



UNITED STATES
NUCLEAR REGULATORY COMMISSION
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MEMORANDUM FOR: W. T. Crow, Section Leader
Uranium Process Licensing Section

FROM: N. Ketzlach
Uranium Fuel Licensing Branch

SUBJECT: INSPECTION OF BABCOCK & WILCOX NAVAL NUCLEAR FUEL
DIVISION FACILITY, COMMERCIAL NUCLEAR FUEL PLANT,
AND LYNCHBURG RESEARCH CENTER

I. Introduction

As FCUF project manager for the Babcock & Wilcox Naval Nuclear Fuel Division (NNFD) fuel fabrication facility, Materials License No. SNM-42, I accompanied G. P. Coryell (Region II IE Project Inspector) on the latter's routine inspection of the NNFD facility in Lynchburg, Virginia. Since Mr. Coryell was given the added assignment of reviewing the actions taken by the NNFD, the B&W Commercial Nuclear Fuel Plant (CNFP) and the Lynchburg Research Center (LRC) on IE Bulletin No. 79-19, "Packaging of Low-Level Waste for Transport and Burial," dated August 10, 1979, I accompanied him during the visits and inspections of the latter two facilities as well. He is the principal IE project inspector for both the NNFD and the CNFP facilities.

The IE Bulletin listed action to be taken by licensees to assure the safe transfer, packaging and transport of low-level radioactive waste. The action taken would provide assurance to the NRC that regulatory requirements were being met and provide the Agreement States of Nevada, South Carolina and Washington that have waste burial facilities licensed within their states with assurance the implementation of packaging, transport and burial of low-level radioactive waste was adequate for the protection of the public and the environment.

While at the facilities, I discussed the NNFD amendment application dated August 31, 1979, on a non-interference basis with the inspections.

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The inspection report will be issued by IE. This report will be directed to the following:

1. Comments on the amendment application.
2. Comments on NNFD expansion plans.
3. Comments on current operations at the CNFP in relation to Materials License No. SNM-1168.
4. Comments on current operations at the LRC in relation to Materials License No. SNM-778.

II. Discussion

A. NNFD Amendment Application

By amendment application dated August 31, 1979, the NNFD requested authorization for personnel to remain in the facility (not evacuate) in the event of a power failure. Personnel induced manufacturing operations and movement of material throughout the facility would be suspended to preclude a criticality from the movement of fuel during the power outage and personnel would remain at their work stations until further instructed by NNFD management.

Although the criticality monitors are equipped with battery powered emergency supplies, the audible alarm system itself has no back-up power supply and would become inoperative in the event of a loss of electrical power to the facility. The NNFD feels that if the power failure occurred as a consequence of severe weather conditions, evacuation of personnel would subject the work force to higher risk of health and safety hazards. The only practical available evacuation assembly area in the security area of the facility is located on an exposed hillside. During summertime thunderstorms and winter snows this could be a dangerous place to locate a large group of people.

The only operations that could continue during a power outage due to the operating characteristics are in the recovery area and in the component and alloy pickling areas. The NNFD has not yet demonstrated that a criticality incident can be precluded in the pickling areas during a loss of power. The pickling operations were inspected, reviewed and the necessary demonstrations that would be required to show a criticality accident could be precluded were discussed with the Nuclear Material Control personnel (principally with H. H. McClanahan, Manager, Nuclear Materials Control and R. A. Cordani, recently appointed Nuclear Safety and Licensing Officer) and with top management (J. P. Eckert, Operations Manager and Acting General Manager, and R. W. Bryant, recently appointed Manager of Materials Management). The demonstrations are necessary to ensure personnel

safety while remaining in the plant during a power outage. The NNFD plans to provide a safety demonstration that criticality would be precluded. The alternates are to install an emergency power system to activate the audible alarms in the event of a criticality incident or to continue evacuation in the event of a power outage. NNFD feels the former would be very costly and does not appear warranted. Because of the potential safety hazards associated with the latter, it would remain an unresolved IE safety item.

Discussions with the IE inspector during the plant visit indicate there is neither a problem associated with the implementation of nor with the effectiveness of the SNM-27 license.

B. NNFD Facility Expansion Plans

The NNFD has been given authorization by the NRC to construct expansions of Bays 1A, 3A, and 4A. The safety portions of the application (two) for the expansion are to be submitted at a later date. The safety demonstration of the Bay 4A expansion should be submitted before the end of 1979 and its use is planned for March 1980. Bays 1A and 3A are to be used for a modified fuel fabrication process which was discussed during the visit. The safety portion of the latter amendment application is scheduled for submittal in the fall of 1980.

C. CNFP Inspection

During the visit to the CNFP to discuss the status of their action on IE Bulletin No. 79-19, the facility was toured to review the operations and discuss safety related activities. The principal contacts during the visit to the CNFP were W. Heer (recently appointed Manager of Operations), R. Alto (Manager Manufacturing) and D. Zeff (Manager, Safety, Licensing and Safeguards). There is a potential airborne contamination problem at the second end weld operation of loaded rods. The welding is done in a "clean area" of the facility. At this particular location in the clean area, the airborne activity, although not a health problem, exceeds the action levels in the license for clean areas. The CNFP investigation of the problem was reviewed, the operation observed, and a proposed meeting in the offices of the NRC scheduled for October 25, 1979, to discuss a license amendment requested associated with the contamination control in the "clean area."

Discussions with the IE inspector during the plant visit indicate there is no other problem associated either with the implementation of or with the effectiveness of the SNM-1168 license.

D. LRC Inspection

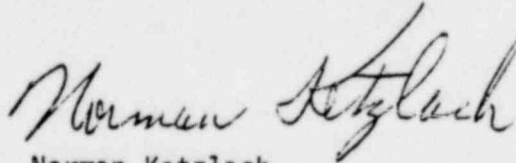
During the visit to the LRC to discuss the status of their action on IE Bulletin No. 79-19, we discussed the status of the LRC responses to the NRC outstanding comments on the renewal application and reviewed the

packaging of excess plutonium glove boxes preparatory to burial. A. Olsen, License Administrator, was the principal contact during the visit to the LRC.

1. The License Administrator has not yet received the LRC responses to the radiological safety comments for submittal to the NRC. Before we left, he received assurance from management that priority would be given to prepare the required responses.
2. Eleven shipping containers, packaged with plutonium glove boxes to be shipped to burial, are being stored until the State of Washington approves the reopening of the burial facility. One glove box, already disconnected from the glove box line and filled with a solid foam, is awaiting the availability of a shipping container for packaging.

III. Conclusions

Coordination of the site visit with Region II (IE) facility principal project inspector provided an opportunity to review the adequacy of the licenses with respect to current and planned operations at the facilities and to review the NNFD amendment application (together with both licensee and regional IE personnel) for authorization to modify the emergency evacuation procedures.



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