

June 18, 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
05000220/2001-003, 05000410/2001-003

Dear Mr. Mueller:

On May 12, 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 May 30, 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. 05000220
05000410

License Nos. DPR-63
NPF-69

Enclosure: Inspection Report 05000220/2001-003, 05000410/2001-003

Attachment 1 - Supplemental Information

cc w/encl:

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Mr. John H. Mueller

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

Docket Nos: 05000220, 05000410
License Nos: DPR-63, NPF-69

Report No: 05000220/2001-003, 05000410/2001-003

Licensee: Niagara Mohawk Power Corporation (NMPC)

Facility: Nine Mile Point, Units 1 and 2

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

Dates: April 1, 2001 - May 12, 2001

Inspectors: G. Hunegs, Senior Resident Inspector
B. Fuller, Resident Inspector
S. Dennis, Operator Licensing Examiner
J. Jang, Senior Health Physicist
J. Noggle, Senior Health Physicist
D. Silk, Senior Emergency Preparedness Specialist

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

Summary of Findings

IR 05000220-01-003, 05000410-01-003; on 04/1 - 05/12/2001; Niagara Mohawk Power Corporation; Nine Mile Point, Units 1 & 2. Resident inspector report.

This inspection was conducted by resident inspectors and four 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

This inspection identified no significant findings.

Report Details

SUMMARY OF PLANT STATUS

Nine Mile Point Unit 1 (Unit 1) began this inspection report period at 100 percent power. On March 18, 2001, Unit 1 shutdown for a scheduled refueling outage. Unit 1 was restarted on May 6 and returned to service on May 9, after the plant staff addressed main turbine vibration problems. Unit 1 was at 92 percent power and performing power ascension at the end of the inspection period. Unit 1 was returned to 100 percent power on May 15.

Nine Mile Point Unit 2 (Unit 2) began this inspection report period at 100 percent power. On May 4, Unit 2 was shutdown for a planned maintenance outage. Major activities included installation of a modification for the reactor recirculation flow control valve position indication. Unit 2 was restarted on May 10 and returned to service on May 11. Unit 2 was returned to 100 percent power on May 12 and remained at 100 percent power through the end of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment

a. Inspection Scope

The inspectors performed a partial walkdown of the Unit 1 control rod drive (CRD) system, after refueling outage work was performed on hydraulic control unit check valves (V106 and V108). The inspectors reviewed the current system health report and maintenance rule (MR) status. The CRD system is currently in MR (a)(1) due to cracking of the V106 check valve seats. Open work orders and deviation/event reports (DERs) were reviewed to assess system material condition.

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:

- General area turbine building, including areas not normally accessible during power operation (Unit 1)
- Drywell (Unit 1)

- Emergency diesel generator rooms (Unit 2)
- Control room (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 2 licensed operator simulator training on April 19, 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 instructor's 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 1-2001-0359 Mechanical pressure regulator (MPR) hunting.
- DER 1-2001-1242 MPR bean valve discovered plugged during refueling outage (RFO) 16.
- DER 1-2001-0356 MR plant level performance criteria for scrams and unplanned capability losses exceeded.

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 WO's were reviewed:

- WO 01-04128-00, Troubleshoot reactor recirculation flow control valve "A" erratic operation (Unit 2)
- WO 01-02878-00, No. 11 Condensate pump is air bound (high pressure coolant injection function of condensate pump) (Unit 1)
- WO 96-03768-10M Troubleshoot/repair outboard bearing cleanup pump No. 11 (Unit 1)

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors reviewed selected Licensee Event Reports (LERs) to ensure that licensee staff actions taken in response to the events were in accordance with station procedures and regulatory requirements. The inspectors reviewed the licensee's analysis of the event and associated corrective actions to ensure that appropriate measures were implemented to address any personnel performance concerns and that equipment problems were adequately resolved to prevent a recurrence of the identified problems. The following LER was reviewed:

LER 50-220/2000-03, Supplement 1, "Reactor trip on low reactor water level while placing the reactor water cleanup system in service." This LER was previously closed in NRC inspection report 05000220/2000-008. Supplement 1 provides additional details and corrective actions. This LER is closed.

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 system's impact on technical specifications (TS) limiting condition for operations. The following licensee documents were reviewed:

- Nuclear Engineering Report (NER) No. 1M-053, Core shroud stabilizer assembly in-vessel inspection (Unit 1)
- Action Request (ACR) No. 01-01390, Hydraulic lockup of flow control valve (Unit 2)
- DER 1-2001-1350, Foreign material in emergency diesel generator (EDG) No. 102 DC and DE cabinets (Unit 1)
- DER 2-2001-1535, EDG room ventilation fans rotating backwards (Unit 2)

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.

- N1-ST-R1 Control rod scram insertion time. Procedure N1-ST-R1 was reviewed to verify adequacy of testing after significant work was performed during the refueling outage on hydraulic control unit (HCU) check valves which directly affect control rod scram times.

