

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No.: 50-423/85-23
Docket No.: 50-423
License No.: CPPR-113 Category: C
Licensee: Northeast Nuclear Energy Company
Facility: Millstone Nuclear Power Station, Waterford, Connecticut
Inspection At: Millstone Unit 3

Inspection Conducted: May 20 - June 14, 1985

Inspector: R. J. Summers 6/28/85
R. J. Summers, Project Engineer Date

Approved by: E. C. McCabe 6/28/85
E. C. McCabe, Chief, Reactor Projects Section 3B Date

Inspection Summary: Inspection 50-423/85-23 (May 20 - June 14, 1985)

Routine unannounced safety inspection (95 hours) of previously identified items, facility events, Type C leak rate testing, and the vital batteries.

A violation for failing to implement a test procedure was identified after the occurrence caused flooding in the parts of the Service and Control Buildings (Detail 2). An unresolved item pertaining to the proper construction of the seismic support structure for the vital batteries was also identified (Detail 4). Otherwise, no unacceptable conditions were found.

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DETAILS

1. Licensee Action on Previous Inspection Findings

The inspector reviewed the licensee's responses and corrective actions, where required, for the items listed below. During this review it became evident that, although the licensee has a program for tracking the closeout of these inspection findings, no centralized system for control of the closeout support documentation exists. The licensee also identified this matter and corrective actions are pending.

(Closed) Unresolved Item (83-17-02): Cables splices made not described in FSAR. This item was closed together with Item 83-18-02 during NRC Inspection 50-423/85-08; however, no update was done at that time. Based on the splice location and the licensee's ability to inspect and test the splice if necessary, this item was found acceptable as documented in Branch Technical Position 8.0. This item is closed.

(Closed) Unresolved Item (84-01-02): Traceability of 1/4 inch, SB-402 plate and weld filler metal for the Bahnson HVAC, safety-related air handling units. Stone and Webster QA conducted a review of Bahnson documentation. It was determined that the CMTRs for the plate and weld filler metal, listed as "not required" on 8 of the 10 HVAC units, was in fact available and included in the documentation packages for the other 2 HVAC units. This was due to these materials being identical for the HVAC units and therefore 2 of the packages served as "master documentation packages" for all 10 units. The documentation packages are being reorganized to preclude future misinterpretations. This item is closed.

(Closed) Unresolved Item (84-03-01): Acceptance criteria for duct metal warpage. New criteria were established in E&DCR F-B-33823. These criteria were based on actual "pull test" data on various manufactured duct sections and joints. The inspector reviewed the referenced E&DCR and supporting documentation. The new criteria is equivalent to the old in that structural integrity is assured as long as ductwork corners did not exhibit localized damage such as discontinuities (local denting or buckling). The inspector had no further questions.

(Closed) Unresolved Item (84-03-02): Stress calculations for rivets connecting sheet metal to supports where the specified 1/32 inch gap criterion was not met. Subsequent to the request for this calculation (to grant relief from the gap criterion), it was determined that no relief was granted. The acceptance criteria remained as originally specified. E&CDR P-J-6434 was developed to specify the minimum number of acceptable rivets required for various duct sizes based on seismic calculations. FQC inspections were conducted to verify that the minimum number of acceptable rivets were in place. This item is closed.

(Closed) Inspector Follow Item (84-03-03): Potential ducting backfit list due to the changes in acceptance criteria (84-03-01 and 84-03-02). The licensee stated that the acceptance criteria for the localized denting of duct metal

did not change and therefore no backfit was required for this item. The acceptance criteria for the rivet gap also did not change, rather, the minimum number of acceptable rivets for specific ducting was developed. FQC inspections of ducting were made and nonconforming conditions were handled through the normal (N&D) procedure. This item is closed.

(Closed) Inspector Follow Item (84-06-03): Vendor report on Pacific Scientific mechanical snubbers subject to micro-cracks of the capstan spring identified in Significant Deficiency (SD) 46. The inspector reviewed the data supplied by the vendor. All snubbers tested satisfactorily; however, since the vendor has no acceptance criteria pertaining to the spring micro-cracks, 86 of 181 snubbers were "repaired" with new springs. All the units were recertified as operable. This item is closed.

