

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-410/86-50

Docket No. 50-410

License No. CPPR-112 Category B

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 18 - 28, 1986

Inspectors: L. E. Briggs 9/17/86
L. Briggs, Lead Reactor Engineer date

for L. E. Briggs 9/17/86
D. Florek, Lead Reactor Engineer date

M. Evans 9/17/86
M. Evans, Reactor Engineer date

Approved by: P. K. Eshen 9/18/86
for P. Eshelgroth, Chief, Test Programs Section, date
OB, DRS

Inspection Summary: Inspection on August 18 - 28, 1986 (Report No. 50-410/86-50)

Areas Inspected: Routine, unannounced inspection by three region based inspectors of licensee action on previous inspection findings, preoperational test program implementation, preoperational test results evaluation review, power ascension test program, surveillance procedure review, QA/QC interface with the preoperational test program, independent verification and plant tours.

Results: No violations were identified.

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

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DETAILS

1. Persons Contacted

Niagara Mohawk Power Corporation

- *C. Beckham, Quality Engineering Supervisor, Operations
- *J. Conway, Power Ascension Manager
- M. Dooley, Training Supervisor, Nuclear
- J. Drake, Startup and Test (SUT) Special Projects Supervisor (SWEC)
- *T. Farrell, Assistant Project Engineer
- *L. Fenton, Audit Group Lead
- *G. Griffith, Licensing Engineer
- *W. Hansen, Manager, Nuclear QA Operations
- *B. Hooten, Special Consultant
- J. Kaminski, Associate Generation Specialist (SRO)
- *T. Lee, Special Projects
- T. Proios, Test Engineer
- *M. Ray, Manager, Special Projects
- *K. Roenick, Site Representative, NY State PSC
- R. Seifried, Assistant Supervisor, Training
- *C. Terry, Project QA Manager (SWEC)
- I. Weakley, Special Projects

Other NRC Personnel

- *W. Cook, Senior Resident Inspector
- *W. Schmidt, Resident Inspector

* Denotes those present at the exit meeting conducted on August 28, 1986.

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

2. Licensee Actions on Previous Inspection Findings

(Open) Unresolved Item (410/86-38-02): This item dealt with the effectiveness of the licensee followup review of power ascension test procedures. The licensee has developed guidelines for technical review of startup test procedures. The inspector reviewed the startup test procedures in Attachment A which reflected review and revision of the procedures based on the guidelines developed. The procedures were considered acceptable. This item will remain open however, pending completion of the followup review of the test procedures applicable for test condition heatup.

(Closed) Unresolved Item (410/86-27-01): Licensee to include list of deficiencies, the status of the deficiencies, and the supporting closure documentation in all preoperational test packages. The inspector reviewed two approved preoperational test result packages during this inspection (see paragraph 3.0). The inspector noted that an accurate list of deficiency



reports (DR) and problem reports (PR) was included in each results package. In addition, the inspector noted that supporting closure documentation for all closed DRs and PRs was included in the test package. This item is closed.

(Closed) Unresolved Item (410/86-33-02): Licensee to resolve five open test deficiencies concerning preoperational test procedures N2-POT-100A-1 and N2-POT-100A-2 for the Division I and II Standby Diesel Generators. The inspector reviewed deficiency reports (DRs) 13569, 15353, 13928, 15106 and 15122 and noted that appropriate corrective actions, retests and Quality Control inspections had been accomplished. Also, the inspector verified that the above DRs received Joint Test Group (JTG) approval as required. This item is closed.

(Closed) Unresolved Item (410/86-38-01): Licensee to resolve one open test deficiency concerning preoperational test procedure N2-POT-97, Reactor Protection System. The inspector reviewed DR 19649 and noted that Interim Instrument Surveillance Procedure N2-ISP-RPS-R203, Turbine Control Valve Fast Closure Scram Response, had been satisfactorily completed and all response times were within Technical Specification limits. The inspector also verified that DR 19649 received JTG approval as required. This item is closed.

