U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-336/85-34

Docket No. 50-336

License No. DPR-65

Licensee: Northeast Nuclear Energy Company

P. O. Box 270

Hartford, Connecticut 06101

Facility Name: Millstone Nuclear Power Station, Unit 2

Inspection At: Berlin and Waterford, Connecticut

Inspection Conducted: November 12-15, 1985

Date of Last Material Control and Accounting Inspection:
September 28 and 29, 1982

Type of Inspection: Unannounced Nuclear Material Control and Accounting

Inspector: A Della Ratta — 12-18-85
A. Della Ratta, Safeguards Inspector — date

Approved by: R. Keimig — 12-17-85
R. R. Keimig, Chief, Safeguards Section — date
Nuclear Materials Safety and Safeguards
Branch

Inspection Summary:
Inspection on November 12-15, 1985 (Report No. 50-336/85-34)

Areas Inspected: Routine, unannounced inspection of nuclear material control and accounting including: organization and operation, shipping and receiving, storage and internal control, inventory, records, reports, and management of the materials control system. The inspection involved 11 hours onsite by an NRC regional-based inspector.

Results: The licensee's procedures were adequate for the control of special nuclear material (SNM), and the records and reports were generally complete, well maintained, and available. The licensee was in compliance with NRC requirements in the areas inspected.

DETAILS

1. Key Persons Contacted

*W. Romberg, Station Superintendent
S. Scace, Unit Superintendent
*R. Borchert, Assistant Reactor Engineer
*G. Heron, Reactor Engineer, Technical
*J. Keenan, Operations Supervisor
*A. Cretella, NUSCO, SNM Accountant
*J. Shedlosky, NRC, Senior Resident Inspector, Millstone 1 and 2

*Present at exit interview.

2. 30703 - Exit Interview

The inspector met with the licensee representatives denoted in paragraph 1 on November 15, 1985, and summarized the scope and findings of the inspection.

At no time during the inspection was written material provided to the licensee by the inspector.

3. 85102 - Nuclear Material Control and Accounting

a. Organization and Operation

The inspector verified through review that the licensee had maintained written procedures for nuclear material control and accounting and that written statements of responsibility and authority had been established for those positions with responsibility for special nuclear material (SNM). The procedures were included in the licensee's SNM Inventory Control Procedure EN-21001, Revision 6, dated May 14, 1985. The procedures were adequate for the control of SNM.

b. Shipping and Receiving

The inspector determined through review that the licensee had maintained and followed procedures to assure that all special nuclear material received or shipped was accurately accounted for.

Preparation and transmittal of Nuclear Material Transaction Reports (DOE/NRC Form-741) were the responsibility of the Reactor Engineer.

A review was performed of all DOE/NRC Forms-741's generated during the period April 1, 1982 - September 30, 1985, to determine proper signature, timely dispatch, and accuracy of data. No discrepancies were noted.

c. Storage and Internal Control

The inspector determined through review that the licensee was maintaining and following a system of written material control and accounting procedures which provided for knowledge of the quantity, identity, and current location of all SNM-bearing materials within the facility.

The licensee had established and was maintaining Item Control Areas (ICA's) that included the reactor cavity, new fuel storage area, spent fuel storage pool, and other areas that were appropriate for SNM contained in other than fuel.

d. Inventory

The inspector performed an inventory verification on November 15, 1985, which consisted of a piece count of the assemblies shown on the spent fuel pool map and a comparison of selected fuel location history cards to the spent fuel pool map. Fuel bundles were located as follows:

Location	Bundles
Reactor Core	217
Spent Fuel Pool	448
Total Bundles	665

The licensee had conducted physical inventories as required by 10 CFR 70.51(d). The licensee's last physical inventory was performed October 11, 1985.

e. Records and Reports

The inspector audited the licensee's records, reports and source data. All Material Balance Reports (DOE/NRC Form-742) submitted by the licensee, during the period April 1, 1982 - September 30, 1985, were reviewed for compliance with 10 CFR 70.53. Total uranium and U-235 fission, transmutation, plutonium production and decay records were also reviewed. No discrepancies were noted.

Attached to this report as Exhibits I and II are summaries of the licensee's nuclear material activity for the period April 1, 1982 - September 30, 1985.

f. Management of Materials Control System

The inspector determined through review that the licensee was maintaining a management system which provided for the revision, implementation and enforcement of nuclear material control and accounting procedures. There was an organization structure responsive to the nuclear material control and accounting requirements, the license, and applicable NRC regulations.

EXHIBIT I

MILLSTONE NUCLEAR POWER STATION, UNIT 2

DOCKET NO. 50-336, LICENSE NO. DPR-65

Material Balance for Period: April 1, 1982 - September 30, 1985

Reporting Identification Symbol: XBD Reporting Unit: Grams

	Enriched Uranium	
	Element	Isotope
Beginning Inventory: (April 1, 1982)	144,198,840	2,244,832
Additions:		
Receipts:	101,814,256	3,063,222
Material to Account for:	246,013,096	5,308,054
Removals:		
Shipments:	36,605,763	1,097,083
Degradation to Other Materials:	27,568,981	142,475
Fission and Transmutation:	2,896,667	1,544,030
Inventory Difference:*	32	(1)
Total Removals:	67,071,443	2,783,587
Ending Inventory: (September 30, 1985)	178,941,653	2,524,467
Material Accounted For:	246,013,096	5,308,054
Fission Chambers:		
Serial No. 860	32	28
861	52	47
864	12	12
	96	87

*Due to rounding errors.

EXHIBIT II

MILLSTONE NUCLEAR POWER STATION, UNIT 2

DOCKET NO. 50-336, LICENSE NO. DPR-65

Material Balance for Period: April 1, 1982 - September 30, 1985

Reporting Identification Symbol: XBD Reporting Unit: Grams

	Plutonium		Depleted Uranium	
	Element	Isotope	Element	Isotope
Beginning Inventory: (April 1, 1982)	1,163,689	840,780	48,053,244	286,114
Additions:				
Production:	613,371	432,174	-0-	-0-
From Other Materials:	-0-	-0-	27,568,893	142,395
Receipts:	-0-	-0-	-0-	-0-
Material to Account For:	1,777,060	1,272,954	75,622,137	428,509
Removals:				
Shipments:	-0-	-0-	-0-	-0-
Decay:	23,137	23,137	-0-	-0-
Inventory Difference:*	(1)	8	1	-0-
Total Removals:	23,136	23,145	1	-0-
Ending Inventory: (September 30, 1985)	1,754,924	1,249,809	75,622,136	428,509
Material Accounted For:	1,777,060	1,272,954	75,622,137	428,509

Plutonium-238 Sources:		
Serial No. 55	1.1	.9
Serial No. 56	1.1	.9
	2.2	1.8

*Due to rounding errors