

October 31, 2006

Mr. Timothy J. O'Connor  
Vice President Nine Mile Point  
Nine Mile Point Nuclear Station, LLC  
P.O. Box 63  
Lycoming, NY 13093

SUBJECT: NINE MILE POINT NUCLEAR STATION - NRC INTEGRATED INSPECTION  
REPORT 05000220/2006004 and 05000410/2006004

Dear Mr. O'Connor:

On September 30, 2006, the US Nuclear Regulatory Commission (NRC) completed an inspection at your Nine Mile Point Nuclear Power Plant Unit 1 and Unit 2. The enclosed integrated inspection report documents the inspection results discussed on October 13, 2006, with you 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.

Based on the results of this inspection, no findings of significance were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web Site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

**/RA/**

Arthur L. Burritt, Acting Chief  
Projects Branch 1  
Division of Reactor Projects

Docket No.: 50-220, 50-410  
License No.: DPR-63, NPF-69

T. O'Connor

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Enclosure: Inspection Report 05000220/2006004 and 05000410/2006004  
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.: 50-220, 50-410

License No.: DPR-63, NPF-69

Report No.: 05000220/2006004 and 05000410/2006004

Licensee: Nine Mile Point Nuclear Station, LLC (NMPNS)

Facility: Nine Mile Point, Units 1 and 2

Location: Lake Road  
Oswego, NY

Dates: July 1, 2006 - September 30, 2006

Inspectors: L. Cline, Senior Resident Inspector  
B. Fuller, Resident Inspector  
E. Knutson, Resident Inspector  
S. Kennedy, Resident Inspector, Millstone Power Station  
J. Bobiak, Reactor Inspector  
D. Silk, Senior Emergency Preparedness Inspector

Approved by: Arthur L. Burritt, Acting Chief  
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Division of Reactor Projects

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## SUMMARY OF FINDINGS

IR 05000220/2006004, 05000410/2006004; 07/01/2006 - 09/30/2006; Nine Mile Point, Units 1 and 2; Routine Integrated Report.

The report covered a thirteen-week period of inspection by resident and region-based inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

No findings of significance were identified.

B. Licensee-Identified Violations

None.

## REPORT DETAILS

### Summary of Plant Status

Nine Mile Point Unit 1 (Unit 1) began the inspection period at 100 percent power and operated at full power for the entire report period with the exception of small power reductions made prior to routine control rod exercising as a precaution due to the failed fuel element identified in June 2006.

Nine Mile Point Unit 2 (Unit 2) began the inspection period at 100 percent power. On September 23, 2006, power was reduced to 70 percent for control rod pattern adjustments and other planned maintenance. The plant returned to 100 percent power on September 23 and remained at 100 percent power through the end of the inspection period.

### **1. REACTOR SAFETY**

#### **Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity**

##### 1R01 Adverse Weather Protection (71111.01 - 2 samples weather related)

###### a. Inspection Scope

The inspectors completed two impending adverse weather condition inspection samples. During the week of July 31 when daytime high temperatures were consistently above 90°F, the inspectors verified the status of Nine Mile Point Nuclear Station's (NMPNS) warm weather preparations and the impact of the above average air temperature on the operability of the ultimate heat sink for Unit 1 and 2. The inspectors verified the Unit 2 emergency diesel generator (EDG) control rooms design temperature limit when Division I EDG control room temperatures exceeded 104°F due to a failure of the rooms normal ventilation systems. The inspectors reviewed the adequacy of the operability evaluation, interim compensatory measures and NMPNS's proposed corrective actions for the condition. Documents reviewed for this inspection are listed in the Attachment.

###### b. Findings

No findings of significance were identified.

