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Report No.: 70-1201/90-06

Licensee: B&W Fuel Company
 Commercial Nuclear Fuel Plant
 Lynchburg, VA 24505

Docket No.: 70-1201

License No.: SNM-1168

Facility Name: Commercial Nuclear Fuel Plant

Inspection Conducted: October 15-19, 1990

Inspector: James L. Kreh 16 Nov. 1990
 for A. Godden Date Signed

Approved by: Wm. S. Satterly 16 Nov '90
 for W. H. Rankin, Chief Date Signed
 Emergency Preparedness Section
 Radiological Protection and Emergency
 Preparedness Branch
 Division of Radiation Safety
 and Safeguards

SUMMARY

Scope:

This routine, announced inspection was conducted in the area of emergency preparedness. Several areas within the emergency preparedness program were reviewed to determine if the program was being maintained in a state of operational readiness. Specific areas reviewed included the following: observation and evaluation of emergency drill; maintenance of select emergency and fire protection equipment; Radiological Contingency Plan (RCP) and implementing procedures update and distribution of changes to copy holders; training, periodic drills, and exercises; and open items from previous inspections.

Results:

In the areas inspected, one non-cited violation (NCV) was identified for failure to document specialized training in accordance with the procedural requirements (Paragraph 4). Based on the licensee's response to the scenario, the exercise was considered fully successful. The following program strengths were noted: (1) facility evacuation; (2) timely activation and notification of the Radiological Contingency Response organization (RCRO); (3) command and control at the incident scene; (4) timely and appropriate offsite notifications; (5) prompt response by Emergency Teams to incident area; (6) self-critique and identification of corrective actions for exercise findings; (7) periodic drills involving the RCRO; (8) use of the training

facility as an Emergency Operations Center (EOC); and (9) interface and communications between the emergency control point and the EOC.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- R. Alto, Plant Manager
- *D. Codrea, Manager, Purchasing
- *R. Coleman, Senior Monitor, Health-Safety
- E. Coppola, Manager, Quality and Safety
- *D. Ferree, Manager, Fuel Operations
- *K. Lester, Manager, Health Physics and Licensing
- *G. Lindsey, Foreman, Health-Safety
- *M. Moore, Assistant Facilities Engineer
- *W. Nash, Project Coordinator
- *C. Speight, Manager, Facilities and Services

Other licensee employees contacted during this inspection included security force members, technicians, and administrative personnel.

*Attended exit interview

2. Offsite Support Agencies (88050)

The inspector held discussions with a licensee representative regarding the coordination of emergency planning with offsite support groups, B&W Naval Nuclear Fuel Division (NNFD), and B&W NNFD-Research Laboratory (NNFD-RL). According to Section 8.2 of the RCP, agreements are reviewed every two years and updated if necessary. Current agreements had been executed with the Concord Rescue Squad (September 8, 1989), Lynchburg General Hospital (February 1, 1989), and the Concord Volunteer Fire Department (January 10, 1989). According to documentation, on December 5, 1989, twelve members of the Concord Volunteer Fire Department were provided a site familiarization tour in accordance with Section 7.2 of the RCP. In view of the support role provided by Emergency Rescue Teams (ERTs) from NNFD and NNFD-RL, the inspector questioned a licensee representative regarding site familiarization tours for the aforementioned groups. The inspector was informed by the Manager, Health Physics and Licensing, that currently other groups (NNFD and NNFD-RL) are not included in an annual tour. The inspector discussed as an improvement item the inclusion of both ERTs in a periodic site familiarization tour for training purposes. The licensee acknowledged this item and indicated that periodically a site familiarization tour will be provided to members of both teams.

No violations or deviations were identified.

