U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-336/90-03

Docket No. 50-336

License No. DPR-65

Licensee: Northeast Nuclear Energy Company
P. O. Box 270
Hartford, Connecticut 06141-0270

Facility Name: Millstone Unit 2

Inspection At: Waterford, Connecticut

Inspection Conducted: January 22-26, 1990 onsite and January 27 - February 22,1990 at Region I office

Inspector: D. L. Grigg 2/28/90
for L. J. Privdy, Senior Reactor Engineer date
Special Test Programs Section, EB, DRS

Approved by: D. L. Grigg 2/28/90
for P. K. Eapen, Chief, Special Test Programs date
Section, EB, DRS

Inspection Summary: Routine Unannounced Inspection on January 22-26, 1990 (Inspection Report No. 50-336/90-03)

Areas Inspected: The licensee's corrective action controls with particular emphasis devoted to inservice testing (IST) program activities.

Results: The IST activities were considered to be well coordinated and consistent with IST program requirements (Section 2.1). There was one violation during the inspection. This violation is reported in Section 2.2 concerning work control problems associated with a pipe whip restraint that was not installed per the applicable detailed drawing.

Details

1.0 Persons Contacted

1.1 Northeast Nuclear Energy Company

*R. T. Blanchard, IST Coordinator
*B. Duffy, Assistant Engineering Supervisor
*J. Kennan, Superintendent, Unit 2
*P. Parulis, ISI Supervisor (Acting)
*M. Powers, Senior Engineer (Corporate Office)

1.2 United States Nuclear Regulatory Commission

*P. Habighorst, Resident Inspector, Unit 2
W. Raymond, Senior Resident Inspector

*Denotes those attending the exit meeting.

The inspector also contacted other members of the Unit 2 plant staff during the inspection.

2.0 Review of Licensee Corrective Action Controls (92720 and 73756)

The inspector reviewed the licensee's corrective action controls to address operational events and to resolve internally identified problems and NRC inspection findings. In general, the inspector determined that the licensee's policies and procedures for corrective action controls were adequate for reporting plant problems to appropriate levels of plant management and to the NRC when required and establishing actions and responsibilities to resolve problems. For example, a plant incident report was initiated to evaluate and correct certain deficiencies concerning a pipe restraint as discussed in Section 2.2. During the procedure reviews discussed in Section 2.1, the inspector determined that (1) the licensee procedures are consistent with the ASME Section XI requirements for increased pump testing frequency when test data falls in the alert range and (2) equipment is declared inoperable per Generic Letter 89-04 if test data does not meet the acceptance criteria.

The inspector witnessed several safety related pump tests to observe the effectiveness of inservice testing activities. Also, plant walkdowns were conducted to observe installed equipment conditions. Based on these observations, several concerns and weaknesses were identified as discussed below.

2.1 Inservice Testing (IST) and Check Valve Program

The inspector reviewed the second 10-year program implementation in accordance with IST requirements provided in the Safety Evaluation Report (SER) issued on May 6, 1986 which granted interim approval of the program. Also, the licensee's IST program was reviewed for consistency with the IST requirements of Generic Letter 89-04. Millstone Unit 2 was listed in Table 1 of Generic Letter 89-04 which indicated that a SER would be issued in the near future. Therefore, the licensee was not required to respond to Generic Letter 89-04. The inspector witnessed the operational readiness tests for the "B" low head safety injection (LHSI) and the "B" containment spray (CS) pump, per Surveillance Procedures (SP) 21115-1 and 21117-1, respectively. Based on this review, the inspector determined the following:

(1) The personnel in the onsite Technical Engineering Group who administer and coordinate the IST program are experienced, capable and cognizant of current requirements.

(2) The activities conducted by operations and test personnel associated with the "B" LHSI and "B" CS pump tests were well coordinated.

(3) Component testing was conducted such that repeatable vibration and hydraulic data for trending pump performance were obtained.

(4) Service water and auxiliary feed water system pump and valve operability test procedures adequately addressed the IST guidance of Generic Letter 89-04. For example, the licensee's procedures specifically required declaring the equipment inoperable if the test acceptance criteria were not met, consistent with Generic Letter Position 8. Also, the licensee tested the check valves which performed a safety function in the backflow direction adequately to verify this capability, consistent with Generic Letter Position 3.

(5) Several minor procedural weaknesses were noted as follows:

(a) Surveillance Procedure 21135, "Main and Auxiliary Feedwater System Valves Operational Readiness Test," was last revised on July 5, 1984. However, 5 separate technical changes were issued to this procedure since the last revision. The licensee's administrative procedure ACP-QA-3.02 "Station Procedures and Forms" requires periodic reviews of procedures to promote procedural improvement and clarity. Although the inspector had no specific technical concerns with the current procedure, the inspector noted that a new revision, rather than 5 individual technical changes would be clearer and less prone to error. The licensee agreed to issue a new procedure revision by March 31, 1990.

(b) The inspector noted that existing procedures do not require documentation of reasons for changes to pump reference values be incorporated into test records. As a result, the reasons for the pump reference values changes are not explicit and IST program personnel need to be consulted to fully explain the reasons for the changes. The licensee agreed to provide better control of reference value changes using a process similar to that contained in Procedure ACP-QA-2.17, "Setpoint Change Control," consistent with other engineering task priorities.

