

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-220/87-23

Docket No. 50-220

License No. DPR-63 Priority - Category C

Licensee: Niagara Mohawk Power Corporation
301 Plainfield Road
Syracuse, New York 13212

Facility Name: Nine Mile Point, Unit 1

Inspection At: Scriba, New York; and Syracuse, New York

Inspection Conducted: November 3-6, 1987

Inspectors: S. K. Chaudhary 12/4/87
S. K. Chaudhary, Senior Reactor Engineer date

Approved by: J. R. Strosnider 12/4/87
J. R. Strosnider, Chief, MPS, EB, DRS date

Inspection Summary: Inspection Conducted November 3-6, 1987 (Inspection Report No. 50-220/87-23)

Areas Inspected: A routine unannounced inspection was conducted by a region based inspector of the licensee follow-up actions in response to previously identified violations and unresolved items.

Results: No deviations, violations or unresolved items were identified.

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DETAILS

1.0 Persons Contacted

Niagara Mohawk Power Corporation

- *T. W. Roman, Station Superintendent
- *T. R. Egan, Associate Senior NC&V Engineer
- *L. Wolf, Site Licensing Engineer
- P. Francisco, Lead Licensing Engineer
- P. George, Assistant Manager - Structural Engineering
- R. Oleck, Acting Manager of Consulting
- A. Chiu, Associate Structural Engineer
- C. DiNatelli, Senior Structural Engineer

New York State - Public Service Commission

- *P. Eddy, Site Representative

U.S. Nuclear Regulatory Commission

W. Schmidt, Resident Inspector

2.0 Review of Licensee Actions in Response to Previously Identified Items

The inspector reviewed documentation and held discussions with licensee engineers and other management personnel to assess the adequacy and/or resolution of previously identified unresolved items, violations and deviations. The review consisted of examination of pertinent engineering records, licensee submittals to the NRC, discussions with cognizant personnel, and visual examination of completed works in the plant.

The follow-up actions in response to violations were specifically reviewed against the commitments made by the licensee in his submittal to the NRC. The resolutions of unresolved items were reviewed for technical adequacy and use of accepted engineering principles. The documents reviewed for this effort are listed in paragraph 3.0 of this report.

The following items were reviewed:

(Closed) 86-07-06, Violation: This item pertains to inaccurate as built drawings of modified supports and failure to issue change requests for other supports. The licensee has documented the current design configuration of supports SCR1-3 and SCR1-6 in the final as-built drawing issued as revision 1 on January 9, 1987. Also, the personnel in the engineering department were re-advised of the necessity of documenting engineering changes in support design, even if the changes are minor. This item is closed.



(Closed) 84-01-02, Unresolved Item: This item is related to the design accuracy of core spray pipe supports at RCS pump #122. The licensee has reanalyzed the system to demonstrate the seismic qualification of the piping system. The reanalysis is documented in calc. #S14-81-P001, Revision 0. The inspector reviewed the above analysis and determined that the analysis is consistent with the plant FSAR. It has been performed with the response spectra method described in the FSAR. From the current analysis it is determined that the system piping meets the code allowable stresses in the support for seismic loading. This item is closed.

(Closed) 84-15-04, Unresolved Item: This item pertains to a lack of documented and consistent criteria for the seismic design and qualification of safety related piping systems. The licensee has developed and documented the design criteria for seismic design and qualifications of piping system. The inspector reviewed the procedure MDC-2, Revision 3. The documented criteria appears to meet the ASME Code requirement for load combinations and the analysis methods. This item is closed.

(Closed) 86-07-13, Unresolved Item: This item is related to a damaged hanger in a drain line in main steam system. A work request was initiated and the hanger was repaired (WR #010410) on June 20, 1986. The licensee was not sure as to how the actual damage to the hanger occurred, but the personnel were re-advised to be careful when working in the vicinity of safety related equipment not to damage equipment. This item is closed.

(Closed) 86-07-07, Violation: This item pertains to modification of existing drain pipe supports 05-SCR1-3, 05-SCR1-6, 05-SCR1-7 where field welds were undersized (1/4 inch to 3/8 inch less than design). The inspector reviewed the licensee's evaluation of this discrepancy documented in Calc. #S14-39-A1. The evaluation indicates that the maximum unit load on the welds (pounds per inch) is only 2925 lbs per inch in spite of the reduction in weld size. The actual load is considerably smaller than the allowable load on welds in question. No safety concern exists. This item is closed.

(Closed) 86-07-05, Unresolved Item: This item pertains to the design and analysis of piping and support systems for emergency condenser system modifications. The licensee has used design and acceptance criteria that were significantly different from the FSAR descriptions of the analytical method. In the modification design and analysis: 1) the development of ground motion was based on probabilistic ground motion hazard analysis; 2) the allowable limits for pipe stresses were based on the ASME Code, Section III, 1980 instead of ASA 1331, 1955 as referenced in the FSAR; and 3) ASME Code case N-411 was used in the analysis.

The licensee has reanalyzed the piping and supports in the Emergency Condenser (EC) system. The new analysis is documented in calculation package No. 514-39-LBP0012 A through D, Revisions 0. The new analysis, although still based on 1980 ASME Code, conforms to the ground motion



referenced in the FSAR. The Code case N-411 has not been utilized. The use of the later code (ASME-1980) is permitted under Section XI of the ASME Code. The inspector reviewed the analysis and evaluation of the system for technical adequacy, and conformance to the code requirements and determined that the analysis and design of the system conforms to the applicable code and the FSAR descriptions. This item is closed.

