

August 28, 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  
50-220/01-05, 50-410/01-05

Dear Mr. Mueller:

On August 11, 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 August 24, 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.

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Sincerely,

/RA/

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

Mr. John H. Mueller

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Docket Nos. 50-220  
50-410

License Nos. DPR-63  
NPF-69

Enclosure: Inspection Report 50-220/01-05, 50-410/01-05

Attachment 1 - Supplemental Information

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**U.S. NUCLEAR REGULATORY COMMISSION  
REGION I**

Docket Nos: 50-220, 50-410

License Nos: DPR-63, NPF-69

Report Nos: 50-220/01-05, 50-410/01-05

Licensee: Niagara Mohawk Power Corporation (NMPC)

Facility: Nine Mile Point, Units 1 and 2

Location: P. O. Box 63  
Lycoming, NY 13093

Dates: July 1, 2001 - August 11, 2001

Inspectors: G. Hunegs, Senior Resident Inspector  
B. Fuller, Resident Inspector  
R. Fernandes, Resident Inspector  
J. Noggle, Senior Health Physicist  
J. Jang, Senior Health Physicist

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

## Summary of Findings

IR 05000220-01-05, IR 05000410-01-05; on 07/01 - 08/11/2001; Niagara Mohawk Power Corporation; Nine Mile Point, Units 1 & 2. Resident Inspector Report

This inspection was conducted by resident inspectors and two region-based inspectors. 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 <http://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) remained at 100 percent throughout the inspection period.

Nine Mile Point Unit 2 (Unit 2) began this inspection report period at 100 percent power. On July 21, Unit 2 was shutdown to install a modification to the flow control valves. Unit 2 was taken critical on July 28 and returned to power on July 29, reaching 100 percent power on July 31. Unit 2 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 Division II emergency diesel generator (EDG) system to walk down, while emergent work was conducted on the Division I EDG on August 2. The walk down included a control room switch line-up verification, an EDG system walk down, and the review of open work orders, deviation and event reports (DERs), and the EDG system health report.

###### b. Findings

No findings of significance were identified.

##### .2 Partial Equipment Alignment

###### a. Inspection Scope

The inspector selected the Unit 1 reactor building closed loop cooling (RBCLC) system to walk down, during a period of high ambient temperature in conjunction with high lake water temperature. The walk down included a control room switch line-up verification and in-plant system walk down using applicable system operating procedures and drawings. A sampling of safety related pumps and components served by RBCLC were observed for evidence of proper cooling and absence of leakage. The RBCLC system health report, Technical Specifications, and design bases were also reviewed.

###### 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:

- Reactor building 240 foot elevation fire sub area 33 and 34 (Unit 2).
- Reactor building 261 foot elevation fire sub area 34 and 35 (Unit 2).
- Reactor building drywell 261 foot elevation fire area 5 (Unit 2).
- Turbine building 277 foot elevation (Unit 1).
- Turbine building 300 foot elevation (Unit 1).
- Reactor building 237 foot elevation (Unit 1).

### 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 2 licensed operator simulator training during an emergency preparedness drill on August 9, 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 exercise, the inspector observed the crew 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. The following DERs were reviewed:

- DER 1-2001-3621, Control room ventilation fan No. 11 high vibrations (Unit 1).
- DER 1-2001-0476, No. 121 reheater drain tank level controller erratic (Unit 1).

### • 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 01-04695-00, Replace reactor protection system relay (Unit 2).
- WO 99-15847-00, Repair No. 2 RHS\*AOV39B (Unit 2).
- WO 01-04986-00, Control room ventilation fan No. 11 (Unit 1).

### 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 2001-3638, Division I EDG failed start time surveillance test (Unit 2).
- Action Request (ACR) 01-02929, Dual position indication for drywell vacuum breaker (Unit 2).
- DER 2001-3018, Control Rod Drive No. 34-03 temperature in alarm at below reasonable limit (Unit 1).

### b. Findings

No findings of significance were identified.

