

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

Region I

Report No. 50-410/80-07

Docket No. 50-410

License No. CPPR-112 Priority -- Category A

Licensee: Niagara Mohawk Power Corporation

300 Erie Boulevard, West

Syracuse, New York 13202

Facility Name: Nine Mile Point Nuclear Station, Unit 2

Inspection at: Scriba, New York

Inspection conducted: July 15-18, 1980

Inspectors: A. A. Varela  
A. A. Varela, Reactor Inspector

S. K. Chaudhary  
S. K. Chaudhary, Reactor Inspector

August 6, 1980  
date signed

8/6/80  
date signed

Approved by: S. D. Ebnetter  
S. D. Ebnetter, Chief, Engineering Support  
Section No. 2, RC&ES Branch

date signed  
8/19/80  
date signed

Inspection Summary:

Inspection on July 15-18, 1980 (Report No. 50-410/80-07)

Areas Inspected: Routine, unannounced inspection by regional based inspectors. The inspectors performed plant tour of on-going as well as completed construction activities, reviewed licensee and AE QA procedures and records in processing of engineering design and field changes, disposition and corrective action of nonconformances, trend analysis of identified nonconformances and unsatisfactory inspection findings, licensee audit program and incorporation of field changes into "As-Built" drawings. The inspection involved 44 inspector hours on site by two regional based inspectors.

Results: No items of noncompliance were identified.



## DETAILS

### 1. Persons Contacted

#### Niagara Mohawk Power Corporation (NMPC)

- \*S. E. Czuba, QA Engineer
- J. L. Dillon, Senior Site QA Representative
- \*L. G. Fenton, Senior Site QA Representative (Acting)
- \*C. G. Honors, Construction Engineer
- \*R. L. Patch, QA Engineer

#### Stone and Webster Engineering Corporation (SWEC)

- R. Calvin, Quality Control Engineer
- \*B. F. Gallagher, Senior Resident Engineer
- \*C. E. Gay, Superintendent, Field Quality Control
- \*C. E. Hilton, Construction Engineer
- \*J. E. Rogers, Chief, Office Engineer
- \*L. E. Shea, Head, Site Engineering Office
- T. Syrell, Quality Control Engineer

\*denotes those present at the exit interview.

The inspector conferred with other licensee personnel, construction manager and contractor personnel during the course of the inspection.

### 2. Plant Tour

The inspectors made a tour of the site to observe work activities in progress, completed work and plant status during a general inspection of the construction site. The inspectors 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 evidence of inspection records, material identification, nonconforming work pending disposition, housekeeping and equipment preservation. Additionally, the inspectors discussed with QC, construction engineers and craft superintendents control features of work. Specifically the following activities were observed:

- preparations for fill concrete placement outside secondary containment at elevation 225



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- preparations for concrete placement of drywell floor slab
- clean up of anchor bolts for bioshield wall
- rebar installation for lift number 12 of primary containment
- rock removal from intake tunnel
- replacement of Vermiculite fill below elevation 212 outside of south auxiliary bay

No items of noncompliance were identified.

### 3. Control of Nonconformance and Disposition Reports

The inspector reviewed the Nonconformance and Disposition Reports (N&D) for compliance to the established project procedure, format, the description of nonconformance and clarity of details, and the disposition/resolution of the reported problem. The reports were selected at random to make a representative sample of reports in several disciplines. The inspector reviewed the following documents:

- a. S&W Engineering Assurance Procedure EAP-6.3, Rev. 3, dated 3/24/78.
- b. NMPC Procedure QAP-16.40, Rev. 1, "Control and Use of Nonconformance Reports".
- c. S&W Procedure QAD-15.1, Rev. D, "N&D Report Preparation and Processing".
- d. S&W QC department N&D Log.
- e. N&D Reports

#300 to 395 - covering 6/4/77 to 9/6/77  
 #600 to 699 - covering 4/20/78 to 11/1/78  
 #1600 to 1699 - covering 10/3/79 to 11/29/79

Based on the review of above documents, discussions with licensee and construction personnel the inspector determined that the N&D reports were properly controlled, had sufficient clarity and detail in the description, conformed to the proper format as specified by approved project procedure, and dispositioned properly as required by procedures and other project requirements.

