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

Region I

Report No. 50-410/79-06

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: August 27-31, 1979

Inspectors: for A. C. Cerne, Reactor Inspector — Sep 19, 1979 date signed

for A. A. Varela, Reactor Inspector — Sep 19, 1979 date signed

_____ — _____ date signed

Approved by: R. W. McGaughy, Chief, Construction Projects Section, RC&ES Brancy — Sep 19, 1979 date signed

Inspection Summary:

Inspection on August 27-31, 1979 (Report No. 50-410/79-06)
Areas Inspected: Routine, unannounced inspection by regional based inspectors, which commenced at 7:30 p.m. during the evening shift of August 27, 1979. The inspectors performed plant tour inspections, reviewed licensee action on previous inspection findings, inspected the preparation activities for a containment concrete wall placement and rebar storage and markings, reviewed electrical specifications, and verified compliance with ASME certification system requirements. The inspection involved 50 inspector hours onsite by two regional based inspectors.
Results: No items of noncompliance were identified.

## DETAILS

1. Persons Contacted

Niagara Mohawk Power Corporation

J. J. Bebko, QA Projects Group Leader
*J. L. Dillon, QA Engineer
C. G. Honors, QA Engineer
**S. F. Manno, Manager, Nuclear Generation Projects
*K. M. Nilsson, Construction Engineer
*R. A. Norman, Senior Site QA Representative
*R. Patch, QA Technician
I. S. Stupal, Manager of Construction, NMP2
*K. D. Ward, QA Engineer

Stone and Webster Engineering Corporation (S&W)

P. Barbadora, QA Engineer
T. Britt, Senior Electrical QA Engineer
J. Bryant, QC Engineer
R. Cannon, QC Inspector Supervisor
J. P. Cardelli, Materials Manager
P. Fadden, Assistant Resident Engineer (Night Shift)
*B. F. Gallagher, Senior Resident Engineer
*C. E. Gay, Superintendent, Field QC
P. McAllister, QC Inspector, Cadwelding
E. Magilley, Senior QC Engineer
G. W. Page, Assistant Head, Site Engineering
**H. Reese, Project Manager (Cherry Hill)
A. Roberstson, QC Inspector
*J. E. Rogers, Chief, Office Engineer
R. Rudis, QC Engineer

Walsh Construction Company

J. Craig, Construction Superintendent, Reactor Building

Northern Ready Mix Company

M. McCormick, Batch Plant Superintendent

The inspector also interviewed other licensee and contractor employees during the inspection.

*Denotes those present at the exit interview.
**Denotes telephone discussion during the inspection.

2. General

Mr. R. A. Norman has been appointed Senior Site QA Representative effective August 27, 1979. Mr. L. G. Fenton, who has been acting in this capacity, returns to the Niagara Mohawk Power Corporation (NMPC) QA Staff in Syracuse. Mr. J. L. Dillon has been added to the site QA staff as QA Engineer and Mr. K. M. Nilsson has been added to the staff of the NMPC Construction Manager as a construction engineer.

3. Plant Tour

Shortly after arrival onsite, the inspectors visted various parts of the plant to observe second-shift work activities in-progress, completed work, and plant status. Additional plant tour inspections were also conducted at other periods over the duration of the inspection. The inspectors examined work for any obvious defects or noncompliance with regulatory requirements. Particular note was taken of the availability of quality control inspectors and quality control evidence such as inspection records, material identification, nonconforming material status, housekeeping, and equipment preservation. The inspector interviewed craft personnel, supervision, and quality inspection personnel as such personnel were available in the work areas.

The inspector observed construction activities related to backfill and dewatering preparations at the top of the reactor basemat, outside of the east and west sides of the secondary containment walls. He noted the existence of vermiculite-concrete fill in the 12" annular space outside the basemat concrete, the installation of 12" thick compressible (ROTOFOAM) material against the secondary wall, and provisions for vertical drainage, as required by S&W drawing EY-3Q.

The inspector also performed a random inspection of rebar bundles to verify the adequacy of rebar storage and to check that the required grade 50 steel was being provided for all #14 and #18 sized bars.

No items of noncompliance were identified.

4. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (79-04-01): Vermiculite Qualification and Density. The inspector reviewed engineering test data, placement data, and laboratory test reports on the vermiculite-concrete mixes

used as compressible filler to accommodate the effects of horizontal rock stress. He verified that the use of this data, as engineering basis for qualification of the vermiculite-concrete mix, was consistent with the procedural requirements.

The inspector also noted that the vermiculite shipping container contents in each lot had been verified to be within ASTM C-332 density requirements. He has no further questions on this item.

5. Review of Electrical Specifications

The inspector reviewed the Stone and Webster (S&W) Specification for "Electrical Installation," E061A (Revision 1); its QA Field Inspection Plan series, N2-0E061A; and the relevant portions of S&W Quality Standards QS-10.51 (Change 1), QS-10.52 (Change 1), QS-10.53 and Quality Assurance Directives QAD-7.7 (Revision A), QAD-10.11 (Change 1), QAD-10.17, QAD-10.18. Specific technical requirements relative to receiving, installation, welding, raceway material, testing QA, and QC in general were considered with regard to PSAR and code commitments. Engineering and Design Coordination Reports (E&DCRs) relevant to Specification E061A were spot checked for content and final disposition.