## 1R16 Operator Workarounds

### a. Inspection Scope

The inspectors reviewed operator workarounds at Units 1 and 2 to determine if any had a potential adverse effect on the functionality of mitigating systems. Included in this review were the cumulative effects of operator workarounds on: (1) the reliability, availability, and potential for mis-operation of a system; (2) the potential increase in initiating event frequency that could affect multiple mitigating systems; and (3) the ability of operators to respond in a correct and timely manner to plant transients and accidents.

### 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-ISP-NMS-Q108, Source Range Monitor Channel Calibration (Unit 2).
- N2-OSP-EGS-M@001, Diesel Generator and Diesel Air Start Valve Operability Test, Division I (Unit 2).
- N1-OP-5, Control rod drive system, in-service leak check performed after hydraulic control unit (HCU) No. 14-31 foot valve replacement (Unit 1).
- N1-ITP-02, Vibration measurements, performed after control room ventilation fan No. 11 failed bearing 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:

- N1-ST-Q6B, Containment Spray Pump No. 122 (Unit 1).
- N1-PM-W7, Mechanical Pressure Regulator (Unit 1).

b. Findings

No findings of significance were identified.

## 1EP06 Emergency Preparedness (EP)

### a. Inspection Scope

On August 9, 2001, the licensee conducted an EP drill. The inspectors reviewed the drill scenario, applicable emergency plan implementing procedures (EPIPs) and emergency action levels (EALs). The inspectors monitored licensee performance during the drill including event classification, offsite authority notification, and dose assessment activities. Mitigation strategies and communications were observed. The inspectors noted that EP equipment and facilities were satisfactorily maintained in the technical support center (TSC), operations support center (OSC), and emergency operations facility (EOF).

The inspectors observed the post-exercise critique and also determined that the drill was appropriate in scope to be included in the EP performance indicator (PI) statistics. The site drill report and associated DERs which were generated were reviewed.

### b. Findings

No findings of significance were identified.

## 2. **RADIATION SAFETY**

Cornerstones: Occupational Radiation Safety, Public Radiation Safety

## 2OS2 ALARA Planning and Controls

### a. Inspection Scope (71121.02)

The Nine Mile Point Unit 1 Spring 2001 refueling outage exposure performance was evaluated through a review of a draft of the Unit 1 16<sup>th</sup> Refueling Outage As Low As Reasonably Achievable (ALARA) Report and through subsequent interviews with the Unit 1 ALARA staff. The five highest exposure jobs were reviewed with respect to estimates. These included: drywell in-service inspection (ISI); maintenance activities in the reactor water cleanup rooms; drywell set-up and closure; drywell non-ISI scaffolding and insulation; and drywell reactor water cleanup isolation valve replacement. Additional outage post-job reviews that were evaluated included: drywell miscellaneous maintenance activities; position indicator probe replacement; drywell radiation protection surveys and job coverage; drywell operations activities; refueling floor activities; drywell main steam isolation valve maintenance; emergency relief valve vacuum breaker design improvement modification; drywell motor-operated valve maintenance; drywell snubber maintenance; hydraulic control unit maintenance; and installation of new transverse in-core probe tubing.

Revisions to outage job exposure estimates were reviewed by reference to initial outage radiation work permit (RWP) exposure estimates, high drywell dose rate RWP exposure estimate revisions, and final outage RWP results. This was performed to verify that the

job exposure estimates were a valid standard to measure outage job exposure performance against.

Several deviation event reports (DERs) associated with the Unit 1 Spring outage ALARA performance, were reviewed. In particular, DER No. 2001-1007, "Resolution of highly elevated drywell dose rates," indicated that the root cause evaluation will remain open pending corrosion film coupon analysis and evaluation, due in the Fall 2001.

ALARA program assessments by the licensee's quality assurance organization were reviewed for 2000. These included a radiation protection program audit and two Unit 1 refueling outage quality assurance surveillance reports associated with the ALARA program. This review was with respect to the annual radiation protection program review requirement, as specified in 10 CFR 20.1101(c).

b. Findings

No findings of significance were identified.

2PS1 Gaseous and Liquid Effluents

a. Inspection Scope (71122.01)

The inspector reviewed the below listed documents to evaluate the effectiveness of the licensee's radioactive gaseous and liquid effluent control programs for Units 1 and 2. The requirements of the radioactive effluent controls are specified in the Technical Specification and the Offsite Dose Calculation Manual (TS/ODCM) for Unit 1 and the Improved Technical Specifications and the Offsite Dose Calculation Manual (ITS/ODCM) for Unit 2.