(Closed) Unresolved Item (84-23-03): Justification and basis for use of standard hex nut with no locking device to fasten raceway splice plates. Three types of cable tray splice plate hardware were used at the site. Splice plates designed by the cable tray vendor utilized supplied hardware which had locking devices. The third design, from SWEC, used standard hex nut hardware with no locking devices. Section 3.1.2.4 of Procedure No. E-350 requires that the joints between tray sections be made up tight and rigid using the full compliment of bolts, washers, and locking devices as required by the manufacturer's design or as specifically instructed by the engineers. The use of the hex nut was specifically instructed by the engineers on Drawing No. 12179-EE-34JC-5, Cable Tray Support Miscellaneous Details. This item is closed.

(Closed) Unresolved Item (84-03-08): Review of program to control concrete core boring. The licensee has implemented adequate controls for identification and issuance of core boring equipment. These controls will identify future missing equipment if not returned to the warehouse within 7 days of issuance. In addition, drill bits have been identified with positive mark numbers and site searches were conducted to find any uncontrolled bits. To preclude failure of FQC to witness core cuts to verify proper authorized cuttings of reinforcing bars, a change was made to Procedure FCP-268, Control Procedure for Diamond Tipped Bits and Core Cutters, which requires FQC verification on all core bores. A review of core cut cards was conducted and core cuts that had no FQC verification were identified. Where possible, inspections were made to verify that reinforcing bar was not cut, where not authorized by engineering. For the three cases where neither inspection nor sufficient documentation existed, the nonconformance was resolved by assuming that all of the possible reinforcing bar was cut and calculations were made that justified that the existing reinforcing steel was sufficient. This item is closed.

(Closed) Violation (84-04-04): Failure to identify a design change. The licensee supplemented their original response to this violation to include additional reviews of work performed by other designers, and to specifically identify design changes where the engineer failed to backcircle the change on the affected drawing. A total of 6 discrepancies were found in a review

of 200 design changes. However, all of the 6 changes were properly documented on the Record of Drawing Change and could be traced to other documentation such as E&DCRs, so that configuration control was maintained. A number of programs at the site had been previously initiated to strengthen the configuration control at the facility. These programs would prevent FQC inspection of "as-built" conditions to a not-current revision to a drawing. In addition, the preliminary and final walkdowns document these types of discrepancies, which are then entered into the work tracking system and tracked through satisfactory completion. No needed additional corrective actions were identified. This item is closed.

(Open) Unresolved Item (84-23-04): Effect of corrosive battery room atmosphere on exposed inter-cell cable assembly. The inter-cell connections are to be re-terminated after covering with Type WCSF-1000N Raychem heat shrink tubing. This work will be accomplished and witnessed and documented by FQC in accordance with E&DCR T-E-05027. This item remains open until work is complete.

2. Event Followup

On May 30, 1985, a flooding event occurred when the Service Building Fire Protection Water header was pressurized with fire water in support of testing. Preparations had been completed to support a flush of the system per Test Procedure No. T3341A1F02, Flushing Phase I Test of Fire Protection Water, with Test Change No. 2, dated July 27, 1984. Prior to this event, Work Order (WO) No. M3-85-02435 was issued and completed to place the system in the required test configuration. The test engineer failed to include in the WO the placing of a red (danger) tag on Valve 3FPW-V555. The danger tag was required by Test Procedure T3341A1F02. Failure to implement the procedure resulted in the flooding event and is a violation of 10 CFR 50, Appendix B, Criterion V and the Northeast Nuclear Energy Company Startup Test Manual (423/85-23-01).

The flooding event itself caused no apparent equipment damage. However, since some water did drain underneath a closed door into the Control Room, safety-related equipment could be endangered by such an event. Had not operator recovery actions been prompt, this event would have been more significant.

