J. Schapira, R. Warther, and outside expert L. Skoblar.
2. Summary: Despite reviews by WSRC, DOE Savannah River Operations Office (DOE.SR), and DOE Headquarters Office of Defense Programs (DOE-DP) and their assurance to the contrary, SRS HB-Line order compliance has not yet been adequately assessed or demonstrated for the 19 safety-related orders specifically identified to DOE by the DNFSB in its letter of January 27, 1993. In addition, the staff identified several examples of HB-Line non-compliance with safety-related order requirements. The newly appointed WSRC Deputy General Manager for Nuclear Material Production understands the DNFSB review team's concerns and committed to inform the DNFSB, through DOE, of when adequate objective evidence of compliance (both administrative and adherence) will be available. The DOE-SR Manager, in discussion with two Board members, committed to have all HB-Line order compliance packages upgraded and approved by DOE by December 16, 1993. (This schedule will permit correction of only the administrative compliance portion. The adherence verification portion is scheduled by WSRC to be completed by January 31, 1994.)
3. Background: In December 1992 and January 1993, the Board conducted public hearing!; and held deliberations regarding the restart of the SRS HB-Line. A prominent concern was that HB-Line personnel had not demonstrated that they were operating in accordance with DOE safety-related orders. A thorough order compliance review had not been conducted prior to restart. Although the Board chose not to object to HB-Line restart, on January 27, 1993, the DNFSB issued a letter to the Secretary of Energy confirming the Board's understanding that HB-Line would complete a thorough order compliance assessment for those safety-related DOE Orders of interest to the Board (46 at that time). The letter further identified a subset of 19 orders which the Board understood would be assessed expeditiously for compliance in accordance with DOE-DP procedure DP-AP-202, Order Compliance Self Assessment Instruction.

DOE-DP advised the Board by letter on March 30, 1993, that WSRC would complete its order compliance assessments (both administrative and adherence) of the first 19 orders at HB-Line by May 27, 1993. Scheduler delays encountered by DOE and WSRC on HB-Line order compliance were reported to the Board over the course of 1993. DOE in a letter dated November 8, 1993, and in a brief to the Board on November 22, 1993, indicated that the HB-Line order compliance assessment for the 19 orders was ready for DNFSB review.

4. Discussion: DP-AP-202 defines order compliance as existing 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." In practice, order compliance requires the performance of two complementary processes: 1). Administrative Compliance which assesses each applicable order line-by-line to assure 100 % of the statements are included in site and facility procedures down to an implementing (i.e., executable) level; and, 2). Adherence Assessment assures that these requirements, as contained in the site and facility implementing procedures, are being adhered to in practice. Administrative Compliance is by design a 100% treatment of the DOE Order statements. Adherence Assessment by necessity is a sampling of the requirements which is focused on those requirements of greater importance.

The DNFSB review team examined seven of the 19 WSRC HB-Line compliance assessment packages (CAPs), including the DOE Radiological Control Manual, and found that most of the CAPs did not meet the requirements of DP-AP-202, Revision 2, dated August 3, 1992. Specifically:

- a. Administrative Compliance:

1. Six of the seven CAPs examined were fundamentally flawed since the referenced policies and procedures did not go down to the implementing level as described in DPAP-202 Appendices B and C. Examples are cited below. Unless facility-level implementing procedures are referenced (as opposed to policy statements), there is no assurance that facility personnel are being supplied with the proper requirements and guidance for the safe conduct of their work.

- The CAPs for DOE Orders 4330.4A, Maintenance Management Program, and 5480.19, Conduct of Operations Requirements for DOE Facilities, referenced sitelevel policy documents as opposed to facility-specific procedures that can be implemented by the workers.
- The CAPs for DOE Orders 5400. 1, General Environmental Protection Program, and 5400.3, Hazardous and Radioactive Mixed Waste Program, both state that there are no requirements applicable to WSRC even though the cognizant WSRC personnel

acknowledged in discussions that WSRC has responsibilities under these orders.

- The CAPs for DOE Order 5480.4, Environmental Protection, Safety and Health Protection Standards, stated only that an order compliance assessment would be performed.
- The CAP for DOE Order 5480.11, Radiation Protection For Occupational Workers, did not include the statements contained in DOE/EH-0256T, Radiological Control Manual. Change 3 to DOE Order 5480.11 and DOE Notice N5480.6 requires compliance with the Radiological Control Manual.
- The DOE Radiological Control Manual implementation plan (provided in lieu of a CAP) did not identify the implementing procedures which promulgated the facility specific requirements for those articles for which WSRC claimed compliance.