##### 1R04 Equipment Alignment

###### .1 Partial Walkdown (71111.04 - 4 samples)

###### a. Inspection Scope

The inspectors performed four partial system walkdown inspection samples to verify a system was properly restored to service following maintenance or to evaluate the operability of one system train while the opposite train was inoperable or out of service for maintenance or testing. The inspectors compared system lineups to system operating procedures (OPs), system drawings, and the applicable chapters in the Updated Final Safety Analysis Report (UFSAR). The inspectors also verified the operability of critical system components by observing component material condition

during the system walkdown. Documents reviewed during this inspection are listed in the Attachment. The inspectors performed partial walkdowns of the following systems:

- Unit 2 high pressure core spray while reactor core isolation cooling (RCIC) and “A” residual heat removal (RHR) were out of service for maintenance on July 19;
- Unit 1 11 emergency cooling system following planned maintenance on August 16;
- Unit 2 Division II control room emergency filtration system following planned maintenance on August 31, 2006; and
- Unit 2 containment purge system following planned maintenance on September 14.

b. Findings

No findings of significance were identified.

.2 Complete System Walkdown (71111.04S - 1 sample)

a. Inspection Scope

The inspectors performed a complete system walkdown inspection of RCIC to identify any discrepancies between the existing equipment lineup and the specified lineup. During the walkdown system drawings and OPs were used to verify proper equipment alignment and operational status. The inspectors reviewed the open maintenance work orders (WO) on the system for any deficiencies that could affect the ability of the system to perform its function. Documentation associated with unresolved design issues such as temporary modifications, operator workarounds, and items tracked by plant engineering were also reviewed to assess their collective impact on system operation. In addition, the inspectors reviewed the condition report (CR) database to verify that equipment alignment problems were being identified and appropriately resolved. Documents reviewed for this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

.1 Fire Protection - Tours (71111.05Q - 12 samples)

a. Inspection Scope

The inspectors completed twelve quarterly fire protection inspection samples. The inspectors toured twelve areas important to reactor safety on the Nine Mile Point site to evaluate NMPNS’s control of transient combustibles and ignition sources and the material condition, operational status, and operational lineup of fire protection systems including detection, suppression and fire barriers. The inspectors used procedure



GAP-INV-02, "Control of Material Storage Areas," the UFSARs for Unit 1 and Unit 2 and the fire hazards analysis and pre-fire plans to perform the inspection. Other documents reviewed for this inspection are listed in the Attachment. The areas inspected included:

- Unit 1 cable spreading room;
- Unit 1 diesel fire pump room;
- Unit 1 11 and 12 battery rooms;
- Unit 1 11 and 12 battery board rooms;
- Unit 1 102 emergency diesel room;
- Unit 1 103 emergency diesel room;
- Unit 1 102 and 103 emergency switchgear rooms;
- Unit 2 RCIC pump room;
- Unit 2 B RHR heat exchanger room;
- Unit 2 C RHR pump room;
- Unit 2 reactor building 240 foot elevation
- Unit 2 reactor building 289 foot elevation.

b. Findings

No findings of significance were identified.

.2 Fire Protection - Drill Observation (71111.05A - 1 sample)

a. Inspection Scope

The inspectors completed one annual fire drill observation inspection sample. The inspectors observed a fire brigade drill on September 28, 2006, in the Unit 1 main generator hydrogen seal oil area. The inspectors observed brigade performance during the drill to evaluate the following: donning and use of protective equipment, fire brigade leader command and control, fire brigade response time, radio communications, and use of pre-fire plans. The inspectors reviewed the disposition of issues and deficiencies identified during the drill. The inspectors also verified that all fire fighting equipment used during the drill was returned to a condition of readiness required to respond to an actual fire when the scenario was complete.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06 - 2 samples)

a. Inspection Scope

The inspectors completed a total of two external flood protection inspection samples, one sample for each unit. The inspectors reviewed the Individual Plant Examination and UFSARs for Unit 1 and 2 concerning external flooding events at the Nine Mile Point site. The inspection included a walkdown of accessible areas of each unit's perimeter to look for potential susceptibilities to external flooding and verify the assumptions included in

each unit's external flooding analysis. The inspectors also reviewed relevant abnormal and emergency plan procedures.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.07A - 1 sample)