3. Emergency Plans, Procedures, Facilities, and Equipment (88050)

a. Radiological Contingency Plan (RCP) and Emergency Procedures (EPs)

The inspector reviewed documentation to verify that an annual review had been conducted of the RCP and EPs in accordance with Section 7.1 of the RCP and Section 11.1 of Procedure AS-1106. The current copy of the RCP was dated October 17, 1990, Revision 0. The inspector noted that the proposed changes had been submitted for NRC review and approval. A licensee representative informed the inspector that full implementation of the revised NRC emergency planning rules would occur within the next 60-90 days. The inspector reviewed the emergency action levels (EALs) in the RCP and emergency classification procedures (AS-1106 and AS-1141) for consistency and verification that the EPs adequately implemented the RCP classification scheme.

b. Facilities and Equipment

Records of calibrations and/or surveillance performed during the period October 10, 1989 thru September 18, 1990 were reviewed for the emergency lockers, emergency power source, and respiratory protection equipment. Inventories, calibrations, and/or operability checks were performed in accordance with procedures and the RCP. Surveillance records indicated that, for discrepancies, corrective actions were prompt and properly documented. One minor problem was noted involving the documentation for periodic surveillances. Documentation was not available to show a third-quarter audit (1990) of the emergency lighting, and documentation for the backup power supply (evacuation alarms) was missing for the fourth quarter 1989 and third quarter 1990. Personnel assigned the responsibility in this area acknowledged the absence of documentation to verify the referenced surveillances. Consequently, a commitment was made by the licensee to develop and implement administrative controls to ensure that the appropriate documentation is available for periodic equipment audits and operability checks. The inspector informed licensee representatives that the corrective actions to ensure proper records are being maintained will be tracked as an Inspector Follow-up Item (IFI).

IFI 70-1201/90-06-01: Development and implementation of administrative controls to ensure the appropriate documentation of surveillance activity and periodic audits.

The inspector selectively examined emergency kits and equipment from the Emergency Building and emergency lockers (radiation survey instruments, fire protection equipment, air sampling equipment, and respiratory protection equipment). All survey instruments were within calibration and a successful battery check was obtained. The randomly selected items for inventory were available in quantities as specified on the equipment inventory sheets. One item noted as an

improvement item involved the performance of a periodic hydrostatic test of respiratory protection equipment. During the surveillance, the inspector noted two self-contained breathing apparatus (SCBA) tanks which had not been recently tested. When informed, the licensee took immediate action to schedule all SCBA cylinders for hydrostatic testing during November 1990. A review of the plant evacuation routes and assembly points found no impediments to an orderly evacuation. The audibility of the plant emergency alarms was assessed by the licensee in several areas of the plant. According to documentation, dated March 29, 1990, with the exception of a meeting room, no audibility problems were noted. The licensee was evaluating this matter for speaker placement within the conference room.

No violations or deviations were identified.

4. Training (88050)

This area was inspected to determine if the licensee was providing training in accordance with the RCP. The inspector reviewed Section 7.2 of the RCP and the implementing procedure (AS-1101, Employee Safety Training) for a description of the training program.

The inspector reviewed training for the onsite Fire Brigade Team, Radiation Monitoring Team, First Aid Team, and other members of the onsite and offsite emergency organization. Although documentation was available to show that training was being offered, there were several examples of lack of documentation to verify that personnel attended the training. According to Procedure AS-1101, retraining sessions will be documented on an employee training attendance record and input to the employee computerized training record. Contrary to procedural requirements, the inspector noted the following:

- ° Employee training attendance records were lacking for Radiation Monitor Team (training scheduled for March 29, 1990), First Aid Team (scheduled for March 28, 1990), and Fire Brigade (scheduled for March 29, 1990, and during April and May 1990).
- ° The employee computerized training records had not been updated to reflect recent training.

The licensee took the following actions: 1) met with each training instructor or Team Captain to stress the importance of record keeping and procedural compliance, and 2) the training data base was updated with entries from recently completed training. In light of the aforementioned actions, this apparent violation for failure to document specialized training in accordance with procedure is not being cited because criteria specified in Section V.A. of the NRC's Enforcement Policy were satisfied. This finding is therefore considered a non-cited violation (NCV).

NCV 70-1201/90-06-02: Failure to document specialized training in accordance with Sections 6.2 and 6.3 of procedure AS-1101, "Employee Safety Training."

