

June 22, 2000

Mr. K. Heider, Vice President
Operations and Decommissioning
Yankee Atomic Electric Company
49 Yankee Road
Rowe, Massachusetts 01367

SUBJECT: NRC INSPECTION REPORT NO. 05000029/2000-001

Dear Mr. Heider:

On May 31, 2000, the NRC completed an inspection at your nuclear reactor facility in Rowe, Massachusetts. The enclosed report presents the results of that inspection.

During the period covered by this inspection, your conduct of activities at the Rowe facility was characterized by safety-conscious operations to maintain the spent nuclear fuel, and by careful radiological controls for protecting the safety of workers during dismantlement and decommissioning activities. Within the scope of this inspection, you had in place effective programs for spent fuel inspections, and preparations for spent fuel movement and inspection.

Within the scope of this inspection, no violations were identified.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if you choose to provide one) will be placed in the NRC Public Document Room (PDR).

Sincerely,

/RA/

Ronald R. Bellamy, Chief
Decommissioning and Laboratory Branch
Division of Nuclear Material Safety

Docket No. 50-29
License No. DPR-03

Enclosure: NRC Region I Inspection Report No. 05000029/2000-001

Mr. F. N. Williams

cc w/encl:

M. Atkins, Manager, Regulatory Affairs, DE&S

B. Woods, Site Manager

J. Kay, Principal Licensing Engineer, DE&S

R. Hallisey, Department of Public Health, Commonwealth of Massachusetts

B. Holmgren, Engineering Manager, DE&S

R. Sedano, Commissioner, Vermont Department of Public Service

T. Rapone, Massachusetts Executive Office of Public Safety

L. Stevens, New England Conference of Public Utilities Commissioners, Inc.

M. Comai, Yankee Rowe Community Advisory Board

Citizens Awareness Network

Commonwealth of Massachusetts, SLO Designee

State of Vermont, SLO Designee














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Sincerely,

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No. 05000029

License No. DPR-03

Report No. 05000029/2000-001

Licensee: Yankee Atomic Electric Company
580 Main Street
Bolton, Massachusetts 01740-1398

Facility Name: Yankee Nuclear Power Station

Location: Rowe, Massachusetts

Dates: January 1 - May 31, 2000

Inspectors: S. Shaffer, Health Physicist, Region I

Approved by: Ronald R. Bellamy, Chief
Decommissioning and Laboratory Branch
Division of Nuclear Materials Safety, RI

EXECUTIVE SUMMARY

Yankee Facility
NRC Inspection Report No. 05000029/2000-001

Inspections were conducted to determine whether the decommissioning activities carried out at the Yankee (Rowe) facility were conducted safely and in accordance with NRC requirements. This report covers a five-month period of inspection. Areas reviewed included spent fuel inspections, and preparations for spent fuel movement and inspection. In general, there were effective programs for protecting the safety of workers and the public during dismantlement and decommissioning activities. No violations were identified

The licensee performed the spent fuel inspection process in a safe and effective manner. The licensee's concern for safety was evident throughout the inspection process. No concerns were identified.

The licensee's training program was effective and consistent with previous licensee commitments. No concerns were identified.

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REPORT DETAILS

O1 Summary Of Facility Operations

Decommissioning activities at the Yankee (Rowe) facility continued under the approval granted through a letter from the NRC (reference correspondence, dated October 28, 1996, from Mr. Morton Fairtile to Mr. James Kay).

The licensee has decided to secure the services of a Decommissioning Operations Contractor (DOC) for completion of the decommissioning of the site. The DOC bids are being reviewed and selection of the DOC is anticipated by the end of June 2000. The licensee's focus during the inspection period was on spent fuel activities in support of an Independent Spent Fuel Storage Installation (ISFSI). Active decommissioning efforts have been placed on hold and the licensee has completed their efforts to place the Vapor Container (VC) in an extended lay-up.

O2 Operations

O2.1 Spent Fuel Inspections

a. Inspection Scope (60710, 60801)

The licensee's fuel handling activities and general spent fuel pool (SFP) activities were reviewed. Fuel inspections were on-going during the inspection.

b. Observations and Findings

The licensee's fuel inspection procedures were reviewed and inspection activities were observed. The licensee had to rearrange some of the fuel in the exposed lower tier in order to accommodate the bow gauge used for determining if any of the fuel would exceed tolerances for the storage casks. All the fuel inspections were recorded via the use of an underwater remote videotaping system. A certified fuel handler (CFH) was present during all fuel movements. Continuous health physics (HP) coverage was present during fuel movements.

All movements were performed using a double verbal verification. The movements were directed by individuals on two non-opposing sides of the SFP. The crane operator would repeat back the movement command to the individual directing the movement. The crane operator would not move the fuel until the individual directing the move confirmed the repeated order. All fuel movement was performed in accordance with and documented in licensee procedure OP-7107.

