

U. S. NUCLEAR REGULATORY COMMISSION

Region I

Report No. 50-423/82-12

Docket No. 50-423

License No. CPPR-113 Priority --- Category A

Licensee: Northeast Nuclear Energy Company

P. O. Box 270

Hartford, Connecticut 06101

Facility Name: Millstone Nuclear Power Station, Unit 3

Inspection at: Waterford, Connecticut

Inspection Conducted: September 18-30 & October 1-23, 1982

Inspectors: J. C. Mattia  
J. C. Mattia, Senior Resident Inspector

10/28/82  
date signed

\_\_\_\_\_  
date signed

Approved by: Larry E. Briggs for  
T. Elsasser, Chief, Reactor Projects  
Section 1B, DPRP

11/23/82  
date signed

Inspection Summary:

Unit 3 Inspection on September 18-30 & October 1-23, 1982. Report No. 50-423/82-12

Areas Inspected: Routine, onsite regular and backshift inspection by the resident inspector (103 Hrs.). Areas inspected: Follow up of previous inspection findings, plant tours, electrical cable pulling, piping activities, installation of reactor vessel internals and containment liner repairs.

Results: No violations were identified.

## DETAILS

### 1. Persons Contacted

#### Northeast Utilities Service Company (NUSCO)

F. Comstock, Senior QA Engineering Technician  
K. Gray, Construction QA Supervisor  
W. Langdon, Construction Engineer  
K. Murphy, QA Specialist  
E. Peckham, Senior QA Engineering Technician  
J. Putnam, Senior Construction Engineer  
T. Sullivan, Resident Engineer - New Site Construction  
S. Toth, Superintendent - New Site Construction  
R. Vaccaro, Senior QA Engineering Technician

#### Stone and Webster Corporation (S&W)

J. Carty, Site Engineering Group Manager  
R. Flodstrom, Assistant Superintendent Field QC  
R. Hagerman, Field QC Chief Inspector  
J. Kappas, Superintendent of Construction  
W. Lamb, Field QC Chief Inspector  
W. MacKay, Resident Manager  
G. Marsh, Senior Engineer, Welding/NDE  
S. Miller, Electrical Engineering Supervisor  
S. Morris, Senior Field QC Engineer  
P. Nelson, Engineering Assurance Engineer  
W. Orr, Senior Field QC Inspector  
R. Singh, Senior Field QC Engineer  
M. Sinha, Structural Engineering Supervisor  
K. Snyder, Senior Field QC Engineer  
G. Turner, Superintendent, Field QC  
W. Voss, Senior Field QC Engineer  
G. Wilson, Field QC Inspector  
L. Wither, Construction Engineer

#### Westinghouse Corporation

J. Dolan, Site Manager  
E. Harlow, Site Representative  
C. Peterson, Site Representative

Note: The inspector also conferred with other licensee and contractor personnel during the course of inspection.

## 2. Licensee Action On Previous Inspection Findings

- a. (Closed) Unresolved Item (423/82-08-04): An unplanned construction joint (Cold Joint) occurred during the fuel building transfer canal placement due to the plugging of concrete pipe line and the fast setting of the concrete. A Nonconformance Report #1641 was issued for this condition. The licensee evaluated it as not reportable to the NRC in accordance with 10 CFR 50.55(e) requirements. The engineering disposition was to "accept as is" based upon an analysis of the loss of shear capacity of the concrete at design loads. The inspector reviewed S&W design calculations 12179-SE0-C38.3 and 1219-NS(B) 065 DE to verify that an independent review was performed and the conclusions were acceptable. No violations were identified.
- b. (Closed) Unresolved Item (423/82-08-02): Repair of laminations on containment penetration 3RCP-C13V (Sleeve #81A). S&W issued a Nonconformance Report #1553 for this condition. The inspector reviewed the following documents associated with this repair:
  - Design Construction Revision Notice #C1-CLP-E-003
  - NDE examination of seven excavated areas (Field Welds Nos. 88 through 94) dated 9/23/82.
  - NDE final examination of entire inside diameter of penetration sleeve which was performed on 10/12/82.
  - Weld data reports for the seven (FW #88 through 94) repair areas.
  - S&W engineering response to NRC concerns dated 9/23/82
  - S&W minimum ASME Code wall calculations for penetration sleeve #81A dated 8/6/82

No violations were identified.
- c. (Closed) Violation (423/82-04-03): This is a continuation (see Inspection Report 423/82-11) of review of the corrective action taken by the licensee. S&W Engineering issued another Engineering and Design Coordination Report (E&DCR) #FP-10817 deleting the requirements of E&DCR #F-P-7758. All future flattening (leveling) of safety related component supports will be addressed by Engineering on a case by case basis.
- d. (Closed) Unresolved Item (423/82-11-05): The S&W Construction Procedure CMP 6.1 differed from Cadweld vendor's instruction for the cleaning of rebar prior to Cadwelding. The inspector reviewed a letter dated Sept. 14, 1982, from Cadweld material supplier stating that generally power brushing will be more efficient than hand wire brushing, but the decision of what method to use is based on circumstances; and that any cleaning method is acceptable and capable of making good splices. The letter also states that if the preparation of the rebar end is inadequate, the completed splice will not meet their visual inspection acceptance criteria. This item is considered closed.

- e. (Open) Unresolved Item (423/81-14-04): The inspector noticed a bowed condition on the containment liner in the vicinity of Azimuth 280° and between elevations 86' and 90'. S&W measured the bowed condition and noted that the liner specification No. 109 tolerance of  $\pm 0.36'$  (4.33") was exceeded. NRC reviewed S&W written technical justification for accepting this condition and informed the licensee that it was unacceptable. The following corrective action is required by the licensee for this liner condition:

- The issue of a Nonconformance Report for exceeding liner tolerance in bowed area
- The issue of a revised technical justification based upon the existence of a concrete construction joint at the bowed elevation.