In accordance with Section 7.2 of the RCP, personnel assigned to the Emergency Rescue Team (Fire Brigade) and Radiation Monitoring Teams were medically certified for respirator use on an annual basis. Documentation was available to verify that personnel had been recertified during the calendar year 1990. However, the current respiratory protection training program does not specify a frequency for periodic refresher training, nor a requirement for First Aid personnel to be certified and trained for respirator use. When informed of this matter, the licensee committed to the following: 1) revising the training program for Fire Brigade and Radiation Monitoring personnel to require annual respiratory protection training; and 2) evaluating the near future training First Aid Team members to be respirator-certified. The inspector informed licensee representatives that the actions taken in response to this finding would be tracked as an IFI.

IFI 70-1201/90-06-03: Review and revise as appropriate the respiratory protection training program for emergency response personnel.

Training was reviewed for other individuals assigned to the onsite RCRO (Emergency Officer, Health-Safety Officer, Evacuation Officer, etc.). According to documentation, training was conducted via a table-top discussion regarding the respective roles and responsibilities in the RCRO. In addition, personnel participated in a walkthrough drill on September 14, 1990, in response to a simulated fire. On September 28, 1990, the RCRO participated in a practice drill involving a simulated criticality accident. The referenced RCRO training since the last inspection indicated improvements in the licensee's emergency response training program.

Regarding offsite support training, as discussed in Paragraph 2 above, members of the Concord Volunteer Fire Department were provided a site familiarization tour and training during December 1989. No other offsite support groups were included in calendar year 1989 training. A licensee representative indicated that neighboring support personnel (NNFD/NNFD-RL) would be included in a future site familiarization/training session.

One NCV was identified.

5. Organization and Management Control (88050)

A licensee representative disclosed that the following administrative changes had occurred since the last inspection:

- ° Due to retirement, the responsibility for RCP implementing procedure development, coordination with offsite support groups, training, and day-to-day maintenance of emergency response equipment was reassigned. The aforementioned responsibility was previously

assigned to the Industrial Safety and Environmental Control Officer who retired during May 1990. The Manager, Health Physics and Licensing, and Foreman, Health-Safety were assigned the referenced responsibilities.

- ° As a result of an organizational change effective October 17, 1990, emergency preparedness will report directly to the Plant Manager. Previously, the management position with responsibility for emergency preparedness was the Manager, Quality and Safety. This position was deleted from the plant organization. The individual filling this position (reassigned to the corporate office) was also designated as the Emergency Officer in the emergency organization. The responsibility as Emergency Officer was reassigned to an individual who previously served as the Emergency Officer. According to the former Manager, Quality and Safety, training and a turnover briefing for the newly designated Emergency Officer would be conducted on October 17, 1990.
- ° The deletion of the Manager, Quality and Safety position from the plant organization resulted in the reassignment of programs involving quality (e.g. Inspection, Data Evaluation, etc.) to the corporate office; and programs involving safety (e.g. Industrial Safety, Health Physics and Licensing, etc.) were assigned directly to the Plant Manager.
- ° Reassignment of Management Support functions (e.g. Field Operations, Purchasing, etc.) to the corporate office from the Plant.

The above changes would not appear to decrease the effectiveness of the emergency preparedness program. Personnel with the overall management authority for emergency preparedness remain unchanged.

No violations or deviations were identified.

6. Fire Protection (88050)

The inspector discussed this program area with a licensee representative and reviewed appropriate documentation. The licensee's Fire Brigade Team is synonymous with the Emergency Rescue Team (ERT). The ERT listing identified eight individuals as team members. Since the last inspection, training sessions involving classroom instructions and hands-on training were scheduled as follows: S-A-F-T Fire Fighting (April - May 1990) and Equipment Familiarization Dress-out Procedure (March 1990).

The inspector reviewed Procedure AS-1116, CNFP Fire Protection Equipment Control, for a description of the fire protection maintenance program. According to procedure, audits of the fire protection system involved weekly and/or monthly inspections of the fire extinguishers, sprinkler system, and fire valves. On an annual basis, fire hydrants are inspected. Audit records reviewed for the period October 1989 to September 1990 indicated that audits were conducted at the required frequency. This

included documentation to show that fire hoses and extinguishers were hydrostatically tested during the calendar years 1989 and 1990. The inspector conducted a facility walkdown of selected areas within the main building and noted the following:

- ° Fire alarm and radiation alarm pull stations were co-located as shown on diagrams/figures in the RCP and EPs.
- ° Portable fire extinguishers were available with tags indicating date of inspection.
- ° There were no impediments to randomly selected fire protection equipment (hose, fire cart, hydrants, etc.)

