NORTHEAST UTILITIES
NU
THE CONNECTICUT LIGHT AND POWER COMPANY
THE HARTFORD ELECTRIC LIGHT COMPANY
WESTERN MASSACHUSETTS ELECTRIC COMPANY
HOLYOKE WATER POWER COMPANY
NORTHEAST UTILITIES SERVICE COMPANY
NORTHEAST NUCLEAR ENERGY COMPANY

P.O. BOX 270
HARTFORD, CONNECTICUT 06101
(203) 666-6911

July 1, 1981

Docket No. 50-423
AEC-MP3-241
A01685

U. S. Nuclear Regulatory Commission
Mr. T. T. Martin, Acting Director
Division of Engineering and Technical Inspection
Region I
Office of Inspection and Enforcement
631 Park Avenue
King of Prussia, PA 19406

References: (1) T. T. Martin letter to W. G. Counsil, dated April 23, 1981.
(2) W. G. Counsil letter to T. T. Martin, dated May 12, 1981.

Gentlemen:

Millstone Nuclear Power Station, Unit No. 3
I&E Inspection No. 50-423/81-02

On January 26, 1981 through February 6, 1981 and February 18, 1981, the NRC Office of Inspection and Enforcement conducted an inspection of Millstone Nuclear Power Station, Unit No. 3. As a result of that inspection, Reference (1) was transmitted to us for response. That transmittal contains three (3) parts: Appendix A, Notice of Violation; Appendix B, Significant Observations; and IE Inspection Report No. 50-423/81-02. Because of the extent of your transmittal an extension to the due date was requested and granted, Reference (2).

Our responses to Appendices A and B are formated by first identifying the Appendix and then restating the particular Appendix Item. This is then followed with a response. Unresolved items mentioned within the inspection report but not specifically mentioned within Appendices A or B have been reviewed, and assignments have been or will be made to ensure corrective action is taken.

In regards to Appendix A, Northeast Nuclear Energy Company has satisfied the provisions of 10CFR2.201 through the submittal of the attached Appendix A responses.

We trust the attached responses satisfactorily respond to the violations and observations cited by your inspection team.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

W. G. Counsil
Senior Vice President

By: R. P. Werner
Vice President Generation Engineering
and Construction

cc: Mr. R. T. Carlson, Chief
Reactor Construction and Engineering Support Branch
Region I
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

Mr. Boyce H. Grier, Director
Region I
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

Mr. Harold D. Thornburg, Director
Division of Reactor Construction Inspection
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. J. C. Mattia, Resident NRC Inspector
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
P. O. Box 128
Waterford, CT 06385

STATE OF CONNECTICUT)
) ss. Berlin July 1, 1981
COUNTY OF HARTFORD)

Then personally appeared before me R. P. Werner, who being duly sworn, did state that he is Vice President of Northeast Nuclear Energy Company, a Licensee herein, that he is authorized to execute and file the foregoing information in the name and on behalf of the Licensees herein and that the statements contained in said information are true and correct to the best of his knowledge and belief.

Sheila M. Oates
Notary Public

My Commission Expires March 31, 1986

Appendix A

A. On January 28, 1981, the inspector noted the following examples of the licensee's failure to audit applicable program elements:

- No audits were performed during 1979 and 1980 of the containment fabricator's welding process of the ASME piping erection;

- No audits were performed during 1979 of Stone and Webster field procurements;

- No audits were performed during 1979 of the qualifications, training and certifications of S&W Field QC personnel; and,

The following audits have not been conducted per the procedural schedule requirements:

Audit Number	NUSCO Scheduled Date
A40545	6/30/80 (Not performed to-date)
A40552	8/31/80 (Not performed to-date)
A40528	3/31/80 (Performed on 8/14/80)
A40533	4/30/80 (Performed on 8/14/80)
A40511	10/31/80 (Performed on 5/15/80)

This is a Severity Level V Violation (Supplement II).

Response:

The NUSCO Construction QA unit is performing the following:

- The present audit schedule will be reassessed and revised by June 30, 1981, to reflect the current work load for Millstone Unit No. 3.

