



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

April 11, 2007

Docket No. 05000213

License No. DPR-61

Mr. Wayne A. Norton
President and Chief Executive Officer
Connecticut Yankee Atomic Power Company
362 Injun Hollow Road
East Hampton, CT 06424-3099

SUBJECT: INSPECTION 05000213/2006003, CONNECTICUT YANKEE ATOMIC POWER COMPANY, EAST HAMPTON, CONNECTICUT SITE

Dear Mr. Norton:

On March 30, 2007, the United States Nuclear Regulatory Commission completed an announced inspection at your Haddam Neck facility. The enclosed report (Enclosure 1) documents the inspection results which were discussed with Mr. G. van Noordennen and other members of your staff on April 3, 2007.

The inspection examined your decommissioning activities as they relate to safety and compliance with the Commission's rules and regulations. The inspector reviewed selected procedures and records, interviewed personnel, and observed activities. The report also includes two survey reports (Enclosures 2 and 3) conducted by the Oak Ridge Institute for Science and Education (ORISE). With respect to these inspection areas, we noted that you maintained effective programs for decommissioning the site and for the safe storage of spent fuel.

Based on the results of this inspection, no violations were identified.

In accordance with Section 2.390 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/reading-rm/adams.html>. No reply to this letter is required. Your cooperation with us is appreciated.

Sincerely,

/RA/

Samuel Hansell, Chief
Decommissioning Branch
Division of Nuclear Materials Safety

Enclosure:

1. NRC Region I Inspection Report No. 05000213/2006003
2. Confirmatory Survey Results for the East Mountain Side at the Connecticut Yankee Haddam Neck Plant, Haddam, Connecticut, dated July 18, 2006 [ADAMS Accession Number ML070320448]
3. Confirmatory Survey Results for Survey Units 9304, 9527, and 9530 at the Connecticut Yankee Haddam Neck Plant, Haddam, Connecticut, dated September 25, 2006, which are enclosed [ADAMS Accession Number ML070320450]

cc w/encls:

T. Smith, Executive Director of Business Operations
G. van Noordennen, Director, Nuclear Safety/Regulatory Affairs
C. Pizzella, Treasurer
J. Fay, General Council
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U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection No. 05000213/2006003
Docket No. 05000213
License No. DPR-61
Licensee: Connecticut Yankee Atomic Power Company
Facility: Haddam Neck Plant
Location: 362 Injun Hollow Road
East Hampton, CT 06424-3099
Inspection Dates: October 1, 2006 - March 30, 2007
Inspector: Laurie A. Kauffman, Health Physicist
Decommissioning Branch
Division of Nuclear Materials Safety
Approved By: Samuel Hansell, Chief
Decommissioning Branch
Division of Nuclear Materials Safety

Enclosure

EXECUTIVE SUMMARY

Connecticut Yankee Atomic Power Company
NRC Inspection Report No. 05000213/2006003

This integrated inspection includes aspects of decommissioning activities regarding dismantlement and decommissioning of the facility, and storage of spent fuel. The report covers announced safety inspections conducted by one regional inspector. The report includes evaluations of your decommissioning activities related to organization, management oversight, the surveillance program, the corrective action program, the decommissioning performance and final status survey programs, the radiation protection program, and the solid radioactive waste treatment and transportation programs. The report also includes two Oak Ridge Institute for Science and Education (ORISE) Reports regarding two confirmatory inspections conducted in April and August 2006.

Organization, Management Oversight, Surveillances, and Corrective Action

The licensee's organization was adequate to support ongoing decommissioning activities. Management oversight was effective for the activities conducted. The licensee maintained an adequate surveillance and corrective action program to identify and resolve issues.

Status of Decommissioning Performance and Inspection of Final Status Surveys

The licensee conducted decommissioning activities in accordance with the approved License Termination Plan requirements, and adequately implemented sampling and survey procedures and protocols to support the final status survey program.

Radiation Protection Program

The licensee maintained an effective radiation protection program, including the survey instrument calibration program and the contamination control program.

Radioactive Waste Treatment and Transportation Programs

The licensee effectively implemented the solid radioactive waste management and transportation programs.

REPORT DETAILS

1. Organization, Management Oversight, Surveillances, and Corrective Action Program

a. Inspection Scope Inspection Procedures (IPs) 36801 and 40801

The inspector reviewed the decommissioning organization changes since September 2006 to determine the effectiveness of the Connecticut Yankee (CY) management oversight of overall decommissioning and plant support activities. The inspector assessed the effectiveness of management oversight through discussions with CY managers and staff regarding organization changes and observations of managers and staff in the field and during staff meetings.

The inspector evaluated three Quality Surveillance Reports (QSRs) and five Condition Reports (CRs) from October through December 2006 to determine the licensee's ability to identify, resolve, and prevent the recurrence of conditions that could degrade the safety or quality of decommissioning activities. The inspector reviewed the QSRs for the following activities: trans-loading concrete rubble at the Worcester, MA facility; Radiation Protection Release Program of equipment, material, and vehicles; and guidance for preparing Final Status Survey Release Records. The inspector reviewed CRs for issues related to the following: the final status survey program, the radiation protection program, and the radioactive waste and transportation of radioactive materials programs.

b. Observations and Findings

No findings of significance were identified.

