U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-410/86-51

Docket No. 50-410

License No. CPPR-112

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: September 8-19, 1986

Inspectors: D. Florek
D. Florek, Lead Reactor Engineer — 10/7/86 date

M. Evans
M. Evans, Reactor Engineer — 10/7/86 date

Approved by: L Briggs
L. Briggs, Chief, Test Program Section, OB, DRS — 10/7/86 date

Inspection Summary: Inspection on September 8-19, 1986 (Report No. 50-410/86-51)

Areas Inspected: Routine unannounced inspection by two region based inspectors of licensee actions on previous inspection findings, preoperational test program verification, preoperational test results evaluation, power ascension test procedure review, surveillance procedure review, QA/QC interfaces, independent verification and plant tours.

Results: No violations were identified.

NOTE: For acronyms not defined, refer to NUREG-0544 "Handbook of Acronyms and Initialisms."

## DETAILS

### 1.0 Persons Contacted

Niagara Mohawk Power Corporation

*R. Abbott, Station Superintendent
# C. Beckham, Quality Engineering Supervisor, Operations
#*M. Boyle, Nuclear Compliance and Verification
F. Cifford, System Test Engineer
*J. Conway, Power Ascension Manager
*J. Drake, Startup and Test (SUT) Special Projects Supervisor (SWEC)
# P. Eddy, Site Representative, NY State PSC
# W. Hansen, Manager, Nuclear Quality Assurance, Operations
*R. Matlock, Deputy Project Director
*J. McKenzie, Quality Surveillance
*F. Osypiewski, Lead Auditor
*A. Pinter, Site Licensing Engineer
# M. Ray, Manager Special Projects
*K. Roenick, Site Representative, NY State PSC
#*I. Weakley, Special Projects
*P. Wielde, QA Surveillance Supervision

Other NRC Personnel

#*W. Cook, Senior Resident Inspector

#Denotes those present at the interim exit meeting on September 12, 1986.

*Denotes those present at the final exit meeting on September 19, 1986.

The inspector also contacted other members of the licensee's technical and QA and operations staff.

### 2.0 Licensee Actions on Previous Inspection Findings

(Closed) Unresolved Item (410/86-38-02)

This item deals with the adequacy of the licensee review of power ascension program test procedures. Based on the review of the test procedures as described in Section 3.1, This item is closed.

(Closed) Unresolved Item 410/86-50-03

This item deals with the integration of response time tests for the HPCS system.

The inspector reviewed:

N2-OSP-CSH-R001, High Pressure Core Spray System Functional and Response Time Tests, Revision 0, dated August 8, 1986.

N2-ISP-CSH-R202, ECCS Actuation Instrumentation Response Time (HPCS), Revision 1, dated September 9, 1986.

N2-OSP-EGS-R008, Operating Cycle Diesel Generator Simulated Loss of Offsite Power with an ECCS Division III Initiation, Revision 0, dated September 4, 1986.

The inspector also discussed with the licensee representative whether other surveillance procedures for response time determination had a similiar integration problem and was provided a matrix of technical specification for response time versus surveillance procedures and noted that the licensee had adequately addressed other surveillance procedures. Based on the inspector's review, this item is closed.

(Open) Unresolved Item (410/86-50-02) This item deals with the licensee's evaluation of the standby liquid control valve line up to determine if six additional valves should be added to the monthly valve lineup surveillance procedure. Based on licensee evaluation, 5 of 6 valves are already indicated as locked closed on the master valve lineup list. The licensee indicated that the sixth valve from the demineralized water supply will also be locked closed. Pending licensee locking the valve closed and revising the valve lineup list and procedures N2-OP-36A and N2-OSP-SLS-M001, this item will remain open.

## 3.0 Preoperational Test Procedure Verification

The inspector verified that the licensee has issued approved preoperational test procedures for all systems identified in FSAR Chapter 14, Section 14.2.1.1, that had not previously been reviewed by NRC:RI.

### Findings

No unacceptable conditions were identified.

## 3.1 Preoperational Test Results Evaluation Review

### Scope

The completed test procedures listed below were reviewed during this inspection to verify that adequate testing had been conducted to satisfy regulatory guidance, licensee commitments and FSAR requirements and to verify that uniform criteria were being applied for evaluation of completed test results in order to assure technical and administrative adequacy.

The inspector reviewed the test results and verified the licensee's evaluation of test results by review of test changes, test exceptions, test deficiencies, "As-Run" copy of the test procedure, acceptance criteria, performance verification, recording conduct of test, QC inspection records, restoration of system to normal after test, independent verification of critical steps or parameters, identification of personnel conducting and evaluating test data, and verification that the test results have been approved.

-- N2-POT-34, Automatic Depressurization System (ADS), Revision 1, Station Operations Review Committee (SORC) approved August 15, 1986.

