

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-245/85-18
50-336/85-24

Docket Nos. 50-245
50-336

License Nos. DPR-21
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Priority -
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Category C
C

Licensee: Northeast Nuclear Energy Company

P.O. Box 270

Hartford, Connecticut 06101

Facility Name: Millstone Nuclear Power Station, Units 1 and 2

Inspection At: Waterford, Connecticut

Inspection Conducted: June 24-28, 1985

Inspectors: Richard K. Struckmeyer
Richard K. Struckmeyer, Radiation Specialist

7/31/85
date

Thomas E. Tuccinardi
Thomas E. Tuccinardi, Radiation Specialist

7/21/85
date

Approved by: M. Shanbaky
Mohamed M. Shanbaky, Chief, PWR-RPS

8/1/85
date

Inspection Summary: Inspection on June 24-28, 1985 (Combined Inspection Report Nos. 50-245/85-18; 50-336/85-24).

Areas Inspected: Routine, unannounced inspection of the licensee's radioactive liquid and gaseous effluents program. Areas reviewed included: radioactive effluent release records, effluent control instrumentation, effluent control procedures, reactor coolant chemistry, and ventilation systems. The inspection involved 64 inspector-hours on site by two regionally based inspectors.

Results: Within the areas inspected, no items of noncompliance were identified.

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DETAILS

1. Individuals Contacted

- * N. Bergh, Operations Assistant, Unit 1
- E. Berry, Shift Supervisor, Unit 1
- G. D'Auria, Chemist, Unit 1
- J. Heg, Assistant Operations Supervisor, Unit 2
- * R. Herbert, Station Services Superintendent
- T. Itteilag, Assistant Chemistry Supervisor, Unit 2
- * J. Kangley, Radiological Services Supervisor
- * J. Keenan, Operations Supervisor, Unit 2
- * D. Kross, I&C Supervisor, Unit 2
- R. Palmieri, Operations Supervisor, Unit 1
- J. Robertson, Chemist, Unit 2
- * W. Romberg, Station Superintendent
- R. Schliecher, I&C, Unit 2
- * J. Waters, Chemistry Supervisor
- D. Wilkens, Assistant Chemistry Supervisor, Unit 1

* Denotes those present at the exit meeting.

2. Licensee Action on Previous Inspection Findings

(Closed) Violation (245/83-20-02): Failure to review and approve new method for liquid waste discharge monitoring. The inspector reviewed procedure CP 809 A, Liquid Waste Discharge. This procedure was revised and approved effective February 8, 1984, to include the method of determining Hi and Hi-Hi alarm set points by use of a programmable calculator in the chemistry department counting room.

(Closed) Inspector Follow-up Item (245/83-20-03; 336/83-28-01): Procedure update - air velocity measurement for ventilation. The Unit 1 Technical Specifications include a requirement that the air distribution in the Standby Gas Treatment System ventilation system must be uniform within $\pm 20\%$ of the averaged flow across the HEPA and charcoal filters. This requirement was added to the appropriate procedure (SP 646.4, Standby Gas Treatment System Charcoal Filter and Particulate Filter Efficiency Test).

The Unit 2 ventilation system test procedures formerly specified the use of a pitot tube for measuring air velocity, whereas the contractor who performed the tests actually used a thermocouple anemometer. The inspector noted that the licensee's procedures for these tests have been revised to permit the use of the contractor's method.

3. Effluent Release Records

The inspector reviewed selected radioactive liquid and gaseous release permits, as well as associated procedures and calculations for 1984 and 1985 to date. The licensee's controls were adequate to ensure that Technical Specifications Limits would not be exceeded during normal operating conditions. The inspector reviewed the Semiannual Radioactive Effluent Release Reports which covered the periods from July 1983, through December 1984. The licensee complied with regulatory requirements in this area.

4. Effluent Monitor Calibrations

The inspector examined the liquid and gaseous effluent monitor calibration and functional test procedures and records to determine compliance with Technical Specifications. The instrumentation is required to be calibrated at three month intervals. Procedures and randomly selected calibration data were reviewed for the period from October 1983 through April 1985 for Unit 2. The licensee complied with regulatory requirements in this area.

