UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406

February 22, 2001

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

SUBJECT: NRC INSPECTION REPORT NO. 05000029/2000003

Dear Mr. Heider:

On January 19, 2001, the NRC completed an inspection at your nuclear reactor facility in Rowe, Massachusetts which covered an inspection period of September 1, 2000 through January 19, 2001. The findings of the inspection were discussed with Mr. Brian Wood and members of his staff on January 18, 2001. The enclosed report presents the results of that inspection.

Construction activities involving your Independent Spent Fuel Storage Installation (ISFSI) pad as well as your radiological and radioactive material transportation programs were inspected during this twenty-week inspection period. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspectors. The programs were considered to be appropriately implemented and no violations of NRC requirements were cited.

In accordance with Section 2.790 of the NRC's "Rules and Practices," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and its enclosure will be placed in the NRC Public Document Room (PDR) and will be accessible from the NRC Web site at http://www.nrc.gov/NRC/ADAMS/index.html. No reply to this letter is required.

Sincerely,

/RA by Francis Costello

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

Docket No. 05000029
License No. DPR-03

Enclosure: NRC Region I Inspection Report No. 05000029/2000003
cc w/encl:

Mr. K. Heider

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

Mr. K. Heider

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.	05000029
License No.	DPR-03
Report No.	05000029/2000003
Licensee:	Yankee Atomic Electric Company 580 Main Street Bolton, Massachusetts 01740-1398
Facility Name:	Yankee Nuclear Power Station
Location:	Rowe, Massachusetts
Dates:	September 1, 2000 to January 19, 2001
Inspectors:	M. Miller, Sr. Health Physicist J. Wray, Health Physicist S. Chaudhary, Reactor Inspector
Approved by:	Ronald R. Bellamy, Chief Decommissioning and Laboratory Branch Division of Nuclear Materials Safety, RI

EXECUTIVE SUMMARY

Yankee Facility
NRC Inspection Report No. 05000029/2000003

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 twenty week period of inspection. Areas reviewed included ISFSI pad construction activities, freeze protection program, radiological protection program, and transportation of radioactive materials. The inspectors noted effective programs for protecting the safety of workers and the public during dismantlement and decommissioning activities.

Operations and Decommissioning Status

The licensee has implemented an adequate program to maintain the operability of systems and equipment important to safety during the cold weather season

Dry cask storage system components were fabricated and installed per applicable requirements. No significant findings or negative observations were noted.

Plant Support and Radiological Controls

The licensee has provided good controls to limit exposures of workers to external sources of radiation.

The licensee maintained an effective radioactive material shipping program and in compliance with regulatory requirements.

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REPORT DETAILS

Summary of Facility Activities

Decommissioning activities at the Yankee Nuclear Power Station (NPS) 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).

I. Operations and Decommissioning Status

O1 Conduct of Operations

O1.1 Station Freeze Protection Program

a. Inspection Scope (71714)

The inspector evaluated the licensee's preparations to maintain the operability of those systems and equipment important to safety during cold weather season.

b. Observations

The inspector reviewed preventive maintenance procedures, operations department checklists, and the schedule for daily and weekly tests and checks of the equipment. The inspector noted that the licensee drained systems where appropriate to prevent pipes from freezing, and located unit heaters in building areas to maintain adequate ambient temperatures.

The inspector reviewed Quality Assurance Surveillance Report No. 00-012-YR entitled, "Freeze Protection Program". The audit was of adequate technical depth and identified a number of deficiencies that were adequately addressed by licensee management. No violations of NRC requirements were identified.

c. Conclusions

The licensee has implemented an adequate program to maintain the operability of systems and equipment important to safety during the cold weather season.

O.2 Decommissioning Status of Facilities and Equipment

O2.1 ISFSI Construction and Component Fabrication (60853)

a. Scope

The scope of the inspection was to determine whether Independent Spent Fuel Storage Installation (ISFSI) dry cask storage system components were fabricated and installed in compliance with regulatory and technical requirements.

b. Observations and Findings

This inspection was focused on observations and verifications of the construction activities related to the installation of the storage pad. During the course of this inspection, the inspector observed that: 1) records verified that the subsoil had been compacted and treated to meet the specification, 2) reinforcing steel was installed of correct size, grade, and at proper spacing, 3) concrete of specified quality was placed in adequate forms, consolidated, finished, and adequate arrangements were made for proper curing, 4) the concrete mix was sampled for required tests for slump and air to verify that it met specification, and to fabricate compressive strength specimens (cylinders). The above observations were based on inspection and verification of records, discussion with engineering and management personnel, and witnessing of the construction activities.

All concrete pad pour specimens resulted in average concrete compressive strengths less than the administrative limit of 4000 psi except pour number five. Pour number five indicated a compressive strength of 4090 psi. The licensee initiated a condition report and evaluated the issue. The inspector reviewed with cognizant licensee representatives the results of their engineering analysis documented in their letter DSD-2001-1008, " Evaluation of ISFSI Concrete Mat Strength". The average compressive strength of concrete in the six pours is 3817 psi and no individual specimen is below 3000 psi. The inspector concluded that the overall ISFSI pad meets compressive strength guidelines and had no further questions.

c. Conclusions

Based on the above observations and findings, the inspector concluded that the installation of the dry cask storage system components were fabricated and installed per the requirements. No significant findings or observations were noted.

