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

Region I

Report No. 50-423/79-09

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 No. 3

Inspection at: Millstone Unit 3, Waterford, Connecticut

Inspection conducted: October 24-26, 1979

Inspectors: A. Cerne, Reactor Inspector — date signed: 11/14/79

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Approved by: Lewis Walton/for — R. W. McGaughy, Chief, Projects Section, RC&ES Branch — date signed: 11/15/79

Inspection Summary:

Unit 3 Inspection on October 24-26, 1979 (Report No. 50-423/79-09)
Areas Inspected: Routine, unannounced inspection by a regional based inspector of licensee action on previous inspection findings, safety related structural steel erection and procedures, and the controls over field issued purchase orders. The inspector also performed a plant tour-inspection. The inspection involved 24 inspector-hours onsite by one NRC regional based inspector.
Results: No items of noncompliance were identified.

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Region I Form 12
(Rev. April 77)

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DETAILS

1. Persons Contacted

Northeast Utilities Service Company (NUSCO)

*T. W. Deshefy, Resident Civil Engineer
*D. G. Diedrick, QA Manager
K. W. Gray, Jr., Supervisor, Construction QA
*J. A. O'Brien, Construction QA Specialist
*S. Orefice, Superintendent, New Site Construction
*J. L. Peterson, Senior Project Technician

Stone and Webster Engineering Corporation (S&W)

*W. B. Anderson, Assistant Superintendent, Field QC
L. Barberie, Senior Civil QC Engineer
*P. A. Gagel, QA Program Administrator
B. L. Holsinger, QC Engineer
**R. Ives, QA Engineer (Boston)
J. Kalb, Structural Engineer, Site Engineering Office
*J. Kappas, Superintendent of Construction
R. LeDoux, Supervisor, Documentation Systems
W. MacKay, Resident Manager
W. Orr, Senior QC Engineer
*F. K. Sullivan, Resident Engineer
*G. G. Turner, Superintendent, Field QC
*W. H. Vos, QC Engineer
*J. L. Whedbee, Assistant Superintendent, Field QC

*denotes those present at the exit interview.
**denotes telephone conversation during the inspection.

2. Plant Tour

The inspector observed work activities in-progress, completed work and plant status in several areas of the plant during general inspection of the plant. The inspector examined work for any obvious defects or noncompliance with regulatory requirements or license conditions. Particular note was taken of presence of quality control inspectors and quality control evidence such as inspection records, material identification, nonconforming material identification, housekeeping and equipment preservation. The inspector interviewed craft personnel, supervision, and quality inspection personnel as such personnel were available in the work areas.

No items of noncompliance were identified.

3. Licensee Action on Previous NRC Inspection Findings

(Closed) Unresolved Item (423/78-02-01): Storage of safety related piping and valves. The inspector examined S&W Engineering Memo to the Field (July 31, 1979) which concluded that code minimum wall thickness had not been violated on any of the sample piping. He examined S&W QA Inspection Report X9000051 (March 9, 1979) with its supplement sheet noting the results of visual examinations and noted that the visual method of examination had been approved by Engineering Memo (March 20, 1979). The UT inspection reports for three pipe spool pieces were reviewed and the minimum wall calculations for all sample pipe were spot-checked to substantiate the licensee's position that the rusting was not of such severity as to have adversely affected the quality of the pipe. This item is considered resolved.

(Closed) Unresolved Item (423/79-05-07): Audit document control system. The inspector verified that the current Line Designation Table (Revision 20) was being handled as a Control Level I document in accordance with S&W Construction Methods Procedure CMP 11.1-2.79. He examined the applicable distribution log and Document Transmittal No. 06902, located in the Document Control Center, and noted that Revision 20 had been received, acknowledged, and posted by FQC in the manner that was procedurally specified. This item is considered resolved.

4. Structural Steel Erection - Procedure Review

The inspector reviewed the following S&W Specifications as they applied, in part or in total, to structural steel material and installation.

-- 2199.330-970 (August 8, 1974), thru Addenda B

-- 2199.142-999 (November 10, 1975), Revision I

-- 2199.330-432 (December 7, 1973), thru Addenda 4

-- 2199.142-924 (June 28, 1979)

Various Engineering and Design Coordination Reports (E&DCR) were spot-checked for conformance to the technical requirements of codes committed to in the applicable base specification. The inspection requirements for structural steel installation were discussed with QC engineers. The inspector verified that selection of QC inspection attributes conformed to the requirements of S&W Quality Assurance Directive, QAD-14.1, Revision B and that inspection plans tailored from the generic attribute list of QAD-10.5, Revision B provide adequate coverage of

the quality related items of structural steel erection. The inspector questioned a commitment to AISC code inspection requirements for high-strength bolted connections, where it appeared such inspection was not being accomplished. Further investigation indicated that the subject inspection technique for turn-of-nut tightening was not applicable to Millstone 3 since it could not be physically accomplished in those connections where turn-of-nut was being used as an exception to the tightening with Direct Tension Indicators. Subsequently, E&DCR PS-S-685 was issued on October 25, 1979 to clarify the requirement that the proper inspection technique in those cases is QC witness of the turn-of-nut tightening. The inspector had no further questions on this issue.