5. Reactor Coolant Water Chemistry

a. Unit 1

Analyses for total activity, total iodine activity, specific activity, pH, conductivity and chlorides in reactor coolant are required by the Technical Specifications. The inspector reviewed the procedures for these analyses and found them to be complete, concise, and well written. Selected examples of cross referencing within procedures were examined and found to be adequate. Data collection logs and computer files of data were reviewed for 1984 and the first quarter of 1985. No anomalous data were found. Log entries were made at frequencies meeting or exceeding Technical Specifications requirements. In-house and INPO audits of these procedures are performed periodically and corrective actions are incorporated in procedures.

b. Unit 2

Analyses of dissolved oxygen, fluoride, chloride, I-131 dose equivalent, E-bar, and gross activity in the primary coolant are required by Technical Specifications. Analyses of the secondary coolant to determine gross activity and dose equivalent I-131 are also required. The inspector reviewed procedures that implement these surveillance requirements, and selected records of completed surveillances for 1984 and 1985 to date. The Unit 2 Chemistry group uses a printed weekly schedule to indicate when required surveillances are due; this is initialed as surveillances are performed, and signed by the Unit 2 Chemistry Supervisor and by the Chemistry Department head each week.

after the surveillances are completed. In addition, the department head must sign form SF-919 each month to show he has reviewed his department's required surveillances.

The inspector noted that the following procedures discuss the determination of dose equivalent I-131:

- SP2832 (Rev. 2, 11-22-83), Reactor Coolant Analyses for Dose Equivalent I-131 Concentrations.
- SP 2834 (Rev. 2, 11-22-83), Reactor Coolant Analysis for Iodine (Isotopic Analysis).
- SP 2841 (Rev. 1, 7-1-82), Secondary Coolant Analysis for Dose Equivalent I-131 Concentrations.

These Station Procedures refer to Chemistry Procedures for performing the analysis, including CP 806/2806 Q and CP 801/2801 N. The latter procedure refers to a computer program for calculating dose equivalent I-131, given the analytical results for each radioiodine isotope. However, none of these procedures describe the actual method of calculation. The inspector stated that the method should be explicitly given to allow the analysis to be performed when the computer is unavailable. The licensee stated that the appropriate Chemistry Procedure would be revised to include the method of calculation. This will be reviewed in a future inspection (336/85-24-01).

Technical Specification 4.4.8, Table 4.4-2, part 4(b) requires sampling the reactor coolant and analyzing for I-131, I-133, and I-135 between 2 and 6 hours following a thermal power change exceeding 15 percent of the rated thermal power within a one hour period. Part 4(a) of the same table requires this sampling and analysis once per four hours whenever the dose equivalent I-131 exceeds 1.0 uCi/gram. The inspector reviewed surveillance records (SF 2834-1) pertaining to these analyses, and noted that on November 15, 1984, a reactor trip occurred, thereby requiring performance of the surveillance required by Table 4.4-2, part 4(b). The results of the analysis indicated that the dose equivalent I-131 exceeded 1.0 uCi/gram; therefore the surveillance of part 4(a) was required. This analysis was performed about every four hours, as indicated by the surveillance records. However, the last available surveillance record (SF 2834-1), at 9:55 a.m. on November 16, 1984, indicated that the dose equivalent I-131 still exceeded 1.0 uCi/gram. The licensee then produced records, including its Reactor Coolant Analysis log sheets and its gamma spectroscopic analysis data sheets, which showed that another analysis had been performed approximately four hours later, and that the dose equivalent I-131 had gone below 1.0 uCi/gram. These circumstances were repeated on November 28-29, 1984. There were no violations of Technical Specifications. The inspector stated that the

lack of a surveillance record confirming the reduced dose equivalent I-131 indicated a problem with record-keeping. The licensee stated that henceforth, official surveillance records will be kept to show that all required surveillances for dose equivalent I-131 were performed. This will be reviewed in a future inspection (336/85-24-02).

6. Testing of Air Cleaning Systems

The inspector reviewed the licensee's procedures and selected records pertaining to tests of the ventilation systems required by Technical Specifications. These are the Standby Gas Treatment System in Unit 1, and the Enclosure Building Filtration System and Control Room Ventilation System in Unit 2. The required tests were performed during refueling outages which occurred in October 1984 (Unit 1) and in January 1984 and June 1985 (Unit 2). The tests are done by a contractor, whose procedures have been reviewed and approved by the licensee. The available records indicated that all Technical Specification requirements for these systems were met. Records of the June 1985 laboratory tests of Unit 2 charcoal filter samples, which are performed at the contractor's laboratory, had not been received by the licensee at the time of this inspection. These will be reviewed in a future inspection.

7. Exit Interview

The inspector met with the licensee representatives (identified in Paragraph 1) at the conclusion of the inspection on June 28, 1985. The inspector summarized the purpose and scope of the inspection and the inspection findings. At no time during this inspection was written material provided to the licensee by the inspector.