- Construction QA will schedule audits in the areas of work performance and in the areas listed in Appendix A and paragraph 2.a(1)(a).

- Status of specific audits:

  a. Audit A40545 will be performed by August 1, 1981.

  b. Audit A40552 was performed on April 13, 1981.

  c. Audit A40571 (Criteria 1 & 2 - S&W Field QC Personnel) was performed on May 21, 1981.

  d. Audit A40595 (changed from A40600) (S&W Field Procurement Activities) was performed on June 19, 1981, and future audits will continue on a regular basis.

- Construction QA will review the audit schedules to assure audits are completed no later than 3 months beyond the schedule date or otherwise request rescheduling approval from the NUSCO Manager, Quality Assurance.

B. On February 5, 1981, the inspector noted that the heating, ventilation and air conditioning subcontractor was performing safety related work using its unapproved QA manual and procedures and no objective evidence of complying with applicable S&W procedures was available.

This is a Severity Level V Violation (Supplement II).

Response:

Corrective Action

The NEVCO QA/QC program for site work had previously been reviewed but evidence of the approval was not available. At the time of the inspection, NEVCO was on S&W's list of approved suppliers. On February 5, 1981, a letter to Northeastern Ventilating Company from R. P. Bone, Lead Power Engineer, Stone and Webster, approving the (NEVCO) site QA/QC Program, was presented to Mr. Mattia, of the NRC. S&W has also reviewed the status of all other subcontractors and has verified they are performing work to an S&W approved QA/QC Program.

NOTE: NEVCO's personnel numbered 12 manual and 2 nonmanual. Stone & Webster Field Quality Control was performing continual daily surveillance of the NEVCO operations.

Preventive Action

S&W policy is that prior to subcontractors performing installation activities at the Millstone III site, formal approval of their QA Program is being required. As the situation with NEVCO has been established to be an isolated case, no preventive action is deemed necessary.

C. On February 4, 1981, the inspector found that the licensee had not conducted annual management reviews in 1978 and 1979.

This is a Severity Level V Violation (Supplement II).

Response:

It is recognized that the annual management assessment was not performed in 1978 and 1979. At that time a conscious but undocumented decision was made to forego the 1978 management review in recognition that, with the scheduled completion of the review of the Topical Report by the NRC (August 1978), the QA procedures would undergo drastic revision. The Topical Report was not approved by the NRC until April, 1979, at which time the revision of procedures was initiated.

The 1979 assessment was postponed with the approval of Mr. W. G. Counsil, in a memorandum dated January 12, 1979. This memo was presented to the NRC Inspectors at the time of the Inspection at Millstone Unit No. 3, to indicate recognition of the changes occurring in that time period. Recognizing the commitment a Management Review was performed in March, 1980, and another completed the week of May 4-8, 1981. In both cases, the review was performed by a team of qualified auditors from other Utilities, acting as a Joint Utilities Audit Team.

In order to achieve the desired result of the Management Review, as described in the Topical Report and applicable Procedure NEO 1.06, the open items of both audits are being followed for implementation in a timely manner as well as the remaining items from the 1980 audit. Several of the open items have been closed since the Feb. NRC inspection.

The observation that deficiencies identified in the 1977 audit were not being followed was true except for training, which was being followed in an informal manner. This has been corrected. The training deficiencies identified in the 1977 audit required extensive corporate commitment for resolution and, in fact, the whole purpose of the QA training audit conducted on Jan. 22, 1981, was directed at identifying the magnitude of the problem. As a direct result of the Jan. 22, 1981 audit an NEO Corporate Nuclear Policy statement was issued on March 23, 1981. The Training Program will be more clearly defined in implementing procedures relating to specific training.

NUSCO personnel performing functions and duties relating to Millstone Unit No. 3 will be trained within the procedures of the affected Departments. Retraining of personnel will be included as a part of the overall program Additional related information is presented in response to item D4 of Appendix B (from 4(C)5 and 4(C)6.a).

D. As of January 28, 1981, the certifications of inspection personnel were issued prior to the actual evaluation and determination of the inspector's qualifications without sufficient supporting documentation by the inspector's supervisors. Adequate corrective action was taken during the inspection to correct this non-compliance and prevent recurrence.

