

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

Region I

Report No. 70-398/80-02

Docket No. 70-398

License No. SNM-362 Priority 1 Category UR

Licensee: U. S. Department of Commerce
National Bureau of Standards
Washington, D. C. 20234

Facility Name: National Bureau of Standards

Inspection at: Gaithersburg, Maryland

Inspection conducted: February 27-29, 1980

Inspectors: J. Roth 3/27/80
J. Roth, Project Inspector date signed

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Approved by: H. W. Crocker 3/27/80
H. W. Crocker, Chief, Fuel Facility date signed
Projects Section, FF&MS Branch

Inspection Summary:

Inspection on February 27-29, 1980 (Report No. 70-398/80-02)

Areas Inspected: Special, unannounced inspection by a region-based inspector of the licensee's response to IE Bulletin No. 79-19. The inspection was initiated on the day shift and involved 16 inspector-hours onsite by one NRC region-based inspector.
Results: Of the one area inspected; one item of noncompliance was identified in one area (Infraction - Failure to submit the quality assurance program for shipping as described in paragraph 71.51 as required by paragraph 71.12 (80-02-03) - paragraph 10).

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DETAILS

1. Persons Contacted

- *K. E. Bell, Deputy Director, Administrative Systems
- *L. E. Pevey, Chief, Occupational Health and Safety Division
- *T. J. Hobbs, Acting Chief, Health Physics

The inspector also interviewed 5 other licensee employees during the course of this inspection.

*Denotes those present at the exit interview.

2. Review of Licensee's Response to IE Bulletin 79-19

The inspector reviewed the licensee's response to IE Bulletin 79-19 dated September 19, 1979, to assure that all information required by the bulletin was included, and, to ascertain that corrective action commitments were also included.

3. Regulatory Documents

The inspector verified that the licensee has a current set of DOT and NRC regulations. The licensee maintains copies of the NRC and DOT Regulations from the U. S. Government Printing Office, Superintendent of Documents as part of a subscription service. This service assures that the NRC and DOT Regulations are maintained current. The inspector verified that copies of these documents were being maintained in the Health Physics offices in Building 245 and in the Health Physics office in the Reactor Building.

4. Burial Site Requirements

According to licensee representatives, radioactive waste shipments have been made only to the burial site located in South Carolina.

National Bureau of Standards (NBS) has a written agreement with the Department of the Army, Headquarters, U. S. Army Armament Material Readiness Command, Rock Island, Illinois 61299. This agreement covers the pickup of radioactive waste by the Army's waste disposal contractor from NBS and several other U. S. government agencies in the Washington, DC area. The U. S. Army currently has no waste disposal contractor for the pickup of radioactive waste in the Washington, DC area. A contractor is expected to be selected within the next several months. South West Nuclear Company of Laurel, Maryland was the previous contractor.

NBS maintains a file in the Health Physic office in Building 245 which contained a copy of this agreement with the Army, the Army agreement with South West Nuclear, a copy of the South West Nuclear agreement state license and all applicable amendments, a copy of the Chem-Nuclear license issued by the state of South Carolina, and a copy of Chem-Nuclear's burial site criteria. There was no information available concerning the relationship between South West Nuclear and Chem-Nuclear (contracts, agreements etc). A licensee representative indicated that an attempt will be made to obtain this information from the new contractor when selected.

5. Organization

The NBS Occupational Health and Safety Division has designated the Acting Section Chief Health Physics as the individual responsible for the packaging, transfer and transportation of low-level radioactive waste material. Designated "users" of radioactive material generate the waste and health physics personnel pickup, transfer and package the waste for delivery to the waste disposal contractor.

6. Procedures

In response to IE Bulletin 79-19, the licensee stated that management approved operating procedures regarding the transfer, packaging and transport of radioactive material are outlined in the "NBS Radiation Safety Manual". The inspector reviewed the following procedures as outlined in the "NBS - Radiation Safety Manual."

- "Radioactive Waste Control" pages 47, 48
- "Radioactive Waste Disposal" page 71
- "Indoctrination and Training of Personnel" page 76
- "Radioactive Waste Disposal" page 99
- "Indoctrination and Training" page 103
- "Radioactive Waste Control" page 140

It was noted that many of the specifics contained in the procedures described in the Radiation Safety Manual were no longer applicable to the burial of waste in currently licensed burial sites. For example, on pages 47 and 48 references are made to fiber drums, 3 mil thick plastic liners and solidification of liquids with vermiculite none of which are currently authorized waste packaging and preparation practices. On page 71, the discussion on waste disposal techniques should reference the applicable NRC, DOT, state license or burial site criteria. It was also noted that an undated memo was issued by the licensee which deleted paragraphs 1-B-13.5, 2-B-11.6, and 3-B-14.3, concerning solidification of liquid wastes in vermiculite, from the Radiation Safety Manual.

In addition, the licensee has written and implemented several other memoranda and instructions concerning the handling, packaging and transport of radioactive waste materials as shown below:

"RAM Shipping and Receiving Instructions for HP" dated February 1980;

"Prohibition on Liquid Radioactive Wastes" dated September 25, 1979;

"Certification for Low Level Liquid Radioactive Waste Disposal" dated September 25, 1979 and September 26, 1979.