a. Inspection Scope

The inspectors completed one annual heat sink performance inspection sample. The inspectors reviewed the testing and evaluation of test results for the B reactor building emergency recirculation unit cooler, 2HVR\*413B. N2-TTP-HVR-@413, "Performance Evaluation Test for Unit Cooler 2HVR\*413A and 2HVR\*413B," is performed on a biennial basis to verify unit cooler thermal performance. The inspectors reviewed performance data to verify that heat exchanger operation was consistent with its design basis. Documents reviewed for this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11Q - 2 samples)

a. Inspection Scope

The inspectors completed two licensed operator requalification training program (LORT) inspection samples. Documents reviewed for this inspection are listed in the Attachment. For each scenario observed, the inspectors assessed the clarity and effectiveness of communications, the implementation of appropriate actions in response to alarms, the performance of timely control board operation and manipulation, and the oversight and direction provided by the shift manager. During the scenario the inspectors also compared simulator performance with actual plant performance in the control room. The following simulator scenarios were observed:

- On August 22, the inspectors observed licensed operator performance in the Unit 1 simulator during an emergency preparedness (EP) exercise. The exercise scenario involved a spent fuel pool leak, a loss of all offsite power and a main steam line break in the turbine building. The inspectors evaluated the performance of risk significant operator actions including the use of emergency operating procedures (EOPs), N1-EOP-2, "RPV Control," N1-EOP4, "Primary Containment Control," and N1-EOP-5, "Secondary Containment Control."
- On September 13, the inspectors observed Unit 2 LORT to assess operator and instructor performance during a scenario involving a station blackout. The inspectors evaluated the performance of risk significant operator actions,

including N2-SOP-1, "Station Blackout," N2-SOP-02, "Station Blackout Support Procedure," N2-SOP-03, "Loss of AC Power," and N2-EOP-RPV, "RPV Control."

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12Q - 3 samples)

a. Inspection Scope

The inspectors reviewed performance-based problems involving selected in-scope structures, systems, or components (SSCs) to assess the effectiveness of the maintenance program. Reviews focused on: proper Maintenance Rule (MR) scoping in accordance with 10 CFR 50.65; characterization of reliability issues; charging system and component unavailability; 10 CFR 50.65 (a)(1) and (a)(2) classifications; identifying and addressing common cause failures, trending key parameters, and the appropriateness of performance criteria for SSCs classified (a)(2); and the adequacy of goals and corrective actions for SSCs classified (a)(1). The inspectors reviewed system health reports, maintenance backlogs, and MR basis documents. Other documents reviewed for the inspection are listed in the Attachment.

The following three MR samples were reviewed:

- Unit 2 B instrument air compressor (IAC) discharge check valve, 2IAS-V1791B, failure on April 28, 2006;
- Unit 1 high pressure injection system (HPCI) (a)(1) action plan for untested HPCI components; and
- Unit 2 RCIC system performance.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 - 6 samples)

a. Inspection Scope

The inspectors reviewed risk assessments for the six work weeks below during the inspection period. The inspectors verified that risk assessments were performed in accordance with GAP-OPS-117, "Integrated Risk Management," that risk of scheduled work was managed through the use of compensatory actions and schedule adherence, and that applicable contingency plans were properly identified in the integrated work schedule. Documents reviewed for the inspection are listed in the Attachment.

Unit 1

- Week of July 17, that included emergent repairs to the air operator for torus to reactor building vacuum breaker system valve 68-10 and preventative maintenance and testing on 13 IAC;
- Week of July 31, that included emergent diesel fire pump maintenance and troubleshooting, emergency service water (ESW) testing and 12 liquid poison pump preventative maintenance; and
- Week of August 14, 2006, that included planned maintenance on emergency cooling system 11, high pressure coolant injection (HPCI) system pump and valve surveillance testing, and EDG 102 cooling water pump surveillance testing.