-- N2-POT-31, Residual Heat Removal System, Revision 2, SORC approved July 3, 1986.

-- N2-POT-83, Primary Containment Isolation, Revision 1, SORC approved July 11, 1986.

-- N2-POT-94, Traversing Incore Probe, Revision 1, SORC approved July 1, 1986.

-- N2-POT-1, Main and Auxiliary Steam, Revision 1, SORC approved August 15, 1986.

Discussion

During performance of the ADS preoperational test, the licensee encountered and resolved several problems as discussed below:

- During the initial $N_2$ fill of the Division 1 ADS header into three ADS accumulator tanks a design flow problem was discovered. The header was initially pressurized to 170 psig from tank 4 (350 psig) utilizing bypass valve 2IAS*V889. The bypass valve was then closed and flow control valves 2IAS*SOVX181 and 2IAS*SOVY181 were placed in the auto mode. Division 1 header pressure immediately spiked to 350 psig and safety valve 2IAS*SV20A lifted. The licensee's first attempt to resolve this flow problem was the installation of restricting orifices downstream of 2IAS*SOVX181 and 2IAS*SOVY181 (also downstream of 2IAS*SOVX186 and 2IAS*SOVY186 for tank 5). However, this did not correct the flow problem. Final resolution was the replacement of the orifice downstream of 2IAS*SOVX181 and 2IAS*SOVX186 with needle disc globe valves (2IAS*V1161 and 2IAS*V1162) throttled to the optimum position and locked into place.

- Several problems were encountered with the ADS air compressor, the last of which was the compressor's inability to deliver 6.6 scfm at 350 psig as designed. Since the compressor served as a source of instrument quality air for testing purposes during maintenance and shutdown periods and not for normal plant operation, the licensee chose to abandon the ADS air compressor in place. A Licensing Document Change Notice (LDCN #2348) was issued to delete references to the compressor in the FSAR.

- The licensee encountered other problems including leakage of various check valves and a safety relief valve and numerous design problems with the valves which supply the ADS system with nitrogen from the nitrogen storage skid.

The inspector reviewed various deficiency reports, problem reports, engineering and design coordination reports, work requests and work control reports associated with all of the above problems. The inspector discussed the problems and associated documents with the system test engineer and conducted a walkdown of a portion of the ADS system. Based upon the above review the inspector was satisfied that the ADS system would function as designed.

Findings

No violations were identified within the scope of the above review.

## 4.0 Power Ascension Test Program

References

- Regulatory Guide 1.68, Revision 2, August 1978 "Initial Test Program for Water Cooled Nuclear Power Plants".
- ANSI N18.7-1976 "Administrative Controls and Quality Assurance for the Operations Phase of Nuclear Power Plants".
- Nine Mile Point Unit 2 (NMP-2) Technical Specifications Final Draft, June 25, 1986.
- NMP-2 Final Safety Analysis Report (FSAR) Chapter 14 "Initial Test Program".
- NMP-2 Safety Evaluation Report.

4.1 Power Ascension Test Procedure Review

Scope

The test condition heatup procedures of Attachment A were reviewed for the attributes identified in Inspection Report 50-410/86-38 Section 4.3. In addition the inspector witnessed portions of the licensee's Site Operations Review Committee (SORC) meeting to determine the adequacy of the licensee management review of power ascension test procedures.

The SORC reviewed revisions to the following procedures N2-SUT-2HU, 4HU, 10HU, 12HU, 13HU, 16HU, 17HU and 70HU.

Discussion

The procedures reviewed were found to be acceptable to satisfy the testing requirements. The procedures had received the licensee's final review or had obtained a subsequent review to reaffirm procedure adequacy. Whereas the procedures were obtaining the final signatures or revision, the quality of the procedures were sufficient to close unresolved item 410/86-38-02. All inspector questions during the review of the procedures were satisfactorily answered.

Findings

No violations were identified.

5.0 Surveillance Procedure Review

Scope

The inspector reviewed the surveillance procedures listed in Attachment B to assess whether they satisfied technical specification requirements to support fuel load. Inspection Report 50-410/86-41 described the licensee process of using interim surveillance procedures to verify the adequacy of the surveillance procedure prior to approving the final surveillance procedure in accordance with the administrative procedure.

Discussion

The surveillance procedures were found to satisfy technical specification requirements. During the review of N2-ISP-RDS-R101, the inspector performed a field inspection of the as-left valve configuration. Subsequent to this inspection the inspector questioned the licensee on valve configuration. The licensee performed a valve lineup verification, portions of which were witnessed by the inspector. All valves were in the correct position. No unacceptable conditions were noted.

Findings

No violations were identified.