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:

- 22-N1-ST-R2, Rev 24, "Loss of Coolant Accident (LOCA) and EDG Simulated Auto Initiation Test," (Unit 1)
- N1-ST-C4, Rev 8, "Containment Spray Air Flow for Spray Headers and Nozzles Test," (Unit 1)
- N2-ISP-CPS-Q001, "Drywell and Suppression Chamber Purge System Supply Isolation Valve Leakage Test," (Unit 2)
- N1-ST-C24, Rev 3, "Condensate Pump Nos. 11, 12 and 13 and Feedwater Booster Pump No. 12 Performance Test," (Unit 1)

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

The inspector reviewed licensee as-low-as reasonably achievable (ALARA) performance in accordance with 10 CFR 20.1101(b). Unexpected and unusually high drywell dose rates (five times normal) were encountered, therefore, additional review of the potential causes and the licensee's response in controlling outage doses and actions taken to mitigate the high dose rates was performed. This review included:

- interviews with the plant chemist, radiation protection staff, and General Electric Nuclear Energy (GENE) chemist;
- drywell stop-work actions and daily site ALARA committee drywell work deferral actions, as recorded in meeting minutes dated 3/18-23/2001;
- senior management independent onsite assessment team report from Peach Bottom;
- a revised doubling of the original drywell temporary shielding plan; and,
- a review of the licensee's draft root cause analysis of the potential causes of the increased drywell dose rate phenomenon (a non-zinc injection plant that has operated for one year with noble metals and hydrogen water chemistry).

Other areas reviewed included an evaluation of ALARA planning for the five highest exposure outage tasks: drywell inservice inspection; drywell scaffolding; drywell

shielding; drywell health physics coverage; and reactor water cleanup room maintenance activities. These reviews included:

- interviews with the In-Service Inspection (ISI) supervisor with respect to inspection deferral and area coordination to minimize exposure;
- interviews with applicable carpenter staff and review of applicable scaffold work package documents with respect to drywell scaffold platform use and dose minimization planning;
- observation of closed circuit television equipment use in the drywell and interviews with applicable drywell health physics staff were conducted with respect to drywell remote health physics coverage capability;
- independent radiation surveys were conducted in the drywell and reactor water cleanup rooms;
- independent temporary shielding evaluations were conducted in the drywell and reactor water cleanup rooms with respect to actual dose reductions obtained; and
- interviews were conducted with the reactor water clean up system engineer, operations supervisor, and operations manager with respect to the late release of a reactor water clean up modification package just prior to the outage that resulted in additional outage dose.

b. Findings

No findings of significance were identified.

2PS3 Radiological Environmental Monitoring Program (REMP)

a. Inspection Scope

The inspector reviewed the following documents to evaluate the effectiveness of the licensee's Radiological Environmental Monitoring Program (REMP) at the following locations:

- Contractor Laboratory (J. A. FitzPatrick Environmental Laboratory, Fulton, NY);
- Nine Mile Point Units 1 and 2 site;
- Aquatic and Terrestrial Sampling Contractor, EA Engineering Science and Technology, Oswego, NY.

The requirements of the REMP are specified in the Technical Specifications/Offsite Dose Calculation Manual (TS/ODCM). The following documents and activities were reviewed:

J. A. FitzPatrick Environmental Laboratory

- the 2000 Draft REMP Report;
- analytical results for 2001 REMP samples;
- the 2000 calibration results for all TS/ODCM air samplers;
- calibration results for gamma, and alpha/beta measurement instruments;
- review of J. A. FitzPatrick Environmental Laboratory Quality Assurance Manual;
- implementation of the quality control programs;
- review of the 2000 and 2001 quality control charts for gamma spectrometry systems and a proportional counter;
- implementation of the interlaboratory and intralaboratory comparisons;
- implementation of the environmental thermoluminescent dosimeters (TLDs) program;
- self-assessment No. RE-00-409;
- implementation of the interlaboratory TLD comparisons, including the 12th International Intercomparison of Environmental Dosimeters; and
- associated analytical procedures.

Nine Mile Point Units 1 and 2 site

- the most recent NMP ODCMs (Unit 1 Revision 20, February 22, 2000 and Unit 2, Revision 21, November 16, 2000) and technical justifications for ODCM changes;
- the 1999 Annual REMP Report;
- the most recent calibration results of the meteorological monitoring instruments (October and November 2000) for wind direction, wind speed, and temperature;
- review of the 1999, and 2000 meteorological monitoring data recovery statistics;
- meteorological monitoring program deviation/event reports and its resolutions (DER Nos. C-2000-3069 and C-2000-0604);
- the Nuclear Quality Assurance Department audit report (No. 00013) for the REMP/ODCM implementation;
- environmental self-assessment performed in the fourth Quarter 2000; and
- deviation/event reports (DERs) and their resolutions (DER Nos. C-2001-0430; C-2001-0678; C-2000-1845; C-2000-3324; C-2000-3451; C-2000-4587; and C-2000-4590).

