

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

REGION I

Report No. 50-309/80-09

Docket No. 50-309

License No. DPR-36 Priority -- Category C

Licensee: Maine Yankee Atomic Power Company

20 Turnpike Road

Westborough, Massachusetts 01581

Facility Name: Maine Yankee Nuclear Power Station

Inspection At: Wiscasset, Maine

Inspection Conducted: June 2-July 2, 1980

Inspectors: *E. J. Lazarus / for*
W. J. Lazarus, Reactor Inspector

7-31-80
date

P. D. Swetland / for
P. D. Swetland, Reactor Inspector

7-31-80
date

Approved by: *T. T. Martin*
T. T. Martin, Chief, Reactor Projects
Section No. 3, RO&NS Branch

date
8/13/80
date

Inspection Summary:

Inspection on June 2-July 2, 1980 (Report No. 50-309/80-09)

Areas Inspected: Routine, onsite, regular and backshift inspection by two resident inspectors. Areas inspected included the Control Room, Turbine Building, Primary Auxiliary Building, Spent Fuel Building, Spray Building and Auxiliary Feed Pump Areas. Activities/Records inspected included radiation protection, physical security, plant operations, maintenance, and surveillance testing. The inspection involved 107 inspector hours.

Results: One item of noncompliance was identified in one area. (Failure to test redundant safeguards equipment when required)

DETAILS

1. Persons Contacted

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

P. Anderson, Administrative Department Head
R. Arsenault, Plant Shift Superintendent
J. Brinkler, Assistant Plant Manager
R. Jutras, Engineer
R. Painter, Maintenance Foreman
R. Prouty, Maintenance Department Head
R. Radasch, I and C Supervisor
S. Sadosky, QA and Audit Coordinator
J. Stevens, Plant Chemist
D. Sturniolo, Technical Assistant to the Plant Manager
E. Wood, Plant Manager

2. Followup on Previous Inspection Findings

(Open) Licensee Identified Noncompliance (309/80-06-01): The inspector verified that independent verification of the locked valve positions were being performed as stated by the Licensee, however, administrative controls to insure the performance and documentation of these checks have not yet been instituted.

(Closed) Follow-up Item (309/80-07-01): Fire protection system status lamps were replaced as necessary and spare bulbs were made available for future replacement of burned-out bulbs by the operators.

(Closed) Licensee Identified Noncompliance (309/80-07-02): Procedure 1-11.6 was revised to clarify manipulations necessary when shifting operating/standby charging pumps. Review of procedures for shifting other safeguards equipment verified that procedural measures were adequate to prevent similar occurrences.

3. Review of Plant Operations

The inspectors reviewed plant operations through direct inspection and observation throughout the reporting period. Major activities performed during this period included routine power operation, a shutdown to repair a main steam line non-return valve, chemical cleaning of the reactor core, repair of a secondary component cooling pump, replacement of a reactor coolant pump seal package, and a plant startup from cold shutdown to full power operation.

a. Instrumentation

Control room process instruments were observed for correlation between channels and for conformance with Technical Specification requirements. No unacceptable conditions were identified.

b. Annunciator Alarms

The inspector observed various alarm conditions which had been received and acknowledged. These conditions were discussed with shift personnel who were knowledgeable of the alarms and actions required. During plant inspections, the inspector observed the condition of equipment associated with various alarms. No unacceptable conditions were identified.

c. Shift Manning

The operating shifts were observed to be staffed to meet the operating requirements of Technical Specifications, Section 5, both to the number and type of licenses. Control room and shift manning were observed to be in conformance with Technical Specifications and 10 CFR 50.55K.

d. Radiation Protection Controls

Radiation protection control areas were inspected. Radiation Work Permits in use were reviewed, and compliance with those documents, as to protective clothing and required monitoring instruments, was inspected. Proper posting and control of radiation and high radiation areas was reviewed in addition to verifying requirements for wearing of appropriate personal monitoring devices. There were no unacceptable conditions identified.