- 2000 Radiological Semi-Annual Effluent Release Reports for Units 1 and 2, including projected public radiation dose assessments.
- Current Unit 1 ODCM (Revision 20, February 22, 2000).
- Implementation process of Generic Letter 89-01 for the Unit 1 ODCM.
- Current Unit 2 ODCM (Revision 21, November 16, 2000).
- Technical justifications for ODCM and changes made for both units.
- Analytical results for charcoal cartridge, particulate filter, and noble gas samples for both units.
- Quantifying technique for radioactive materials released through the Unit 1 Emergency Condenser Vent.
- Implementation of the compensatory sampling and analysis program when the effluent radiation monitoring system (RMS) is out of service for both units.
- Trending for effluent RMS availability for both units.
- 2001 gamma spectroscopy calibration records of all geometries for both units.
- Implementation of measurement laboratory quality control program, including intra-laboratory and inter-laboratory comparisons for both units.

- 2000 and 2001 DERs related to the effluent control program and resolutions, including: C-2000-2431; C-2000-2544; C-2000-3473; 1-2000-0461; 1-2000-0683; 1-2000-2562; 2-2000-1569; 2-2000-4230; 2-2001-0843; 2-2001-2061; 2-2001-2871; and 2-2001-3056.
- 2000 and 2001 DERs related to the Unit 2 Gaseous Effluent Monitoring System (GEMS): 2-2000-3509, 2-2000-3872, 2-2000-4030, 2-2000-4053, 2-2000-4297, 2-2000-4297, 2-2001-0035, 2-2001-0075, 2-2001-0140, 2-2001-0288, 2-2001-0532, 2-2001-0550, 2-2001-0938, 2-2001-2355, 2-2001-2356, 2-2001-2357, 2-2001-2997, and 2-2001-3012).
- Proposal for the Unit 2 GEMS Upgrading Project.
- 2000 Nuclear Quality Assurance (NQA) Audit Report No. 00013 (Audit Dates: January 7-November 30, 2000) for the implementations of the radioactive liquid and gaseous effluent controls and the ODCM for both units.
- Selected radioactive liquid and gaseous release permits for both units and associated effluent control procedures.
- Recent calibration results for channel calibration and channel test for Units 1 and 2 RMS and flow rate measurement devices. These requirements are listed in the Unit 1 Technical Specification Tables 3/4.6.14-1 and 3/4.6.14-2 and in the Unit 2 ODCM Tables 3/4.6.14-1 and 3/4.6.14-2, and the calibration and functional test results are listed in the following table:

Unit 1 Monitoring Systems	Channel Calibration	Functional Test
Service Water Effluent RMS	January 9, 2001	June 6, 2001
Discharge Canal Flow Rate	DER 1-2000-0683	Not Required
Stack Noble Gas RMS: Low Range, 112-07 Low Range, 112-08 High Range, #11 RN-03A High Range, #11 RN-03B	February 3, 2001 June 28, 2000 May 1, 2001 December 2, 2000	May 15, 2001 Sept. 21, 2000 Feb. 14, 2001 May 2, 2001
Condenser Air Ejector Noble Gas	May 17, 2001	March 15, 2001
Emergency Condenser Noble Gas	February 21, 2001	Feb. 21, 2001
Stack Gas Flow Rate Measuring	January 15, 2001	Not Required
Condenser Air Ejector Flow Rate	February 9, 2001	Not Required

Unit 2 Monitoring Systems	Channel Calibration	Functional Test
Liquid Radwaste Effluent RMS	Sept. 10, 2000	June 25, 2001
Service Water Effluent "A" RMS	June 7, 2001	Dec. 4, 2000

