July 20, 2001

Mr. John H. Mueller
Chief Nuclear Officer
Niagara Mohawk Power Corporation
Nine Mile Point Nuclear Station
Operations Building, 2nd Floor
P.O. Box 63
Lycoming, NY 13093

SUBJECT: NINE MILE POINT NUCLEAR STATION - NRC INSPECTION REPORT 50-220/01-04, 50-410/01-04

Dear Mr. Mueller:

On June 30, 2001, the NRC completed an inspection of your Nine Mile Point Nuclear Station, Units 1 and 2. The enclosed report documents the inspection findings which were discussed on July 13, 2001, with Mr. J. Conway and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

No findings of significance were identified.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publically Available Records (PARS) component of NRC's document management system (ADAMS). ADAMS is accessible from the NRC web site at http://www.nrc.gov/NRC/ADAMS/index.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Michele G. Evans, Chief
Projects Branch 1
Division of Reactor Projects

Docket Nos. 50-220
50-410
License Nos. DPR-63
NPF-69

Enclosure: Inspection Report 50-220/01-04, 50-410/01-04

Attachment 1 - Supplemental Information

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REGION I

Docket Nos:	50-220, 50-410
License Nos:	DPR-63, NPF-69
Report No:	50-220/01-04, 50-410/01-04
Licensee:	Niagara Mohawk Power Corporation (NMPC)
Facility:	Nine Mile Point, Units 1 and 2
Location:	P. O. Box 63 Lycoming, NY 13093
Dates:	May 13, 2001 - June 30, 2001
Inspectors:	G. Hunegs, Senior Resident Inspector B. Fuller, Resident Inspector R. Fernandes, Resident Inspector J. Noggle, Senior Health Physicist
Approved by:	Michele G. Evans, Chief Projects Branch 1 Division of Reactor Projects

Summary of Findings

IR 05000220-01-04, 05000410-01-04; on 05/13 - 06/30/2001; Niagara Mohawk Power Corporation; Nine Mile Point, Units 1 & 2. Resident Inspector Report

This inspection was conducted by resident inspectors and one region-based inspector. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using IMC 0609, "Significance Determination Process," (SDP). Findings for which the SDP does not apply are indicated by "No Color" or by the severity level of the applicable violation. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at htpp://www.nrc.gov/NRR/OVERSIGHT/index.html.

A. Inspector Identified Findings

No findings of significance were identified.

Report Details

SUMMARY OF PLANT STATUS

Nine Mile Point Unit 1 (Unit 1) was returned to 100 percent power on May 15, 2001, following a scheduled refueling outage. On May 22, power was reduced to remove a condensate pump from service. Unit 1 was returned to full power on May 23 and remained at 100 percent through the end of the inspection period.

Nine Mile Point Unit 2 (Unit 2) began this inspection report period at 100 percent power. On May 15, a broken flexible coupling on the position feedback mechanism for the B reactor recirculation flow control valve (FCV) resulted in operators reducing power to 89 percent. On May 16, the reactor automatically scrammed from 90 percent power because of a failed relay in the turbine electro-hydraulic control system. The plant was returned to service on May 19 and returned to 100 percent power on May 20. On May 24, the B reactor recirculation FCV position feedback signal failed and resulted in an unplanned power change of more than 20 percent. The B FCV was hydraulically locked to prevent further movement and the plant was stabilized at 86 percent power. The plant was returned to 100 percent power on May 28 following transfer of both the A and B FCV position feedback circuits to a recently installed FCV backup position feedback circuit. On June 5, Unit 2 reduced power to 91 percent due to the failure of the backup position feedback circuit for the B FCV. On June 7, Unit 2 reduced power to 55 percent to remove the A feed pump from service due to increased seal leakage. The plant was returned to 100 percent power on June 8. On June 23, a temporary modification for the FCV was installed and power was increased to 100 percent on June 24 and remained there through the end of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment

.1 Partial Equipment Alignment

a. Inspection Scope

The inspector selected the Unit 2 high pressure core spray system for a partial system walk down while the A feed pump was removed from service for corrective maintenance. The walk down included a control room switch line-up verification and an in plant system valve line-up; and review of open work orders, deviation and event reports, and the system health report.

b. Findings

No findings of significance were identified.