e. Plant Housekeeping Controls

Storage of material and components was observed with respect to prevention of fire and safety hazards. Plant housekeeping was evaluated with respect to controlling the spread of surface and airborne contamination. There were no unacceptable conditions identified.

f. Fire Protection/Prevention

The inspector examined the condition of selected pieces of fire fighting equipment. Combustible materials were being controlled and were not found near vital areas. Selected cable penetrations were examined and fire barriers were found intact. Cable trays were clear of debris.

g. Control of Equipment

During plant inspections, selected equipment under safety tag control was examined. Equipment conditions were consistent with information in plant control logs for the following Local Control Rules tagouts: 0474-80 and 0478-80.

h. Equipment Lineups

The inspector verified that the major valve and switch positions were correct to insure Operability of the Safety Injection System, Safety Injection Accumulators, Containment Spray, and Emergency Diesel Generators, by observation of the Main Control Board, inspections in the Diesel Generator Rooms and Spray Building and review of the last completed "Locked Valve Checklist." No inadequacies were identified.

4. Review of Plant Operations - Logs and Records

During the inspection period, the inspector reviewed operating logs and records covering the inspection time period against Technical Specifications and Administrative Procedure Requirements. Included in the review were:

Control Room Log - daily during Control Room surveillance

Local Control Rules Log - all active and inactive entries through 531-80

Jumper/Bypass and Yellow Tag Control Log - all active entries from 79-15 through 80-27

Process Instrument Recorder Charts - daily during Control Room surveillance

Gas Decay Drum Release Permits - 5/30 - 6/4/80

The logs and records were reviewed to verify that entries are properly made; entries involving abnormal conditions provide sufficient detail to communicate equipment status, deficiencies, corrective action, restoration and testing; records are being reviewed by management; operating orders do not conflict with the Technical Specifications; logs and incident reports detail no violations of Technical Specification or reporting requirements; logs and records are maintained in accordance with Technical Specification and Administrative Control Procedure requirements.

Several entries in these logs were the subject of additional review and discussion with licensee personnel.

In the review of the Local Control Rules Log, the inspector identified several closed-out log sheets for safety related equipment which had not been signed off by the SRO. These were promptly reviewed and signed by the SRO prior to completion of the inspection. A review of the Local Control Rules procedure disclosed that the use of the Local Control Rules form and the requirement for the SRO signature were not adequately addressed. This item is being reviewed by the licensee so that the instructions can be clarified. This item is unresolved (309/80-09-01).

5. Plant Maintenance and Modifications

During the inspection period, the inspector frequently observed various maintenance and problem investigation activities. The inspector reviewed these activities to verify compliance with regulatory requirements, including those stated in the Technical Specifications; compliance with the administrative and maintenance procedures; compliance with applicable codes and standards; required QA/QC involvement; proper use of safety tags; proper equipment alignment and use of jumpers; personnel qualifications; radiological controls for worker protection; fire protection; retest requirements and ascertain reportability as required by Technical Specifications. In a similar manner the implementation of design changes and modifications were reviewed. In addition to those items addressed above, the licensee's safety evaluation was reviewed. Compliance with requirements to update procedures and drawings were verified and post modification acceptance testing was evaluated. The following activities were included during this review:

- Main steam line stop-check (non-return) valve repair.
 - No. 2 Reactor Coolant Pump seal package replacement.
 - Safety Injection Tank recirc line isolation valve modification.
 - Secondary Component Cooling pump bearing replacement.
- a. The licensee determined through the Quality Assurance program, that the addition of the isolation valve to the Safety Injection Tank recirc line was done without initiation of a plant design change report (PDCR) as required by procedure O-01-1, "Design Change and Alteration", Rev. 5. The inspector verified that a PDCR (7-80) was subsequently initiated and the licensee reviewed the issue with the Plant Engineering Quality Assurance Group that reviewed the maintenance request for this modification without requiring a PDCR. The inspector had no further questions in this area.
- b. On June 27, 1980, Secondary Component Cooling (SCC) Pump P10A was removed from service to replace the motor-end bearing which had been indicating higher than normal temperatures. The bearing was replaced and the pump returned to service after a three hour test on June 28, 1980. Investigation by the inspector into the effects on plant safeguards equipment of having this pump out of service revealed that both emergency diesel generator coolers are supplied by the SCC system. By having one of the two redundant SCC pumps out of service, the plant was being operated with one safeguards train. A single failure of either the remaining SCC pump (P10B) or the "B" diesel generator would have disabled all active emergency core cooling systems in event of a design basis accident. (Non-safeguards backup for