No items of noncompliance were identified in this area.



#### 4. Trend Analysis of Identified Nonconformances

The project engineer performs an analysis of identified nonconformance to determine any developing adverse quality trends in the construction. The Superintendent of Field Quality Control maintains a tabulation of all N&Ds and unsatisfactory inspection findings in several discrete inspection areas. These tabulation and categorized reports are transmitted to S&W home office for analysis and consequent corrective action if necessary. The inspector reviewed the following documents to determine licensee compliance to the project procedure for nonconformance trend analysis.

- a. NMPC, QAP-15.10, Rev. 2, "Review of Reports Concerning Nonconforming items".
- b. NMPC, QAP-16.2, Rev. 2, "Analysis of Quality Problems Reports by QA".
- c. Process Averages - Field Inspections

Report Nos. 8029/WHG/bar  
80136/WHG/bar

Based on the review of above documents, and discussions with licensee and contractor personnel the inspector determined that the licensee is analyzing identified nonconformances and unsatisfactory inspections to identify any adverse quality trend in the construction process and/or Quality Assurance program.

No items of noncompliance were identified in this area.

#### 5. Review of Engineering and Design Coordination Reports (E&DCRs)

The inspector reviewed Engineering and Design Coordination Reports for conformance to approved project procedures, format, clarity and details of requested/approved changes, and the control exercised by the licensee on these design changes. The following documents were reviewed by the inspector. The reports were selected at random for review and represented several major areas of design/construction activity and spanned a period of several years.

- a. S&W Engineering Assurance Procedure EAP-6.3, Rev. 3, "Preparation, Review, Approval, and Control of E&DCRs"
- b. Engineering and Design Coordination Reports

Drawing Series EE: Report Nos.

C-00.161A to C-50.129  
F-00.099 to F-50.014





P-00.233 to P-50.193  
V-20.114

Drawing Series EB: Report Nos.

C-00.097 to C-50.240  
F-00.004 to F-50.047  
P-10.519 to P-50.195  
V-10.002A to V-20.145

Based on the review of above documents, discussions with licensee and contractor personnel, the inspector determined that the licensee is exercising sufficient control on the design changes. E&DCRs are initiated for proper design changes as authorized and directed by the approved procedure. The description of requested/approved changes are in sufficient detail, and review of the changes are proper.

No items of noncompliance were identified.

6. Quality Assurance Audit Program

The inspector reviewed the licensee's planned QA audit program implemented on the project, and the effectiveness of the program as implemented. The inspector reviewed the following documents to ascertain the scope and effectiveness of the project QA audit program as implemented by the licensee. The following documents were reviewed:

- a. NMPC, QAP-18.10, Rev. 3, "Audits by NMPC Personnel".
- b. NMPC QAP-16.41, Rev. 0, "Control and Use of Corrective Action Requests".
- c. NMPC QAP-16.10, Rev. 4, "Procedure for Conducting QA Reviews of Corrective Action Requests".
- d. NMPC, QAP-18.10, Rev. 0, "Qualification of Lead Auditors".
- e. NMPC, QA Field Audit Reports.

Report Nos.

16, dated 9/7/79  
17, dated 12/24/79  
18, dated 3/24/80

- f. NMPC Corrective Action Requests

CAR nos. 258, 259, 260, 261, and 262 with responses from S&W.



Based on the review of above documents, and discussion with licensee and contractor personnel, the inspector determined that the licensee has implemented a comprehensive program of QA audits at the project site. The audits are planned and carried out on a regular schedule, and the results of the audit are evaluated for proper corrective action if necessary. The Corrective Action Requests issued by the licensee receive proper attention from the contractor's field and project managements, and the licensee pursues the findings to a satisfactory resolution.

No items of noncompliance were identified.

7. Review of Project, Engineering and Quality Assurance Procedures/Instructions for Control of and Incorporation of Change Notices into Specifications and Drawings

The inspector reviewed the following project, engineering and quality control procedures/instructions to ascertain the adequacy for control of and incorporation of change notices into specifications and as-built drawings.

