U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 85-24

Docket No. 50-410

License No. CPPR-112 Priority -- Category B

Licensee: Niagara Mohawk Power Corporation
300 Erie Boulevard, West
Syracuse, New York 13202

Facility Name: Nine Mile Power Station, Unit 2

Inspection At: Scriba, New York

Inspection Conducted: June 22 - 26, 1985

Inspector: A. A. Varela, Lead Reactor Engineer 8/28/85 date

Approved by: J. T. Wiggins, Chief, Materials and Process Section, EB, DRS 8/28/85 date

Inspection Summary: Inspection on June 22 - 26, 1985 (Report No. 50-410/85-24)

Areas Inspected: Routine unannounced inspection by one regional based inspector of HVAC work activities and inspection procedures and corrective action for previously identified violations. Additionally, licensee and AE actions on other previously identified civil/structural items were reviewed. The inspection involved 36 inspector-hours on site and 6 inspector-hours of in-office inspection.

Results: No violations were identified.

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DETAILS

1. Persons Contacted

Niagara Mohawk Power (NMP)

*W. D. Baker,	Assistant to Manager, Special Projects
*C. G. Beckham,	QA Manager
S. Czuba,	Construction Engineer
R. Fenton,	Audit Supervisor
*R. Kumar,	Field Engineer
*B. R. Morrison,	Manager Quality Engineering
*J. R. Orlando,	Start-up QA Supervisor

Stone and Webster Engineering Company

T. Arrington,	Field QC Manager
R. Agee,	QC Supervisor (HVAC)
*T. L. Baumagartner,	Site QA Supervisor
*R. S. Hyslop,	Site Licensing Engineer
J. Norton,	Training Coordinator
J. O'Neil,	QC Lead Inspector (HVAC)
*A. Pinter,	Acting FQC Manager
R. Pitcher,	Welding Designee (HVAC)
*A. N. Rovetti,	Supervising Engineer

USNRC

R. A. Gramm,	Senior Resident Inspector

*Attendees at Exit Meeting.

2. Inspection Purpose and Scope

The purpose of this inspection was primarily to review with cognizant licensee quality assurance engineers and contractor quality control engineers their response to previously identified violations and unresolved items relating to procedural requirements and inspection of civil/structural work. The following paragraph describes specific items selected for follow-up. Responses prepared by SWEC and NMP engineers were reviewed and discussed with responsible personnel in this effort. Cognizant QA, QC and construction personnel provided information for the inspector to independently verify and evaluate appropriate corrective actions and the acceptability of existing controls. This inspection included a review of licensee QA activities, his responsibility for corrective actions and his responses to previously identified violations and unresolved items.

3. Follow-up on Previously Identified Items

3.1 (Closed) Violation (410/85-03-01): HVAC duct support plate shim requirements for concrete anchoring. The SWEC engineering mechanics memorandum CHOC-EMDM-84-04 was revised on March 8, 1985 to clarify its applicability for providing shimming criteria to resolve difficulties encountered during installation by the mechanical contractor of HVAC supports, if required. Field QC inspection plan N2OP413LFA001 has also been revised to reflect a change in the HVAC specification number P413L, by issuance of E & DCR F02265. The inspector reviewed the above changes and discussed with cognizant SWEC and licensee QA engineers SWEC's sample inspection of 37 of 155 support plates with drilled-in concrete anchors. All installations examined in the sample met the criteria of CHOC-EMDM-84-04 without shimming. Consequently no back fit inspection was required. The licensee's QA involvement is reflected in their surveillance of the above inspection, and the site QA evaluation/verification reports on the adequacy of the corrective and preventive actions. The NRC inspector independently verified implementation of the revised QC inspection plan. This is identified in Paragraph 4.

3.2 (Closed) Violation (410/84-06-03): Structural steel high strength bolt connections accepted by QC exceed the allowable criteria required by AISC-RCRBSJ. The inspector observed in his review of documentation and correspondence on corrective actions between NMP and SWEC that the structural steel was fabricated off-site by the Cives Steel Shop under SWEC purchase order and requirements identified in SWEC engineering specifications and drawings. SWEC's procurement quality assurance group (PQA) has the responsibility for verifying the acceptability of the Cives quality assurance program.