Service Water Effluent "B" RMS	April 24, 2001	Dec. 4, 2000
Cooling Tower Blowdown RMS	Feb. 17, 2000	May 30, 2001
Offgas Noble Gas (OFG-13A)	April 14, 2000	June 15, 2001
Offgas Noble Gas (OFG-13B)	April 14, 2000	June 15, 2001
Reactor Building Vent Noble Gas	June 21, 2001	May 1, 2001
Main Stack Noble Gas	July 2, 2001	April 24, 2001
Liquid Radwaste Effluent Flow Rate	March 19, 2001	June 11, 2001
Service Water Effluent Flow Rate	Nov. 13, 2000	May 1, 2001
Cooling Tower Blowdown Flow Rate	Dec. 29, 2000	June 5, 2001
Offgas Gas Monitor Flow Rate	June 26, 2000	May 30, 2001
Reactor Building Vent Flow Rate	July 15, 2000	May 1, 2001
Main Stack Noble Gas Flow Rate	May 5, 2000	April 24, 2001

- Recent surveillance testing results (delta P, visual inspections for Unit 2 systems, in-place testings for high efficiency particulate air (HEPA) and charcoal filters, air capacity test, and laboratory test for iodine collection efficiency) for the following air treatment systems, as required by TS 3/4.4.4 and 3/4.4.5 for Unit 1 and Section 5.5.7 (Ventilation Filter Testing Program) of the ITS for Unit 2.
  - Control Room Air Treatment System (Unit 1).
  - Reactor Building Emergency Ventilation System (Unit 1).
  - Standby Gas Treatment System (Unit 2).
  - Control Room Outdoor Air Special Filter Train System (Unit 2).
- Review of the 3<sup>rd</sup> Unit 1 Response Letter to the NRC Generic Letter 99-02, "Laboratory Testing of Nuclear-Grade Activated Charcoal."

The inspector toured and observed the following systems to evaluate the effectiveness of the licensee's radioactive gaseous and liquid effluent control programs:

- Walk down for determining the availability of radioactive liquid/gaseous effluent RMS and for determining the equipment material condition.
- Sampling techniques for charcoal cartridge/filter and preparation for the measurement.

- Walk down for determining operability of air cleaning systems and for determining the equipment material condition.

b. Findings

No findings of significance were identified.

**4. OTHER ACTIVITIES (OA)**

4OA1 Performance Indicator Verification

RETS/ODCM Radiological Effluent Occurrences

a. Inspection Scope (71151)

The inspector reviewed the following documents to ensure the licensee met all requirements of the performance indicator from the first quarter 2000 to the first quarter 2001:

- Monthly projected dose assessment results due to radioactive liquid and gaseous effluent releases.
- Quarterly projected dose assessment results due to radioactive liquid and gaseous effluent releases and associated procedures.

b. Findings

No findings of significance were identified.

4OA5 Other

The inspector reviewed the final Institute of Nuclear Power Operation (INPO) report dated July 17, 2001, which was based on the November 2000 evaluation.

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 August 24, 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.

**ATTACHMENT 1**a. Key Points of ContactLicensee

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

NRC

A. Blamey, Reactor Engineer

b. List of Items Opened, Closed, and Discussed

None

c. List of Acronyms

ACR	Action Request
ALARA	As Low As Reasonably Achievable
DER	Deficiency/Event Report
EAL	Emergency Action Level
EDG	Emergency Diesel Generator
EOF	Emergency Operations Facility
EP	Emergency Preparedness
EPIP	Emergency Plan Implementing Procedures
GEMS	Gaseous Effluent Monitoring System
HCU	Hydraulic Control Unit
HEPA	High Efficiency Particulate Air
INPO	Institute of Nuclear Power Operation
ISI	In-Service Inspection
ITS	Improved Technical Specifications
NMPC	Niagara Mohawk Power Corporation
NQA	Nuclear Quality Assurance
NRC	Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
OSC	Operations Support Center
PI	Performance Indicator
PMT	Post-Maintenance Test



RBCLC	Reactor Building Closed Loop Cooling
RETS	Radiological Effluents Technical Specifications
RMS	Radiation Monitoring System
RWP	Radiation Work Permit
SDP	Significance Determination Process
SSC	Structure, System, and Component
TS	Technical Specifications
TSC	Technical Support Center
UFSAR	Updated Final Safety Analysis Report
Unit 1	Nine Mile Point Unit 1
Unit 2	Nine Mile Point Unit 2
WO	Work Order