- Engineering Assurance Procedure EAP 6.3, Rev. 3 July 10, 1979, Preparation, Review, Approval, and Control of (E&DCRs) Engineering and Design Coordination Reports
- Quality Control Instruction FN2-S6.1-02A issued January 23, 1980, Status of E&DCRs
- Project Manual, Project Procedure PP 16, Rev. 8, February 13, 1980, Incorporation of E&DCRs into Specifications and Drawings.

The inspector observed the above procedures/instructions to be explicit, to assign responsibility and provide for adequate control.

No items of noncompliance were identified.

8. Review of Primary Containment Concrete Quality Records for Control of E&DCRs and Incorporation of Design Changes in As-Built Drawings

Pertinent work and QC records were reviewed on construction observed during a previous inspection. Primary containment wall lift number ten, pour number 1-122-022P, involved E&DCRs numbers C10730 and C10761.



The records were reviewed for conformance with:

- Nine Mile Point Station, Unit 2 PSAR, Appendix D
- Codes and Standards committed in PSAR sections on structures and concrete
- S&W Specifications No's. S203H, S203A and S203C for Concrete Testing Services, Mixing and Delivering Concrete and Placing Concrete and Reinforcing Steel
- S&W Construction drawings No. EC-30 and EC-38A for the primary reactor building wall and reactor support pedestal
- S&W QC Instructions and Procedures - QS-10.12, QS-10.13, QS-14.2, QAD 10.8 and QAD-14.3.

The inspector reviewed documents relative to the following:

Document Identification

- |  |                                |
|--|--------------------------------|
| a. Concrete Preparation                  | IR #S-9021792                  |
| b. Delivery Placement<br>and Testing     | IR #S-9027227                  |
| c. Concrete Curing                       | IR #S-9027422<br>IR #S-9027423 |
| d. Test cylinder<br>compressive strength | Pour #1-122-022                |
| e. Batch Plant print-outs                | Pour #1-122-022                |

No items of noncompliance were identified.



The above wall pour lift #10 of the suppression pool was designed, as indicated on engineering drawing EC-38A-4, to have horizontal construction joint at elevation 235'-0". Due to presence of diagonal shear bars and, in order to support construction schedule at level of the drywell floor, E&DCR number C10730 and C10761 approval was obtained to construct a 45° construction joint using expanded wire formwork from elevation 232'-0" to 234'-6". Incorporation of the above changes into as-built drawings was verified in subsequent issues number 5 and 6 of the above drawing. This sample of QC records and as-built drawings demonstrated the processing, disposition and approval of field changes and the succeeding incorporation of E&DCRs into As-Builts.

No items of noncompliance were identified.

9. Unresolved Item - Quality Control Inspection Reports Should Identify Latest Criteria of Applicable E&DCRs Not Yet Incorporated in the Drawings at Time of Inspection

The inspectors' review of primary containment concrete records identified in the above paragraph, demonstrated that on a day to day basis QC records and logs for control and acceptance of work involving field engineering and design changes are satisfactory. However, for the historic record additional QC instruction appears necessary. Since drawings are delayed in incorporating approved field changes QC inspection reports should identify applicable E&DCRs to record that inspections have been made to the latest criteria. This was discussed with licensee and S&W personnel and resulted in S&W QC Field Superintendent issuing an I.O.M. to all lead QC inspectors to note applicable E&DCRs in the remarks column of the inspection report to assure that inspections were made to the latest criteria. However, previous QC inspection reports affected by E&DCRs should be reviewed and annotated to identify approved changes. This is identified as an unresolved item number 80-07-01.

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. An unresolved item disclosed during the inspection is discussed in Paragraph 9.

11. Exit Interview

At the conclusion of the inspection on July 18, 1980, a meeting was held at the Nine Mile Unit 2 site with representatives of the licensee and construction manager. Attendees at this meeting included personnel whose names are indicated by notation (\*) in Paragraph 1. The inspector summarized the results of the inspection as indicated in this report.