(Closed) CDR (410/85-00-02): Primary containment linear Carbo-Zinc 11 primer application. This item was discussed in NRC Inspection Report 50-410/86-18. It was left open at that time pending NRR review of the coating qualification status. Subsequent discussion with the NRR Licensing Project Manager indicated that based on the licensee's submittal of July 16, 1986 indicating the total amount of unqualified primer used that this item has been evaluated and determined to be acceptable for closure. NRR evaluation of this item is scheduled to be addressed in supplement 4 of the Safety Evaluation Report.

(Closed) Follow Item (410/85-37-01): Hands on training for personnel to be involved in fuel handling operations. This item was initially opened to ensure that personnel (SRO and RO) that would be involved in the initial core fuel loading would receive, in addition to classroom training, practical hands on instruction concerning proper techniques, equipment function and procedures. The inspector reviewed memos NMP-18322 (May 22, 1986) and NMP-19369 (August 18, 1986) which stated classroom training and hands on training for 12 SRO's and 17 RO's was complete, respectively. The inspector also reviewed the licensee's procedures "On the Job Training, Fuel Handling Practices and Procedures", Revision 0 and "Learning Objectives of Fuel Handling and Reactor Servicing Equipment." Both these procedures are used for licensed operator requalification training. These procedures were discussed with several licensee training representatives. In addition, the inspector reviewed a sample (about 25 percent) of completed training records of RO and SRO personnel identified as having completed the training in memo NMP 19369. The inspector noted that hands on training required actual use of the fuel handling equipment using



various grapples and movement of a dummy fuel assembly using the installed fuel handling bridge. Hands on training also included channeling the dummy fuel assembly and performance of fuel handling bridge surveillance activities.

The inspector was satisfied with the scope and depth of operator training in the use of fuel handling equipment.

(Closed) Construction Deficiency Report (CDR) (410/86-00-11): This CDR was implemented as a result of NRC violation 410/86-09-46 (closed in Inspection Report 50-410/86-47). Additional evaluation was performed by the licensee to ensure that other areas of the facility did not have safety related Category I components located in or exposed to non Category I environments. The supplemental evaluation identified several components located in the screenwell building that required modification to protect them from a non Category I environment. The inspector observed the inplace modifications as compared to their respective E and DCR's (Y21442, M50009, Y21441 and Y21402A). All installations observed were per design.

(Open) Follow Item (410/86-02-03): Licensee to verify correct Emergency Diesel Generator loading sequence. During NRC Inspection 86-02, a disagreement between the loading sequence in Interim Operating Procedure 72 and Section 8 of the FSAR was identified. During this inspection, the licensee presented a close out package to the inspector for review. The inspector noted that disagreement still existed between the two documents. The licensee was involved in the resolution of the above item on August 22, 1986.

3. Preoperational Test Program

3.1 Preoperational Test Program Implementation

3.1.1 Scope

The licensee administrative procedures listed in Attachment B were reviewed to determine whether proper administrative controls exist to control design changes and modifications made to plant systems during the preoperational test program. In addition, documentation relating to three specific modifications was reviewed to verify proper implementation of the design change and modification process.

3.1.2 Discussion

During the preoperational test results evaluation review discussed in paragraph 3.2, the inspector requested from the licensee all documentation related to two modifications which affected HPCS Diesel Generator testing and one modification which affected the LOOP/ECCS testing. The inspector independently reviewed these documents (Attachment C)



and determined that the modifications were implemented according to procedural control. The inspector noted that the modifications received appropriate management approval and that QC inspections and retesting were conducted as required.

3.1.3 Findings

No unacceptable conditions were identified within the scope of this review.

3.2 Preoperational Test Results Evaluation Review

3.2.1 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.

- N2-POT-100B, HPCS Diesel Generator, Station Operations Review Committee (SORC) approved on July 17, 1986.
- N2-POT-300, Loss of Offsite Power/ECCS, SORC approved on August 8, 1986.

3.2.2 Discussion

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.

3.2.3 Findings

No violations were identified.



4. Power Ascension Test Program

4.1 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.