### 3. Plant Tours

The inspector observed work activities in progress, completed work and construction status in several areas of the plant. The inspector examined work for any obvious defects or noncompliance with regulatory requirements or license conditions. Particular note was taken of the presence of Quality Control Inspectors and Quality Control evidence such as inspection records, material identification, nonconforming material identification, housekeeping and equipment preservation. During the plant tours the following was observed:

- a. In the Control Building, the coiled end of a safety-related electrical cable originally tied to a cable tray (not terminated); had fallen to the platform and was in the walkway. The licensee was informed of this and it was immediately corrected.
- b. In the Control Building, several safety related electrical cables inside cable trays were not tied to trays and were jumbled together. The licensee was informed of this and it was immediately corrected.
- c. Outside of the Control Building, safety related cable reels used in recent cable pulls were not stored properly (lengths of cable on ground and under plywood). The licensee was informed of this and it was corrected.

No violations were identified.

### 4. Licensee Action On Significant Deficiency (81-00-05)

The licensee issued their final report to the NRC describing the testing and repair procedures taken, or to be taken, to repair the containment liner damage which resulted from a September 1981 fire inside the Reactor Containment Building.

Liner repair has commenced in accordance with S&W Drawings EV-1V-1, EV-1U-1 and EV-1W-1 requirements. The specific activity is the removal of concrete around the stud anchors and the grinding of the stud extension flush with the concrete surface.

The inspector noted that several of the anchor studs were being nicked, gouged, and ground on the outer diameter by craftsmen when removing concrete. The licensee was informed of this condition and also that the original 5/8" stud anchor outer diameter is required by AWS D1.1, Part F to have a tolerance of +.000 to .010". The concrete chipping work was stopped and the condition of the anchor studs is to be evaluated by the licensee. The NRC inspector will continue to follow repair activities during subsequent inspections. (423/81-00-05)

#### 5. Pipe Welding Activities

The following Weld Joints in various stages of completion were inspected for compliance with ASME Section III Code, S&W Specification No. 968, and various S&W Weld Technique Sheets:

<u>Weld Joint Identification</u>	<u>Weld Technique</u>	<u>Location</u>
CI-CHS-507, Field Weld #16	W3-53, Rev. 0	Aux. Bldg.
CI-RCS-504C, Field Weld #4	W12F, Rev. 3	Containment
CI-FWS-17, Field Weld #12	W11B, Rev. 1	MS Valve Bldg.
CI-FWS-21, Field Weld #5	W3-02, Rev. 0	Containment
Pipe Support, MSS-1-PSSP #453	W-31.1-01, Rev. 0	"
Pipe Support, MSS-1-PSSP #448	W-31.1-01, Rev. 0	"
RCS-750-28-1 & CP-408702-001	W3-52, Rev. 0	"
CI-CDS-514, Field Weld #20	W3-03, Rev. 0	"

No violations were identified.

#### 6. Reactor Vessel Internals Work Activities

- a. The inspector reviewed S&W Field Construction Procedure FCP-324 to assure that this procedure for the Reactor Vessel Internals Placement/Positioning had the following attributes:

- Precautions to avoid damage to Vessel and Internals
- Verification of placement within tolerances as specified
- Specified use of Westinghouse Internals Lifting Rig and equipment
- Incorporation of Westinghouse Internals Lifting operating instructions
- Incorporation of applicable S&W documents for a "Class A" Lift

The inspector also observed the specific work activities associated with installing the Lower and Upper Internals and verified compliance with procedures. Some difficulty was experienced with the Polar Crane when trying to align Lower Internals with Reactor Vessel. The crane vendor representative was called to the site and his investigation found incorrect wiring for one mode of operating the trolley. This was corrected and the installation was without mishap. No violations were identified.



- b. The inspector observed the various activities associated with the trial fit-up of the Reactor Vessel Internals. The inspector also witnessed a majority of dimensions taken by Westinghouse representatives in accordance with their Assembly Specification 2463A68-G01, Revision 4. The inspector informed Westinghouse representatives and the licensee that the lower portion of the Vessel was very dirty from prior machining of lower radial support guides and should be cleaned. This was accomplished. There were no major discrepancies with the fit-up of the Internals in the Vessel. No violations were identified.

## 7. Service Water Pumps

The inspector reviewed the S&W Specification No. 004 dated April 2, 1973, for Service Water (SW) Pumps. This specification invoked ASME Code Case No. 1288 which was approved November 4, 1960, for use in the construction of ASME Section VIII, Division 1 Pressure Vessels. The inspector informed the licensee that justification must be provided to use this Code Case on the ASME Section II SW Pumps. (423/82-12-01)

## 8. Concrete Placement

The inspector observed portions of concrete placement No. C-9014 (Bldg. Wall Waste Disposal). The inspector verified that for the portions observed, the requirements of S&W Specification C-999 and Quality Standard QS-10.13 were adhered to. The following are the specific items inspected:

- That the preplacement inspection by QC had been performed.
- That the inspection personnel were located in close proximity to the truck discharge and final placement location.
- The quality requirements (slump, air content & temperature) of concrete being placed was verified by testing and that they met the design mix requirements.
- Consolidation of concrete in the forms was adequate.
- The form work was adequate and the rebar cover was as required.
- S&W concrete pour card was properly filled out.

No violations were identified.

## 9. Electrical Activities

Assisted Region I NRC Reactor Inspector in resolving issues with the S&W method of pulling cable through duct banks and conduit. See inspection 423/82-13 for details.

10. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. Unresolved item disclosed during the inspection is discussed in Paragraph 7.

11. Management Meetings

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