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

Region I

Report No. 50-410/79-05

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: May 14-17, 1979

Inspectors: Lewis Narrow 8/3/79
L. Narrow, Reactor Inspector date signed

Lewis Narrow/for 8/3/79
A. C. Cerne, Reactor Inspector date signed

Approved by: R W McGaughy 8/22/79
R. W. McGaughy, Chief date signed
Construction Projects Section
RC&ES Branch

Inspection Summary:

Inspection on May 14-17, 1979 (Report No. 50-410/79-05)
Areas Inspected: Routine, unannounced inspection by regional based inspectors, which commenced during the evening shift of May 14, 1979, of the QC programs for structural steel erection and for fabrication and erection of the containment liner. The inspection also included review of the status of Bulletins and Circulars at the licensee's corporate office. The inspection involved 28 inspector-hours on site and 14 inspectors-hours in the licensee's office by two regional based inspectors.
Results: Of the three areas inspected, one apparent item of noncompliance was identified in one area (Infraction - Failure to promptly evaluate an identified welding inspection problem for reportability as a significant deficiency in accordance with 10 CFR 50.55(e), Paragraph 3).

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DETAILS

1. Persons Contacted

Niagara Mohawk Power Corporation

*R. J. Aldrich, QA Engineer
*M. Brause, QA Technician
*W. M. Bryant, Manager, Quality Assurance
*R. A. Dowd, Supervisor, Quality Assurance
*L. G. Fenton, Senior Site QA Represntative (Acting)
*P. E. Francisco, Licensing Engineer
C. G. Honors, QA Engineer
K. Nilsson, Consultant
*C. D. Terry, Manager, Nuclear Projects Engineering
K. D. Ward, QA Engineer

Stone and Webster Engineering Corporation (S&W)

H. P. Astle, QC Engineer
T. L. Dean, QC Engineer
P. Fadden, Assistant Resident Engineer
C. Lee, Structural Design Squad Leader
E. Magilley, Senior QC Engineer
H. Masson, Staff Electrical
H. Reese, Project Manager (Cherry Hill)
J. E. Rogers, Chief Office Engineer
L. E. Shea, Head, Site Engineering Ofice
D. A. Smith, Structural Engineer
T. Vaughn, Assistant Superintendent, Field QC
K. E. Worthington, QA NDT Engineer

Chicago Bridge and Iron Company (CBI)

T. J. Dougherty, Project Welding and QA Superintendent
A. Spears, QC Supervisor

*Denotes those present at the exit interview.

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

2. Plant Tour

The inspectors made a tour of the site during the second shift to observe work activities in progress, completed work and the status of construction. The inspectors examined work items for any

obvious defects or noncompliances with regulatory requirements and observed QC activities and evidence of quality control of the work. Specific activities and items observed by the inspectors included fit-up of containment liner insert plates and cadweld sleeves; and fit-up of structural steel framing and supports.

3. Evaluation of Possible Significant Deficiencies

The inspector reviewed the Nonconformance and Disposition (N&D) Reports listed below:

- o N&D Report No. 1357, dated April 4, 1979, which states that documentation review of UT examination of containment liner base ring weld does not provide assurance of proper test implementation and weld joint integrity. The disposition requires reexamination of 100 percent of the base ring T-weld using approved procedures and techniques.

- o N&D Report No. 1359, dated April 4, 1979, which states that the UT technique used to test the "K" Groove weld connecting the Knuckle Plate to the transition was found to be inadequate. The disposition requires surface preparation for MT examination, MT examination using an approved procedure, UT examination using approved procedures and techniques, and repair and reexamination as necessary.

- o N&D Report No. 1380, dated May 9, 1979, which states that review of UT technique and documentation for inspection of certain weld joints on 43 pentrations had determined that the technique used did not provide 100 percent volumetric inspection. The disposition had not been provided.

These nonconformances were identified as a result of an audit of Graver Tank and Manufacturing Company (Graver) by the S&W NDT Division during September, 1978. One finding of this audit stated that the UT procedures used were not capable of detecting defects perpendicular to the plate surface for double bevel weld joints and recommended development of adequate procedures and review of all reports of UT examinations performed on this type of weld joint.