The inspector interviewed licensee personnel concerning the field welding of aluminum electrical connectors, the inspection criteria for continuous concrete insert installation, and the development of a construction proof test program for electrical equipment. The following documents were examined as they pertained to each of these issues.

-- S&W QAD-14.1 (Revision B)

-- Attribute List N2-S9.2-1-9123 for the inspection of structural welding

-- S&W E&DCR C00, 569

-- Power-Strut Products Catalog for PT-50N Channel

-- S&W Standard Test Program Directive STPD-5.1, Revision 1 (in process)

-- Conference notes (June 7, 1978) on the NMP2 Test Program

The inspector also reviewed a sample number of QA inspection reports for the installation of scheduled metallic conduit which had been embedded in concrete. The applicability of the inspection attributes

were checked against the reference Inspection Plan (N2-0E061A-003) and particular note was made of a record of actual QC inspection of the total number of conduit bends between pull boxes.

No items of noncompliance were identified; however, one item remains unresolved as discussed below.

The current edition (Revision 1) of S&W Specification E061A allows either bolting or welding of miscellaneous supports and certain electrical equipment to their supports, where specific details are not shown on the drawings. This latitude in choosing the method of equipment mounting appears to be in variance with the more rigorous requirement of IEEE 323 which indicates that the manner of mounting is one of the factors essential to the determination of proper equipment qualification. The inspector reviewed a draft copy of Revision 2 to Specification E061A which indicated that changes were in process requiring engineering determination of the method of mounting for QA Category 1 switchgear. The licensee also indicated that similar specification changes would be made, as necessary, to specify engineering involvement in the choice of mounting for other safety related electrical equipment.

Pending incorporation and approval of these changes into the governing electric specifications, this item is unresolved (410/79-06-01).

6. Primary Containment Wall Inspection of Preparations for Concrete Placement

The inspector observed work being performed prepatory to a circumferential concrete placement for lift #10, elevation 229' to 234'-5" of the primary containment structure walls. He determined by direct observation, independent measurements and discussions with contractor craft, engineering and quality control personnel that work and inspection activities are being accomplished according to applicable specifications, codes, standards, drawings and procedures, in the following areas:

a. Forms - properly secured, leak tight and clean.

b. Rebar, cadweld splices and other embedments - properly placed, secured, clean and adequately spaced for concrete cover and adequately separated in relationship to size of coarse aggregate and method of concrete placement to be used.

c. Construction joint - engineering approval obtained via E&DCRs (C10,730 and C10,761) to change the horizontal joint, shown on drawings, to a 45° joint at the top of the lift to accommodate

shear bars installed. The inspector observed this engineering change to be properly reviewed and approved. Field application of details identified in sketches attached to the E&DCRs were observed to meet all requirements.

d. Revision of the concrete placing procedure to identify above change in construction joint - provisions were made for the 45° formed joint using stay-in-place expanded metal, and for proper concrete placement and vibrator access.

Before final QC inspection of this placement, the inspector reviewed with QC, engineering and contractor personnel their awareness of special construction conditions resulting from change in the construction joint.

This concrete placement was not accomplished during the inspection; however, preparations and planning were observed to be in compliance with specifications, codes, standards and drawings.

No items of noncompliance were identified.

7. ASME Certification System Requirements

The inspector reviewed the Nine Mile Point, Unit 2 PSAR and interviewed licensee personnel to determine the extent of work and the number of contractors involved in ASME Code activities requiring certification. He examined the Owner's Certificate of Authorization (N-1484) and was informed of its recent extension to August 23, 1982. Certificates of Authorization for Stone and Webster (N-1513) as the engineering organization, Chicago Bridge and Iron (N-2134, 2135, and 2136), and ITT Grinnell (N-1749 and 1750) were examined for the scope of authorization with regard to work completed and in progress. ASME survey team audits, leading to site extension authority, are forthcoming for these contractors.

The inspector also noted that requirements for ASME III Code Data Report and Material Certification review were specified in Stone and Webster program documents -- Quality Assurance Directive QAD-7.8, Revision B and Quality Standard QS-7.1, Revision C.

No items of noncompliance were identified.

8. Nonroutine Events Reported by the Licensee

a. Geologic Feature Investigation

During this inspection, the licensee informed the inspectors of the continued study by their consultant, Dames and Moore, of a geologic feature exposed in the area of the radwaste building foundation. The inspectors observed an uncovered portion of the feature, noted that activities were underway for enlargement of the trench for further investigation, and were informed that status of this feature was reported to the Office of Nuclear Reactor Regulation on August 30, 1979.

b. Potential 50.55(e) Report

During the course of the inspection, the licensee informed the inspector of a potentially reportable item, under 10 CFR 50.55(e), in which a contractor employee has alleged that cleanup of a portion of a reactor base mat pour may not have been complete prior to concrete being placed in that area. The concrete placement in question was made in June, 1977. The licensee indicated that an investigation is currently in progress.

9. 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 5.

10. Exit Interview

At the conclusion of the inspection on August 31, 1979, a meeting was held at the Nine Mile Point Unit 2 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.