Response:

No response required.

E. As of January 30, 1981, Stone and Webster Specification 279 had eight E&DCRs issued against it. The sixth E&DCR was over two years old, the document had not been revised and/or reissued, and no objective evidence was available to show that an extension had been granted.

This is a Severity Level V Violation (Supplement II).

Response:

Corrective Action

The outstanding E&DCRs against Specification 279 have been incorporated by issue of Addendum 5 to this specification. This addendum was issued on June 18, 1981.

A comprehensive review of project specifications and drawings to identify any other document exceeding the stated time and number limit for E&DCR incorporation has been completed. All documents found to exceed the required incorporation limits as a result of this review will be revised, or a specific extension will be authorized by the Project Engineer. These actions will be completed on or before December 31, 1981.

Preventive Action

The Project has adopted a computerized system which identifies outstanding E&DCRs against each project specification and drawing. This computer output is distributed monthly to Project Management and Lead Engineers. Furthermore, those specifications and drawings which accumulate six E&DCRs will be identified by the Planning Engineer and entered into the Project Network Schedule for revision within six months. If the E&DCRs are not incorporated in the six month period, the specification or drawings will be identified as having a revision behind schedule. Project action will be initiated to correct the delinquency.

F. The E&DCR #PS-2162, dated May 7, 1979, was not distributed and was not available to personnel who needed it for execution of work; consequently, Wall-G-7 in the ESF Building was not constructed according to design requirements specified in the E&DCR.

This is a Severity Level IV Violation (Supplement II).

Response:

Corrective Action

E&DCR PS-2162, which added structural steel embedment plates for platform framing, was not distributed to the construction forces because the documents it changed (Dwg. ES-31L & 31M) had not been issued. Since the drawings had not been issued, E&DCR PS-2162 was maintained by Site Document Control to be issued with the drawing. As a result, the G-7 wall was constructed to the existing design requirements as detailed in the concrete drawings, which provided Richmond insert patterns in the wall for future attachments.

To accommodate structural steel platform connections to concrete, the design methods include embedding plates in concrete or attaching plates to the walls using Richmond inserts. The controlling method of design is determined by engineering based upon the construction and design schedules. The wall was constructed using Richmond

inserts. The connection designs are now being finalized using Richmond inserts as the connecting mechanism. Therefore, the as-built condition of the G-7 wall, which includes the use of Richmond inserts, is an acceptable design alternative and is in accordance with approved engineering requirements.

The Project has initiated a review to identify all E&DCRs which have been written against unissued S&W documents. This review has been completed. The information or design changes contained in these E&DCRs will be written against issued documents or verified in cases where work has been completed. This review will be completed by August 1, 1981.

Preventive Action

To preclude recurrence, instructions have been reemphasized concerning procedural requirements to make changes only against issued documents and to establish a jobsite policy of not accepting or processing document changes on unissued documents.

G. As of February 4, 1981:

a. There was no objective evidence to show that the requirements of standard ACI-318-71 were objectively used as design inputs in the analysis of the effect of rebar substitution in E&DCR PS-2337.

b. There were no engineering calculations to confirm the adequacy of the design change nor was there any objective evidence of an independent design verification.

This is a Severity Level IV Violation (Supplement II).

Response:

The licensee acknowledges that objective evidence of the acceptability of the change from Grade 40 to Grade 60 rebar was not available at the time of the inspection. Subsequently, this evidence was transmitted to the NRC on February 26, 1981, by licensee letter AEC-MP3-231. The licensee was advised on March 4, 1981, in a conference call with Messrs. Ebnetter and Chaudhary of the NRC that the evidence resolved their concerns and that concrete placements might be resumed.

To preclude such occurrences in the future, Stone & Webster has reinforced its Structural Technical Review Program. This corporate program will be under the direction of an Assistant Chief Structural Engineer and will require a review and approval of all design criteria and analytical methods to be used in the design of structures. The program will also include the scheduling of a series of reviews during the design phase to assure proper application of the structural design criteria and analytical methods and the acceptability of the final design. The program is staffed with senior engineers and consultants with extensive experience in the areas of dynamic analysis, design, and engineering of structures. In addition to the

scheduled involvement of these individuals, they are available to the project groups for consultation whenever required. The implementation of this program will ensure consistent and proper designs for all structures.

