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

Region I

Report No. 79-12

Docket No. 50-220

License No. DPR-63 Priority: -- Category: C

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

Facility Name: Nine Mile Point 1 Nuclear Generating Station

Inspection at: Scriba, New York

Inspection conducted: April 17-20, 1979

Inspector: R. J. Paolino, Reactor Inspector — 07-13-79 date signed

Approved by: S. D. Ebneter, Chief, Engineering Support, Section 2, RC & ES Branch — 8-7-79 date signed

Inspection Summary:

Inspection on April 17-20, 1979 (Report No. 50-220/79-12)
Areas Inspected: Routine unannounced inspection by a regional based inspector of the Analog Transmitter/Trip Unit system modification to the Reactor Protection System. The inspection involved 25 inspection hours on site by one regional based inspector.
Results: No items of noncompliance were identified.

DETAILS

1. Persons Contacted

Principle Licensee Personnel
Ms. R. Adrich, QA Engineer (by telephone)
Mr. F. Dahlin, Association QA Engineer
Mr. W. D'Angelo, Manager Generation Engineering (by telephone)
Mr. M. Colomb, Chief Shift Operator
*Mr. P. Harrison, Associate QA Engineer
Mr. R. Jutras, Technical Assistant to Plant Superintendent
*Mr. T. Perkins, Plant Superintendent
*Mr. B. Taylor, Supervisor Instrument/Control
Mr. A. Vierling, Project Engineer

*Denotes personnel present at the exit interview.

2. Plant Status

The plant was shut down for refueling. Expected startup date is May 23, 1979.

3. Analog Transmitter/Trip Unit System Modification to Reactor Protection System

The system is designed to reduce the calibration frequency for the primary sensor from once per quarter to once per operating cycle for multi-channel variables. This will allow calibration of the primary sensor when the reactor is shut down. The new analog trip devices will decrease by an order of magnitude the amount of time required to functionally test or calibrate the safety trip points and reduce the time the plant is in a half-scram mode for functional testing or calibration of the safety trip. In addition, the potential for scrams caused by valving errors generating hydraulic pressure spikes would be reduced and instrument testing related scrams would be eliminated.

a. The scope of the modification consists of replacement of the present mechanical type sensors with analog transmitter trip devices, associated tubing and cable for installing the instruments, four RPS cabinets with seismically designed foundations and modified transmitter rack supports in the east, west and north instrument rooms.

b. The inspector examined the following documents governing design and construction of the system modification to ascertain whether the modification was performed in accordance with the facility license, Technical Specification, 10 CFR 50, Appendix B and Applicable Codes and Standards to which the facility was built.

(1) Maintenance Procedure (MP)-45.20, revision 2, dated March 27, 1979, entitled "Implementation Procedure for RPS Modification M.O.-0882.

(2) MP-47.7 revision 0, dated February 1, 1979 on "Calibration of AMP Crimping Tools".

(3) MP-44.4 revision 0, dated June 18, 1976 on "Installation of Fire Stops".

(4) MP-44.2 revision 3, dated June 19, 1978 entitled "Implementation Procedure for Class 1 and 1E Electrical Installations and Modifications".

(5) Electrical Installation Specification No. E-23 dated January 1979.

(6) MP-44.3 revision 1, dated March 16, 1977 on Installation of Electrical Penetrations.

(7) General Electric Topical Report No. NEDO-21617 dated April 1977.

(8) Control Board Interconnection Wiring Diagram No. 22385-C sh. 16, 17, 18 and 19.

(9) Design layout drawing no. 27063-C.

(10) Instrumentation and Piping drawing nos. 18469-C, 18017-C, 18012-C, 18002-C, 18006-C, 18014-C, 19472-C and 19468-C.

(11) Cable and Conduit Schedule for Control Board Panel Nos. F, K, M and S per drawing nos. B-19754-C sh. 3, 4 and 5; B-19758-C sh. 3, 4 and 7; B-19760-C sh. 1-17; and B-19765-C sh. 119, 120, 121 respectively.

(12) Cable Megger and Termination Report for cable nos. 1M-196, 1M-198, 1M-199, 1M-201, 1M-169, 1M-165, and 1M-156.

(13) Internal Audit No. 1 of December 5-6, 1978 per ANSI N45.2-11.

(14) Quality Control Inspection Report Nos. 79-485, 79-459, 79-398, 79-329, 79-318, 79-288 and 79-004.

(15) Cable Specifications for 600V and 1000V fire/radiation resistant cable no. 2E revision 2 dated November 22, 1976 purchased on P.O. #68442.

(16) Material Certification for item nos. 81828-92, 81625-90, and 82538-91 of above Purchase Order dated December 18, 1978.

