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UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

Docket Nos. 50-336 - 835

50-423 - 207

AUG 30 1977

Northeast Nuclear Energy Company
ATTN: Mr. D. C. Switzer
President
P. O. Box 270
Hartford, CT 06101

Gentlemen:

Subject: Combined Inspection 50-336/77-15 and 50-423/77-06

This refers to the inspection conducted by Mr. T. Elsasser of this office on August 8-11, 1977 at Millstone II and III in Waterford, Connecticut, of activities authorized by NRC License No. DPR-65 and No. CPPR-113 and to the discussions of our findings held by Mr. Elsasser with Mr. Toth and other members of your staff at the conclusion of the inspection.

Areas examined during this inspection are described in the Office of Inspection and Enforcement Inspection Report which is enclosed with this letter. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector.

Within the scope of this inspection, no items of noncompliance were observed.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC's Public Document Room. If this report contains any information that you (or your contractor) believe to be proprietary, it is necessary that you make a written application within 20 days to this office to withhold such information from public disclosure. Any such application must be accompanied by an affidavit executed by the owner of the information, which identifies the document or part sought to be withheld, and which contains a statement of reasons which addresses with specificity the items which will be considered by the Commission as listed in subparagraph (b)(4) of Section

Northeast Nuclear Energy Company 2

2.790. The information sought to be withheld shall be incorporated as far as possible into a separate part of the affidavit. If we do not hear from you in this regard within the specified period, the report will be placed in the Public Document Room.

No reply to this letter is required; however, should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

for R.C. Carlson

Robert T. Carlson, Chief
Reactor Construction and Engineering
Support Branch

Enclosure: Office of Inspection and Enforcement Combined Inspection
Report Number 50-336/77-15; 50-423/77-06

cc w/encl:

K. W. Gray, Construction Quality Assurance Lead
W. G. Council, Project Manager
E. J. Ferland, Plant Superintendent
D. G. Diedrick, Manager of Quality Assurance

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

Region I

Report No. 50-336/77-15
50-423/77-06
Docket No. 50-336
50-423
DPR-65
License No. CPPR-113 Priority -- Category C
A

Licensee: Northeast Nuclear Energy Company
P. O. Box 270
Hartford, Ct 06101

Facility Name: Millstone Unit 3

Inspection at: Millstone Units 2 & 3, Waterford, Ct

Inspection conducted: August 8-11, 1977

Inspectors: *B.W. McDough*
T. C. Elsasser, Reactor Inspector

August 29, 1977
date signed

J. Burr
J. Burr, Reactor Inspector

August 29, 1977
date signed

S. D. Ebnetter, Chief, Engineering
Support Section No. 2

Approved by: *B.W. McDough*
R. W. McGaughy, Chief, Construction Projects
Section, Reactor Construction and Engineering
Support Branch

August 29, 1977
date signed

Inspection Summary:

Unit 2 Inspection on August 10, 1977 (report No. 50-336/77-15)
Areas Inspected: Routine, unannounced inspection of records pertaining to quality control surveillance of Thames Valley Steel during the construction phase of Unit 2. The inspection involved three inspector-hours on site (Unit 2 related) by one NRC inspector.
Results: No items of noncompliance were identified.

Unit 3 Inspection on August 8-11, 1977 (Report No. 50-423/77-06)
Routine, unannounced inspection of procedures and work activities relating to Graver work activities associated with containment liner erection; implementation procedures for installation of safety related piping; installation and cadwelding of reinforcing steel; licensee follow-up action on quality assurance breakdown at Thames Valley Steel; observation of placement of safety related concrete. The inspection involved 40 hours on site by two NRC inspectors and a supervisor.
Results: No items of noncompliance were identified.