The inspector reviewed the licensee's actions for developing a program for check valve testing, maintenance and design considerations in response to such industry concerns as noted in NRC Information Notice 86-01. This item had been reviewed recently by the resident inspector as documented in NRC Inspection Report 50-336/89-24. The inspector noted that the progress of the check valve program development was slow. At the time of this inspection, the licensee had not contacted the Nuclear Industry Check Valve Group for consultation and assistance concerning check valve issues and initiatives. However, the licensee contacted two other utilities and was in the process of obtaining their operating experience with the turbine driven auxiliary feedwater pump steam supply check valves. This information was being sought to assist in a long term solution of problems with these valves. These valves were replaced with a new design in March 1988. Since replacement, a failure (2-MS-4B) was experienced, as reported by the licensee on November 1, 1989.

2.2 Auxiliary Feed Water (AFW) Pipe Whip Restraint MFR-4

On January 24, 1990 during a plant walkdown by the NRC inspector in the west piping penetration room, the inspector noted that the four (4) hex nuts associated with a 1-inch, round U-bolt whip restraint (designated MFR-4) for a 6-inch AFW pipe were loose. Upon review of the applicable pipe whip restraint drawing (25203-51112), it was determined that two additional drawing requirements were not met. The U-bolt threads adjacent to the nuts were not upset as required and the observed gap between the restraint and the pipe was (approximately 1 inch) in excess of the required gap (0.5 inch). The existence of these deficiencies indicates inadequate work control practices. The licensee did not provide a basis for concluding that this was an isolated occurrence and indicated that certain deficiencies for this restraint (e.g., upset of the U-bolt threads) may have existed since original construction. This constitutes a violation of Technical Specification 6.8.1.a. which requires that written work control procedures be established, implemented and maintained (50-336/90-03-01).

The inspector informed the Shift Supervisor of the as-found conditions of this pipe whip restraint. The Shift Supervisor initiated Plant Incident Report (PIR) 2-90-6 and contacted the maintenance department to correct the above deficiencies. The restraint was restored to the as designed configuration on January 24, 1990, using Work Order M2-90-00971.

The inspector had an immediate concern regarding the technical basis for assuring that the restraint would perform its design function in the as-found condition. At the exit meeting the licensee indicated that the restraint would perform its design function which was to restrain the pipe in case of a rupture and prevent interaction with adjacent safety related equipment. This conclusion was based on a qualitative assessment of the as-found condition which included a visual inspection of the area of interest. The inspector requested the licensee to support this qualitative assessment with calculations that would bound the area of interest in the as-found condition. As documented in an internal letter dated January 31, 1990, the licensee performed the necessary calculations and concluded that the restraint would perform its design function. This action resolved the inspector's immediate concern.

2.3 Service Water Isolation Valve - Incorrect Air Supply Check Valve Location

The inspector reviewed the licensee's corrective actions from a work control aspect concerning Licensee Event Report (LER) 50-336/89-11. The reportability and operability aspects concerning the review of this LER are included in NRC Inspection Report 50-336/89-24. This LER reported the incorrect installation of an instrument air check valve located in the air supply to the service water isolation valve (2-SW-3.2A) for one of the two turbine building closed cooling water headers. As noted in the LER, the corrective action to prevent recurrence was to train project/work supervisors and engineers to make them aware of the effect of check valve location on the operation of the system. This training was expected to be completed by April 30, 1990. The inspector discussed the engineer training with the engineering supervisor and determined that lessons learned from this problem had been communicated to the plant engineering staff. However, similar training had not yet been conducted for project/work supervisors. The incorrect installation was performed by contractor personnel who left the site after the installation was completed. The inspector noted that the plant maintenance staff was not trained in this area. At the exit meeting the plant manager noted that several questions were still open from the last Plant Operations Review Committee (PORC) review of PIR 89-93 concerning this event and that the inspector's concern regarding maintenance staff training would be considered in conjunction with the resolution of these questions from PORC.

Another consideration noted by the inspector concerned the periodic testing being performed for the instrument air check valve and accumulator for 2-SW-3.2A to assure proper operation upon loss of the instrument air system. The inspector had noted that such testing had been conducted for a group of air operated valves during the last refueling outage in accordance with Surveillance Procedure 21206 "Instrument Air Accumulator Test." However, 2-SW-3.2A was not

included in this test. In telephone conversations on February 9 and 22, 1990, the inspector discussed this issue with the engineering supervisor and determined that the licensee had excluded testing of 2-SW-3.2A on the following basis. The valve is required to close on a Safety Injection Actuation Signal (SIAS) and by procedure all SIAS actuated valves are checked for position following a SIAS. Since 2-SW-3.A is in a post accident accessible area, an operator would be dispatched to close the valve by taking local manual control if the non-safety related instrument air system was out of service. The engineering supervisor acknowledged that this matter was being reevaluated in light of new licensee criteria where operator action was assumed to be unavailable for 30 minutes. The inspector considered these licensee responses to be acceptable.

3.0 Exit Meeting

At the conclusion of the site inspection, on January 26, 1990, an exit interview was conducted with the licensee's senior site representatives (denoted in Section 1) to discuss the results and conclusions of this inspection. Also, telephone discussions occurred on February 9 and 22 between the inspector and the engineering supervisor concerning pertinent inspection issues (see Section 2.3).

At no time during this inspection was written material provided to the licensee by the inspector. Based on the NRC Region I review of this report and discussions held with licensee representatives during this inspection, it was determined that this report does not contain information subject to 10 CFR 2.790 restrictions.