(Closed) 84-15-01, Violation: This item pertains to the lack of control procedures and functional specifications during work related to IEBs 79-02 and 79-14. In response to this violation, the licensee committed to upgrade his engineering assurance program to provide better procedural control and consistency in design and analysis work. The inspector reviewed the following documents to verify the adequacy of the engineering assurance program.

- System Descriptions; Volumes 1 & 2 (Controlled Copy No. 25)
- Design Criteria; Volumes 1 & 2
- Standard Specifications (Controlled Copy No. 15)
- Nuclear Engineering and Licensing Procedures; Volumes 1, 2, and 3 (Controlled Copy No. 66)

Based on the above review and discussions with responsible engineers, the inspector determined that controls have been provided to assure consistency and technical accuracy in the area of design and analysis. This item is closed.

(Open) 84-15-05, Unresolved Item: This item pertains to a lack of procedures for the evaluation of increased loads on concrete expansion anchors due to seismic reanalysis required by IEB 79-14. The licensee has made progress in this area; however, the actual comparison of the original design loads and the IEB 79-14 loads have not been completed. This effort was included in the scope of general seismic upgrade program which has not been completed yet. This item, therefore, remains open pending the evaluation and comparison of loads, and determination of current factors of safety for concrete expansion anchors.

(Closed) 86-07-11, Violation: This item pertains to anchor installation (anchor #39-A1) where bolts had been installed such that three bolts did not meet the acceptance criterion of two exposed threads beyond the fastening nut. The licensee has analyzed this condition and determined (calculation #S14-39-A1, Rev. 0) that if the bolt is flush with the surface of nut, the installation is acceptable. Also, the jet impingement load (the governing load) has been reduced from 200 kip to 149 kip due to reanalysis. Therefore no safety concern exists regarding the load carrying capacity of the installed bolts. This item is closed.



(Closed) 84-26-01, Unresolved Item: This item pertains to lack of review in the material requisition program of purchase requisitions (PR) by the user organization to assure the quality and adequacy of items ordered for service. The licensee has revamped the material requisition program controls. The old procedure APN-14 has been superseded and a new administrative procedure AP-70, Rev. 2, Sec-6.0, has been implemented. The new procedure requires that all purchase requisitions must be reviewed by engineering to assure their conformance to FSAR commitments, codes and standards, and the technical requirements of the application.

The material management system manual Section 5.0 also clearly establishes the engineering review requirement for all safety-related purchase requisitions. The inspector verified by a review of some PRs that this process has been implemented and is working. A verification of this procedure by the licensee's Compliance and Verification Organization was also reviewed by the inspector. This item is closed.

(Closed) 86-07-10, Violation: Two braces for Emergency Condenser (EC) steam piping anchor No. 39-A1 were connected to wall embedded plates by fin plates and use of a mixture of A-325 and A-490 bolts, whereas A-490 bolts were required by drawing No. F-39831. The licensee provided records to show that at the time of NRC inspection, the support was still not fully erected and was not ready for final inspection. The A-325 bolts were installed to temporarily hold the support in place. An in-process QC inspection report No. 21.6008 was presented to the inspector to substantiate that the support had not been finally accepted at the time of the NRC inspection. This QC report was annotated with a remark that A-325 bolts have been used to erect the support. The licensee had replaced the bolts before the final inspection and acceptance of this support. This item is closed.

3.0 Documents Reviewed

The following documents were reviewed during the course of this inspection.

APN-14, "Procedures for Control of Material and Services," Rev. 5
(Superseded)

AP-7.0, "Procedures for Control of Material and Services, Rev. 2
(current)

Material Management System Procedures Manual, Section 5

Safety Evaluation 85-043, Rev. 2, "Installation of Perimeter Draining System for Administrative Building"



Letters from NMPC to NRC - 11/5/86 (NMPIL-0112); 1/7/85; 1/30/86
(NMPIL-0024); 3/31/86 (NMPIL-0040)

Design Standard Manual, Section MDC-1, MDC-2, MDC-5 (Mechanical Design
Criteria)

Piping and Support Analyses
Calculation Numbers

"Emergency Condenser System condensate Supply/Return"

Calc. No. S14-81-P001, "Core Spray Pump #122 to Topping Pump #122"

Calc. No. S14-39-LBP0012A-MDC-2
S14-39-LBP0012B-MDC-2
S14-39-LBP0012C-MDC-2
S14-39-LBP0012D-MDC-2

Calc. No. S14-39-A1, "E.C. Steam Supply Lines"

Work Request No. WR010410, "System OS Hanger"

Drawing Change Request No. N1Y83, M4043LG044

Verification and Examination Report No. 21-6008

Drawings

4. Unresolved Items

Unresolved items are matters regarding which more information is needed to determine if they are acceptable items, deviations or violation of requirements.

5. Exit Interview

At the conclusion of the inspection, the inspector met with the licensee representatives (denoted by * in paragraph 1.0) where the inspector summarized the scope and findings of this inspection.

At no time during this inspection did the inspector provide written material to the licensee. The licensee did not indicate that any proprietary material was included in the scope of this inspection.

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