DETAILS

1. Persons Contacted

Principal Licensee Employees

- *Mr. D. G. Diedrick, Manager of Quality Assurance
- Mr. E. J. Ferland, Plant Superintendent
- *Mr. D. J. LeDuc, Construction QA, Senior Engineer Technician
- *Mr. J. A. O'Brian, Construction QA Specialist
- *Mr. S. Orefice, Resident Engineer - Mechanical
- *Mr. J. H. Szymanski, Construction QA
- *Mr. S. R. Toth, Construction Site Manager

Other Personnel

Stone and Webster

- *Mr. B. Anderson, Senior FQC Engineer
- *Mr. R. H. Lane, Assistant Superintendent of Construction
- Mr. S. D. Morris, Quality Control Inspector
- *Mr. M. G. Pace, Assistant Superintendent of FQC
- *Mr. F. K. Sullivan, Resident Engineer
- *Mr. G. G. Turner, Superintendent of FQC
- Mr. J. D. Whedbee, Senior FQC Engineer

Graver Tank and Manufacturing Company

- Mr. M. Skates, Field QC Supervisor
- Mr. G. Sherwood, General Foreman

*denotes those attending exit interview.

The inspector also talked with and interviewed several other licensee and contractor employees, including craft personnel, supervision, and quality control inspectors.

2. Construction Site Tour - Unit 3

This inspection commenced during the evening shift of August 8, 1977. The inspector observed work activities in progress, completed work, and plant status in several areas during a general inspection of the site. The inspector examined work items for any obvious defects or noncompliance with regulatory requirements. Specific activities observed included: erection and cadwelding of reinforcing steel inside containment and curing of containment interior concrete.

No items of noncompliance were identified.

3. Licensee Action on Previous Findings - Unit 3

(Closed) Noncompliance (423/77-04-01): Failure to properly identify safety related components. By a letter dated July 29, 1977, the licensee responded to the enforcement action resulting from failure to properly control the identification of safety related components (embedment plates).

The inspector reviewed documentation and verified corrective action to bring this matter into compliance. The following is the result of the review and inspection:

- a. Prior to the completion of inspection 50-423/77-04, the inspector did verify that the 16 embedment plates previously found to be improperly identified, were properly inspected and QC stickers affixed as a corrective action as required.
- b. During inspections 50-423/77-05 and 50-423/77-06, the inspector determined that licensee surveillance had been effective in correcting this problem. The inspector observed the storage of safety related structural components and found identification to be satisfactory.

Based on the licensee's corrective action and verification of the inspector, this item is resolved.

4. Review of Quality Control Surveillance of Thames Valley Steel During the Construction Phase - Unit 2

Recently a significant breakdown in the quality assurance program at Thames Valley Steel affecting construction at Unit 3 was identified by the licensee and reported to the NRC. This vendor also supplied

related steel and structural components for the construction of Millstone Unit 2.

The inspector reviewed the following documentation pertaining to quality control surveillance of Thames Valley Steel (TVS) during the construction of Unit 2:

a. Surveillance of Shop Work

- File C 60 dated November, 1971 to December 1971
- File C 60 dated January, 1972 to January, 1973

b. Surveillance

- File 011 dated 1975
- File 012 dated 1974
- File 013 dated July, 1973 to December, 1973
- File 014 dated January, 1973 to June, 1973
- File C-60 .004
- File C-60 .001D
- File C-60(1) .005A
- File C-60(2) .004A

The inspector determined that the quality control surveillance program conducted by Bechtel Corporation for the licensee in general consisted of weekly or more frequent evaluations of TVS activities. Bechtel did not find any quality control problems of a programmatic or recurring nature during the numerous evaluations of TVS activities. Based on this documentation, the inspector determined that it is improbable that any recently discovered quality control problems at TVS have any bearing on work accomplished during the construction of Unit 2.

The NRC has no further questions concerning this matter.

5. Review of Licensee Follow-Up Action on Quality Assurance Breakdown on Thames Valley Steel - Unit 3

On July 7, 1977, a Stop Work Directive (No. MP3-1-77) was issued to TVS for Category I work. As of the date of this inspection, the Stop Work Directive was still in effect. The constructor, Stone and Webster (S&W) has taken the following action regarding work completed by TVS, the quality of which is questionable.

- a. 328 embedment plates of approximately 3300 on site were sampled for chemical composition per the tightened Category I sampling plan referenced in QAD 7.11. The applicable Nonconformance and Disposition Report (N&D) No. 6719 has been dispositioned to accept the embedments as is.
- b. Project Engineering has issued a list of Category I welds requiring non-destructive testing to determine the adequacy of shopwelds.
- c. All A615 rebar to A36 plate embedments fabricated by TVS have been rejected by Stone and Webster.
- d. All TVS welders performing work for Millstone 3 have been required to requalify.
- e. Field QC has placed a full time inspector in the TVS shop until the TVS corrective action is satisfactory.