The procedure dated February 1980, referred to above, states "conform to applicable regulations" but did not identify the applicable NRC DOT, burial site, or waste disposal contractor regulations or requirements which must be adhered to. Incorporation of applicable requirements into the procedures will be reexamined during a subsequent inspection (80-02-01).

7. Training

a. Generators of Radioactive Material Waste

A training session was held on October 4, 1979 for all generators of radioactive waste. During this training session the information contained in IE Information Notice No. 79-21 dated September 7, 1979 was given to these personnel. In addition, a technique for solidification of low-level radioactive liquid waste was demonstrated. Subsequently, the decision was made by licensee management to have the waste collection contractor solidify all radioactive liquid waste. Waste generators were then instructed to place liquid waste into appropriate containers which were then picked up by Health Physics personnel, properly packaged and sent to the waste collection contractor for solidification when necessary.

All waste generators were retrained in site radiation requirements on November 2, 1979, November 26, 1979, December 14, 1979 and January 8, 1980. Included in these training sessions was information relative to the acceptable forms of waste and the applicable NBS Radiation Safety Manual requirements with respect to radioactive waste.

b. Employees Involved in the Packaging, Transfer and Transportation of Radioactive Waste Material

According to licensee representatives, employees involved in the packaging, transfer and transportation of radioactive waste material had not been trained as required by IE Bulletin No. 79-19, as of the date of this inspection. The lesson plan had not been devised but will include, use of the NBS shipper certification form (NBS Form-796), applicable sections of title 49, applicable Regulatory Guides for transportation, and a review of 10 CFR Part 71. In addition, the requirements of the NBS Radiation Safety Manual will be stressed. The training will also include instructions on the packaging of liquid wastes and training in the use of the facility trash compactor. This training was expected to begin on or about March 5, 1980 and be completed by March 31, 1980. Aspects of packager training will be further examined during a subsequent inspection (80-02-02).

8. Audit Program

a. Audit Program

The inspector verified that the current Acting Chief, Health Physics had been designated by licensee management as an auditor to review the radioactive waste material transfer, packaging and transport program. An audit of this program is to be conducted at least once each 12 months.

b. Management Controlled Audit

According to license representatives, an audit of the licensee's low level waste transfer, packaging and transportation program was conducted on September 20, 1979. However, no record was maintained of the results of this audit which could be examined by the inspector. The inspector determined through discussions with licensee representatives that during this audit available procedures relative to the generation, storage, packaging and shipping of low level radioactive waste were identified, designated Health Physics personnel responsible for compaction were tested orally and performance was observed and waste handling activities and equipment at the facility were found to be adequate.

9. Observations

Since the facility maintains a low level of activity with respect to the handling of radioactive materials, normally only one shipment of low level radioactive waste is made during the course of a calendar year. The last shipment of low level radioactive waste was made during the month of October, 1979.

The licensee was not packaging compacted waste in drums or bulk in boxes at the time of this inspection. However, the inspector has observed these operations during previous inspections at the facility. No drums of compacted radioactive waste were opened during this inspection due to the contamination hazard from potentially torn plastic bags which contained the radioactive waste material.

10. Quality Assurance Program for Shipping

The inspector questioned licensee representatives concerning the submission of a "Quality Assurance Program for Shipping" to NRC-NMSS as required by 10 CFR 71.12. This QA program is required if greater than type A quantities of radioactive materials are shipped. Licensee representatives indicated that the QA Program had not been written and submitted to NRC-NMSS. However, the licensee stated that he felt that he was not required to submit this program since he was registered as a user of the DOT 6-M specification container under the IAEA Certificate of Competent Authority Number USA/0002/B()F Revision 1 dated July 12, 1978. The licensee considered this IAEA Certificate to be a special permit as defined by 10 CFR 71.10. Thus, he was not required, under this exemption to comply with the requirements of 10 CFR Part 71. Subsequent to the inspection the inspector determined through discussions with NRC-IE and NMSS personnel and DOT personnel that IAEA Certificate No. USA/0002/B()F was not a special permit as defined by 10 CFR 71.10 and that the licensee is required to comply with the requirements of 10 CFR Part 71.

Through a review of shipping documents the inspector determined that the licensee had made at least 27 shipments of radioactive materials in excess of type A quantities as defined by paragraph 71.4(q) between January 10, 1979 and December 10, 1979 which was the time period examined by the inspector. Failure to submit the quality assurance program described in paragraph 71.51 as required by paragraph 71.12 to NRC-NMSS is an item of noncompliance (80-02-03).

11. Exit Interview

The inspector met with license representatives (denoted in paragraph 1) at the conclusion of the inspection at 2:00 p.m. on February 29, 1980. The inspector presented the scope and findings of the inspection. Remarks made by licensee representatives during the exit interview have been incorporated into the applicable paragraphs of the inspection report details.

During the exit interview, the Deputy Director for Administrative Systems committed to having the training of packagers, etc. (See paragraph 7.b) completed by March 31, 1980.

The licensee was notified on March 19, 1980 during a telephone discussion between the inspector and the Acting Chief, Health Physics that failure to submit the quality assurance program described in paragraph 10 CFR 71.51 as required by 10 CFR 71.12 would be cited as an item of noncompliance (See paragraph 10).