The inspector noted a reduction of approximately 100 management and staff positions since the last inspection. The reductions were proportional to the decrease in decommissioning activities. The inspector also noted that managers continued to be directly involved in the implementation of decommissioning activities. The managers conducted site tours and verification checks in the field, making themselves accessible to the staff for oversight support. The surveillance activities performed by the licensee were sufficiently detailed and thorough to identify areas of declining performance. A review of selected CRs indicated that the licensee continued to maintain a program for reporting potential safety issues. The licensee generated CRs when deficiencies were noted. The CRs were entered into the Corrective Action Program to be dispositioned and corrected. The inspector determined that the CR issues did not impact safety and were corrected.

c. Conclusions

The licensee's organization was adequate to support ongoing decommissioning activities. Management oversight was effective for the activities conducted. The

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licensee maintained an adequate surveillance and corrective action program to identify and resolve issues.

2. Status of Decommissioning Performance and Inspection of Final Status Surveys

a. Inspection Scope IPs 71801 and 83801

The inspector evaluated the status of decommissioning activities and the final status survey (FSS) program to verify that the licensee was conducting decommissioning activities in accordance with the License Termination Plan (LTP). The inspector conducted site tours and discussed the decommissioning project status and the final status survey activity schedule. The inspector observed the licensee collect four soil samples from Survey Unit (SU) 9512-0000. The inspector reviewed the associated FSS Plan and Radiation Protection Manual (RPM) procedure, "Collection of Sample Media for FSS," (RPM 5.1-3) to assess sampling technique and methodology and verify appropriate use and calibration of survey instrumentation. The inspector followed-up with the Spent Fuel Building basement fill dose model calculation discussion and the two confirmatory inspections conducted by ORISE in April and August 2006.

b. Observations and Findings

No findings of significance were identified.

Decommissioning activities were conducted in accordance with the LTP. The inspector noted that the FSS Plan and RPM 5.1-3 procedure were adequate but contained limited guidance to ensure reproducible representative soil samples consistent with industry practices. The licensee initiated corrective actions to improve the FSS Plan and sample procedure. This issue will be reviewed during a subsequent inspection. The inspector determined through interviews and observations that the technicians were knowledgeable in the use of the survey instruments and the sampling procedures. The technicians were using appropriate and calibrated survey instruments.

In Section 3.1 of the previous inspection report (NRC Inspection Report No. 05000213/2006002, dated December 19, 2006; ADAMS Accession Number ML063560253), the inspector stated that the results of the NRC's review regarding the Spent Fuel Building (SFB) basement fill dose model calculations would be discussed with the licensee in December 2006. Notwithstanding, the discussion of the basement fill dose model calculations for the SFB will be conducted at a later date and concurrent with the NRC's review of the associated FSS Report.

On April 25-26, 2006, ORISE conducted surface gamma scans and collected soil samples in SUs 9527-0001 through 9527-0004. On August 22-23, 2006, ORISE conducted surface gamma scans and collected soil samples in SUs 9304-0001 and 9304-0002, they conducted surface gamma scans in SUs 9530-0001 through 9530-0004, and conducted a second survey including surface gamma scans and soil samples in SUs 9527-0003 and 9527-0004 (originally discussed in NRC Inspection

Report No. 05000213/2006002, dated December 19, 2006; ADAMS Accession Number ML063560253).

The details of the ORISE analysis are contained in the following ORISE Reports: "Confirmatory Survey Results for the East Mountain Side at the Connecticut Yankee Haddam Neck Plant, Haddam, Connecticut, dated July 18, 2006, and "Confirmatory Survey Results for Survey Units 9304, 9527, and 9530 at the Connecticut Yankee Haddam Neck Plant, Haddam, Connecticut, dated September 25, 2006, which are enclosed. [ADAMS Accession Numbers ML070320448 and ML070320450, respectively.]

c. Conclusions

The licensee conducted decommissioning activities in accordance with the approved LTP requirements and adequately implemented sampling and survey procedures and protocols to support the final status survey program.

3. Radiation Protection Program

a. Inspection Scope IP 83750

The inspector assessed the radiation control program to verify the adequacy of surveys necessary to post and control high radiation and radiation areas and to verify the proper use of personal contamination monitors such as friskers, including consideration of hot particle contamination. The inspector also reviewed the program to verify the adequacy of survey practices, including selected survey records, technical awareness of limitations of the survey instruments, and the calibration records of selected survey and monitoring instruments. The inspector conducted interviews with the cognizant personnel and reviewed the following procedures to evaluate the program: "Radiological Posting and Labeling" (RPM 2.2-27); "Personnel Monitoring, Survey and Decontamination" (RPM 2.7-3); "Control and Accountability of Portable Survey Instruments for Final Status Surveys" (RPM 5.1-04); "Calibration of the Ludlum Model 3" (RPM 4.1-19); "Calibration of the Eberline E-140 with Frisker Probe" (RPM 4.2-3); "Small Article Monitor Calibration and Relocation" (RPM 4.4-6); "Calibration of the Bicron NE MicroRem" (RPM 4.8-5); and "Portable Health Physics Instrument Source/Response Check" (RPM 2.2-10). Additionally, the inspector reviewed the licensee's contamination control program, including implementation of "Contamination Control Program" (RPM 2.7-0). The review was a follow-up from the previous inspection period regarding the licensee's implementation to ensure the control of equipment and materials were released properly from the Radiologically Controlled Area (RCA) for unrestricted use.

b. Observations and Findings

No findings of significance were identified.