This violation identified nonconforming sizes and shapes of bolt holes in structural steel members sent to the site. The licensee's formal response to the above, dated July 13, 1984, stated that the company's reaction to these violations was recognition that NMP's continuing management attention to quality matters is necessary. The licensee committed to implementation of revised procedures coupled with quality training programs and increased management attention to effect continuing improvement in NMP's quality performance. The NRC inspection effort for close out of this item included review and evaluation of N&D's number 7,698, 9,182, 9,994 and 12,132. Also the programmatic aspects of corrective actions and verification of licensee commitments were included in the NRC inspector's review and evaluation. Specifically reviewed were:

-- Engineering correspondence and documentation relating to investigation of erected and connected steel members and correction for nonconforming slotted and oversize bolt holes

-- SWEC rework control form S-026 and S-036 August 17, 1984 and September 20, 1984 authorizing removal of erected/bolted structural steel to support engineering evaluation and for inspection by FQC.

-- Licensee QA surveillance reports (16) between April 4, 1984 and February 4, 1985 on the erection and QC of Cives structural steel and bolting

-- Documentation of licensee verification of SWEC/Cives corrective/preventive actions for acceptance of corrected structural steel

-- Review of SWEC records on craft awareness training in quality control initiated February 24, 1984 and discussions with the training coordinator on its effectiveness

-- SWEC PQA revised inspection plan for structural steel at Cives Steel Shop to ensure that inspection attributes properly identified the specification inspection requirements and acceptance criteria

-- SWEC revised quality standard to improve rework controls by providing inspection attributes and to document FQC's inspection close out on rework items

The licensee's involvement in the response and close-out of this violation is documented in NMP site QA records of evaluation/verification of SWEC's corrective and preventive actions. NMP/SWEC interoffice correspondence and NMP internal office memorandum provide evidence that licensee upper management was kept informed of his QA verification of SWEC activities.

3.3 (Closed) Inspector Follow-up (410/83-18-55): Inadequate inspection criteria for concrete surface inspections. This follow-up item was addressed in the NRC Construction Assessment Team (CAT) inspection. The item specifically identified a potential deficiency in the SWEC QC Inspection Plan No. N20S203GFA001. The plan appeared weak in the area of precluding the occurrence of voids, honeycombing, rock pockets or exposed rebar for concrete, where surface plates are to be installed without the inspection attributes. The licensee's letter of March 29, 1985 to the NRC identified that no evidence of surface defects as mentioned above existed. This is documented by 132 inspection reports performed to inspection plan N20S203GFA001. Thirty-nine of these reports included 66 mounted plates. The letter adds that no instances of surface mounted equipment covering voids, exposed rebar or honeycomb were found in the other 93 surveillance inspections. Also the licensee states that 60 N & D reports for surface defects and voids demonstrated that SWEC's quality assurance

program was attentive to these conditions. The licensee concluded from above that no concern exists and states that revision to SWEC QC Inspection Plan was unnecessary.

The inspector reviewed documentary evidence and interviewed cognizant QA and QC engineers to confirm the above. Additionally NMP's site QA conducted an unscheduled surveillance of concrete surfaces prior to mounting of plates. Surveillance report C-85-00595 found no unsatisfactory conditions. Site QA audited seventeen of SWEC inspection reports on concrete surface conditions encompassing seven buildings and confirmed the above. The inspector determined that these actions accomplished the necessary evaluation and verification by the licensee that voids, honeycombs, rock pockets or exposed rebar did not go undetected even though the inspection plan did not contain these attributes.

3.4 (Closed) Violation (410/83-18-85): Civil inspections performed without adequate inspection criteria and inspection failed to identify deficient conditions. This violation contained in the NRC CAT inspection report has three examples of inadequate inspection criteria and one example of inspection failure to identify deficient conditions. The licensee's final report, by their independent review group, MAC, of the above CAT violation was reviewed by the NRC inspector and discussed with cognizant SWEC and NMP engineer. NMP's response letters of May 4 and August 29, 1984 to the NRC address each of the four examples of deficient civil inspection contained in the violation. The letter of August 29th contains explanatory information that was discussed at a meeting with the NRC Office of Inspection and Enforcement on July 16, 1984. The inspector reviewed documentation supporting the response contained in NMP Surveillance Report No. C-84-496. The inspector observed that the four examples quoted in the violation expressed concerns for apparent weaknesses in civil construction. The licensee and SWEC instituted craft awareness training as preventive action and evaluation of existing inspection criteria to strengthen existing controls.

