

U.S. NUCLEAR REGULATORY COMMISSION
REGION 1

Report Nos. 50-309/91-05

Docket No. 50-309


License No. DPR-36

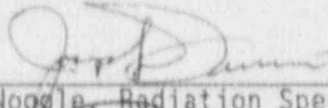
Licensee: Maine Yankee Atomic Power Company
83 Edison Drive
Augusta, Maine 04336

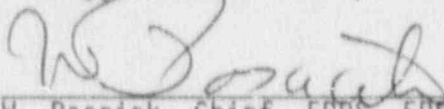
Facility Name: Maine Yankee Nuclear Generating Station

Inspection At: Wiscasset, Maine

Inspection Conducted: January 28-31, 1991

Inspector:  2/5/91
J. Furdia, Senior Radiation Specialist, Facilities date
Radiological Protection Section (FRPS), Facilities
Radiological Safety and Safeguards Branch (FRSSB),
Division of Radiation Safety and Safeguards (DRSS)

 2/5/91
J. Noggle, Radiation Specialist, FRPS, FRSSB, DRSS date

Approved by:  2/5/91
W. Pasciak, Chief, FRPS, FRSSB, DRSS date

Inspection Summary: Inspection on January 28-31, 1991 (Inspection Report No. 50-309/91-C5)

Areas Inspected: Routine, unannounced inspection of the Radioactive Waste Processing and Transportation program including: management controls, audits, quality assurance, training and implementation of the above programs.

Results: Within the areas inspected, violations or deviations were noted.

DETAILS

1. Personnel Contacted

1.1 Licensee Personnel

- * R. Blackmore, Plant Manager
- * D. Caristo, Radiation Controls Section Head
- A. Cayia, Operations Manager
- * J. Frothingham, Quality Programs Manager
- * E. Heath, Radiation Protection Programs Section Head
- M. Hinkley, Radiation Protection Technician
- * S. LeClerc, Quality Programs Section Head
- M. LeDoux, Shipping Coordinator (Contractor)
- * A. Mancini, Radwaste Coordinator
- R. Nelson, Technical Support Manager
- * G. Pillsbury, Radiation Protection Manager
- * J. Weast, Licensing

1.2 NRC Personnel

- R. Freudenberger, Resident Inspector
- * C. Marschall, Senior Resident Inspector

1.3 Other Personnel

- * P. Dostie, State of Maine Nuclear Safety Inspector

* Denotes those present at the exit interview on January 31, 1991.

2. Purpose

The purpose of this routine inspection was to review the licensee's radioactive waste processing, packaging and transportation program, especially in the areas of: operations, package selection and preparation, training and Quality Assurance.

3. Radwaste and Transportation

The licensee's program for the collection, processing, packaging and transportation of radioactive wastes was divided between the Operations and Technical Services Departments. Operations was responsible for the processing of plant water, including the collection and dewatering of spent resins, while the Technical Support Department through the Radwaste Coordinator, located under the Radiation Protection Section, was responsible for the collection of Dry Active Waste (DAW), and the selection and shipment of radwaste packages. The licensee was in the middle of a significant reorganization of the Radiation Protection Program, however, personnel changes and lines of responsibility for the Radwaste Program were not significantly impacted.

3.1 Radwaste Processing

The licensee processed primary plant water through the CvcS filters and demineralizers, with the spent resins placed in the spent resin storage tank, TK-109, to await processing for disposal. The plant's existing drain water processing system, waste evaporator EV-2, has been out of service since February 1989, and thus all drain water was routed to a DURATEK (now Chem-Nuclear Systems, Inc) five vessel demineralization skid located in the auxiliary building. The licensee recently purchased this demineralization system from Chem-Nuclear Systems, Inc., although this skid had been on site and operating for several years. Spent resins from this and the primary demineralizers were dewatered in high density polyethylene (HDPE) liners, then stored in the waste bunker located outside the Auxiliary Building, to await transportation to a disposal site. Spent filter cartridges were stored in shielded containers until a sufficient number were assembled, then packaged in a HDPE liner for disposal.

During this inspection, it was noted that the Waste Holdup Tank, TK-95, which holds the evaporator bottoms from EV-2, contained approximately 250 gallons of waste, and that this material had not been processed for the two years since EV-2 was declared inoperable. Discussions with licensee personnel indicated that the licensee had considered several options for processing the contents of TK-95, however no final decision had been reached at the time of this inspection. The licensee agreed to provide the inspectors with documentation on the radionuclide identity and activities within this tank, and further to provide documentation on the availability of this information to personnel having access to the tank cubicle, in accordance with 10 CFR 20.203(f). Plant DAW was collected by the licensee and sent to the LSA building, where it was segregated, and compactable materials processed into B-88 boxes. Completed B-88 boxes were then transferred to the Low Level Waste and Equipment Temporary Storage Building (LLWETSB) to await shipment to SEG (a subsidiary of the Westinghouse Corporation). Non-compactable materials were bulk loaded in SeaVans, which were also sent to SEG.

As part of this inspection, the following licensee procedures related to radwaste were reviewed.