The inspector also reviewed a sample of S&W Quality Assurance Inspection Reports (QAIR) to check that receiving and storage inspections were being accomplished in accordance with criteria established in the applicable attribute lists (Receiving-M3-D7.7-7-9172 and 9285; Storage-M3-S13.12-2-9026) and with procedures specified in the following S&W documents:

-- QAD-7.7 (March 17, 1976), Revision A

-- Quality Standard QS-13.11 (August 30, 1974), thru Change 2

-- Construction Methods Procedure (CMP-1.3-3.79)

He examined S&W onsite receiving QAIRs S9051086 (September 5, 1979) for structural steel and S9051058 (August 29, 1979) for bolts, nuts, and washers and cross-checked inspection items with various records contained in the Seller Documentation Transmittal Packages 01688 and 01658, respectively. The completeness of these records with respect to the document requirements of the Specification C-432 was verified.

The above specifications, procedures, and inspection items were generally evaluated with regard to standard practices, recognized codes (AWS D1.1, AISC, RCRBSJ Specification - 1972), and the applicable ASTM standards.

No items of noncompliance were identified.

5. Structural Steel Erection - Work

The inspector noted the status of structural steel erection activities in the control building, auxiliary building, and containment. He walked by various laydown and storage areas, noting the condition of

the steel, the presence of dunnage, and other protective measures. He discussed reaming, bolt selection, and torquing requirements with various QC personnel. A field inspector was interviewed concerning certain technical requirements shown on S&W Drawing ES-36U-2 for structural steel connections within his inspection area of responsibility.

The inspector also visually examined completed containment column base plate connections with regard to the details of S&W Drawing ES-1F-2 and verified the use of proper bolt size and joint configuration in another containment connection as specified by drawings ES-52C-3, ES-52D-4, and ES-52E-3.

With regard to drilled-in concrete anchors, installed in the Control Building, the inspector reviewed S&W Nonconformance and Disposition Report N&D 0197 (October 12, 1979) which indicated UT measurements had been made to verify embedment length. He confirmed that torque testing of these anchors was scheduled and checked that both embedment length and torque requirements had been listed as inspection attributes on the applicable general inspection plan.

No items of noncompliance were identified.

6. Review of Field Purchase Orders

The inspector examined the following site originated purchase orders and associated receiving documents:

Supplier	Order Number
Cives Steel	03973
Guyon Alloys	08631
Hilti Fastening Systems	06980
ITT Grinnell	08668
KSM Welding Systems	06351
TRW Nelson	04961

He checked for objective evidence of Field QC approval on Category 1 purchase orders and on any changes made to them. For engineered items, the inspector verified the inclusion of specific technical

requirements into the purchase order and spot-checked supporting documentation that these requirements had been met in the receiving inspection packages. The S&W Quality Rating List (October 1, 1979) was reviewed for proof of S&W QA program audit of recommended bidders and selected suppliers. The selected purchase orders were inspected to the rquirements of QS-4.1, Revision A with regard to content and procedural review and approval.

No items of noncompliance were identified; however, certain items require followup as described below.

The inspector noted that part of purchase order 06351 called for Category 1 weld pins of a certain length, while the receiving inspection report (QAIR SM 35111335, dated May 29, 1978) indicated the receipt of longer weld pins. While S&W QC personnel were able to determine that the additional length of the pins was not detrimental to their safety related function, the inspector requested to examine additional receiving inspection reports by the same QC inspector to verify that the "dimension" attribute that was part of his inspection plan (from attribute list D-7.7-2-1295) was being adequately examined.

During review of three other purchase order packages, it was noted that this same QC inspector had indicated receipt (QAIR EM3511265E, dated July 25, 1975) of different sized Category 1 screws than were originally ordered (PO#-01242). Pending further review by the licensee to determine the extent of this problem involving dimensional inspection, this item is unresolved. (423/79-09-01)

The inspector also noted that prior to the original issuance of a specification on drilled-in, expansion type concrete anchors (C-924) on June 28, 1979, a supply of Hilti Kwik-Bolts had been ordered (PO#-06980A) and received (QAIR 58050560, dated May 17, 1978). While the new specification requires certifying documentation by the supplier regarding embedment depth, ultimate loads, and where applicable, ASME Code compliance for any new orders of anchors, those anchors existing in stock from the old purchase order were not required to have and do not have such documentation. After discussion with S&W engineering and licensee personnel, the inspector received a commitment that documented proof, as to the quality of those anchors in stock with respect to the specification requirements, will be solicited from Hilti. The inspector had no further question on this item.

7. Licensee Report

During the course of the inspection, the licensee reported a potentially significant problem with welder qualification records. In-process verification of Procedure Qualification Methods for ANSI B31.1 pipe hanger welding had produced evidence that certain welders may not have had documented qualification for the welding they had done. While some of the hangers in question were Category 1, the licensee emphasized the point that this problem does not apply to ASME Code welding. The licensee indicated that corrective action had already been initiated in the form of additional training sessions, recall of Weld Technique Sheets with the intent of review and controlled reissue, and stationing FQC personnel in the weld rod issue room.

Subsequent to the inspection, on October 31, 1979, the licensee telephonically informed the inspector that further investigation had indicated that the problem did not lie in actual welder qualification, but rather in paperwork, with the failure to issue certain supporting documents. The licensee stated that they had evaluated the problem and determined it not to be formally reportable under the requirements of 10 CFR 50.55(e). The inspector indicated his intention to further investigate and review the licensee's analysis of this problem on some future inspection.

8. 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. An unresolved item disclosed during the inspection is discussed in Paragraph 6.

9. Exit Interview

At the conclusion of the inspection on October 26, 1979, a meeting was held at the Millstone Unit 3 site with representatives of the licensee. Attendees at this meeting included personnel whose names are indicated by notation (*) in paragraph 1. The inspector summarized the results of the inspection as described in this report.