Unit 2

- Week of July 17, that included Division 1 EDG planned maintenance and monthly operability testing, A RHR valve maintenance and testing and A standby liquid control pump motor maintenance;
- Week of August 7, that included reactor core isolation system testing and maintenance, and A IAC preventative maintenance; and
- Week of September 18, that included 115 kV offsite power line 5 planned maintenance, Division 1 EDG monthly operability testing, and A RHR auto start time delay relay testing.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15 - 5 samples)a. Inspection Scope

The inspectors completed five operability evaluation inspection samples. The inspectors reviewed the operability determinations associated with the five CRs listed below. The inspectors evaluated the acceptability of the selected determinations; when needed, the use and control of compensatory measures; and the compliance with technical specifications (TSs). The inspectors' review verified that the operability determinations were made as specified by procedure S-ODP-OPS-0116, "Operability Determinations." The technical adequacy of the determinations was reviewed and compared to the TSs, UFSAR, TRM and associated design basis documents (DBD). Other documents reviewed for this inspection are listed in the Attachment. The following five evaluations were reviewed:

- CR 2006-3619 concerning a failed accumulator level switch on Unit 2 control rod HCU 38-19;
- CR 2006-3597 concerning failed position indication on the Unit 1 torus to reactor building vacuum breaker system valve 68-05;
- CR 2006-3927 concerning the effect of an unanalyzed diesel fuel specification change on Unit 1 and 2 EDG operation;
- CR 2006-3494 concerning recent problems with the Unit 1 diesel fire pump engine reduced speed; and

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- CR 2006-4048 concerning Unit 1 reactor protection system channel 12 failure to reset following reactor recirculation flow loop calibration.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing (71111.19 - 6 samples)

a. Inspection Scope

The inspectors completed six post maintenance testing inspection samples. The inspectors reviewed post maintenance test procedures and associated testing activities for selected risk significant mitigating systems to assess whether the effect of maintenance on plant systems was adequately addressed by control room and engineering personnel. The inspectors verified that test acceptance criteria were clear; demonstrated operational readiness and were consistent with DBDs; that test instrumentation had current calibrations and the range and accuracy for the application; and that tests were performed, as written, with applicable prerequisites satisfied. Upon completion, the inspectors verified that equipment was returned to the proper alignment necessary to perform its safety function. The adequacy of the identified post maintenance testing requirements were verified through comparisons with the recommendations of GAP-SAT-02, "Pre/Post-Maintenance Test Requirements," and the design basis documentation contained in the TSs, UFSAR and associated DBDs. Other documents reviewed for this inspection are listed in the Attachment. The following six post maintenance test activities were reviewed:

- Unit 1, WO 05-00675-00, that involved preventive maintenance (PM) on 122 containment spray raw water discharge check valve. The retest was performed by running the pump in accordance with N1-OP-14, "Containment Spray System."
- Unit 1, ACR 06-03820, that involved troubleshooting a high temperature condition on the diesel fire pump. The retest was performed using surveillance test procedure N1-ST-Q22, "Diesel Fire Pump Instrument Air Test and Flow Verification."
- Unit 2, WO 05-20094-00 that involved preventative maintenance on the A RHR pump breaker. The retest was performed in accordance with N2-EPM-GEN-4Y550, "GE 4.16 kV Magne-Blast Breaker PM" and by running the pump in suppression pool cooling mode in accordance with N2-OP-31, "RHR System."
- Unit 1, WO 05-19957-00, that removed and replaced the IAC 13 unloader valves. The retest was performed in accordance with N1-MPM-094-602, "IAC No. 13 CMPR-94-53," Section 7.16, and the WO step text.
- Unit 1, WO 06-07374-00, that repaired the electric fire pump discharge check valve. The retest was performed in accordance with N1-PM-C3, "Electric and Diesel Fire Pump Performance Tests," and the WO step text.
- Unit 2, WO 04-15245-00, that increased the discharge relief valve set point for the A standby liquid control pump. The retest was performed in accordance with N2-OSP-SLS-Q001, "Standby Liquid Control Pump, Check Valve, Relief Valve

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Operability Test and ASME XI Pressure Test,” and design change package N2-03-069.

b. Findings

No findings of significance were identified.