9.1.13, Rev 4, "Transfer and Storage of Radioactive Waste Containers in the Low Level Waste and Equipment Temporary Storage Building"

9.1.15, Rev 26, "Shipment of Radioactive Material"

9.1.17, Rev 17, "Radiation Protection Requirements for Radioactive Waste Processing and Shipping"

9.1.21, Rev 4, "Preparation of Radioactive Solid Waste for Disposal"

9.1.29, Rev 2, "Quality Control for Radioactive Waste Program"

9-14-101, Rev 0, "Use of TFC Polyethylene High Integrity Containers"

9-14-102, Rev 0, "Sealing TFC High Integrity Containers"

1-18-4, Rev 18, "Spent Resin Storage and Processing"

1-18-6, Rev 1, "DURATEK Enhanced Volume Reduction System Operations"

1-18-7, Rev 1, "DURATEK EVR Media Sluice, Media Replacement and Filter Change"

1-18-8, Rev 3, "System and Component Flush"

These procedures were determined to be adequate. The inspector noted that the licensee was in the process of rewriting all series 9 Radiation Protection procedures. These new procedures, as they relate to the radwaste and transportation program will be reviewed during a future inspection.

3.2 Transportation

The licensee utilized NRC approved shipping containers supplied by Westinghouse - Hittman and Chem-Nuclear Systems, Inc. The licensee had registered as an approved user for these casks, and maintained current copies of the Certificates of Compliance. Preparation of shipping manifests and calculations for transportation and waste classification were performed utilizing the Waste Management Group, Inc (WVG) RADMAN computer code.

As part of this inspection, the documentation for the 12 shipments listed below was reviewed.

<u>Shipment #</u>	<u>Activity (Ci)</u>	<u>Volume (cu ft)</u>	<u>Type</u>
90-W-1	6.50E+01	158.1	Resin
90-W-2	2.19E+00	158.1	DAW
90-W-3	4.51E+00	158.1	DAW
90-W-4	1.03E+02	158.1	Resin
90-W-5	1.62E+00	158.1	DAW

<u>Shipment #</u>	<u>Activity (Ci)</u>	<u>Volume (cu ft)</u>	<u>Type</u>
90-W-6	5.63E-02	337.5	Debris
90-W-7	5.28E-02	390.0	Debris
90-W-8	2.44E-02	365.1	Debris
90-W-9	3.50E+00	94.3	DAW
90-W-10	2.50E-02	243.4	Debris
90-W-11	1.45E-01	330.0	Debris
90-SEG-14	1.58E+01	1116.5	DAW

These records were determined to be complete, and that the licensee was meeting all appropriate requirements established in 10 CFR and 49 CFR.

Also as part of this inspection, direct observation of the preparation and shipment of 11 B-88 boxes of DAW to the SEG facility in Oak Ridge, Tennessee was made. This shipment was made in a highly professional manner by the licensee, utilizing staff from both Radiation Protection, Support Services and Quality Control.

3.3 Assurance of Quality

The licensee's program for the assurance of quality in this area involved the auditing of principle vendors through the Yankee Atomic Energy Company (YAEC), in-plant audits of the radwaste program, periodic surveillances of in-plant radwaste and transportation activities, and direct Quality Control (QC) observation of all shipments of radwaste, together with hold points during waste processing.

Audits 90-101 and 90-122 were conducted through the YAEC of Chem-Nuclear Systems, Inc, and Westinghouse-SEG, respectively, during 1990. Both of these vendor audits were conducted by members of the Nuclear Procurement Issues Council (NUPIC), which YAEC is a member of. YAEC provided the licensee with a summary of these NUPIC audits, tracked all open items identified in these audits, and designated which areas these companies were authorized to supply material and services to the licensee as a result of these audits.

Audit MY-90-09, dated August 8, 1990, was the most recent audit conducted by the licensee of the radwaste and transportation program. Three deficiencies were identified in this audit, all of which were resolved in a timely manner. None of these deficiencies involved an item of significant safety interest. The scope and technical depth of this audit was excellent.

The licensee performed three surveillances of radwaste and

transportation activities during 1990. Each surveillance was conducted over a 5-10 day period, and included observations of waste processing, resin transfer and the shipment of radwaste.

3.4 Training

Training of personnel involved in the radwaste and transportation program was established for three distinct groups, radiation protection supervisory personnel, radiation protection technicians and operations personnel. The licensee sent radiation safety supervisory personnel to vendor supplied training courses on a regular basis. The Radwaste Coordinator was scheduled to attend this training on an annual basis, while the Radiation Protection Programs Section Head was scheduled for this training on a biennial basis. Technician training was determined to be minimal. During the period 1987-1990, the principle technician for radwaste was provided a total of six hours of training in this area, none in 1990. The licensee indicated that the training program was being revised. This revised program will be reviewed during a future inspection. Training for operations personnel responsible for the radwaste processing equipment was determined to be good.

4. Exit Interview

The inspectors met with the licensee representatives denoted in Section 1 at the conclusion of the inspection on January 31, 1991. The inspectors summarized the purpose, scope and findings of the inspection.