4.2 Overall Power Ascension Test Program Administration

4.2.1 Scope

The inspector reviewed the following procedures:

- AP-1-4 "Startup Test Phase", Revision 1 dated August 4, 1986;
- AP-8.7 "Power Ascension Test Procedures", Revision 1 dated August 4, 1986.

4.2.2 Discussion

The inspector reviewed the procedures to followup the items identified in Inspection Report 50-410/86-38. The procedures satisfactorily addressed the items from the previous inspection.

The inspector also discussed with BOP test engineers their involvement in the test program to assess their level of knowledge of the program. The inspector noted based on these discussions that the training in the program is in process and they have sufficient knowledge to carryout their functions.

4.2.3 Findings

No violations were identified.



4.3 Power Ascension Test Procedure Review

4.3.1 Scope

The procedures of Attachment A were reviewed for the attributes identified in Inspection Report 50-410/86-38, Section 4.3. In addition, the procedures referenced in test procedures N2-IMP-CRD-2.0 CRD Friction Test, N2-OSP-RMC-0001 Interim Control Rod Drive Scram Insertion Time Testing and N2-RPS-TP-2 Cold Critical Comparison were also reviewed.

4.3.2 Discussion

The starting procedures were considered acceptable. However, the inspector questioned why the reference procedure listed in N2-SUT-5-OV, N2-OSP-RMC-0001 was still an interim procedure. This procedure is utilized in the determination of control rod drive scram times. Whereas this procedure is not normally utilized until the reactor is in Mode 1, the startup test uses the methodology to determine scram times. The licensee agreed to issue the procedure as a final procedure to support the startup test during open vessel testing.

4.3.3 Findings

No violations were identified. The above item is considered unresolved pending issuance of a final surveillance procedure. (410/86-50-01)

5. Surveillance Procedure Review

5.1 Scope

The inspector reviewed the surveillance procedures listed in Attachment D to assess whether the surveillance procedures satisfied technical specification requirements.

5.2 Discussion

The inspector determined that for the procedures reviewed the licensee utilized data from interim surveillance procedures to satisfy the draft technical specification requirements. 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.

During the review of N2-OSP-SLS-M001, the inspector compared Technical Specifications 4.1.5.b.1 with the associated P&ID - PID-36A and



N2-OP-36A Standby Liquid Control System (SLCS), Revision 1 dated August 13, 1986. The inspector questioned why valves 2SLS V5, V16, V21, V23, V24 and V25 were not included on the monthly valve lineup surveillance test. These valves were not indicated as locked closed or on capped lines. The inspector questioned whether the position of these valves would affect the ability of the SLCS to deliver 4.15 gpm as required per the technical specification. If these valves affect system operability they will either be required to be locked closed or included on the monthly valve lineup verification. Pending completion of the licensee evaluation and inspector review, this item will be considered unresolved (410/86-50-02).

During the review of procedures relating to ECCS response times for the high and low pressure core spray (N2-ISP-CSH-R202, N2-OSP-EGS-R008 and N2-OSP-CSH-R001) and (N2-ISP-CSL-R201 and N2-OSP-CSL-R001) the inspector questioned the method to assure that the sum total of response times from individual procedures would be compared to the technical specification requirement. The inspector reviewed a combination of interim and final surveillances and noted that the methodology was inconsistent between the I&C portion of the final surveillance procedure and the Operations portions of the interim surveillance procedure. The inspector's review of the as-run data indicated that the technical specification limits would be satisfied if the individual test results were summed. The licensee representative indicated that the methodology would be made consistent. Pending the licensee review of the procedures and the issuance of final procedures which contain consistent methodology, this item is unresolved (410/86-50-03).

5.3 Findings

No violations were identified. Two unresolved items were identified.

6. QA/QC Interface with the Preoperational Test Program

Discussion

The inspector reviewed the following Nuclear QA surveillance reports (QASR) concerning the licensee's preoperational test program.

- QASR-86-10575, Review of preoperational test results for N2-POT-74-4 (Category I DC Voltage Verification). The QA inspector identified one administrative problem that was quickly resolved.
- QASR-86-10626, Observation of performance of N2-POT-34, Revision 1 Automatic Depressurization System (ADS) completed on July 28, 1986. The QA inspector observed three deficiencies as follows:
 1. Procedure revised by test summary entry rather than by a test exception or field revision form.