Appendix B

A. Construction Quality Assurance Staff

The NUSCO construction quality assurance organization assigned to MS-3 construction site apparently is not adequately staffed in number and by qualification to fully implement the commitments made in the QA Topical Report.

Response:

Prior to the February, 1981, inspection at Millstone Unit 3 the need for additional QA personnel to cover the anticipated increase of activities at Unit 3 in 1981 was recognized. An evaluation to determine the number and type of personnel increases required and the needed date of employment was being developed by the Director of Nuclear Engineering and Operations Services. The need for additional personnel was recognized by the Director and upper management, however, these people were not interviewed in the course of the audit. Subsequent to the NRC inspection, approval was received from Management Resources to hire three additional QA personnel. Two of the personnel have been added in June, 1981, and the third has accepted an offer and is expected on site prior to August 1, 1981. The current CQA Unit includes five (5) personnel under the Construction QA Supervisor, performing QA functions for the Millstone Unit No. 3 Project.

With respect to the observation of an "excessive turnover rate of 20%..." we would point out that none of the Construction QA personnel who left in this period resigned from the company. The four people all transferred to other sections of either construction or operations.

Corrective actions are being taken to ensure commitments made in the QA Topical Report are implemented.

B. Organization

The NUSCO organization structures and functions related to MS-3 construction, project management, and quality assurance require clarification and additional definition. This observation is based on the following:

1. The implemented jurisdiction (position) descriptions for project management have not been formally approved by management.

   Response:

   Position (jurisdiction) statements are being revised to more accurately reflect the duties of Generation Construction Department personnel. The updated position statements will be issued after management approval.

2. The implemented jurisdiction descriptions for Quality Assurance have not been formally approved.

Response:

NQA Procedure NQA1.01 shall be revised to include specific references to functions and duties of the Construction QA Unit and personnel pertaining to Millstone Unit No. 3 and the operating plants. Wherever NQA1.01 refers to other procedures relating to CQA duties, these procedures will also be revised to be more definitive of CQA duties. The above shall be completed by October 1, 1981. In regards to the provision for an Acting QA Supervisor, NQA procedures shall be revised to include the requirement for an assignment of a qualified person to perform the duties of the QA Supervisor in his absence. The above shall be completed by October 1, 1981.

3. Functional organization descriptions do not reflect the actual functioning of organizations.

Response:

The NUSCO Generation Construction Organization Chart has been revised to indicate that the Construction Quality Control Unit has no responsibilities for work on Millstone Unit No. 3.

4. The responsibility for stop work authorization is not clearly defined.

Response:

Revision 1 to Generation Construction Department Procedure GCD 4.08, issued April 21, 1981, delegates authority to issue and release Stop Work Orders to the System Superintendent - Generation Construction or his designee. The procedure, in both cases, requires the concurrence of the NUSCO Supervisor - Quality Assurance, and further provides for resolution between the Director - Generation Construction and Manager - Quality Assurance if concurrence is not obtained.

C. Design Controls

The control of design, including design verification, updating of design documentation, and control of field design is considered to be a major weakness in the program. This is based on the three noncompliances identified in Appendix A, Items E, F and G related to design documents and the lack of adequate procedural controls for field design of conduit supports.

Response:

As stated in the individual responses, Items E and F are the result of noncompliance to S&W program requirements for control of design. The preventive action proposed is considered to be adequate to

prevent recurrence of these noncompliance Item G, as stated in the response, is an item that has been previously resolved.

The S&W Project procedure (FCP-297) for control of the field design work noted in the above observations had been prepared, but was still in the approval cycle at the time of the inspection. This procedure will be issued on or before June 15, 1981. A review of field design activities will be completed by S&W on or before June 15, 1981, to ensure that all such activities are supported by approved procedures.

Procedures will be developed and formally approved prior to commencement of any new field design activities.

