
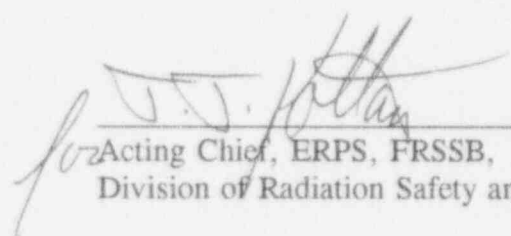


U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-213/94-13
Docket No. 50-213
License No. DPR-61
Licensee: Connecticut Yankee Atomic Power Company
P.O. Box 270
Hartford, Connecticut 06141-0270
Facility Name: Haddam Neck Station
Inspection At: Haddam Neck Station,
East Haddam, Connecticut
Inspection Conducted: May 23 - 27, 1994

Inspector: 
Laurie Peluso, Radiation Specialist
Effluents Radiation Protection Section (ERPS)
Facilities Radiological Safety and
Safeguards Branch (FRSSB)

06/08/94
Date

Approved by: 
Acting Chief, ERPS, FRSSB,
Division of Radiation Safety and Safeguards (DRSS)

6-9-94
Date

Areas Inspected: Announced safety inspection of the radioactive liquid and gaseous effluent control programs including: management controls, quality assurance audits, radioactive gaseous and liquid effluent controls, calibration of effluent/process radiation monitoring systems (RMS), air cleaning systems, and implementation of the above programs.

Results: Within the areas inspected, the licensee continued to maintain very good liquid and gaseous effluent control programs. The licensee's calibration technique for the radiological calibrations of the effluent radiation monitoring systems (RMS) was noteworthy. Also noteworthy was the licensee's initiative to upgrade certain effluent/process RMS. No safety concerns or violations of regulatory requirements were identified.

DETAILS

1.0 Individuals Contacted

1.1 Licensee Personnel

D. Bazinet, I&C Technician
S. Choi, Project Engineer (Corporate Office, Berlin, CT)
M. Denny, ISI Engineer
J. Fougere, Plant Engineer
* G. Goncarovs, Chemistry Manager
* B. Luthanen, Chemist
* W. Nevelos, Nuclear Services Director
* J. Sullivan, Health Physics Manager

1.2 Nuclear Regulatory Commission (NRC)

P. Habighorst, Resident Inspector
* W. Raymond, Senior Resident Inspector

* Denotes those individuals present at exit interview on May 27, 1994.
Other licensee personnel were also contacted or interviewed during this inspection.

2.0 Purpose

The purpose of this inspection was to review the licensee's ability to control and quantify effluent radioactive liquids, gases, and particulates during normal and emergency operations.

3.0 Management Controls

3.1 Organization and Program Changes

The inspector reviewed the organization and administration of the radioactive liquid and gaseous effluent control programs and discussed with members of the chemistry department any changes since the last inspection conducted in August 1992. There had been one change in the oversight of the effluent control programs since the previous inspection. In late 1992, two new positions, Supervisor of Technical Support and Station Technician, were added to the chemistry department. The Supervisor of Technical Support manages the chemists and reports to the Chemistry Manager, who in turn reports to the Station Services Director, and the Station Technician reports to the Chemistry Manager. The inspector determined that the changes have had no adverse impact on the implementation and oversight of the effluent control programs. In fact, it appeared to enhance the effluent control programs.

3.2 Quality Assurance (QA) Audits

The inspector reviewed the following QA Audit Reports for the effluent control programs as part of the evaluation of the implementation of the Technical Specifications (TS) requirements.

- Nuclear Review Board (NRB) Audit No. A24030/A25072, 1992
- NRB Audit No. A24036/A25082, 1993

The audits were performed by technical specialists who reviewed the Radiological Effluents Monitoring and Offsite Dose Calculation Manual (REMODOCM), associated procedures, and implementation of the REMODOCM. The inspector also reviewed the audit field notes and noted that the scope and technical depth of the audit to assess the effluent control programs were good. One finding had been documented in the 1992 audit report; however this finding was of no safety significance. There were no audit findings or deficiencies for the effluent control programs in the 1993 audit report.

