

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

Region I

Report No. 50-245/80-01
50-336/80-01
Docket No. 50-245
50-336
License No. DPR-21
DPR-65 Priority -- Category C
Licensee: Northeast Nuclear Energy Company
P. O. Box 270
Hartford, Connecticut 06101

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

Inspection at: Waterford, Connecticut 06385

Inspection conducted: January 1 thru January 31, 1980

Inspectors: J. T. Shedlosky 3/18/80
J. T. Shedlosky, Sr. Resident Inspector date signed
R. P. Zimmerman 3/17/80
R. P. Zimmerman, Resident Inspector date signed

Approved by: R. R. Keimig 3-24-80
R. R. Keimig, Chief, Reactor Projects date signed
Section No. 1, RO&NS Branch

Inspection Summary:

Inspection on January 1 thru January 31, 1980 (Combined Report Nos. 50-245/80-01 and 50-336/80-01)

Areas Inspected: Routine, onsite regular and backshift inspection by two resident inspectors (67.0 hours, Unit 1; 20.5 hours, Unit 2). Areas inspected included the control rooms and the accessible portions of the Unit 1 reactor, turbine, radio-active waste, gas turbine generator, and intake buildings; the Unit 2 enclosure, auxiliary, turbine and intake buildings; and the condensate polishing facility; radiation protection; physical security; fire protection; plant operating records; surveillance testing; calibration; maintenance; core power distribution limits; and reporting to the NRC.

Results: No items of noncompliance were identified during this inspection.

DETAILS

1. Persons Contacted

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

J. M. Black, Superintendent, Unit 3
P. Callaghan, Unit 1 Maintenance Supervisor
F. Dacimo, Quality Services Supervisor
E. C. Farrell, Superintendent, Unit 2
J. Bangasser, Station Security Supervisor
H. Haynes, Unit 2 Instrumentation and Control Supervisor
R. Herbert, Superintendent, Unit 1
J. Kelly, Unit 2 Operations Supervisor
E. J. Mroczka, Superintendent, Plant Services
J. F. Opeka, Station Superintendent
R. Place, Unit 2 Maintenance Supervisor
P. Przekop, Unit 1 Engineering Supervisor
W. Romberg, Unit 1 Operations Supervisor
S. Scace, Unit 2 Engineering Supervisor
F. Teeple, Unit 1 Instrumentation and Control Supervisor
K. Thomas, Unit 1 Engineer

2. Review of Plant Operation - Plant Inspections

The inspector reviewed plant operations through direct inspection and observation during routine power operation of Units 1 and 2, and reduced power operation for Unit 1 at 40% power in accordance with Technical Specification Requirements with the Isolation Condenser System out of service.

During this inspection, activities in progress at Unit 1 included power operations and isolation condenser restraint modification (paragraph 4); at Unit 2 activities included routine power operations and "A" Auxiliary Feed Water Pump bearing replacement.

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 6, both to the number and type of licenses. Control room and shift manning were observed to be in conformance with Technical Specifications and site administrative procedures.

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. 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.

h. Instrument Channels

Instrument channel checks were reviewed on routine logs. An independent comparison was made of selected instruments. No unacceptable conditions were identified.

i. Equipment Lineups

The inspector examined the breaker position on all switchgear and motor control centers in accessible portions of the plant. Equipment conditions were found in conformance with Technical Specifications and operating requirements.

3. 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:

Shift Supervisor's Log	-	daily during control room surveillance
Plant Incident Reports	-	1/1 through 1/31/80
Jumper and Lifted Leads Log	-	all active entries
Maintenance Requests and Job Orders	-	all active entries
Safety Tag Log	-	all active entries
Plant Recorder Traces	-	daily during control room surveillance
Plant Process Computer Printed Output	-	daily during control room surveillance
Night Orders	-	daily during control room surveillance

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. No unacceptable conditions were identified.