.2 Complete Equipment Alignment

a. Inspection Scope

The inspector performed a complete walkdown of the Unit 1 emergency diesel generator system. The inspector reviewed the system health report and maintenance rule status. Open work orders and deviation/event reports (DERs) were reviewed to assess system material condition. The inspector performed a walkdown using plant drawings and checked for proper valve position and component alignment and material condition of the system. The inspector verified that the switch lineup was in accordance with operating procedures.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors conducted walkdowns of the fire areas to determine if there was adequate control of transient combustibles and ignition sources. The condition of fire detection devices, the readiness of the sprinkler fire suppression systems and the fire doors were also inspected against industry standards. In addition, the passive fire protection features were inspected, including the ventilation system fire dampers, structural steel fire proofing, and electrical penetration seals. The following plant areas were inspected:

- Turbine Building 261' elevation (Unit 1)
- Screen House all elevations (Unit 1)
- Reactor Building 281' elevation (Unit 1)
- Condensate Storage Tank Building, Fire Area No. 55 (Unit 2)
- Radioactive Waste Control and Switchgear Rooms, Fire Area No. 70 (Unit 2)
- Radioactive Waste Building, Fire Area No. 58 (Unit 2)

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors reviewed the licensed operator requalification training activities to assess the licensee's training program effectiveness. The inspectors observed Unit 1 licensed operator simulator training on June 20, 2001. The inspectors reviewed performance in the areas of procedure use, self- and peer-checking, completion of critical tasks, and training performance objectives. Following the simulator exercises, the inspector observed the training instructors debrief and critique and reviewed simulator fidelity through a sampling process.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors reviewed performance-based problems involving selected in-scope structures, systems, and components (SSCs) to assess the effectiveness of the maintenance program. Reviews focused on: (1) proper maintenance rule scoping, in accordance with 10 CFR 50.65; (2) characterization of failed SSCs; (3) safety significance classifications; (4) 10 CFR 50.65 (a)(1) and (a)(2) classifications; and, (5) the appropriateness of performance criteria for SSCs classified as (a)(2), and goals and corrective actions for SSCs classified as (a)(1). The inspectors reviewed the licensee's system scoping documents and system health reports. DER No. 1-2001-2114 11, "Condensate pump unavailability, " was reviewed.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

For selected maintenance work orders (WOs), the inspectors evaluated: (1) the effectiveness of the risk assessments performed before the maintenance activities were conducted; (2) risk management control activities; (3) the necessary steps taken to plan and control resultant emergent work tasks; and, (4) the overall adequacy of identification and resolution of emergent work and the associated maintenance risk assessments. The following WOs were reviewed:

- WO-01-06502, “Reactor core isolation cooling mechanical overspeed trip repair,” (Unit 2).
- WO-01-03720, “Containment spray block valve 80-15 leaks causing unidentified leakage Into drywell,” (Unit 1).
- WO-01-07569, “Turbine stop valve trip circuit test switch replacement,” (Unit 2).

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-Routine Plant Evolutions and Events

a. Inspection Scope

.1 Automatic Shutdown (Unit 2)

On May 16, 2001, at 10:19 a.m., Unit 2 automatically scrammed from 90 percent core thermal power. Indications were that combined intercept valve closure followed by turbine stop valve closure resulted in a reactor scram. All control rods fully inserted. After the initial transient, level was restored to the normal band and reactor pressure control was maintained using the main condenser. The inspectors responded to the control room and observed operator actions during the recovery. The inspectors reviewed operator logs and observed the station operations review committee meeting. The cause was determined to be a high resistance contact on a turbine electro hydraulic control system relay. The licensee corrective actions are documented in DER 2-2001-2253.

.2 Recirculation Flow Transient (Unit 2)

On May 24, 2001, at approximately 8:15 pm, the B recirculation flow control valve (FCV) malfunctioned, resulting in a reactivity and reactor power transient. The FCV malfunction was attributed to the gross failure of its radial variable differential transformer (RVDT), part of the valve position indication/feedback control circuit located on the valve inside the drywell. Control room operators responded appropriately to the plant transient and stabilized reactor power by manually controlling recirculation flow. Upon confirmation of the RVDT failure the back-up position indication and feedback circuit, for both recirculation FCVs, was placed in-service. Following a Station Operations Review Committee examination and approval of the post-transient analysis and critique, the unit was returned to full power operations on May 28. The resident inspector, with assistance from the regional staff, reviewed and discussed with licensee representatives, the post-transient analysis, including critique of operator performance and reactor protection system response.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed operability evaluations affecting risk significant mitigating systems, to assess: (1) the technical adequacy of the evaluation; (2) whether continued system operability evaluations were warranted; (3) whether other existing degraded systems adversely impacted the affected system or compensatory measures; (4) where compensatory measures were used, whether the measures were appropriate and properly controlled; and, (5) the degraded systems impact on technical specifications (TS) limiting condition for operations. The following licensee documents were reviewed:

- DER 1-2001-2892, "Reactor water level column 11 caused unexpected reactor level change."
- DER 2-2001-2811, "Cracks in spare safety relief valve nozzle."
- DER 2-2001-2916, "Relief valve test performed with gauge that did not meet procedure accuracy requirements."

