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

Region I

Report No. 50-245/80-13
50-336/80-14

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: August 3 thru September 6, 1980

Inspectors: J. T. Shedlosky, Sr. Resident Inspector — date signed 9/24/80

R. P. Zimmerman, Resident Inspector — date signed 9/24/80

date signed

Approved by: R. R. Keimig, Chief, Reactor Projects Section No. 1, RO&NS Branch — date signed 9/29/80

Inspection Summary:

Inspection on August 3 thru September 6, 1980 (Combined Report Nos. 50-245/80-13 and 50-336/80-14)

Areas Inspected: Routine, onsite, regular and backshift inspection by two resident inspectors (43 hours, Unit 1; 55 hours, Unit 2). Areas inspected included the control rooms and the accessible portions of the Unit 1 reactor, turbine, radioactive waste, gas turbine generator, and intake buildings; the Unit 2 primary containment 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: Of the ten areas inspected, no items of noncompliance were found in 9 areas; two items of noncompliance were found in one area (Infraction - failure to make airborne radioactive material surveys, & Infraction - failure to prepare procedures consistent with 10CFR20.103; paragraph 7).

DETAILS

1. Persons Contacted

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

J. Bangasser, Station Security Supervisor
J. M. Black, Unit 3 Superintendent
P. Callaghan, Unit 1 Maintenance Supervisor
A. Cheatham, Radiological Services Supervisor
J. Crockett, Unit 2 Engineering Supervisor
F. Dacimo, Quality Services Supervisor
E. C. Farrell, Station Services Superintendent
H. Haynes, Unit 2 Instrumentation and Control Supervisor
R. J. Herbert, Unit 1 Superintendent
J. Kangley, Chemistry Supervisor
J. J. Kelley, Unit 2 Superintendent
E. J. Mroczka, Station Superintendent
V. Papadopoli, Quality Assurance Supervisor
R. Place, Unit 2 Maintenance Supervisor
R. Palmieri, Unit 1 Engineering Supervisor
W. Romberg, Unit 1 Operations Supervisor
S. Scace, Unit 2 Operations Supervisor
E. Spruill, Health Physics Supervisor
F. Teeple, Unit 1 Instrumentation and Control Supervisor

2. Review of Plant Operation - Plant Inspections (Units 1 and 2)

The inspectors reviewed plant operations through direct inspection and observation of Units 1 and 2 throughout the reporting period. Activities in progress at Unit 1 included routine power operations; at Unit 2, activities included routine power operations, recovery following two CEA drops on 8/11 and a plant shutdown on 8/16 to commence a refuel outage.

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. Proper posting of radiation and high radiation areas was reviewed in addition to verifying requirements for wearing of appropriate personal monitoring devices. Insufficient radiation protection controls were identified and are discussed in paragraph 7.

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

i. Equipment Lineups

The inspector examined the breaker position on switchgear and motor control centers in accessible portions of the plant. Equipment conditions, including valve lineups, were reviewed for conformance with Technical Specifications and operating requirements.

3. Review of Plant Operations - Logs and Records - (Units 1 and 2)

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	- 8/3 through 9/6
Jumper and Lifted Leads Log	- all active entries
Maintenance Requests and Job Orders	- all active entries
Construction Work Permits	- 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.

4. 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:

Unit 2

--- Overhaul of the B-Emergency Diesel Generator

--- Eddy Current Examination of Steam Generator Tubes

--- Examination of Steam Generator Feedwater Piping welds by Radiographic Testing

--- Preparations to install Steam Generator Nozzle Dams

--- Replacement of Containment Electrical Penetrations

--- Maintenance and adjustment of Emergency Diesel Generator Room Watertight Doors

--- Magnetic Particle Examination of Low Pressure Stages of turbine and subsequent replacement of fifth stage shroud cracked area

--- Cleanup of Auxiliary Building following rain water inleakage and subsequent efforts to seal pipe tunnels

--- Installation of Reactor Vessel Head Vent

5. 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

80-12: Instrument drift, one of six APRM channels gain

Unit 2

80-24: Failure of the A-HPSI pump due to a shut minimum flow valve (Ref. Inspection Report 50-336/80-09 paragraph 5.b.).