4. Unit 1 Isolation Condenser System

An investigation of the structural integrity of the pipe restraint on the Isolation Condenser System steam line at containment penetration X-10A was performed by licensee and Teledyne Engineering Services (TES) personnel on January 4, 1980, to determine the effect "water hammer" stresses may have had on the pipe support (IE Report 50-245/79-29). Based on that investigation, concern for the possibility of the penetration bellows being overstressed in the future, led the licensee to declare the Isolation Condenser System inoperable at 0345 hours on January 4, 1980. In accordance with plant operating procedures, reactor power was reduced to 40% within 24 hours. Stress analysis, performed by TES, of the restraint at penetration X-10A revealed that the design safety factor requirement was not being satisfied for all possible loading conditions. As a result of the TES review, the restraint has been undergoing modification to satisfy the necessary safety factor. Results of stress analysis, performed by both the licensee and TES, were reviewed and found acceptable (IE Report 50-245/80-02). At the conclusion of this inspection period, reactor power remained at 40%, with the modification to restraint X-10A on going.

The inspector will continue to follow licensee modification activities for restraint X-10A.

5. Unit 2 Control Room Annunciators

The 125 VDC bus feeds the annunciator power supplies, each of which has four outputs:

- 125 VDC to annunciator contacts
- +12 VDC and -12VDC to logic cards
- 28 VDC to annunciator lamps

Troubleshooting on December 29, following the loss of annunciator event (IE Report No. 50-336/79-30), revealed that 14 of 28 power supplies had failed. The 125 VDC output was the single output tested and the failed supplies were replaced.

On January 8, 1980, all annunciator power supplies were rechecked which included all four outputs for each supply. Results found the -12 VDC output from 11 of the 14 supplies, which were not replaced on December 29, to have failed due to the burnout of blocking diodes. The failed supplies were repaired (blocking diodes replaced) and were reinstalled on January 9, 1980.

Investigation by the licensee has shown that the -12 VDC output is undersized. During testing, loads of up to 2 amperes were observed, with a design current of .5 amperes. System modification to correct the design deficiency is planned by the licensee. A monthly surveillance test of all four outputs for each of the 28 power supplies has been developed with initial test results being reviewed by the inspector.

The inspector will continue to follow licensee actions for system modification. Review of surveillance test results will be performed by the inspector during the interim.

6. Licensee Event Reports (LER's)

The inspector reviewed the following LER's to verify that the details of the event were clearly reported, including the accuracy of the description of cause and adequacy of corrective action. The inspector determined whether further information was required, and whether generic implications were involved. The inspector also verified that the reporting requirements of Technical Specifications and Station Administrative and Operating Procedures had been met, that appropriate corrective action had been taken, that the event was reviewed by the Plant Operations Review Committee, and that the continued operation of the facility was conducted within the Technical Specification limits.

Unit 1

79-36, Repeated event; water hammer in Isolation Condenser System. A procedural change to the Emergency Shutdown procedure to preclude reactor vessel water level from reaching the Isolation Condenser steamline vessel penetration following a plant trip was reviewed by the inspector. Details on the water hammer event are found in paragraph 4.

Unit 2

79-40, Repeated event; Condensate Storage Tank (CST) level below Technical Specifications required level. Chloride and conductivity levels in the steam generators required feed and bleed operations, thus causing high water usage and inadvertent low level in the CST. Operators verified operability of the fire water system as a backup supply to the Auxiliary Feedwater Pumps, reduced water usage, and restored the CST level.

7. Review of Periodic and Special Reports

Upon receipt, periodic and special reports submitted by the licensee pursuant to Technical Specification 6.9.1 and 6.9.2 were reviewed by the inspector. This review included the following considerations: the report includes the information required to be reported by NRC requirements; test results and/or supporting information are consistent with design predictions and performance specifications; planned corrective action is adequate for resolution of identified problems; determination whether any information in the report should be classified as an abnormal occurrence; and the validity of reported information. Within the scope of the above, the following periodic report was reviewed by the inspector:

-- Monthly Operating Report - December, 1979

8. Plant Maintenance

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. The following activities were included during this review:

Unit 1

-- Modification to Isolation Condenser steamline restraint.

Unit 2

-- "A" Auxiliary Feed Pump Terry Turbine Bearing failure

-- Diesel Generator 12U breaker failed to close.

-- High Pressure Safety Injection valve(SI-654)leaking.

No unacceptable conditions were identified.

9. 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. In addition, a conference call was held on January 11, 1980, to discuss the details surrounding the December 19, 1979, water hammer event at Unit 1. Participants included senior licensee management and engineering personnel, NRC Region I and Headquarters management, and regional and resident inspectors.