II. Plant Support and Radiological Controls

R1 Radiological Protection Controls

R1.1 External Exposure Controls

a. Inspection Scope (83750)

The inspection included touring most of the radiological controlled areas (RCAs) and reviewing current radiological surveys of various work locations to determine the adequacy of the licensee's occupational program to monitor and control internal and external radiation exposure to employees. The inspector also interviewed selected radiation protection managers and staff.

b. Observations

During tours of the facility, the inspector observed that all areas in the RCAs were appropriately posted and labeled for radioactive materials. The inspector also noted that there were only three areas within the RCAs that were required to be posted as high radiation areas. Posting and labeling of radioactive materials and radiation areas continued to meet regulatory

requirements. Portal monitors and frisking instruments were located in the facility for use by workers as they left radiation areas or contaminated areas.

The inspector observed that the exterior of the vapor containment (VC) had been re-painted and that further remediation work in the VC had been curtailed. Workers involved with active remediation were observed in the south decon room, which was being remediated prior to demolition. Workers conducting the remediation were logged on radiation work permits. Contamination controls were in place. The surveys contained detailed information regarding current radiological dose rates and hazards in the work areas.

The inspector reviewed exposure records for the year 2000. The total site dose for the year was 2.4 Person-Rem. The highest individual exposure was 0.257 Rem to a member of the radwaste shipping department. The inspector reviewed an ALARA review for pumping resin to a High Integrity Container (HIC) and concluded that the licensee is controlling exposures to personnel in an effective and controlled manner.

c. Conclusions

The licensee has provided good controls to limit exposures of workers to external sources of radiation.

R1.2 Radioactive Waste and Transportation

a. Inspection Scope (86750)

The inspector reviewed selected records of radioactive waste shipments for the calender year 2000 and determined compliance to NRC and Department of Transportation regulations.

b. Observations

The licensee made 133 shipments of radioactive material in the year 2000. Most of the shipments contained trash or contaminated soil. There was one shipment of dewatered bead resin and filters which contained a total of 12.7 curies of activation and fission products. This one shipment represents 95% of the total activity shipped from the site last year.

The inspector randomly selected three radioactive waste shipment packages to determine compliance to regulatory requirements. These packages included shipments of mixed wastes, dewatered resins, and radioactive trash. The inspector reviewed package dose rate survey data, radioactive material labeling, total activity, nuclide distributions, manifests, hazard waste classification, 10CFR61 documentation, and final truck surveys where applicable. Documentation satisfied regulatory requirements.

c. Conclusions

The licensee maintained an effective radioactive material shipping program in compliance with regulatory requirements.

MANAGEMENT MEETINGS

X1 Exit Meeting Summary

The inspectors presented the inspection results to members of licensee management periodically during the inspection, and during an exit meeting with Mr. B. Wood and others on January 18, 2001. The licensee acknowledged the findings presented by the inspectors. The inspector reviewed with the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

X2 Management Meeting

Management representatives met with RI staff and management and staff from NRR and NMSS on November 30, 2000, in the RI offices. The meeting was open to the public. The Haddam Neck and Yankee Rowe sites, as well as the state offices of Massachusetts and Connecticut, were linked to the meeting by telephone. Recent decommissioning activities were discussed for Yankee Rowe and an update on ISFSI construction activities was provided. A copy of the licensee's handout is attached.

NRC staff attended a Community Advisory Board (CAB) meeting on January 18, 2001. Approximately 20 members of the public and the board were in attendance. An update of NRC activities was provided and questions regarding a recently published NRC report on risks of a zirconium fire at decommissioning plants were addressed.

PARTIAL LIST OF PERSONS CONTACTED

G. Babineau, Safety Oversight Manager
W. Blackadar, Radiation Protection Oversight
B. Holmgren, Dry Cask Storage Oversight Manager
J. Kay, Manager of Regulatory Affairs
S. Racz, Quality Assurance Supervisor
M. Vandale, Radwaste Supervisor, DE&S
F. Williams, Plant Superintendent
B. Wood, Site Manager

These individuals participating in the exit briefing held on January 18, 2001

LIST OF ACRONYMS

CAB	Community Advisory Board
CFR	Code of Federal Regulations
HIC	High Integrity Container
ISFSI	Independent Spent Fuel Storage Installation
NPS	Nuclear Power Station
NPS	Nuclear Power Station
PDR	Public Document Room
RCA	Radiological Controlled Area
Rowe	Yankee Rowe
VC	Vapor Containment
YAEC	Yankee Atomic Energy Company

INSPECTION PROCEDURES USED

IP 60853	On-Site Fabrication of Components and Construction of an ISFSI
IP 71714	Cold Weather Preparations
IP 83750	Occupational Radiation Exposure
IP 86750	Solid Radioactive Waste Management and Transportation of Radioactive Materials

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

NONE

Closed

NONE

Discussed

NONE