The inspector questioned licensee representatives regarding a facility fire fighting plan that identified the fire hazards of each plant area, the protective systems or equipment for each area, responsibilities, etc. Licensee representatives informed the inspector that such a plan did not exist. Recognizing the benefit of such a document, the licensee committed to the development of a facility fire fighting plan. The inspector informed the licensee that this item would be tracked as an IFI for review during a subsequent visit.

IFI 70-1201/90-06-04: Develop a facility fire fighting plan.

No violations or deviations were identified.

7. Tests and Drills (88050)

This area was reviewed to determine if the licensee was conducting drills in accordance with Section 7.3 of the RCP. The RCP required that a planned evacuation be conducted annually for CNFP personnel. The RCP further stated that "Emergency drills (or a combined drill) of plant medical emergency and radiological monitoring capabilities will be held at least annually."

The annual evacuation drill was held on October 16, 1990, as part of the annual emergency drill. The calendar year 1990 drill conducted on October 16, 1990, did not involve any of the State, local, or federal agency participation other than notification and communication. The duration of the drill was approximately 30 minutes. The scenario required a response to a major fire from the S-1 Building. One employee working inside the building was postulated as incurring burns on both hands and a head injury. In addition, a member of the Fire Brigade Team was postulated as suffering a broken forearm. Additional details regarding the scenario events are included in the attachment to this report. The inspector observed the licensee's actions in the following areas:

- ° RCRO activation, staffing, and operation
- ° Facility evacuation and accountability

- ° On-scene response by ERT, Radiation Monitoring Team, and the Emergency Officer
- ° Communications between the incident scene (Emergency Officer) and Emergency Control Center (Alternate Plant Manager)
- ° Response to the injured and slightly contaminated employee

Notification methods and procedures had been established for NRC, State and local response organizations. However, activities associated with offsite notification and communications were not observed by the inspector. The licensee provided documentation of the required offsite notifications which disclosed that the notifications were both timely and appropriate. In discussing the conduct of the annual emergency exercise with licensee representatives, the inspector noted the many simulations during the exercise in the absence of player messages and radiation data. One area of simulation which previously has not been tested in real time and could result in a false sense of preparedness involved offsite support in responding to a fire which exceeds the ERT capability. During discussions with a licensee representative prior to the exercise, the inspector was informed that offsite fire support from the B&W NNFD would be requested for real-time activation and deployment. However, according to a licensee contact, miscommunication resulted in a simulation rather than actual deployment. The licensee acknowledged this item and committed to the performance of real-time notification and deployment of the NNFD-ERT during a future drill. The inspector informed the licensee that this item will be tracked as an IFI for review during a subsequent drill.

IFI 70-1201/90-06-05: Perform real-time notification, activation, and deployment of NNFD ERT.

The RCRO was both prompt and effective in responding to the postulated accident. The organization was activated and fully staffed in a timely manner. The facility evacuation was timely and orderly. The inspector discussed the importance of varying the exercise starting time and improvements administratively to ensure that the confidentiality of the exercise starting time is maintained to prevent the introduction of artificialities in facility evacuation time. Communications from the incident scene to the Plant Manager's Alternate was good. The Emergency Officer's command and control over the emergency teams (fire, radiation monitoring, and first aid) in managing the emergency was apparent throughout the simulated accident. Several minor problems were discussed by the inspector as items for improvement.

- ° Drillsmanship, as evidenced by inadequate surveys for alpha contamination and the assumptions included in accountability reporting.
- ° Poor health physics practices by a member of the first aid team.

- ° Excessive simulations by exercise participants due to lack of data/emergency messages.

