

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

Region I

Report No. 70-1100/79-02

Docket No. 70-1100

License No. SNM-1067

Priority --

Safeguards Group 3
Category UR

Licensee: Combustion Engineering, Incorporated

P. O. Box 500

Windsor, Connecticut 06095

Facility Name: Nuclear Power Systems - Manufacturing

Inspection at: Windsor, Connecticut

Inspection conducted: March 20-23, 1979

Inspectors: I. Cohen
I. Cohen, Chemist

5/5/79
date signed

E. Woltner
E. Woltner, Safeguards Auditor

5/5/79
date signed

_____ date signed

Approved by: J. H. Jayner
J. H. Jayner, Chief, Nuclear Material Control
Support Section, Safeguards Branch

5/7/79
date signed

Inspection Summary:

Inspection on March 20-23, 1979 (Report No. 70-1100/79-02)

Areas Inspected: Routine, unannounced inspection by regional based inspectors of nuclear material control and accounting including: shipping and receiving, and records and reports. The inspection involved 56 inspector-hours on site by two NRC regional based inspectors.

Results: Of the two areas inspected, no apparent items of noncompliance were identified in one area, and one apparent item of noncompliance was identified in one area (Infraction - Failure to follow written instructions for completing Form NRC-741, Paragraph 2).

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DETAILS

1. Persons Contacted

- *T. B. Bowie, Nuclear Materials Manager
- *G. Kersteen, Nuclear Materials Control Supervisor

The inspectors also interviewed other members of the nuclear material control section.

*denotes those present at the exit interview.

2. Shipping and Receiving

The licensee receives low enriched uranium oxide from their Hematite, Missouri, plant as feed for the manufacture of fuel assemblies. The licensee ships uranium scrap materials to the Hematite plant for recovery of the contained enriched uranium. The inspector reviewed shipping and receiving practices related to the above activities.

The inspector reviewed Form NRC-741 documents ZWQ-ZEF 693-746 which reflect data for receipts of uranium oxide for the period July 31, 1978 through January 22, 1979. The inspector noted that transfers ZWQ-ZEF 694, 695, and 740 showed significant shipper-receiver differences in that the U-235 difference exceeded 50 grams and exceeded the combined limits of error of the shipper and receiver. The licensee's investigation of the differences revealed that they were due to slight differences in the assay of U-235 and uranium between the shipper and receiver. Subsequent to the field inspection, the differences were reconciled by the licensee by issuance of corrected copies of Forms NRC-741 showing revised receiver's data. The revised data were obtained by averaging the shipper's and receiver's measurement values of the uranium and uranium-235 content of the shipments. The revised data caused the differences to be less than the combined limits of error.

Records were observed which showed that the licensee was evaluating shipper-receiver differences on an individual container, lot, shipment, and cumulative basis for shipments of like material. Further, evaluation of the shipper-receiver differences for the period July 31, 1978 through February 5, 1979 for shipments ZWQ-ZEF 693-753 did not show a bias of uranium or uranium-235 values between the shipper and receiver.

The inspector reviewed shipper-receiver differences of scrap forwarded to the Hemtite plant for the period September 24, 1976 through September 15, 1978. The inspector noted that the receiver was reporting their values within thirty days of receipt, as required by the instructions for completing the form. There were no outstanding unreconciled shipper-receiver differences for these shipments.

Review of the shipping and receiving documents for uranium oxide and scrap revealed that for a number of receipts of oxide, the licensee failed to measure and report the SNM content of shipments within thirty days of receipt. Receipts ZWQ-ZEF 725-728, 731-733, 740, 741, and 742 were completed between five and seven days past the thirty day reporting requirement. Also for shipments ZEF-ZWQ 536 and 567, the licensee furnished total limits of error for the shipments instead of limits of error for each isotope entry as required by the instructions for completing the Form NRC-741. The failure to measure receipts within thirty days and the failure to supply limits of error for each isotope entry represent two examples of noncompliance with 10 CFR 70.54, which specifies that Form NRC-741 must be completed in accordance with the printed instructions. This item is an infraction (79-02-01).

3. Records and Reports

An audit of the nuclear material control records and reports was conducted to cover the physical inventory report for the period July 14 to December 19, 1978. The audit was conducted to determine the status of licensee compliance with 10 CFR 70.51(b), 70.53, 70.54, and 70.58(k).

All of the line items of the above SNM inventory report were traced to the source documents and crosschecked to the records maintained. The Nuclear Material Transaction Reports, Form NRC-741, were audited for all receipts and shipments. This consisted of approximately two hundred documents. The forms filed by the licensee were prepared in accordance with 10 CFR 70.54 requirements, except as noted in Paragraph 2.

The licensee is maintaining records showing the receipt, inventory, disposal, and transfer of all special nuclear material in his possession as required by 10 CFR 70.51(b).

The SNM inventory report for the period ending December 19, 1978, stated an ID that was within the limiting conditions of the requirements of 10 CFR 70.53(b)(1).

The licensee complies with the requirements of 10 CFR 70.38(k) in that the system of records and reports provides information sufficient to locate special nuclear material and to close a measured material balance around each material balance area and total plant. The inspection revealed that inventory results agreed with the reconciliation of the control and subsidiary accounts.

No items of noncompliance were identified.

4. Exit Interview

The inspectors met with licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection. The inspectors summarized the scope and findings of the inspection.

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