This event could have been avoided had the operating staff exercised sufficient control prior to filling the fire water header. The completed WO, establishing the system configuration, was available for the Control Room Shift Supervisor. This WO clearly stated: "break the flange downstream of Valve 3FPW-V555." That opened the system in the Service Building. No one verified that the system was ready to be filled or noticed that the open flange coupled with the open valve (3FPW-V555) breached the system integrity. There is a general step in the test procedure for "Release for Performance" which requires the Shift Supervisor to verify that all of the plant systems are ready for the test to begin. This was done; however, a significant delay (9 months) between this approval and actual test performance occurred. Nonetheless, there was no requirement to re-verify the test conditions.

3. Containment Local Leakage Rate Testing

On May 21, 1985, the inspector witnessed the Type C leakage testing of containment atmospheric monitoring system isolation valve 3CMS*CTV21. The test was conducted in accordance with approved Preoperational Test Procedure T3312A1M03, Local Leak Rate Test - Type C, Revision 0, and the test equipment was properly calibrated. The inspector verified the test valve line-up and reviewed the documentation of the test results. During the test, leakage was observed through the packing of the test connection valve. The corrected flow rate test result was unsatisfactory and a retest was to be scheduled following repair to the test connection valve. The test personnel were knowledgeable of the test procedure and proper use of the test equipment. No unacceptable conditions were identified.

4. Review of GNB Batteries

The inspector reviewed the construction documentation, including as-built drawings, of the safety-related GNB batteries. The design requirements did not specify any maximum spacing between the cells and the rack stringers. Based on correspondence from the vendor to the NRC, the licensee was to be informed that a maximum 1/4 inch gap was recommended because the seismic qualification program was conducted with a gap of 1/8 inch to 1/4 inch. This information was received by NUSCo but was not forwarded to the site for review or implementation. The inspector observed the condition of the batteries and noted the following:

- a. Batteries 301B-1, 301B-2, and 301A-1 appeared to have excessive gap (greater than 1/4 inch) between the end cell and the rack side stringer;
- b. Battery 301B-2 was missing a battery rack side support rail adjacent to cell location 16; and,
- c. Battery 301B-2 utilized a different type of cell spacer material than the other safety-related batteries.

On June 6, 1985, the licensee issued Deficiency Report Nos. UNS 4326 and 4325, identifying the conditions noted in (a) and (b) above, respectively. The licensee also stated that the responsible engineer would determine if the proper type(s) of cell spacer material was used as identified in (c) above. The proper construction of the GNB batteries is unresolved pending licensee action on the above 3 items, including identifying how item (b) occurred and why the vendor design information specifying the maximum cell/stringer gap was not forwarded to Millstone 3 for action (423/85-23-02).

5. New Fuel Receipt, Inspection, and Storage

New fuel receipt, inspection, and storage activities were observed for fuel received on June 5 and 14, 1985. Activities observed during the inspection included radiological surveys of the shipping casks, opening of the casks and initial surveys of fuel assemblies, transfer of fuel assemblies to the in-

spection station, inspection and cleaning of the assemblies and their inserts, and transfer to the spent fuel pool storage location. Documentation supporting these activities were reviewed. Physical protection and radiological controls were in accordance with requirements. The SRO in charge of the new fuel receipt was knowledgeable of the activities and the controlling procedures and NRC license requirements. No deficiencies were observed.

6. Plant Tours

Periodic tours of the site were made during the inspection. Particular attention was given to housekeeping and cleanliness in the containment structure, auxiliary building, emergency safety features building, emergency diesel generator rooms, control room, and the fuel handling building. Flushing of the emergency diesel generator fuel oil system was periodically observed due to the potential fire hazard involved. Except for conditions observed in the vital battery rooms (Detail 4), no deficiencies were observed.

7. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable or not. An unresolved item identified during this inspection is discussed in Detail 4.

8. Exit Meeting

At periodic intervals during the course of this inspection and on June 14, 1985, meetings were held with senior plant management to discuss the scope and findings of this inspection. At the exit on June 14, 1985, the licensee acknowledged the apparent need for a centralized control system for documentation that addresses actions taken on previous inspection findings as discussed in Detail 1. This matter is being reviewed by licensee management.

No proprietary information was identified as being in the inspection coverage. At no time during the inspection was written material provided to the licensee by the inspector.