TVS has committed to fully implement the requirements of 10 CFR 50 by August 31, 1977.

The inspector will continue to follow this matter during subsequent inspections.

6. Piping Installation and Welding Quality Assurance Program Review Unit 3

The inspector reviewed the Northeast Utilities Service Company and Stone and Webster's quality assurance manuals and verified that the requirements of Chapter 17 of the PSAR and 10 CFR 50, Appendix B have been addressed relative to the piping installation and welding program. He reviewed the Stone and Webster Quality Standards; Quality Assurance Directives; and Company Quality Assurance and Control Manual ASME Section III; and the NUSCO Quality Assurance Manual for the following attributes:

- a. Audits
- b. Organization
- c. Quality Requirements
- d. Work and Inspection Procedures
- e. Control of Materials
- f. Corrective Actions
- g. Document Control
- h. Control of Test Equipment
- i. Records

The inspector randomly selected six requirements described by the S&W and NUSCO Quality Assurance Manuals to verify that they have been implemented. In the area "control of test equipment" he noted that the S&W Quality Standard Q.S.12.1, Revision 4, Paragraph 7.3, states that: "FQC Boston shall develop a list of all M&TE (engineering, construction and QA) to be calibrated in accordance with the calibration manual." This implies that the list is a master reference to be used by the site calibration facility. Definitive instructions for the purpose and function of the list are not available at the time of this inspection. This item (77-06-01) is considered unresolved pending receipt of additional instruction for its use.

No items of noncompliance were identified.

7. Service Water Piping Inspection - Unit 3

The inspector visually examined those portions of the installed, yard service water piping which had not been encased in concrete. He visually inspected the internal surfaces and weld joints of the 30" diameter, copper-nickel pipe spools 3-SWP-12-1-7-3 and 3-SWP-12-2-7-3 for conformance with code requirements. He also examined the service water pipe laydown area for storage practices.

No items of noncompliance were identified.

8. Containment Liner Work Activities and Associated Quality Records
Unit 3

a. Observation of Work in Progress

- Welding of vertical weld Numbers 9, 11 and 12 on ring No. 11
- Fit up of the horizontal weld between rings Nos. 10 and 11

The inspector inspected the weld material issue activity for the proper control of filler material, and verified that practices were in accordance with Graver procedure 18.1.1 and weld procedure 138-N, Revision 5A.

b. Review of Records

The following records which related to the work observed by the inspector were reviewed.

- Erection control sheets 3451, 3453, and 3454.
- Weld material issuance log for welders with the following marks: 056, 087 and 092

No items of noncompliance were identified.

9. Concrete Placement, Reactor Building Slab - Unit 3

The inspector observed preparations and the placement of the reactor containment slab at elevation (-) 24' - 6", Pour No. 3063. The inspector observed the formwork prior to placement and verified that it met the applicable prerequisites for placement. The inspector also observed concrete placement and consolidation during placement. The inspector reviewed QC inspection reports relating to: preplacement and placement and verified that the records and observed work were in accordance with Specification c999, QS 10.13 and QAD 10.8.

No items of noncompliance were identified.

10. Rebar Erection and Cadwelding, Reactor Containment Interior Unit 3

The inspector observed rebar placement and cadwelding of one splice in the (-) 3'8" slab in the reactor containment. The inspector observed general rebar handling, installation and spacing. The inspector also observed the preparations and cadwelding of a No. 18 rebar horizontal hoop (sleeve No. T 5178). The following quality control records related to the work observed were reviewed by the inspector:

- Qualification records for cadwelders No. 1 and No. 14 including qualification summary, production summary and splice test reports
- Cadweld control record dated August 8, 1977
- QC Inspection reports S7003536 and S7003535

The inspector verified that the observed work and related documentation were in accordance with Specification c999, QS 9.11 and QAD 9.1.

No items of noncompliance were identified.

11. 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 this inspection is discussed in Paragraph 6.

12. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection on August 11, 1977. The inspector summarized the scope and findings of the inspection.

END

DATE FILMED

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