1R20 Refueling and Other Outage Activities (71111.20 - 0 samples)

a. Inspection Scope

The inspectors observed receipt of new fuel on Unit 1 refuel floor as part of NMPNS preparations for refueling outage 19. The inspectors observed channel installation and movement of the new fuel into the storage vault to verify that risk, industry experience, and previous site specific problems were considered.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22 - 7 samples)

a. Inspection Scope

The inspectors witnessed performance of and/or reviewed test data for seven risk-significant surveillance tests (STs) to assess whether the SSCs tested satisfied TS, UFSAR, Technical Requirements Manual, and NMPNS procedure requirements. The inspectors verified that test acceptance criteria were clear, demonstrated operational readiness and were consistent with the DBDs; that test instrumentation had current calibrations and the range and accuracy for the application; and that tests were performed, as written, with applicable prerequisites satisfied. Upon ST completion, the inspectors verified that equipment was returned to the status specified to perform its safety function. Documents reviewed for this inspection are listed in the Attachment. The following seven STs were reviewed:

- N1-ST-M4A, “EDG 102 and PB 102 Operability Test;”
- N1-ISP-201-022, “Drywell Water Leak Detection System Instrument Channel Test;”
- N1-ST-Q13, “ESW Operability Test;”
- N1-PM-W9, “Fire Protection System - Weekly Operation of Fire Pumps;”
- N2-ESP-BYS-R682, “Division I/II/III Battery Charger Load Test;”
- N2-OSP-EGS-M@001, “Diesel Generator and Diesel Air Start Valve Operability Test - Division I and;”
- N1-ST-M1A, “Liquid Poison Pump 11 Operability Test.”

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23 - 1 sample)a. Inspection Scope

The inspectors completed one temporary modifications inspection sample. The inspectors reviewed the temporary change controlled by operations special order N1-SO-06-06 that placed the Unit 1 carbon dioxide fire protection suppression systems in alarm only. The inspectors assessed the adequacy of the 10 CFR 50.59 evaluations; verified that the change did not adversely affect the system's ability to perform its design functions as described in the UFSAR and TS; and that the drawings and procedures were updated as applicable. Documents reviewed for this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

**Cornerstone: Emergency Preparedness (EP)**1EP2 Alert and Notification System Testing (71114.02 - 1 sample)a. Inspection Scope

An onsite review was conducted to assess the maintenance and testing of NMPNS's alert and notification system (ANS). During this inspection, the inspectors interviewed component analysts and emergency planning (EP) staff responsible for implementation of the ANS testing and maintenance. CRs pertaining to the ANS were reviewed for problems, trends, and corrective actions. The inspectors reviewed NMPNS's original ANS design report to ensure compliance with those commitments for system maintenance and testing. Planning standard, 10 CFR 50.47(b)(5) and the related requirements of 10 CFR 50 Appendix E were used as reference criteria. Documents reviewed for this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization Augmentation (71114.03 -1 sample)a. Inspection Scope

An on-site review was conducted of the Nine Mile Point emergency response organization (ERO) augmentation staffing requirements and the process for notifying the ERO. The inspectors assessed the state of readiness of key staff for timely facility activation by reviewing records from quarterly call-in drills during 2005 and 2006 and by verifying that weekly pager tests were completed. The inspectors reviewed procedures and CRs associated with the ERO notification system and drills. The inspectors interviewed personnel responsible for testing the ERO augmentation process. The inspectors compared qualification requirements to the training records for a sample of