Radiation Protection (RP) technician performance for conducting radiological surveys of personnel, tools, equipment, and shipping boxes containing demolition debris exiting the

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RCA was adequate. The licensee performed effective surveys in accordance with the Contamination Control Program. The licensee completed survey records as required by the survey procedures. RP technicians were cognizant of the potential for contaminated tools and hot particles and the licensee clearly and accurately documented survey results as required. Technicians demonstrated the appropriate level of understanding of the use and limitations of the survey instrumentation, including friskers, to conduct effective surveys. Radiation areas were posted appropriately. No high radiation areas existed on site during this inspection period.

Technicians used calibrated survey instrumentation. The calibration records of survey instruments were complete and accurate. The RP instrument technician is responsible for calibrating instruments and has an appropriate level of technical understanding for calibrating survey instrumentation. Calibration and source check results for the survey instrumentation were within the acceptance criteria as defined in the procedures. The licensee used check sources that were traceable to the National Institute of Standards and Technology.

c. Conclusions

The licensee maintained an effective radiation control program, including the survey instrument calibration program and the contamination control program.

4. Radioactive Waste Treatment and Transportation Programs

a. Inspection Scope IP 86750

The scope of this inspection area was to evaluate the Solid Radioactive Waste Management and Transportation programs and to determine whether the licensee properly processed, packaged, stored, and shipped radioactive materials. The inspector reviewed selected Low Specific Activity radioactive waste shipments from September through December 2006, including dry active waste and low-level radioactive demolition debris. The inspector observed the licensee conducted surveys and prepared shipments for transport.

b. Observations and Findings

No findings of significance were identified.

The selected radioactive waste shipment records included completed copies of Characterization Reports, Waste Manifest Shipping papers, Emergency Response Information, Survey Record Forms, and related documentation, including shipment inspection plans and truck inspection records. The licensee met the applicable radiation and transportation requirements for the shipments reviewed.

c. Conclusions

The licensee effectively implemented the solid radioactive waste management and transportation programs.

5. Exit Meeting

The inspector presented the inspection results to representatives of the licensee's staff at the conclusion of the onsite inspection on October 26, 2007, and in-office inspections on November 7, 2006 and December 5, 2006. On April 3, 2007, a summary of the inspection findings for the entire inspection period was presented to the licensee. Licensee representatives acknowledged the inspection findings. Although proprietary items were reviewed during the inspection, no proprietary information is presented in this report.

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

- *J. Arnold, Executive Staff Assistant
- B. Couture, Project Support, Resource Conservation and Recovery Act Coordinator
- J. Fan, Project Support and Engineering Manager
- *R. Haight, Waste Management Coordinator, Waste Management, Decommissioning
- J. McCarthy, Engineer, FSS
- *R. McGrath, Radiation Protection/FSS Manager
- R. Mitchell, ISFSI/Unit Manager
- W. Norton, President and Chief Executive Officer
- C. Newson, Technical Support Supervisor/FSS
- C. Young, Waste Management Engineer, Waste Management, Decommissioning
- J. Wagner, FSS Supervisor, FSS
- *G. van Noordennen, Manager, Nuclear Safety/Regulatory Affairs

*These individuals participated in the exit briefing held on April 3, 2007.

INSPECTION PROCEDURES USED

- 36801 Organization, Management, and Cost Controls
- 40801 Self-Assessment, Auditing, and Corrective Action
- 60855 Operation of Independent Spent Fuel Storage Installation
- 62801 Maintenance and Surveillance
- 71801 Decommissioning Performance and Status Reviews
- 83750 Occupational Radiation Exposure
- 83801 Inspection of Final Status Surveys
- 86750 Solid Radioactive Waste Management and Transportation of Radioactive Materials

ITEMS OPEN, CLOSED, AND DISCUSSED

Items Opened:

None

Items Closed:

None

Items Discussed:

None

LIST OF ACRONYMS USED

CR	Condition Reports
CY	Connecticut Yankee
FSS	Final Status Survey
IP	Inspection Procedure
LTP	License Termination Plan
ORISE	Oak Ridge Institute for Science and Education
QSR	Quality Surveillance Reports
RCA	Radiologically Controlled Area
RP	Radiation Protection
RPM	Radiation Protection Manual
SFB	Spent Fuel Building
SU	Survey Unit