Based on the above observations and the emphasis given in licensee's construction awareness training instituted in February 1984, for all craft and QC personnel, the explanations contained in the response and the preventive actions taken this item is considered closed.

3.5 (Closed) Violation (410/82-10-05): Inadequate inspection and test program for drilled-in concrete expansion anchors. This violation initiated action by the licensee who issued Nonconformance Report No. 358 to SWEC and requested the AE address the following in accordance with requirements of specification S203G, Addendum #1 to Revision #3:

-- Failure to perform the required inspections on a weekly basis

-- Failure to address all attributes on a weekly basis

-- Failure to perform required hardware inspections

-- Corrective actions to preclude repetition of this noncompliance

The inspector reviewed extensive documentation that resulted from the above. The commitment made by SWEC in response to licensee's NR # 358 satisfies closeout of the violation. The actions taken by SWEC consisted of the following:

-- Inspection of a minimum of one anchor of each Category 1 seismic support. This was extended to require all site contractors' work be witnessed 100% by SWEC field QC on all installed accessible anchor bolts for inspection attributes such as perpendicularity and imbed depth.

Documentation of the corrective actions taken as a result of numerous nonconformities identified in SWEC reinspection of 2164 anchor bolts and the programmatic improvements and the personnel training instituted were found acceptable. The licensee's site QA's evaluation and verification accepted closure of this item on May 16, 1983.

3.6 (Closed) Violation (82-14-01): Failure to install drilled-in concrete anchors in accordance with instruction. This violation was against SWEC specification S203G. SWEC issued N & D #4068 for concrete expansion anchors that had been installed and accepted with bolt threads not projecting beyond the nut. The N & D was dispositioned "Accept-As-Is" based upon a change to the specification. The corrective action, as stated in licensee's response to this violation, was verified by the NRC inspector. Instruction and training were given to FQC personnel in order to prevent recurrence of not adhering to specification requirements. Instruction was also provided regarding the methods to obtain properly approved changes affecting QC's inspection/acceptance. The licensee's QA evaluation and verification of the above corrective actions were found acceptable to the NRC inspector.

4. <u>Work Observation and Record Review of HVAC Support Installation</u>

The NRC inspector routinely accompanied SWEC's HVAC lead QC inspector and the mechanical contractor's welding inspector to observe turn over of HVAC duct work and fire damper installation in the secondary containment building, at elevation 289. This installation was performed under a change identified by E&DCR number C 92372. Independent inspection by the NRC inspector of completed through wall 15" x 27" horizontal damper, 2 HVR * DMPF 36, verified that the details shown on the E&DCR and the attached vendor details for welding and installing the equipment were adhered to

in the field. The inspector observed the generation of records for the above.

The inspector also independently verified implementation of the revised inspection procedure, addressed in Paragraph 3.1. This was performed by inspecting HVAC unit B1P # 52.001 for system 22-1, Air Cool and Purge to verify that support plates attached to concrete surfaces with concrete anchor bolts are inspected for shimming criteria identified in E&DCR F 02265.

5. Licensee's QA Involvement in Obtaining Resolution of Previously Identified Items

The licensee's QA activities identified in Paragraph number 3 demonstrated his responsibility in assuring adequate and timely corrective actions for NRC identified violations and items requiring more information for resolution. NMP's Site QA maintains files of these items to track all actions initiated by the licensee and to track SWEC's related activities. This QA documentation of NMP's evaluation and verification is separate from their audit responsibilities of site construction. The NRC inspector's review and evaluation of these licensee activities is also addressed in Paragraph number 3.

6. Exit Meeting

The inspector met with licensee and construction representatives denoted in Details, Paragraph 1 at the conclusion of the inspection on July 26, 1985 at the construction site. The inspector summarized the scope and inspection findings of this inspection. The licensee acknowledged the inspector's comments. No written information was given to the licensee during the course of the inspection.