ERO members. The inspectors also verified that the EP department staff had received required training as specified in the emergency plan. Planning standard, 10 CFR 50.47(b)(2) and related requirements of 10 CFR 50 Appendix E were used as reference criteria. Documents reviewed for this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04 - 1 sample)

a. Inspection Scope

Prior to this inspection, the NRC had received and acknowledged recent changes made to the emergency plan and implementing procedures. These changes were made in accordance with 10 CFR 50.54(q), which NMPNS had determined did not result in a decrease in effectiveness to the plan and concluded that the changes continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR 50. During this on-site inspection, the inspectors conducted a sampling review of the changes that could potentially result in a decrease in effectiveness. This review does not constitute an approval of the changes and, as such, the changes are subject to future NRC inspection. While on-site during this inspection, the inspectors sampled associated 10 CFR 50.54(q) reviews for recent changes that were made. The requirements in 10 CFR 50.54(q) were used as reference criteria. Documents reviewed for this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies (71114.05 - 1 sample)

a. Inspection Scope

The inspectors reviewed self-assessments and audit reports from 2005 and 2006 to assess NMPNS's ability to evaluate their performance and programs. The inspectors reviewed CRs initiated by Nine Mile Point from drills, self-assessments, and audits. The inspectors assessed the significance of the issues, determined if repeat problems were occurring, and evaluated the effectiveness of corrective actions. Planning standard, 10 CFR 50.47(b)(14) and the related requirements of 10 CFR 50 Appendix E were used as reference criteria. Documents reviewed for this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.



1EP6 Drill Evaluation (71114.06 - 1 sample)a. Inspection Scope

The inspectors completed one drill evaluation inspection sample. The inspectors observed simulator and emergency operations facility activities associated with Unit 1 emergency planning drill on August 22, 2006. The inspectors verified that emergency classification declarations and notifications were completed in accordance with 10 CFR 50.72, 10 CFR 50, Appendix E, and the Nine Mile Point emergency plan implementing procedures. Documents reviewed for this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

4. **OTHER ACTIVITIES**4OA1 Performance Indicator (PI) Verification (71151 - 3 samples)a. Inspection Scope

The inspectors completed three performance indicator (PI) verification inspection samples. The inspectors reviewed data for the following EP PIs: (1) Drill and Exercise Performance (DEP); (2) ERO Drill Participation; and (3) Alert and Notification System Reliability. The inspectors reviewed supporting documentation from drills and tests in the third, and fourth quarters of 2005 and the first two quarters of 2006 to verify the accuracy of the reported data. Other documents reviewed for this inspection are listed in the Attachment. The acceptance criteria used for the review were 10 CFR 50.9 and NEI 99-02, Revision 2, "Regulatory Assessment PI Guidelines."

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152 - 1 sample).1 Review of Items Entered into the Corrective Action Program (CAP)a. Inspection Scope

As specified by Inspection Procedure 71152, "Identification and Resolution of Problems," and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of all items entered into NMPNS's CAP. The review was accomplished by accessing the computerized database for CRs and attending CR screening meetings. In accordance with the baseline inspection modules, the inspectors also selected 44 CAP items across the Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness cornerstones for additional follow-up and review. The inspectors

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assessed NMPNS's threshold for problem identification, the adequacy of the cause analyses, extent of condition reviews, operability determinations, and the timeliness of specified corrective actions. The CRs reviewed are noted in the Attachment.

b. Findings

No findings of significance were identified.

.2 Annual Sample

a. Inspection Scope

The inspectors selected CR 2005-0175 for detailed review. This CR was written to address multiple cross-cutting findings identified by the NRC in the area of human performance in early 2005. The CR was reviewed to ensure that an appropriate evaluation was performed and appropriate corrective actions were specified. The inspectors reviewed the CR disposition, root cause analysis, and site human performance PIs; attended pre-job briefs and CR Screening and Management Review Committee meetings; observed field activities; and conducted interviews with the site human performance coordinator. The inspectors evaluated the CR evaluation and corrective actions against the requirements of procedure NIP-ECA-01, "Corrective Action Program," and 10 CFR 50, Appendix B.