6.0 QA/QC Interface

Discussion

The inspector reviewed several recent Nuclear Quality Assurance Surveillance Reports (QASR) regarding different activities of the licensee's startup department. The following QASR's were reviewed:

-- QASR's 86-10660, 86-10662, 86-10680, and 86-10689; witnessing of retests of specific sections of the following preoperational tests: N2-POT-31, Residual Heat Removal System (conducted on August 18, 1986); N2-POT-200, Secondary Containment Leak Rate Test (conducted on August 14, 1986); and N2-POT-83, Primary Containment Isolation System (conducted on August 24 and 25, 1986). These retests were conducted under Deficiency Reports (DRs) 22152, 22884, 18621 and 20358 respectively. The QA inspectors noted that all retesting was performed and documented satisfactorily.

-- QASR 86-10654, surveillance of completed preoperational test packages, conducted on July 27, 1986. The QA inspector reviewed 82 preoperational test packages which had been previously signed and reviewed by QA, Joint Test Group (JTG), and SORC. The QA inspector noted that 22 of the test packages contained questionable entries and incorrect information which were added to the packages after QA and JTG approval. Following review of these test packages with various start up personnel, the QA inspector noted that all items had been addressed and resolved satisfactorily.

The inspector also reviewed QA comments identified during their review of power ascension test procedures SUT-2HU, 30V, 10HU, 12HU and 14HU.

Findings

No unacceptable conditions were identified.

7. Independent Verification

During this inspection the inspector independently reviewed and verified test results from the preoperational test program and the surveillance test program.

8. Plant Tours

The inspector made several tours of various areas of the facility to observe work in progress, housekeeping, cleanliness controls, status of construction and testing activities. No unacceptable conditions were noted.

9. Exit Interview

A management meeting was held at the conclusion of the inspection on September 19, 1986, to discuss the inspection scope, findings and observations as detailed in this report (see Paragraph 1 for attendees). No written information was provided to the licensee at any time during this inspection. The licensee did not indicate that any proprietary information was contained within the scope of this inspection.

Attachment A

Power Ascension Test Procedure Review

N2-SUT-1-HU Chemical and Radiochemical, Revision 1, Ready for SORC review dated September 1986.

N2-SUT-2-HU Radiation Measurements, Revision 1, SORC reviewed September 16, 1986.

N2-SUT-5-HU Control Rod Drive, Revision 1, final draft.

N2-SUT-6-HU SRM Performance, Revision 1, Ready for SORC review dated September, 1986.

N2-SUT-10-HU IRM Performance, Revision 1, SORC reviewed September 16, 1986.

N2-SUT-14-HU RCIC System, Revision 0 dated September 16, 1986 plus comments necessary for revision 1.

N2-SUT-16-HU Selected Process Temperatures and Water Level Measurements, Revision 1, SORC dated September 16, 1986.

N2-SUT-17-HU System Expansion, Revision 0, SORC reviewed September 16, 1986.

N2-SUT-70-HU Reactor Water Cleanup System, Revision 1, SORC reviewed September 16, 1986.

N2-SUT-71-HU Residual Heat Removal System, Revision 1, Ready for SORC review dated September 1986

N2-SUT-74-HU Off Gas System, Revision 0, dated August 11, 1986 plus comments for revision 1.

## Attachment B

### Surveillance Procedures Reviewed

| | |
|---|---|
| N2-OSP-RDS-R002 | Scram Accumulator Check Valve Leakage Test<br>Interim Surveillance procedure February 7, 1986<br>Final Surveillance procedure August 26, 1986 |
| N2-OSP-FNR-@001 | Refueling Platform Cutoff and Interlock Operability Test<br>Interim Surveillance procedure May 20, 1986<br>Final Surveillance procedure August 4, 1986 |
| N2-OSP-SLS-R002 | Standby Liquid Control System Heat Traced Piping and Storage Tank Heater Operability Test<br>Interim Surveillance procedure May 26, 1986<br>Final Surveillance procedure August, 1986 |
| N2-ISP-RDS-103 | Operating Cycle Calibration and Test of HCU Scram Accumulator Pressure and Level Instrument Channels, Revision 0 dated July 28, 1986 |
| N2-ISP-RDS-R101 | Operating Cycle Calibration of the Scram Discharge Volume High Water Level Scram - Trans/Trip Instrument Channel, Revision 0 dated August 16, 1986, performed as interim procedure on August 10, 1986 |
| N2-ISP-CSH-M001 | Monthly Functional Test and Trip Unit Calibration of HPCS Suction Transfer on High Suppression Pool Level Instrument Channel, Revision 0 dated August 8, 1986 |
| N2-ISP-NMS-W@008 | SRM and Rod Block Trip Channel Functional Test, Revision 0 dated August 22, 1986 |