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed post-maintenance testing (PMT) procedures and associated testing activities for selected risk significant mitigating systems to assess whether: (1) the effect of testing on the plant had been adequately addressed by control room and engineering personnel; (2) testing was adequate for the maintenance performed; (3) acceptance criteria were clear and adequately demonstrated operational readiness, consistent with the design and licensing basis documents; (4) test instrumentation had current calibrations, range, and accuracy for the application; (5) tests were performed, as written, with applicable prerequisites satisfied; (6) jumpers installed or leads lifted were properly controlled; (7) test equipment was removed following testing; and (8) equipment was returned to the status required to perform its safety function. The following tests and activities were reviewed:

- N2-OSP-ICS-Q@002, "Reactor Core Isolation Cooling (RCIC) Pump and Valve Operability Test and System Integrity Test," (Unit 2).
- WO-01-02878-12, "Condensate pump replacement," (Unit 1)

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors witnessed performance of surveillance test procedures and reviewed test data of selected risk significant SSCs to assess whether the SSCs satisfied Technical Specifications, Updated Final Safety Analysis Report (UFSAR), and licensee procedure requirements; and to determine if the testing appropriately demonstrated that the SSCs were operationally ready and capable of performing their intended safety functions. The following tests were witnessed:

- N2-ISP-ICS-Q007, "Trip Unit Calibration of RCIC Suction Transfer on Condensate Storage Tank Level Low Instrument."
- N1-ST-Q26, Rev 04, "Main Steam/Feedwater Isolation Valve Exercise."

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

.1 Flow Control Valve Position Indication (Unit 2)

a. Inspection Scope

Based on the longstanding problems with the reactor recirculation system flow control valve (FCV) position feedback system, Unit 2 installed a back-up position indication and feedback circuit via the temporary modification process. The FCV position feedback circuit problems have been determined by NMPC to still be bounded by Updated Final Safety Analysis Report transient and accident analysis and have not significantly increased plant risk. The temporary modification has increased the burden on control room operators and to compensate for this additional work load burden, an additional operator is stationed at the control panel during activities which require or result in a change in reactor water recirculation flow.

The inspector reviewed Temporary Change Package No. N2-01-049, "Temporary Change to Open "B" FCV," to verify that the modification does not affect the safety function of the reactor coolant system (RCS). The RCS flow control valves are classified as non-safety related. However, the positioning of the recirculation FCVs does change overall core flow, which does impact reactor power.

The inspector reviewed the following documents associated with the temporary modification:

- 50.59 Evaluation No. 2001-067, "Substitute Position Feedback and Demand Signals to Facilitate Operation of 2RCS*HYV17B."
- Temporary Change Package No. N2-01-049, "Temporary Change to Open "B" RCS FCV."
- Training Package No. 02-OPS-007-354-2-03.
- Temporary Change Package No. N2-01-061.
- WO No. 01-07359-00, "Install Temporary Modification N2-01-049, Open Loop Manual Control."
- N2-OP-29, "Reactor Recirculation System Operating Procedure."

b. Findings

No findings of significance were identified.

.2 Condensate Pump 11 HPCI Function (Unit 1)

a. Inspection Scope

Based on failure of the No. 11 condensate pump, which has a backup high pressure coolant injection (HPCI) function, the licensee installed a temporary modification to make the No. 12 condensate pump the backup HPCI pump in the No. 11 HPCI train. The power supply and control circuitry of the No. 11 pump were connected to the No. 12 pump and the No. 12 pump was designated as the No. 11 pump. The failed No. 11 pump was designated the No. 12 pump, subsequently repaired, and powered by the No. 12 pump power supply. This change did not place any additional burden on the operators. The inspector reviewed Temporary Modification No. 01-030, " Nos.11 and 12 Condensate Pump HPCI function swap (Unit 1)," and the following documents associated with this temporary modification:

- Design Change No. 1E00814, Revision C.
- Applicability Review No. 36152.
- Procedure changes for the applicable condensate system surveillance tests:
  - N1-ST-C24, "Condensate Pumps 11/12/13 and Feedwater Booster Pump 12 performance test."
  - N1-ST-Q3, "High Pressure Coolant Injection Pump and Check Valve Operability Test."

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstones: Occupational Radiation Safety, Public Radiation Safety

OS1 Access Control to Radiologically Significant Areas

a. Inspection Scope

The following areas were reviewed to verify that the licensee was properly implementing physical and administrative controls for access to high radiation and locked high radiation areas and other radiologically controlled areas, and that workers were adhering to these controls when working in these areas.

Independent radiation surveys were performed in the radiologically controlled areas (RCA) of the Unit 1 and Unit 2 reactor buildings, radwaste buildings, and turbine buildings to confirm the accuracy of posted survey results, and assess the adequacy of radiation work permits and associated controls.

Keys to Technical Specification Locked High Radiation Areas were inventoried for both Units 1 and 2 and these areas were verified to be properly secured and posted during plant tours.