Engineering Assurance Procedure EAP 16.2, Rev. 2 establishes the responsibility for the Engineering Department, Construction Department, or Quality Assurance Department; dependent upon the type of deficiency, to review deficiencies in order to determine if they meet the criteria of 50.55(e). Paragraph 4.8 of EAP 16.2 states, in part, "If the Engineering Department, Construction Department, or Quality Assurance Department determines that a deficiency

may be reportable, the Project Manager shall immediately notify the client...."

The inspector asked for and was unable to obtain any evidence that these deficiencies had been reviewed for reportability as a significant deficiency in accordance with ID CFR 50.55(e). Failure to perform this review is considered to be not in conformance with EAP 16.2 and is in noncompliance with the requirements of 10 CFR 50, Appendix B, Criterion V (79-05-01).

4. Structural Steel - Observation of Work

a. Control Room Building

The inspector witnessed the erection of some of the Control Room Building structural steel, observed the welding of one beam end to a wall embedment and examined the finished condition of various bolted and welded joints. One field drawing (Cives Drawing E718) in use was checked to verify its currentness. The inspector also verified the calibration record of a Skidmore Wilhelm wrench calibrator (No. 08287) and spot-checked high-strength bolting records to determine the calibration frequency of two torque wrenches (Nos. 08286 and 08287) utilized in the final torquing operation. While the inspector noted a deviation from the current calibration requirements of one wrench during its use in February 1979, the licensee produced evidence that this had already been documented in a Niagara Mohawk QA Surveillance Report 016479 and closed with proper reinspection of the affected areas (S&W Inspection Report Nos. S9021189 and S9024717).

The above items were evaluated against criteria established in S&W Specification S204A (Revision 3) and its reference to AWS, RCRBSJ, and AISC code requirements. The qualifications of two S&W Level II QC engineers were also examined to verify compliance with the requirements of ANSI standard N45.2.6.

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

The inspector noted that the welding of a mark A3230 clip angle, used as a Control Room Building beam seat at elevation 237 feet, did not appear to fully conform to the applicable detail in Cives Drawing E351 (Revision F). While 3½ inches of the proper sized fillet weld had been deposited on each side of the clip angle, part of the weld length on one side had been deposited on the underside of the clip to avoid a small wire hole in the embedment to which welding was being

accomplished. Interviews with licensee QA/QC personnel indicated that the existence of the wire holes stemmed from the approved method of attaching the embedments to the forms prior to concrete placement and that this situation most probably existed at other areas where welding to the embedments was accomplished. The licensee, however, could not produce any evidence that engineering approval of this weld variation had been obtained.

Pending a reinspection of all areas where variations in the required weld design were used to bypass existing embedment holes and a review by engineering as to the acceptability of each variation, this item is unresolved (410/79-05-02).

b. Auxiliary Building Steel Supports

The inspector examined the overall condition of structural steel, to be used as major equipment supports, within the Auxiliary Building. This structural steel had been fitted-up using A325 high-strength bolts as erection bolts, but torquing operations had not yet commenced. The inspector questioned the wording of a S&W Specification S204A and Construction Methods Procedure CMP 4.1-5.78 requirement regarding the placement of washers on the fit-up bolts. Since the washers serve their purpose during the torquing operation, their presence during the fit-up process is not required if installation of the fit-up bolts is treated as a temporary operation. Interviews with S&W engineering personnel confirmed the temporary nature of the fit-up bolt installation. S&W Engineering and Design Coordination Report (E&DCR) F00100 was issued on May 16, 1979 to clarify the wording in the specification regarding the use of these washers.

The inspector evaluated the erection of this structural steel with regard to the requirements of the governing S&W Specification S204X with Addenda A and B, and pertinent E&DCR's C00752 and F00078.

No items of noncompliance were identified.

c. Structural Steel Material and Storage

The inspector walked through the structural steel lay-down area observing the steel's general condition, storage status, and marking. He verified the material conformance of structural steel and high-strength bolts and nuts to specification requirements by examining a random sample of certificates of

conformance and test reports included in the Material Receiving Report packages. Various S&W QA Inspection Reports on high-strength bolting and structural steel in general were reviewed to determine if the applicable attributes specified in S&W Quality Assurance Directive QAD 10.5 (Revision B) had been utilized and documented in the inspection process. One Control Room Building structural member was traced from its field marking (E 3216) through the shipping records to its specific material certification document. The inspector cross-checked certain data from the material test reports against the applicable ASTM A36, A325, and A490 requirements to verify completeness and acceptability.