The SFP area radiation monitor and the SFP crane radiation monitor were operational. The licensee's auxiliary service water (ASW) radiation monitor was also operational. The ASW monitor is significant because it monitors the release pathway for the SFP. Since the chain on the SFP crane is hosed down as it exits the pool, the likelihood of this pathway containing measurable amounts of radioactive material is increased during fuel inspections. All three monitors were properly calibrated. The licensee had established both a restricted area and a foreign material exclusion zone around the SFP. Both were properly delineated and posted.

During performance of an extended surveillance of the fuel inspections, a quality assurance (QA) auditor had identified that the handle of the SFP's vacuum system was dewatered, which could increase the dose to the user due to a loss of shielding. This finding initiated Condition Report (CR) 00-62. The licensee tagged the system out-of-service. The licensee was already in the process of replacing the system and does not intend to use the system again.

c. Conclusions

The licensee performed the fuel inspection process in a safe and effective manner. The licensee's concern for safety was evident throughout the inspection process. No concerns were identified.

O2.2 Preparations for Spent Fuel Movement and Inspection

a. Inspection Scope (60705)

Licensee preparations were reviewed, including procedures, personnel qualifications, training, and equipment.

b. Observations and Findings

The licensee completed procedure OP-4505, "Inspection and Testing of the (SFP) Manipulator Crane and Fuel Handling Equipment," prior to commencement of fuel movements.

The inspector reviewed the licensee's training program for individuals involved in the fuel inspection program. The licensee not only retrained their workers, but also trained the contractor's employees involved in the inspections. After completion of the classroom portion of the training, the licensee ran all individuals involved in the inspections through procedure OP-4226, "Testing of Fuel Handling Equipment with the Dummy Fuel Assembly." Fuel movements with spent fuel were not performed until all the workers had demonstrated competency with fuel movements using the dummy fuel bundle. Inspector observations and interviews confirmed the effectiveness of the training program.

c. Conclusions

The licensee's training program was effective and consistent with previous licensee commitments. No concerns were identified.

O2.3 Facility Tours

The inspector toured most of the radiological controlled areas (RCAs) outside the VC, the VC, and the spent fuel pool building (SFPB). Posting and labeling of radioactive materials and radiation areas (RAs) continued to meet regulatory requirements. No significant safety or NRC regulatory concerns were noted by the inspector during tours of the facility.

MANAGEMENT MEETINGS

X1 Exit Meeting Summary

The inspector met with the licensee representatives denoted below at the conclusion of the on-site inspection on April 20, 2000. The inspector summarized the purpose, scope, and findings of the inspection. The licensee representatives acknowledged the inspection findings.

PARTIAL LIST OF PERSONS CONTACTED

- M. Atkins, Licensing
- * G. Babineau, Support
- * W. Blackadar, Radiation Protection Engineer
- * C. Ellis, Radiological Engineer
- * S. Racz, Quality Assurance Supervisor
- * A.R. Trudeau, Radiation Protection and Chemistry Manager
- L. Johnson, Site Surveys
- S. Litchfield, Health and Safety Supervisor
- S. Mullet, Radiation Protection Technician
- * D. Reid, Site Manager
- * F. Williams, Plant Superintendent
- * D. Pierce, Shift Supervisor
- K. LaDuke, QA Auditor
- M. Terrell, DE&S
- * N. Purington, DE&S
- B. Darcy, YEAC
- * J. Gedutis, Sr. Chemist
- * M. Debay, Operations Supervisor

LIST OF ACRONYMS

ASW	Auxiliary Service Water
CFH	Certified Fuel Handler
CFR	Code of Federal Regulations
CR	Condition Report
DOC	Decommissioning Operations Contractor
HP	Health Physics
NPS	Nuclear Power Station
PCA	Potentially Contaminated Area
QA	Quality Assurance
RA	Radiation Area
RCA	Radiological Controlled Area
SFP	Spent Fuel Pool
SFPB	Spent Fuel Pool Building
VC	Vapor Containment
YAEC	Yankee Atomic Energy Company

INSPECTION PROCEDURES USED

IP 60705: Preparation for Refueling

IP 60710: Refueling Activities

IP 60801: Spent Fuel Pool Safety at Permanently Shutdown Reactors

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

NONE

Closed

LER 2000-01: The licensee in December of 1999, discovered that an individuals' personnel exposure record for 1972 contained a mathematical error. The corrected exposure record exceeded the limit in 10 CFR 20.101 (the applicable regulation at that time). The exposure would not exceed current regulatory limits. The licensee currently uses a computer system for summing personnel exposures, effectively eliminating future mathematical errors. The exposure occurred during a refueling outage which is an evolution that will no longer occur at this site.

LER 2000-02: The licensee discovered that previous practices permitted fuel to be moved at a height of 13 inches above racks containing spent fuel. The licensee's design basis limited movements of fuel bundles to a height of no greater than six inches above ungrated racks. The licensee installed temporary grating over a section of the lower tier of racks in the pool and moved fuel in the lower tier to create a "safe zone" in the lower tier where no spent fuel is stored in order to facilitate fuel inspections and movement from the upper tier of racks.

Discussed

NONE