b. Findings and Observations

No findings of significance identified. The inspectors determined that NMPNS appropriately identified an adverse trend in human performance and utilized NRC guidance to evaluate the risk significance of the trend. NMPNS also appropriately conducted a more thorough review of the issue when additional issues with significant human performance aspects were identified later in 2005. In the third and fourth quarter of 2004, inspectors identified three findings with cross-cutting aspects related to the cross-cutting area of human performance. In response to this, NMPNS generated CR 2005-0175 in January 2005. NMPNS applied the substantive cross-cutting issue guidance in IMC 0305 to the inspector identified issues and at that time determined that a substantive cross-cutting issue did not exist. However, in May 2005, when NMPNS identified 15 additional CRs with significant human performance aspects, plant management directed, in accordance with NIP-ECA-01, that a common cause analysis of these events be performed to determine if additional actions to address this issue needed to be taken.

The inspectors determined that NMPNS conducted a thorough review of the identified adverse trend in human performance events and identified specific causes that could be corrected. NMPNS determined, through its common cause analysis, that inadequate implementation of the formal human performance program at NMP was the primary cause. NMPNS observations during the cause analysis identified that there was a lack of understanding of the human performance program caused by vague guidance and training. In general, managers, general supervisors, and supervisors did not understand what adequate human performance skills were. As a result they could not adequately

enforce their use, and did not use dynamic learning opportunities or formal training to demonstrate their proper use.

The inspectors determined that NMPNS identified appropriate corrective actions to address the common cause identified. The corrective actions were assigned to the appropriate individuals to ensure actions were taken in a timely manner, and methods were put in place to allow accurate evaluation of the overall effectiveness of the identified actions. The corrective actions identified to address the identified common cause included mandatory retreat training for the managers, general supervisors, and supervisors to review the adverse trend in human performance and understand the behavior changes necessary for improvement; and implementation of the use of dynamic learning activities such as a human performance simulator in the ongoing department training programs. The site human performance coordinator, who reported directly to the site vice president, was assigned ultimate responsibility for tracking completion of the actions required to close the CR.

The inspectors determined that corrective actions directed by the CR were completed and current site human performance indicators improved. The inspectors also determined through observation that personnel were knowledgeable and practiced proper use of human performance tools. NMPNS trend analysis indicated that the overall number of human performance-related CRs generated in 2006 decreased below the targeted value NMPNS set based on industry standards and the time between human performance clock resets, tracked since January 2006, also showed an increasing trend and remains above industry standards. The inspectors attended several pre-job briefs and observed the associated field activities and determined that there was an appropriate emphasis on the proper use of human performance tools, and that during activity execution the tools were used as prescribed by site procedures. In addition, site personnel encouraged each other on the proper use of the prescribed tools.

#### 4OA3 Event Followup (71153 - 1 sample)

##### .1 (Closed) LER 05000220/2006002-00, High Pressure Coolant Injection Logic Actuation due to Turbine Trip

On June 12, 2006, with Unit 1 in the startup mode at zero percent power and 5 psig, reactor water level increased to the high level turbine trip setpoint when plant operators placed the feedwater system in long path recirculation to support chemistry sampling. This resulted in a turbine trip and actuation of the HPCI actuation logic. HPCI is a mode of operation that uses selected equipment of the condensate and feedwater system to perform its function. At the time of the event, HPCI was not required to be operable because reactor pressure was less than 110 psig. In accordance with OPs, the feedwater booster pumps were not required to be in service and their control switches were in pull-to-lock. Without the booster pumps running, the feedwater pumps will not start. Therefore, though the HPCI start logic was satisfied, injection did not occur and was not required. The inspectors completed a review of this LER and no findings of significance were identified and no violation of NRC requirements occurred. NMPNS entered this issue into its CAP as CR 2006-2703. This LER is closed.