2. The scope of the CAPs was limited to mandatory statements contained in the orders. However, most statements contained in recent orders (e.g., 5480.19 and 4330.4A) contain few mandatory statements. Most of the statements are non-mandatory and provide guidance to DOE and its contractors. However, these non-mandatory statements are necessary to assure protection of health and safety when applied to safety-related systems.

b. Adherence Assessment:

Prior to November 1993, field validation of HB-Line adherence was conducted by members of the Savannah River Technology Center (SRTC) which is not in accordance with DP-AP202 Section 7.1, which states that local organizations (line and functional managers) should assign responsibility for the assessments to members of their staff, and "not to QA auditors, internal assessment groups, or outside contractors." [DP-AP-202 identifies this restriction since "this assessment will also serve to help line and functional area organizations learn more about the sources of requirements and how they are implemented." (op. cit. DP-AP202, Section 3.0).] The SRTC reports of their reviews (they assessed 25% of the requirements in the CAPS) lacked sufficient detail for the DNFSB reviewers to identify what specifically had been assessed, why those requirements had been selected, and the deficiencies SRTC identified. The review team also was informed that no protocol existed to expand the sample size if the initial sample showed poor adherence.

Since November 1993, HB-Line has initiated use of WSRC Manual WSRC-SCD-4, Operational Readiness Functional Area Requirements, as a tool in conducting line management self-assessments. (SCD-4 collects most of the requirements of the orders of

interest to the Board and arranges them into 22 functional areas.) At the time of the DNFSB review, seven of the 22 functional areas had been assessed with the remainder scheduled to be performed over the next two months. These assessments are in accordance with DP-AP-202, Section 7.1

c. DOE Reviews of HB-Line Order Compliance:

1. The DNFSB staff found that the DOE-SR review comments were of little substance, and in some instances were conducted by DOE-SR contractors. This is not in accordance with DP-AP-202, Section 7. 1. In addition, seven of the 19 DOE-SR reviews were completed during the week prior to the DNFSB review. Four of the 19 were still awaiting review completion. Lastly, the DOE-SR turnaround time for each CAP ranged from two to seven months with an average of 4.5 months.
2. Two members of DOE-DP reviewed selected HB-Line CAPs from November 16-18, 1993. In a memorandum to DOE-SR dated November 30, 1993, DOE-DP documented several deficiencies with the scope and timeliness of reviews, concluded that sufficient attention and resources will be applied to the deficiencies as the program continues, and requested a DOE-SR reply as to how lessons-learned will be applied to the F-Area review.

d. Specific Examples of HB-Line Non-Compliance Identified:

1. As mentioned above, WSRC recently initiated management self-assessments at HBLine using manual SCD-4 as a guide. After reviewing seven of the 22 functional areas in SCD-4, a list of 129 deficiencies had been identified.
2. The HB-Line does not have a Master Equipment List (MEL) for maintenance as stated in DOE Order 4330.4A, Chapter 11, Section 5.3. 1. The CAP reflected this deficiency. However, the H area maintenance manager stated to the DNFSB staff that an MEL did exist. In fact, four MELs were produced, and none were congruous. Based on this discussion, it appears that the CAP is not effectively used as a management tool by WSRC management.
3. WSRC management estimates that roughly 50% of HB-Line maintenance is performed by personnel in anti-contamination clothing. WSRC management responsible for HB-Line maintenance acknowledged that they had never dressed-out in anti-contamination clothing to observe maintenance work in progress. Thus HBLine management is not assuring the quality of this work as intended by DOE Order 4330.4A, Chapter 11, Section 15.3. 1.

4. WSRC was not able to identify documentation which provides a technical basis for the location and sensitivity of the continuous air monitors (CAMS) installed at HBLLine. DOE Order 5480.11, Section 9.g.(3).(a) and DOE Radiological Control Manual Article 555 require airborne radioactivity monitoring with a specified minimum sensitivity. This is a repeat finding from the staff's HB-Line order compliance review of January 1993.

The DNFSB staff discussed the specific CAP deficiencies with cognizant WSRC and DOESR management. The recently appointed Deputy General Manager for Nuclear Material Production provided some observations regarding the root causes for the poor quality of the CAPs and had corrected many of the deficiencies associated with the CAP for DOE Order 5480.19 immediately following discussions with the staff. The Deputy General Manager stated that he would appoint a small group and assume personal responsibility for reviewing all CAPS, and would inform the DNFSB staff through DOE when all deficiencies would be corrected and the CAPs would be ready for review. The DOE-SR Manager, in discussion with two Board members, committed to have all HB-Line order compliance packages upgraded and approved by DOE by December 16, 1993. (This schedule will permit correction of only the administrative compliance portion.)

5. Future Staff Actions: The DNFSB Staff will return to SRS HB-Line to review objective evidence of order compliance after being informed that corrective actions are complete and that WSRC, DOE-SR and DOE-DP consider the evidence ready for DNFSB review. The timing, scope and depth of this review will be defined in consultation with the Board.