

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

Region I

Report No. 50-213/81-03

Docket No. 50-213

License No. DPR-61 Priority - Category C

Licensee: Connecticut Yankee Atomic Power Company

P.O. Box 270

Hartford, Connecticut 06101

Facility Name: Haddam Neck Plant

Inspection at: Haddam, Connecticut

Inspection conducted: March 1 - April 10, 1981

Inspectors: T.H. SMITH, SENIOR RESIDENT INSPECTOR

May 15, 1981
date signed

J.F. McCANN, REACTOR INSPECTOR

May 20, 1981
date signed

date signed

Approved by: R.R. KEIMIG, ACTING CHIEF, REACTOR PROJECTS SECTION 1B, Division of Resident and Project Inspection

5-20-81
date signed

Inspection Summary: INSPECTION ON MARCH 1 - APRIL 10, 1981 (REPORT No. 50-213/81-03)

AREAS INSPECTED: Routine, unannounced inspection of plant operations including: tours of the facility; log and record review; licensee action on previous inspection findings; licensee action on Bulletins and Circulars; surveillance activities; operating events; Licensee Event Reports; and TMI Action Plan Items. The inspection involved 95 inspector-hours by the resident inspector and one regional based inspector.

RESULTS: Of the eight areas inspected, no items of noncompliance were found in seven areas; one apparent item of noncompliance was found in the remaining area (failure to properly review surveillance test results - paragraph 6).

DETAILS

1. Persons Contacted

The below listed technical and supervisory personnel were among those contacted:

G. H. Bouchard, Maintenance Supervisor
N. A. Burnette, Technical Assistant
T. W. Campbell, Instrument and Control Supervisor
H. E. Clow, Health Physics Supervisor
J. H. Ferguson, Station Services Superintendent
R. L. Gracie, Operations Assistant
R. H. Graves, Station Superintendent
G. R. Hallberg, Security Supervisor
J. M. Levine, Operations Supervisor
R. Z. Test, Engineering Supervisor
R. P. Traggio, Unit Superintendent

Other licensee staff and operating personnel were also interviewed during the course of the inspection.

2. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (213/78-02-01): Failure of diesel generator load sequence timers. The load sequence timers which exhibited a high failure rate were replaced by timers manufactured by a different company. No problems have been identified with the new timers. This item is resolved.

3. Review of Plant Operation - Plant Tours

a. During the course of the inspection, the inspector conducted multiple tours of the following plant areas:

- Control Room
- Primary Auxiliary Building
- Vital Switchgear Room
- Diesel Generator Rooms
- Turbine Building
- Intake Building
- Control Point
- Security Building
- Yard Areas

b. The following observations/determinations were made:

- Radiation protection controls. Step-off pads, storage and disposal of protective clothing and control of high radiation areas were observed for adequacy in all areas toured. No unsatisfactory conditions were observed.
- Monitoring instrumentation. The inspector verified that selected instruments were functioning properly and that the displayed parameters were within Technical Specification limits.
- Control room annunciators. Lighted annunciators were discussed with control room operators to verify that the reasons for them were understood and corrective action, if required, was being taken. On average, only one or two annunciators were lighted on each control room visit.
- Valve positions. The inspector verified that selected valves were in a position or condition required by the Technical Specifications. No unsatisfactory conditions were identified.
- Plant housekeeping. Housekeeping was observed in all areas toured, including control of flammable material. No unsatisfactory conditions were identified.
- Fluid leaks. All areas toured were examined for evidence of excessive fluid leaks. None were found.
- Piping vibrations. All areas toured were examined for evidence of excessive piping vibration. None were indicated.
- Control room manning. The inspector verified that control room manning requirements of the Technical Specifications were being met.
- Security. During the inspection, observations were made of plant security, including adequacy of physical barriers, access control, vehicle control, and searches. No unacceptable conditions were identified.