Conclusion

It is recognized that the referenced Appendix A items and the observations addressed above require appropriate action as detailed by each corresponding response. We do not, however, concur that the nature of these items/observations and the specific circumstances related thereto, constitute a valid basis for a conclusion that control of design is a major program weakness.

We recognize the items as implementation noncompliances. They will be corrected and fully prevented using our existing design control program.

D. Training

The training of personnel at the MS-3 site was identified as a weakness based on deficiencies found in quality assurance and construction training programs. The need for improvement in training is an immediate concern due to the projected increase in work activities and manpower staffing levels in the very near future. The following items constitute the basis for a weakness in training.

1. Interviews with S&W craft personnel indicated that all persons assigned to MS-3 had not received orientation training as required by project procedure.

2. Interviews with S&W construction management in relation to construction training and corrective action taken in response to S&W Audit 23 indicated additional emphasis is required on construction training.

Response:

Corrective Action

Additional personnel have been added to the training staff: one clerk/typist and one training specialist. Stone & Webster is confident that the training staff is sufficient but will continue to monitor the work load and add additional training personnel as required.

Stone & Webster has identified all personnel working on site who have not received indoctrination training. The personnel have been scheduled for indoctrination training. This effort should be completed by July 2, 1981.

Preventive Action

Newly hired personnel are usually given thei indoctrination training on the morning they report for work. An Indoctrination Training Exception Report is generated weekly and reviewed for scheduling of make up classes the following week.

Effective June 1, 1981, a policy will be instituted requiring newly hired personnel to attend the Indoctrination Training Course within one week of the date of hire. To work on the site more than days after hire without indoctrination, specific written authorization must be obtained from the Senior Site Representative.

S&W recognizes that these observations have identified weaknesses in the training program. We are confident that the action taken to date and the preventive action proposed will ensure that personnel are properly trained. This program will be responsive to changes in Construction personnel levels and technical activities.

3. Inadequate S&W training documentation to support qualifications of S&W inspection personnel.

Response:

No response required.

4. Failure of NUSCO management to take effective corrective action in response to findings in the 1977 management review of the QA program.

Response:

Also see response to Appendix A, Item C. To supplement the above response, the Generation Construction Department and the Construction QA Unit personnel will be trained for the quality related activities which they perform. The training will be performed within the requirements of the applicable procedures.

5. Inadequate training of a NUSCO QA auditor in relation to assigned inspection functions.

Response:

No response required.

E. Regulatory Reporting

Regulatory reporting of potential construction deficiencies in accordance with 10 CFR 50.55 (e) is considered a program weakness. This is based on:

1. The apparently excessive time for the licensee and his contractor to evaluate potential 50.55(e) conditions.

2. The inability of NUSCO to identify potential 50.55(e) conditions in a timely manner due to an inadequate program for review of S&W nonconformance reports.

3. Inadequate attention by NUSCO to previously identified NRC concerns documented in IE Inspection Reports 80-07 and 80-04.

Response:

The licensee acknowledges that in the case of the Reactor Plant Component Cooling Heat Exchanger Supports, an inordinately long period was required to determine the significance of the manufacturing deficiencies and to report them. Subsequent to the identification of this problem, S&W has implemented Quality Standard 16.2, Rev. A (10/31/79) to provide additional guidance in handling of potentially reportable items of significant deficiency under 50.55(e). Training on this procedure, and its associated Engineering Assurance Procedure (EAP 1.62), was presented to the MP3 Project in March of 1980. Furthermore, the project has issued a procedure to establish internal tracking of potential 10 CFR 50.55(e) reports during S&W review.

Generation Construction Department Procedure GCD 4.09A, Rev. 1, dated January 30, 1981, provides guidance for prompt reporting of significant and potentially significant deficiencies.

The licensee would point out that 10 CFR 50.55 (e) does not address the reporting of potential deficiencies. This interpretation was presented during the exit interview for Inspection 50-423/80-04. The licensee would also note that the concern documented in Inspection Report 80-07 was only a statement that further documentation relative to the reported significant deficiencies in the design of the Service and Auxiliary Buildings would be requested, particularly in the area of corrective action. This request was formalized on January 29, 1981, and responded to on April 21, 1981.