

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-57/92-04
70-267/92-01

Docket Nos. 50-57
70-257

License Nos. R-77
SNM-273

Licensee: State University, New York at Buffalo
Rotary Road
Buffalo, New York 14214

Facility Name: Buffalo Materials Research Center

Inspection At: Buffalo, New York

Inspection Conducted: November 16-18, 1992

Type of Inspection: Announced Material Control and Accounting (MC&A), and Physical Security

Inspector: Arthur Della Ratta
A. Della Ratta, Physical Security Inspector

12-10-92
Date

Approved by: R. R. Keimig
R. R. Keimig, Chief
Safeguards Section
Facilities Radiological Safety and Safeguards Branch

12-10-92
Date

Areas Inspected: Followup on a Previously Identified Unresolved Physical Security Item; Nuclear Material Control and Accounting, and Physical Security, Including: Organization and Operation; Shipping and Receiving; Storage and Internal Controls; Inventory; Records and Reports; and Physical Protection Measures for Special Nuclear Material of Low Strategic Significance.

Results: The licensee's programs were directed toward the protection of public health and safety and were found to be in compliance with the NRC requirements in the areas inspected. One unresolved physical security item was closed. No safety concerns or violations of regulatory requirements were identified.

Details

1.0 Key Persons Contacted

- L. Henry, Director, Buffalo Materials Research Center (BMRC)
- * M. Adams, Operations Manager, BMRC
- * E. Psyk, Project and Accountability Manager, BMRC
- * M. Behun, Jr., Employee Representative, BMRC

* denotes presence at exit interview

2.0 Followup on Previously Identified Item

- 2.1 (Closed) Unresolved Item 50-57/89-03-01: Failure of the containment building security alarms to annunciate due to an inadvertent wiring problem.

During this inspection, the inspector reviewed the licensee's documented investigation of this item, and the corrective measures taken to prevent its recurrence. The inspector found those measures to be adequate. Additionally, the inspector witnessed a test of the alarm system and was satisfied with the results.

3.0 Material Control and Accounting

3.1 Organization and Operation

The inspector verified through a review of records that the licensee maintained nuclear material control procedures that are required by its Special Nuclear Materials (SNM) Accountability Manual Amendment No. 2, dated January 1990. Written statements of responsibility and authority were established for those positions with responsibility for SNM. Custody and management of the nuclear material control and accountability program was the responsibility of the BMRC Project and Accountability Manager.

3.2 Shipping and Receiving

The inspector determined through a review of records that the licensee maintained procedures to assure that all nuclear material shipped or received was accurately accounted for.

The inspector performed a review of all DOE/NRC Form-741's generated from October 1, 1989 through September 30, 1992 to assure that each was properly signed, dispatched in a timely manner, and that the data was accurate.

3.3 Storage and Internal Control

The inspector determined through observations and review of records that the licensee was maintaining a system of storage and internal controls that indicated the quantity, identity, and current location of all SNM within the facility. Perpetual inventory records were maintained for all SNM.

Storage and accountability of SNM was being accomplished through item control. All SNM at the facility was stored in designated areas. The designated areas are:

ICA-IC:	the control deck level fuel storage vault,
ICA-IG:	the gamma deck level fuel storage vault,
ICA-2:	the reactor core and pool storage facilities,
ICA-3:	the subcritical reactor tank,
ICA-4:	the balance of the facility, including the hot cell and approved campus laboratories, and
ICA-5H:	the Parker Building.

3.4 Inventory

The licensee conducted a physical inventory of all SNM in its possession at intervals not exceeding 12 months. This was confirmed by the inspector through a review of the physical inventory results for the years 1990 through 1992.

The inventories consisted of enriched uranium in the form of: a fission plate, fuel elements, element sections, fission chambers, pellets, uranium oxides, and plutonium-beryllium neutron sources.

On November 17 and 18, 1992, the inspector verified certain selected items in the licensee's inventory by piece count, compared the results to the licensee's inventory listing, and reconciled them to the control records.

3.5 Records and Reports

The inspector reviewed the licensee's records, reports, and source data. All Material Balance Reports (DOE/NRC Form-742) submitted by the licensee for the period October 1, 1989 to September 30, 1992 were reviewed for compliance with 10 CFR 70.53. Total uranium and uranium-235 depletion records were also reviewed.

The material balance summary for the period covered by this inspection is shown in Exhibit 1.

There were no deficiencies identified in the licensee's Material Control and Accounting Program.

4.0 General Physical Security Requirements for Special Nuclear Material of Low Strategic Significance

The licensee's program for the physical protection of special nuclear material of low strategic significance was reviewed by the inspector for conformance to the NRC-approved physical security plan. The inspector examined physical barriers, access controls, procedures, and key control and observed a licensee test of alarm system features. The inspector found that the licensee's program and its implementation met the general performance requirements and objectives of the governing regulations. There were no deficiencies identified in the licensee's physical protection program.

5.0 Exit Meeting

The inspector met with the licensee representatives denoted in Paragraph 1.0 on November 18, 1992 and summarized the scope and findings of this inspection.

EXHIBIT J

STATE UNIVERSITY OF NEW YORK AT BUFFALO

Docket No. 50-57
Docket No. 70-267

License No. R-77
License No. SNM-273

BUFFALO MATERIALS RESEARCH CENTER

Material Balance for Period: October 1, 1989 - September 30, 1992

Reporting Identification Symbol: ZYL

Reporting Units: grams

	<u>Enriched Uranium</u>		<u>Plutonium</u>	
	<u>Element</u>	<u>Isotope</u>	<u>Element</u>	<u>Isotope</u>
Physical Inventory: (October 1, 1989)	657,923	33,868	1,904	1,722
Receipts:	27	*	0	0
Production:	<u>0</u>	<u>0</u>	<u>41</u>	<u>38</u>
Material to Account for:	<u>657,950</u>	<u>33,868</u>	<u>1,945</u>	<u>1,760</u>
Removals:				
Shipments:	27	*	0	0
Fission and Transmutation:	128	100	0	0
Inventory Difference:	0	0	0	0
Decay:	<u>0</u>	<u>0</u>	<u>8</u>	<u>8</u>
Total Removals:	155	100	8	8
Physical Inventory: (September 30, 1992)	<u>657,795</u>	<u>33,768</u>	<u>1,937</u>	<u>1,752</u>
Material Accounted for:	<u>657,950</u>	<u>33,868</u>	<u>1,945</u>	<u>1,760</u>

* = Less than 1 gram