80-25: Turbine Driven Auxiliary Feedwater Pump tripping below normal trip set point preventing the pump from meeting performance requirements for operability. The premature tripping was due to wear of the turbine tappet nut. The nut was readjusted.

80-26: Discovery of conditions not specifically considered in the SAR Section 2.5.4.2 or the Technical Specifications 5.1.3 that required remedial action to prevent the existence of an unsafe condition. Rainwater inleakage during a storm on 7/29 resulted in eighteen inches of standing water in the lower level auxiliary building.

80-27: Crack in socket weld on Safety Injection Tank one inch recirculation line. The cause was long term vibration fatigue.

6. 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 and Environmental Technical Specification 5.6.1 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 reports were reviewed by the inspector:

--- Monthly Operating Reports Unit 1 and 2, July 1980.

7. Radiation Protection Controls (Unit 1)

On 8/13/80 at approximately 1100 hrs., three contractor workers were contaminated while working in the Unit I Torus bay area. These workers were conducting eddy current testing on the torus support structures when contaminated. The workers became aware of the contamination while performing frisking surveys upon leaving the work area. Decontamination procedures were accomplished on the workers followed by whole body analysis with the licensee's onsite counter. The initial whole body analysis was followed by three later counts.

Calculation of MPC hours associated with the incident indicated the following: (The activity in each worker's entire body was counted within 24 hours of the incident)

Radionuclide			
Worker A			
Co-60	92 nano Curies	11.36	MPC hours
Cs-134	3 " "	0.33	" "
Mn-54	30 " "	0.83	" "
		12.52	" "
Worker B			
Co-60	82 " "	10.12	" "
Mn-54	21 " "	0.58	" "
Cs-134	4 " "	0.44	" "
Cs-137	6 " "	0.66	" "
		11.81	" "
Worker C			
Co-60	59 " "	7.28	" "
Mn-54	24 " "	0.67	" "
Cs-137	9 " "	1.0	" "
		8.95	" "

Entry to the Torus bay area was covered by authorized RWP's 802842 and 802851. Contamination surveys performed in the torus bay area indicated loose surface contamination levels to 180,000 dpm per 100 sq. cm beta-gamma. Surveys representative of the air breathed by workers were not collected and analyzed prior to starting or during the work.

Failure to perform adequate surveys is considered an item of noncompliance against 10CFR 20.103(a)(3), (Item 50-245/80-13-01).

Station Standardized Health Physics Procedure HP 4905, Radiological Surveys, Revision 1, dated August 11, 1980, section 8.3.5 states, "For jobs where radioactive contamination may become airborne, e.g. scraping, grinding or welding on contaminated surfaces, respirators should be required. Suitable breathing zone air samples should be taken and analyzed. Only after the airborne activity has been evaluated and if appropriate, should the respirator requirement be dropped."

That procedure allowed airborne sampling to be optional for work where radioactive contamination may become airborne.

Unit Health Physics Procedures HP 915/2915, Health Physics Surveys, Revision 13, dated July 1, 1980 also do not mandate the survey requirements of 10 CFR 20.103.

The failure to prepare procedures consistent with the survey requirements of 10 CFR 20.103 is considered to be an item of noncompliance against Technical Specification 6.11. (Item 50-245/80-13-02).

Change 1 was issued to HP 915/2915, Revision 13 on August 22, 1980. Paragraph 5.4.3.8 requires, "Air samples shall be conducted prior to issuance of an RWP for any areas contaminated in excess of 100,000 dpm per 100 sq. cm. Additional representative breathing zone air samples should be obtained at the commencement of any physical work being performed within the area. Extended work or changing conditions require evaluation for additional sampling requirements."

The inspector had no additional questions at this time. This area will be addressed during future inspections.

8. 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.