4. Shift Logs and Operating Records

a. The inspector reviewed selected operating logs and records against the requirements of the following procedures:

- ADM 1.1-5, Control Room Operating Log;
- QA 1.2-14.1, Bypass and Jumper Control;
- ADM 1.1-43, Control Room Area Limits for Control Operators;
- NOP 2.2-2, Steady State Operation and Surveillance;

- ADM 1.1-44, Shift Relief and Turnover;
 - QA 1.2-2.4, Housekeeping Requirements;
 - QA 1.2-16.1, Plant Information Reports; and
 - QA 1.2-14.2, Equipment Control.
- b. Shift logs and operating records were reviewed to verify that:
- Control Room log sheet entries are filled out and initialed;
 - Auxiliary log sheets are filled out and initialed;
 - Control Room log entries involving abnormal conditions provide sufficient detail to communicate equipment status, lockout status, correction and restoration;
 - Operating Orders do not conflict with Technical Specifications;
 - Plant Information Reports confirm there are no violations of Technical Specification requirements; and
 - Logs and records are maintained in accordance with Technical Specifications and the procedures noted above.
- c. The following operating logs and records were reviewed:
- NOP 2.2-2, Log sheets which consist of Control Room, Part 1 and 2, Primary Side Surveillance Form, Secondary Side Surveillance Form, and Radiation Monitoring System Daily Log;
 - Shift Turnover Sheets;
 - Jumper Log;
 - Tag Log; and
 - Control Room Operating Log.
- d. No unacceptable conditions were identified in this area.

5. Licensee Action on IE Bulletins and Circulars

- a. The inspector reviewed the licensee's response to the following IE Bulletins:

78-12 and 78-12A Atypical Weld Materials in Reactor Pressure Vessel Welds. All the information requested by the above Bulletin was provided to NRC Region I by a contractor of the licensee in a letter dated June 8, 1979. The inspector had no questions concerning the licensee's action on this Bulletin.

78-14 Deterioration of Buna-N Components in Asco Solenoids. This Bulletin pertains only to boiling water reactors. No action was required by the licensee.

- b. For the IE Circulars listed below, the inspector verified that the Circular was received by the licensee management, that a review for applicability was performed, and that appropriate corrective action was taken or was scheduled to be taken if the Circular was applicable.

78-16 Limitorque Valve Actuators

78-17 Inadequate Guard Training/Qualification and Falsified Training Records

78-18 UL Fire Test

79-04 Loose Locking Nut on Limitorque Valve Operators

79-08 Attempted Extortion-Low Enriched Uranium

79-09 Occurrences of Split or Punctured Regulator

79-10 Pipe Fittings Manufactured from Unacceptable Material

79-12 Potential Diesel Generator Problems

79-13 Replacement of Diesel Fire Pump Starting Contactors

79-15 Bursting of High Pressure Hose and Malfunction of Relief Valve "O" Ring in Certain Self-Contained Breathing Apparatus

79-17 Contact Problem in SB-12 Switches on General Electric Metalclad Circuit Breakers

79-18 Proper Installation of Target Rock Safety Relief Valves

79-19 Loose Locking Devices on Ingersoll-Rand Pumps

79-20 Failure of GTE Sylvania Relay, Type PM Bulletin 7305, Catalog 5U12-11-AC with a 120V AC Coil

79-23 Motor Starters and Contactors Failed to Operate

79-24 Proper Installation and Calibration of Core Spray Pipe Break Detection Equipment

6. Surveillance Observation

The licensee reported to the resident inspector on March 23, 1981, that the surveillance test performed on the High Pressure Safety Injection (HPSI) Pumps on March 6, 1981, had been improperly performed. Surveillance Procedure SUR 5.1-4, "Hot Operational Test", and the Technical Specifications require that shut-off head HPSI Pump discharge pressure be greater than 1400 PSIG. The discharge pressure for the test conducted on March 6 was recorded as 1380 PSIG for both HPSI Pumps. The fact that the recorded pressure did not meet the Technical Specification limit was discovered on March 22, 1981, by a control room operator. The applicable portions of SUR 5.1-4 were immediately performed. Shut-off head discharge pressure for both HPSI pumps was greater than 1400 PSIG.

The original test results from the March 6 test had been reviewed and signed by the shift supervisor on March 10, 1981, and reviewed and signed by a person representing the operations department head on March 13, 1981. Neither person discovered the error.