June 2001 plant surveys were reviewed (80 from Unit 1 and 101 from Unit 2) for completeness and accuracy, for agreement with existing plant postings, and as the basis for electronic alarming dosimeter setpoints for high radiation area entries as specified in radiation work permits (RWPs).

The active RWPs were reviewed (13 from Unit 1 and 9 from Unit 2) with respect to Technical Specification requirements.

The inspector attended the ALARA pre-job briefing and reviewed the exposure controls specified in the radiation work permit (RWP), the associated ALARA review, maintenance procedure, and work order for the following in-progress work activities: Unit 2 spent fuel pool cleanup septa replacement, RWP 103, Task 3; AR No. 01-2-04; Maintenance Procedure, N2-MMP-SFC-509, Rev. 3, ”Removal, Cleaning, and Installation of Spent Fuel Pool Filters”; and, Work Order No. 00-10874-00.

Radiation protection technician and radiation worker performance was observed during removal of the spent fuel pool cleanup septa with respect to requirements.

The inspector reviewed selected Deviation Event Reports (DERs) since December 2000 relating to the control of personnel exposure and work activities in radiologically controlled areas to evaluate the licensee’s threshold for identifying problems regarding implementation of the radiation protection program and the promptness and effectiveness of the resulting corrective actions. Additionally, the DERs were evaluated against the criteria contained in 10CFR 20 and Technical Specifications with respect to regulatory requirements and were also evaluated against Nuclear Energy Institute (NEI) 99-02, Rev. 1, to determine if any identified events constituted a performance indicator that had not been previously reported. Included in this review were DER Nos. 2001-2800, 2001-2531, 2001-2136, 2001-2004, 2001-1691, 2001-1633, 2001-1607, 2001-

1054, 2001-1007, 2001-860, 2001-797, 2001-496, 2001-486, 2001-207, 2001-23, and 2000-4572.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA5 Other

(Closed) Inspector Followup Item (IFI) 0500410/1998-019-06: Loss of remote shutdown due to multiple hot shorts. This issue was originally opened as unresolved item (URI), 0500220 and 0500410/1996-015-01, in December 1996, during an engineering review of the licensee's actions in response to Information Notice 92-18, "Potential for Loss of Remote Shutdown Capability During a Control Room Fire." The URI was closed and a corresponding IFI was opened in February 1999, pending further review of the Unit 1 and 2 licensing basis. Since the initiation of this item, the generic topic of fire induced circuit failures of associated circuits (hot shorts) has become a voluntary industry initiative monitored by the headquarters NRC staff. Consequently, inspection in the area of fire induced hot shorts has been temporarily suspended pending generic resolution of the issue. This Inspector Follow-up Item is closed.

4OA6 Management Meetings

.1 Exit Meeting Summary

The inspectors presented the inspection results to Mr. J. Conway, Vice President, Nuclear Generation and other members of licensee management at the conclusion of the inspection on July 13, 2001. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified.

.2 Annual End-of-Cycle Assessment Meeting

A public meeting was held on June 19, 2001, in the Education Center at the Nine Mile Point Nuclear Power Plant, to discuss the End-of-Cycle (EOC) Plant Performance Assessment results. This assessment was performed under the new Reactor Oversight Process and was documented in a letter to NMPC, dated May 31, 2001. The NRC presentation was lead by Michele G. Evans, Chief, Projects Branch 1, Division of Reactor Projects. Slides from this meeting can be found in the Publicly Available Records component of the NRC's document system (ADAMS) under ascension number ML011730231.

ATTACHMENT 1

PARTIAL LIST OF PERSONS CONTACTED

Licensee

R. Abbott, Vice President (VP) Engineering
J. Conway, VP Nuclear Generation
L. Hopkins, Unit 1 Plant Manager
J. Mueller, Senior VP and Chief Nuclear Officer
M. Peckham, Unit 2 Plant Manager
C. Terry, VP Quality Assurance Nuclear
D. Wolniak, Manager, Licensing

NRC

A. Blamey, Reactor Engineer

ITEMS OPENED AND CLOSED

Closed:

0500410/1998-019-06	IFI	Loss of remote shutdown due to multiple hot shorts

LIST OF ACRONYMS USED

ALARA	As Low As Reasonably Achievable
DER	Deficiency/Event Report
EOC	End of Cycle
FCV	Flow Control Valve
HPCI	High Pressure Coolant Injection
IFI	Inspector Follow-up Item
NMPC	Niagara Mohawk Power Corporation
NRC	Nuclear Regulatory Commission
PARS	Publically Available Records
PMT	Post-Maintenance Test
RCIC	Reactor Core Isolation Cooling
RCS	Reactor Coolant System
RVDT	Radial Variable Differential Transformer
RWP	Radiation Work Permit
SDP	Significance Determination Process
SSC	Structure, System, and Component
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
WO	Work Order