2. A deficiency report was not implemented when ADS air accumulator tanks 33, 35, 37 and 38 failed to meet leak rate acceptance criteria.
3. A test summary note was not made attesting to the reverification of test prerequisites when the test was restarted.

Item 1 was resolved by FRF N2-POT-34-1.

Item 2 was resolved by initiation of DR's 16234, 16297 and 16325.

Item 3 was closed by addition of Test Summary Note No. 29.

- QASR-86-10650, Test results review of N2-POT-34, Revision 1 (ADS), completed on August 11, 1986. The QA inspector identified several items of an administrative nature which were resolved.
- QASR 86-10605, surveillance of N2-POT-300, Revision 1, Loss of Power, conducted on July 17, 1986. The QA inspector identified 19 deficiencies all of which were appropriately resolved with one exception. Item No. 3 stated that Traversing Incore Probe (TIP) ball valves opened when the containment isolation signal was reset. Containment isolation valves once actuated to their accident position by a containment isolation signal are required to remain in that position when the containment isolation signal is reset. To change valve position requires a separate operator action after isolations reset. The resolution to the deficiency appeared to be JTG review and acceptance. The inspector (NRC) immediately requested further documentation and resolution of this item. The licensee provided the inspector with a copy of Engineering and Design Coordination Report (E&DCR) No. C47477 and General Electric Field Deviation Disposition Request (FDDR) KG1-5616. These documents identified work to be accomplished to modify the TIP ball valves to prevent opening on reset of the containment isolation signal.

Findings

No violations were identified during the above review.

7. Independent Verification

During the Preoperational Test Program Implementation review (discussed in paragraph 3.1) the inspector independently selected three modifications and reviewed the related documents to verify proper implementation of the design change and modification process.

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.



In addition to the above tours, the inspector discussed with a licensee representative the problems being experienced with main steam isolation valves (MSIV). It was unknown during the inspection what causes the problem. The identified problem is slow actuation time of the valve. The valves are required to close in less than 5 but greater than 3 seconds. The valves are Ball Valves that are opened hydraulically against a closing spring and latched in the open position. On a trip condition plungers from 2 solenoids push against a pivot plate and unlatch the valve, allowing the spring assembly to close the valve. Tests performed by the licensee indicate that the valve closes in about 4.5 seconds after it is unlatched. Problems have been experienced in the ability to unlatch the valve after it has been latched in the open position for a period of time. The maximum length of time tested was eight days at which time the force required to unlatch the valve exceeded the total force of the solenoid plungers. The licensee and the vendor were in the process of trying to resolve the unlatching during this inspection period. No decision had been made on a resolution to this problem at the end of the inspection. The inspector also observed the MSIV latch and trip mechanism as installed during plant tours. This item is also being discussed with NRR to determine the resolution from a licensing aspect.

8.1 Findings

No unacceptable conditions were noted.

9. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable, an item of noncompliance or a deviation. The unresolved items identified during this inspection are discussed in Paragraphs 4.3.3 and 5.2 of this report.

10. Exit Interview

A management meeting was held at the conclusion of the inspection on August 28, 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

Startup Test Procedure Review

- N2-SUT-1-OV Chemical and Radiochemical, Revision 1, SORC approved August, 1986.
- N2-SUT-2-OV Radiation Measurements, Revision 1, SORC approved August, 1986.
- N2-SUT-3-OV Fuel Load, Revision 1, SORC approved August, 1986.
- N2-SUT-5-OV Control Rod Drive System, Revision 1, SORC approved, August, 1986.
- N2-SUT-4-HV Full Core Shutdown Margin, Revision 0, draft dated August, 1986.