Licensee procedures require that surveillance test results be evaluated by the applicable department head or his designated alternate to assure that test requirements have been satisfied. The fact that the test results were not properly evaluated and that a person other than the applicable department head or his designated alternate performed the department head review constitutes an item of noncompliance (213/81-03-01).

On April 2, 1981, the inspector witnessed the HPSI portion of SUR 5.1-4, which was being conducted in accordance with the normal monthly schedule. The inspector specifically noted that the HPSI pump shut-off head discharge pressure was greater than the 1400 PSIG minimum required by the Technical Specifications.

The inspector had no further questions in this area.

7. Operating Events

On April 3, 1981, at approximately 9:30 a.m., while operating at full power, one of the two Pressurizer Power Operated Relief Valves (PORV) and its associated block valve opened spuriously. The valves remained open about three seconds before the operator manually shut the PORV from the main control board. Plant pressure decreased from 2000 PSIG to about 1980 PSIG. All other plant conditions remained unchanged. The PORV valve position indication and the relief line acoustic monitor both functioned properly during the event.

The cause of the spurious opening was determined to be a loose connection from the pressurizer pressure controller. The connector was reinstalled properly and the PORV was returned to automatic control.

The inspector had no further questions concerning this event.

8. Licensee Event Reports (LER's)

Through direct observations, discussions with licensee personnel, and review of records, the following event reports were reviewed to determine that reportability requirements of the Technical Specifications and Station Administrative and Operating Procedures were fulfilled, immediate corrective action was accomplished, and corrective action to prevent recurrence had been accomplished.

81-01 Failure of a containment air recirculation fan bypass damper to close. During the monthly fan damper test, the bypass dampers on one of the four fans did not close. The damper actuation mechanism was cleaned and the damper was satisfactorily retested.

81-02 Monthly HPSI surveillance not properly conducted (Details paragraph 6).

81-03 Spurious opening of a pressurizer PORV and associated block valve (Details paragraph 7).

9. TMI Action Plan Inspection Items

The inspector reviewed the licensee's action on the following NUREG-0737 TMI Action Plan Items which had an implementation date of January 1, 1981.

a. Item I.A.1.3 Shift Manning. The inspector reviewed licensee procedure ADM 1.1-65, "Operations Department Shift Staffing Requirements", dated March 27, 1981. This procedure adequately addresses the requirements of NUREG-0737 in the area of personnel work schedules.

Licensee action on this item is satisfactory.

b. Item I.C.6. Guidance on Procedures for Verifying Correct Performance of Operating Activities. The following documents were reviewed in evaluating the licensee's action on this item.

- NUREG-0737
- Clarification Letter to All Licensees dated September 5, 1980
- Council letter to D.G. Eisenhut dated December 31, 1980
- QA 1.2-14.2, "Equipment Control", dated May 18, 1979
- ODI 93, "Station Tagging Instructions" dated February 9, 1981
- ODI 39, "Verification of Availability of Required Safeguards Equipment when Performing Maintenance and Returning to Service", dated April 26, 1979

In the Council to Eisenhut letter of December 31, 1980, the licensee has taken exception to the NUREG-0737 requirement to provide a second qualified person to perform verifications of equipment control measures (tagging) and return-to-service system alignments. The licensee has stated that a single valve lineup will be performed on safety-related systems returned to service, followed by a system retest to verify operability. The licensee also stated that the job supervisor, rather than a second operator, will verify correct implementation of equipment control measures such as tagging of equipment.

The licensee's action on this item is not in accordance with the requirements of NUREG-0737; however, the inspector reviewed a sample of licensee procedures and verified that the licensee is meeting his stated commitment.

c. Item II.E.4.2 (6) Containment Isolation Dependability - Containment Purge Valves. Technical Specifications at Haddam Neck Plant prohibit purging with the 42-inch purge valves unless the plant is in cold shutdown or refueling. These valves are manually operated and are locked in the closed position.

Licensee action on this item is satisfactory.

d. Item II.K.3 (9) Bulletin and Order Task Force Items - PID Controllers. This item is not applicable to the Haddam Neck Plant. The installed PORV controller is not a PID controller.

10. Exit Interview

At periodic intervals during the course of the inspection, meetings were held with senior licensee management personnel to discuss inspection scope and findings.