SCC is available from the diesel fire pump). Plant operation with one safeguards train out of service is permitted for up to 24 hours by Technical Specification 3.6.B, if the diesel generator and pump providing the same function in the opposite train are tested within 2 hour of discovery of the malfunction. The "B" diesel generator had not been tested since the last routine test on June 20, 1980. (The "B" SCC pump was operating and further testing was not necessary.) Failure to test the "B" diesel generator within 2 hours of placing the "A" SCC pump out of service represents an infraction level I violation of noncompliance. (309/80-09-04)

6. Inspector Witnessing of Surveillance Test

The inspector observed performance of surveillance test 3.17.4.6 "Personnel Air Lock Leak Test" on June 30, 1980, to verify that:

- initial conditions and precautions were observed.
- radiation work permit requirements were met.
- completion of the test indicated acceptable leak test.

No inadequacies were identified.

7. Battery Room Ventilation

During plant tours on June 24 and 26, 1980 the inspector noted that equalizing battery charges were in progress on the vital D.C. bus batteries. Battery room doors were left open by the electrician who started the charge because of a concern that ventilation was not adequate to prevent accumulation of explosive hydrogen concentrations during battery charges. Discussion with Control Room operators revealed that they were unaware that a battery charge was in progress. Further investigation into this area revealed the following inadequacies:

- a. Battery room ventilation may not be adequate in Battery Room 3/4 to prevent accumulation of explosive concentrations of hydrogen during battery charges. Measurements made by the inspector of air velocities in each battery room correlate to air flow rates of about 50 cfm for room 3/4 and 3200 cfm for room 2/3 with the ventilation line-up at the time of the inspection. Calculations made by the inspector indicate that a flow rate of 800 cfm would be adequate at the maximum charging rate. Ventilation prints show that the ventilation system is designed for 1200 cfm to each room. The licensee is investigating this to determine what air flow is necessary and to make necessary corrections. This item is unresolved (309/80-09-02).

- b. None of the existing plant procedures address precautions and prerequisites for conducting battery charges such as verifying ventilation adequacy or informing the Control Room. This item is unresolved (309/80-09-03).

8. Inadvertent Safety Injection

During an inspection in the Control Room on June 9, 1980, with the plant in cold shutdown, an inadvertent safety injection system actuation occurred. No water was actually injected into the reactor coolant system due to the cold shutdown lineup. The inspector observed the operators response in terminating and recovering from the incident, including verifying that the incident was reported to the NRC Operations Center in accordance with 10 CFR 50.72. No inadequacies were identified.

The incident occurred because of the interpretation of wording in procedure 3-6.2.2.15 "Containment High Pressure Channels CIS, CSAS, and SIAS," Rev. 3, Step 7.10 which stated that the operator should "Re-establish a SIAS block". When the Reactor Operator switched the SIAS block switch from "Block" to "Reset" and back to "Block" the SIAS occurred because a simulated high containment pressure signal was established as part of the procedure. A procedure change was issued (PCR 80-105) which changes step 7.10 to read, "Verify that a block condition still exist". This should prevent recurrence of this situation.

9. Unresolved Items

Unresolved items are matters about which more information is required in order to determine whether they are acceptable items or items of noncompliance. Unresolved items identified during this inspection are discussed in paragraphs 4 and 7.

10. Exit Interview

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