EA Engineering Science and Technology

- Aquatic and terrestrial sampling procedures;
- sample preservation and shipping process; and,
- the Land Use Census procedure and the 2000 results.

The inspector also toured and observed the following activities to evaluate the effectiveness of the licensee's REMP.

- observation for the operability of meteorological monitoring instruments at the tower and the control room;
- observation at the licensee's analytical laboratory's activities, J. A. FitzPatrick Environmental Laboratory;

- observation for air iodine/particulate sampling techniques; and
- field walkdowns for determining whether all air samplers, milk farms, and 25%TLDs were located as described in the ODCM (including control and indicator stations) and for determining the equipment material condition.

b. Findings

No findings of significance were identified.

2PS3 Radioactive Material Control Program

a. Inspection Scope

The inspector reviewed the following documents to ensure that the licensee met the requirements specified in the licensee's program for the unrestricted release of material from the Radiologically Controlled Area (RCA):

- the most recent calibration results for the radiation monitoring instrumentation (small articles monitor, SAM-9), including the (a) alarm setting, (b) response to the alarm, and (c) the sensitivity;
- the licensee's criteria for the survey and release of potentially contaminated material using a gamma spectroscopy (calibrations efficiency for bulk sample analyses);
- the methods used for control, survey, and release from the RCA; and
- associated procedures and records to verify for the lower limits of detection for bulk sample analyses.

The review was against criteria contained in 10CFR20, NRC Circular 81-07, NRC Information Notice 85-92, NUREG/CR-5569, Health Position Data Base (Positions 221 and 250), and the licensee's procedures.

The following licensee's activities were observed for the effectiveness of the licensee's material release program:

- observations for the use of SAM-9 at RCA access points; and
- testing for the alarm setpoint using a radioactive source.

b. Findings

No findings of significance were identified.

EP4 Emergency Plan Reviews

a. Inspection Scope

The inspector conducted an in-office review of licensee submitted changes for several emergency preparedness documents to determine if the changes decreased the effectiveness of the Emergency Plan. The review assessed the Emergency Plan changes and implementing procedures related to the risk significant planning standards in 10 CFR 50.47(b) (i.e., event classification, notification, radiological assessment, and protective action recommendations). Implementing procedures not directly related to the risk significant planning standard received only a cursory review. The documents reviewed were:

- Emergency Plan, Rev. 43
- EPIP-EPP-12, Re-entry Procedure, Rev. 07
- EPIP-EPP-20, Emergency Notifications, Rev. 10
- EPIP-EPP-22, Damage Control, Rev. 05
- EPIP-EPP-27, Rev. 06.

b. Findings

No findings of significance were identified.

4. **OTHER ACTIVITIES**

4OA3 Event Follow-up

(Closed) LER 50-220/2000-03, Supplement 1, "Reactor trip on low reactor water level while placing the reactor water cleanup system in service." Reference Section 1R14 of this report.

4OA6 Management Meetings

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 May 30, 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

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

J. Trapp, Senior Reactor Analyst

ITEMS OPENED AND CLOSED

Closed:

50-220/2000-03, Supplement 1 LER Reactor trip on low reactor water level while placing
the reactor water cleanup system in service.
(Section 1R14)

DOCUMENTATION REVIEWED

Vice President Nuclear Generation Independent Assessment Report of Nine Mile Point Unit 1
Increased Drywell Dose Rates
Site ALARA Committee meeting minutes, March 19-23, 2001
Unit 1 RFO16 Exposure Estimates (revision 1/1/01, 3/17/01, 3/21/01 and projection 3/31/01)
Unit 1 RFO16 Drywell surveys
Unit 1 RFO16 Drywell scaffolding layout plans
Unit 1 RFO16 Outage and Drywell temporary shielding plans
Unit 1 RFO16 Drywell In-Service Inspection and Erosion/Corrosion exposure worksheet
Deviation Event Reports: 1-2001-1054 and 1-2001-1007
Reactor Water Clean-up Corridor heat exchanger room surveys
ALARA Review No. 2001-26, Install new drywell isolation valve 33-02
ALARA Review No. 2001-12, Reactor Water Cleanup system high radiation area work

LIST OF ACRONYMS USED

ACR	Action Request
CRD	Control Rod Drive
DER	Deficiency/Event Report
EDG	Emergency Diesel Generator
GENE	General Electric Nuclear Energy
HCU	Hydraulic Control Unit
ISI	Inservice Inspection
MPR	Mechanical Pressure Regulator
MR	Maintenance Rule
NER	Nuclear Engineering Report
NMPC	Niagara Mohawk Power Corporation
NRC	Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
PMT	Post Maintenance Test
RCA	Radiologically Controlled Area
REMP	Radiological Environmental Monitoring Program
RFO	Refueling Outage
SDP	Significance Determination Process
SSC	Structure, System, or Component
TLD	Thermoluminescent Dosimeters
TS	Technical Specifications
UFSAR	Updated Final Safety Analysis Report
VP	Vice President
WO	Work Order