No items of noncompliance were identified.

5. Containment Welding and Welding Control

A visual inspection was made of the randomly selected weld joints listed below for conformance to the applicable specifications, codes and work performance procedures:

- 2-B-7 - s/s overlay; Knuckle to suppression pool
- 9-B-7 - s/s overlay; Knuckle to suppression pool
- 32087-2 - Fit-up and tack weld; Access Hatch to suppression pool
- 23-A - Replacement of insert plate in Knuckle
- Fit-up and welding of cadweld sleeves to Knuckle.

The inspection included observation of conformance of the attributes listed below:

- Weld identification and location
- Joint preparation
- Use of specified weld procedures and welding electrodes
- Qualification of welders for work in progress
- Preheat where required
- Visual observation of weld surface condition.

The inspection also included observation of storage and issue of welding material, including segregation, identification, temperature control, issue records and handling of returned electrodes. The inspector interviewed the contractors welding inspector concerning the extent and frequency of his inspections and reviewed his records of work in progress. The inspector also examined certifications and qualifications of CBI NDE inspectors.

No items of noncompliance were identified.

6. Containment Welding Records

The inspector discussed control and documentation of welding and NDE with the CBI QA superintendent and examined CBI Record Drawings No. R-1, Rev. 1 and R-3, Rev. 2 and the Record Drawing Table. These documents provide the permanent records of weld number, location, welder identification, welding procedure, inspections and NDE performed, including NDE report numbers, nonconformance report numbers and dates of correction.

No items of noncompliance were identified.

7. Licensee Action on Previous Inspection Findings

(Open) Unresolved Item (79-02-01): Review of Graver records by S&W and turnover to CBI. The Graver Erection Control Drawings (ECD) have been turned over to S&W but are proprietary for S&W use and not to be released to CBI. S&W is continuing preparation of "Status Reports" and checking them against ECD's as well as NDE reports. The inspector compared a random selection of "Status Reports" with the corresponding ECD's. One discrepancy was identified. ECD HT-3 showed UT complete. This was carried on the "Status Report" as not complete since the required UT report was not available. The licensee representative stated that any cases where the work performance shown on either ECD or the NDE report was not confirmed by the other was carried on the "Status Report" as not complete.

(Open) Unresolved Item (79-02-03): Specification for exposure of electrodes. The status of this item was reviewed and the inspector was informed by the licensee the additional testing was in progress by S&W and the results would be available on site by June 1, 1979.

8. Licensee Action on IE Bulletins, Circulars and Information Notices

The inspector examined records and interviewed licensee representatives to verify that corrective action had been taken with respect to IE Bulletins, Circulars and Information Notices. For each

of the Bulletins and Circulars shown below, the inspector verified that the identified problem had been resolved as shown.

a. Factored into design and test program:

Bulletin 77-08. Emergency Locking System

Circular 78-15. Tilting Disk Check Valves

Circular 77-09. Improper Fuse Coordination in BWR Standby Liquid Control System Control Circuits

Circular 78-02. Proper Lubricating Oil for Terry Turbines

Circular 78-13. Inoperability of Multiple Service Water Pumps

b. Not purchased or installed to date and added to "Excluded Equipment List for Future Purposes":

Bulletin 78-01. GE CR 120A Relays

Bulletin 78-10. Bergen-Paterson Hydraulic Snubbers

Information Notice 79-01. Bergen-Paterson Shock Suppressors

c. Not applicable to this plant:

Circular 78-07. Damaged Components on a Bergen-Paterson Series 25000 Hydraulic Test Stand

Circular 78-09. Arcing of General Electric Company NEMA Size 2 Contractors

Circular 78-11. Recirculation M-G Overspeed Stops

Circular 78-12. HPCI Turbine Control Valve Lift Rod Bending

Circular 78-14. HPCI Turbine Bolting.

9. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items or items of noncompliance. An unresolved item disclosed during the inspection is discussed in Paragraph 4.

10. Exit Interview

At the conclusion of the inspection on May 17, 1979, a meeting was held with representatives of the licensee. The inspectors summarized the results of the inspection as described in this report.