3.3 Radiological Semiannual Effluent Release Reports

The inspector reviewed the semiannual radioactive effluent release reports for 1992 and 1993. The inspector determined that the licensee met the TS requirements. There were no obvious anomalous measurements, omissions or trends noted in these reports. Future effluent release reports will be submitted annually per TS requirements.

4.0 Radiological Effluent Control Programs (RECP)

4.1 Implementation of the RECP

The inspector reviewed the radioactive liquid and gaseous effluent control procedures and selected radioactive liquid and gaseous permits as part of the examination of the implementation of TS requirements. Reviewed procedures provided for effective control of radioactive liquid and gaseous effluent releases and release permits were completed as required.

During the discussion with the Chemistry Department staff members, the inspector noted that the responsible individuals had excellent knowledge in the areas of: (1) radioactive liquid and gaseous effluent controls, (2) effluent Radiation Monitoring Systems (RMS), (3) quantifying the total amount of liquid and gaseous effluent releases using the RMS, (4) protection of the public health and safety and the environment, and (5) Offsite Dose Calculation Manual requirements.

Based on the above review and discussions with licensee personnel, the inspector determined that the licensee continued to implement excellent effluent control programs.

5.0 Calibration of Effluent/Process Radiation Monitoring Systems (RMS)

The inspector reviewed the most recent calibration results for the following effluent/process RMS to determine the implementation of the TS requirements.

- Main Stack Gas Monitor (R-14A)
- Wide Range Primary Vent Stack Gas Monitor (R-14B)
- Steam Generator Blowdown Monitor (R-16B)
- Liquid Effluent Monitor (R-18)
- Test Tank Effluent Monitor (R-22)

The I&C Department and the Chemistry Department have the responsibility to perform electronic calibrations and radiological calibrations, respectively, with the exception of R-14B. The I&C Department performs both the electronic and radiological calibrations on the R-14B. The reviewed calibration results were within the licensee's acceptance criteria.

During the review of radiological calibration results, the inspector noted that the licensee used six calibration source strengths to determine conversion factors ($\mu\text{Ci/ml/CPM}$) for the gaseous effluent RMS and four calibration source strengths for the liquid effluent RMS. The licensee determined the conversion factors using a statistical method. (The calibration sources are traceable to the National Institute of Standards and Technology.) The use of more than three calibration source strengths to determine conversion factors is a better method than using three source strengths, because a more reliable conversion factor can be obtained. The use of three different calibration source strengths is a common practice throughout the industry. For the gaseous effluent monitors the licensee used Kr-85 and actual samples from the waste gas decay tank. This is an excellent practice because the monitor will be calibrated for those radionuclides that will actually be released.

During this inspection, the inspector noted that the licensee had initiated a program to upgrade certain effluent/process RMS. The RMS listed above including the Steam Jet Air Ejector Effluent Monitor (R-15), will be upgraded. The licensee stated that the expected time frame to initiate installation of new monitors will be mid 1995. The inspector stated that the decision to upgrade was noteworthy and that progress of the upgrade will be reviewed during subsequent inspections.

Based on the above review, the inspector determined that the licensee employed excellent radiological calibration techniques. The inspector had no further questions in this area at the time of this inspection.

6.0 Air Cleaning Systems

The inspector reviewed the licensee's most recent surveillance test procedures and test results to determine the implementation of the TS and non-TS requirements for the (1) Containment Air Recirculation Fans, (2) Primary Auxiliary Building Exhaust, (3) Spent Fuel Building Exhaust, and (4) Emergency Offsite Facility Fan Test.

- Visual Inspections
- Delta Pressures
- System Air Flow Tests
- In-Place HEPA Leak Tests
- In-Place Charcoal Leak Tests
- Laboratory Tests for the Iodine Collection Efficiencies

All reviewed test results were found to be within the licensee's acceptance criteria. The inspector also noted that the responsible individual for the above tests were very knowledgeable of test purposes and current industry practices.

Based on the above review, the inspector determined that the licensee was implementing TS requirements adequately. No violations were identified in this area.

7.0 Exit Interview

The inspector met with the licensee representatives denoted in Section 1.1 of this inspection report at the conclusion of the inspection on May 27, 1994. The inspector summarized the purpose, scope, and findings of the inspection. The licensee acknowledged the inspection findings.