ATTACHMENT B

Administrative Procedures Reviewed

- N2-SAP-106C Conduct of Testing, Revision 1, October 23, 1985.
- N2-SAP-117 Work Control and Work Control Report, Revision 6, February 15, 1986.
- N2-SAP-121A Deficiency Reporting System, Revision 4, December 20, 1985.
- N2-SAP-121B Deficiency Tracking System, Revision 1, October 28, 1985.
- SWEC Project Procedure, Nine Mile Point Unit 2 (NMP-2), PP 16, Engineering and Design Coordination Reports (E&DCRs), Revision 15, April 2, 1986.
- SWEC Engineering Assurance Procedure, EAP 6.5, Preparation, Review, Approval and Control of E&DCRs - Computerized Logging and Tracking System, Revision 0, July 27, 1984.



ATTACHMENT C

Modification Documents Reviewed

<u>Preoperational Test Affected by Modification</u>	<u>Related Documents Reviewed</u>		
1. N2-POT-100B, HPCS Diesel Generator	Deficiency Report (DR)	14192	
	DR	13890	
	Problem Report (PR)	02806	
	E&DCR	C46587	
	Quality Control Inspection Report (QCIR)	2-86-01838	
2. N2-POT-300, LOOP/ECCS	Field Deviation Disposition Request (FDDR) (General Electric Document)	KG1-0641	
	DR	21864 21865	
	PR	05212	
	E&DCR	C94540A	
	Engineering Change Notice	GTS-606	
	QCIR	2-86-3656 2-86-3628	
	EE.Gene.006, Electrical Test Procedure Equipment Mark No. 2GTS*FNIA, Revision 6, December 2, 1985.		
	3. N2-POT-100B, HPCS Diesel Generator	PR	03334
		E&DCR	C46853
		FDDR	KG1-5274
DR		17174	
QCIR		2-86-2324	



ATTACHMENT D

Surveillance Procedure Review

N2-OSP-CSL-Q002	LPCS Pump and Valve Operability System Integrity Test Interim Surveillance performed July 11, 1986 Final Surveillance procedure August 22, 1986
N2-OSP-SLS-Q001	Standby Liquid Control Pump, Check Valve, and Relief Valve Test Interim Surveillance performed July 3, 1986 Final Surveillance procedure August 22, 1986
N2-OSP-SLS-M001	Standby Liquid Control Explosive Valve Continuity Check & Valve Lineup Verification Final surveillance performed August 17, 1986
N2-OSP-RMC-W@002	Reactor Mode Switch Functional Test of Refuel Interlocks Revision 0 dated August 21, 1986
N2-OSP-RMC-@005	One Rod Out Refuel Position Interlock Functional Test, Interim performed July 17, 1986 Final surveillance procedure dated August 8, 1986
N2-OSP-CSH-Q002	HPCS Pump and Valve Operability and System Integrity Test Interim performed on June 24 and July 11, 1986 Final procedure dated August 22, 1986
N2-OSP-EGS-R004	Interim Procedure Operating Cycle Diesel Generator Simulated Loss of Offsite Power With ECCS Division I and II, Revision 0 dated May 20, 1986
N2-OSP-EGS-R007	Interim Procedure Operating Cycle Diesel Generator Simulated Loss of Offsite Power Division III, Revision 0 dated May 26, 1986
N2-OSP-EGS-R008	Interim Procedure Operating Cycle Diesel Generator Simulated Loss of Offsite Power With An ECCS Division III, Revision 0 dated May 26, 1986
N2-OSP-CSH-R001	High Pressure Core Spray System Functional and Response Time Test, Revision 0 dated August 8, 1986
N2-ISP-CSH-R202	ECCS Actuating Instrumentation Response Time (HPCS) Reactor Water Level - Low, Low, Revision 0 dated July 28, 1986 Interim Test performed May 19, 1986



N2-ISP-NMS-Q108

Source Range Monitor Channel Calibration, Interim procedure performed

SRM A 8/4/86
B 8/7/86
C 8/6/86
D 8/7/86

N2-ISP-CSL-R201

ECCS Actuation Instrument Response Time (LPCI/LPCS)
Reactor Water Level - Low, Low, Low, Level 1, Revision 0
dated April 9, 1985

N2-OSP-CSL-R001

Interim Surveillance Procedure Division I ECCS Functional
Test, Revision 0 dated April 9, 1986