The licensee's critique was held immediately after the exercise. Individuals serving as exercise players, controllers and/or evaluators were provided an opportunity for input. The licensee demonstrated a very effective and critical self-assessment of the exercise. Many of the items identified by the inspector were also noted by licensee personnel. Included in the assessment discussions were corrective actions to resolve discrepancies. When questioned regarding a formalized tracking program (log book or computerized data base) for exercise and drill findings, the inspector was informed that such a program did not exist. The licensee stated that, although a plant tracking system existed, exercise and drill findings were not included. The current practice was to assign items to an individual during the critique; however, a system for ensuring prompt follow-up had not been implemented. The licensee committed to the use of the existing plant tracking system for tracking items identified during drills and exercises. The inspector indicated that the implementation of an exercise/drill commitment tracking program was considered an IFI for review during a subsequent inspection.

IFI 70-1201/90-06-06: Implementation of exercise/drill commitment tracking.

No violations or deviations were identified.

8. Event Follow-up (92701)

According to the documentation and a discussion with a member of the licensee's staff, since the last inspection, one incident had occurred which required activation of emergency personnel. On July 7, 1990, a truck transporting a fuel assembly shipment overturned on Highway I-81 near Wytheville, VA. A review of the documentation disclosed that actions taken by the licensee were in accordance with procedures delineated in Section 7.2 of Procedure AS-1141, "Incident Procedure." Although Form HS-100 (Highway Accident Notification Questionnaire) was not utilized, pertinent details including a chronology of events were included in file documentation. The inspector also noted a response critique was conducted on July 13, 1990. Nine items were identified as requiring follow-up actions.

No violations or deviations were identified.

9. Action on Previous Inspection Findings (92701)

- a. (Closed) IFI 70-1201/89-08-01: Evaluate the current training program for the entire emergency organization and include upgrades to Section 7.2 of the RCP.

Section 7.2 of the revised RCP (dated October 17, 1990) reflected an annual requirement for officers of the Emergency Organization to

review the emergency procedures and their respective roles and responsibilities during an emergency.

- b. (Closed) IFI 70-1201/89-09-02: Revise the RCP and Emergency Procedure to include additional occurrences under the NOUE classification.

This item is closed by virtue of the licensee's plans to submit a revised RCP within 60 days which incorporates the new planning rules as discussed in the Federal Register (Vol. 54, No. 66, dated April 7, 1989). The referenced document allows licensees to utilize an event classification system for classifying accidents as alerts or site area emergencies.

- c. (Closed) DEV 70-1201/89-08-03: Failure to establish a formal annual review and approval of the RCP.

The requirement for performing an annual review and the procedure for documentation were included in Section 11.0 of Procedure No. AS-1106, "Emergency Procedure." Further, as documentation that an annual review was performed, by letter dated October 17, 1990, the licensee submitted changes to the NRC for review and approval under 10 CFR 70.32(i).

- d. (Closed) IFI 70-1201/89-08-04: Complete the distribution of the RCP to appropriate State and local support agencies.

By letter dated October 11, 1990, the RCP was distributed to State and local authorities.

- e. (Closed) IFI 70-1201/89-08-05: Evaluate the appropriateness of the current RCP distribution to onsite management personnel and adjust the distribution as needed.

A review of the RCP distribution matrix (Section 11.0 of Procedure No. AS-1106) disclosed that the licensee's review and evaluation resulted in a revised distribution listing since the last inspection.

10. Exit Interview

The inspection scope and results were summarized on October 19, 1990, with those persons indicated in Paragraph 1. The inspector described the areas inspected and discussed in detail the inspection results listed below. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspector during this inspection. There were no dissenting comments.

<u>Item Number</u>	<u>Description/Reference</u>
70-1201/90-06-01	IFI - Develop and implement administrative controls to ensure the appropriate documentation of surveillance activity and periodic audits (Paragraph 3).
70-1201/90-06-02	NCV - Failure to document specialized training in accordance with Procedure AS-1101 (Paragraph 4).
70-1201/90-06-03	IFI - Review and revise training program to require periodic respiratory protection refresher training (Paragraph 4.)
70-1201/90-06-04	IFI - Develop a facility fire fighting plan (Paragraph 6).
70-1201/90-06-05	IFI - Perform real time notification, activation, and deployment of NNFD ERT (Paragraph 7).
70-1201/90-06-06	IFI - Implementation of exercise/drill commitment tracking (Paragraph 7).

Licensee management was informed that five items from a previous inspection were reviewed and are considered closed (Paragraph 10).

Attachment:
Exercise Scenario