(17) Certified Test Report for above cables dated December 18, 1978.

(18) Personnel Qualification Records of four craftsmen participating in the modification.

No items of noncompliance were identified.

c. The inspector verified that Receipt Inspection, Material Certifications records, Storage, Handling, Identification and Installation Records confirm that the required material and/or component characteristics and qualification tests were met.

Items examined for this determination include:

(1) General Electric Purchase Order No. P.O. 54114, requisition no. 306-W4058 dated March 19, 1979.

(2) Quality Control Inspection Report Nos. 79-485, 79-459, 79-398, 79-329, 79-318, 79-288, 79-287 and 79-004.

(3) Cable Specification No. RSS3-021 and 2E.

(4) Cable Purchase Requisition Nos. 52657 and 68442.

(5) Certificate of Conformance dated May 4, 1978 and December 18, 1978.

(6) Certified Test Report for item 4, dated December 18, 1978.

(7) G.E. Topical Report Nos. NEDO-11209-04A and NEDO-21617.

No items of noncompliance were identified.

d. The inspector reviewed nonconformance/deviation reports related to instrument components/systems to ascertain whether these reports reflect current status, are legible, complete, readily retrievable and reviewed by QC personnel.

Documents examined for this verification include:

(1) Nonconforming item list form no. MP-44.2-1 containing the following:

(a) F-14 fuse change in ATS cabinet A, B, C and D.

(b) Incorrect routing for 1M-64 cable per schedule B-19760-C.

(c) Incorrect routing of 1M-169 cable through RB wall sleeve direct bank 11D-02.

(d) Wiring error on print 22385 sheet 16.

(e) Yarway level indicator replaced with unit from General Electric.

No items of noncompliance were identified.

e. The inspector performed an inspection of the installed equipment to ascertain whether the requirements of applicable specifications, work procedures, test procedures and inspection procedures have been accomplished in the areas of identification, location, supports, materials, instrument type, range, separation, termination and protection.

(1) The inspector verified location of the ATS Cabinets A, B, C and D per drawing C-19472-C and drawing C-19468;

internal connections of ATS Cabinets A and C per drawing C-22385-C sheet 16 and 18 and wiring diagram drawing nos. C-27004-C, C-19859-C and C-22005-C.

(2) The inspector traced the routing of cable 1M-60 (4M#12) from tray 11RB at west wall near column row N-4, up through Reactor Building floor sleeve nos. 261-N4-C1 and 281-N4-C1 to tray 13RB, above floor sleeve 281, east to conduit IS-1749-1-½" to ATS Cabinet A, channel 11/1, el. 281 near column row N-5.

No items of noncompliance were identified.

(3) The inspector noted that ATS Cabinet C, Channel 11, located in the southeast corner of the Reactor Building, contained only one power supply. A "Hold tag" on the cabinet indicated the power supply had been sent out for repairs. The QC receiving inspection report dated February 5, 1979 for P.O. No. 54114 lists Tag No. 0506 with the following discrepancies:

(i) No permanent I.D. Tag.
(ii) Certification and Tag Numbers differ for ATS Cabinets B and D.
(iii) Wiring errors.
(iv) Power supply failures.

Items (i), (ii) and (iii) have been corrected, however, item (iv) involves the failure of three (3) power supplies out of a shipment of eight. Preliminary analysis attributes failure to the ferroresonant transformer used for voltage regulation.

The licensee is pursuing the cause of the failure and possible generic implication.

This item is unresolved pending NRC review of licensee evaluation and corrective action. (50-220/79-12-01)

(4) The inspector examined component installation of the west instrument room, Reactor Building el. 284'-0 per drawing C-18469-C. The inspector noted that the steel base plate on which the sensors (pressure/level transmitters) were previously mounted had been replaced with a pipe

structure. The sensors are then clamped to the pipe structure with "C" clamps. The clamps are tack welded at one point to prevent turning.

The inspector questioned the licensee regarding seismic qualification for the instrument room installation. The licensee stated that the seismic analysis had not been done and that discussions are presently in progress with NRC licensing personnel regarding compliance with IEEE std. 344-1975.

Confirmation of licensee action was verified on April 20, 1979 in a telephone conversation between the inspector and NRC licensing personnel assigned to this facility.

The inspector had no further questions.

4. 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. Unresolved items disclosed during this inspection are discussed in Detail, paragraph 3.e(3)

5. Exit Interview

The inspector met with licensee personnel denoted in Details, paragraph 1 at the conclusion of the inspection on April 20, 1979. The inspector summarized the purpose and scope of the inspection. The licensee acknowledged the inspector's findings.