4OA6 Meetings, Including Exit

Exit Meeting Summary

The inspectors presented the inspection results to Mr. Timothy O'Connor and other members of NMPNS's management on October 13, 2006. NMPNS acknowledged that no proprietary information was involved.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

**SUPPLEMENTAL INFORMATION**

**KEY POINTS OF CONTACT**

Licensee personnel

N. Conicella, Manager, Operations  
R. Dean, Director, Quality and Performance Assessment  
M. Faivus, General Supervisor, Chemistry  
J. Gerber, Manager, Radiation Protection  
J. Hutton, Plant General Manager  
T. Maund, Manager, Maintenance  
M. Miller, Director, Licensing  
T. O'Connor, Site Vice President  
W. Paulhardt, Manager, Work Control, Outage Management  
M. Schimmel, Manager, Engineering Services  
T. Shortell, Manager, Training, Nuclear

**LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

Closed

05000220/2006002-00	LER	High Pressure Coolant Injection Logic Actuation due to Turbine Trip (Section 4OA3)
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**LIST OF DOCUMENTS REVIEWED**

**Section 1R01: Adverse Weather Protection**

CR 2006-3526, Diesel generator control rooms have elevated temperatures  
N2-OP-57, "Diesel Generator Building Ventilation System"  
ACR 05-07008, During restoration of 2HVP-FN3A following EGS\*EG1 run fan failed to start  
ACR 05-05456, HVP FN4 trips on low flow when attempting to start

**Section 1R04: Equipment Alignment**

N2-OP-33, "High Pressure Core Spray System"  
N2-VLU-01, "Walkdown Order Valve Lineup and Valve Operations" Attachment 33, "N2-OP-33 Walkdown Valve Lineup"  
Dwg No. PID-33A-17, "High Pressure Core Spray System"  
Dwg No. PID-33B-13, "High Pressure Core Spray System"  
RCIC System Health Report, Q1-2006  
N2-OP-35, RCIC Walkdown Valve Lineup  
Dwg No. PID-35A-15, RCIC

Dwg No. PID-35B-13, RCIC  
Dwg No. PID-35C-25, RCIC  
Dwg No. PID-35D-12, RCIC  
N1-OP-13, "Emergency Cooling System"  
WO 04-05452-00, Replace Transmitter LT-60-22 per S-IPM-ROS-001  
Dwg No. C-18017-C, NMPNS Unit No. 1, Emergency Cooling System P&I Diagram  
N2-ISP-CPS-Q002, "Drywell and Suppression Chamber Purge System Exhaust Isolation Valve Leakage Test"  
WO 05-22369-00, Primary containment suppression chamber purge system exhaust isolation valve leakage test  
N2-OP-61A, "Primary Containment Ventilation, Purge, and Nitrogen System"  
Dwg No. PID-61A,B, NMPNS Unit No. 2, Primary Containment Purge and Standby Gas Treatment  
Dwg No. ESK-6CPS01, NMPNS Unit No. 2, Primary Containment Purge

**Section 1R05: Fire Protection**

N1-FPI-PFP-0101, "Pre-fire Plans", Revision 1

**Section 1R07: Heat Sink Performance**

NMPNS-HX-001, "Nine Mile Point Nuclear Station Unit 1 and Unit 2 Generic Letter 89-13 Heat Exchanger Program Plan"  
WO 06-09279-00, Perform N2-TTP-HVR-@413 unit cooler performance testing  
WO 05-15283-00, After As-found performance test, chemically clean water side of 2HVR\*413B  
WO 05-15283-01, N2-TTP-HVR-@413 Performance evaluation test for unit cooler 2HVR\*413B  
Calculation No. HVR-038, Unit Coolers Evaluation for Post-Loss Of Coolant Accident & Appendix R Fire  
CR 2006-2566, Unit Cooler 2HVR\*UC413B as-left test did not meet acceptance criteria of procedure N2-TTP-HVR-@413  
Holtec Report No. H1-992299, User's Manual for AirCool I-Series for Windows

**Section 1R11: Licensed Operator Requalification Program**

NMPNS Operations Manual  
NMP Simulator Scenario, O2-OPS-009-TRA-2-A6, Station Blackout Lab  
Emergency Preparedness Scenario for the EP Drill to be Conducted on August 22, 2006  
NEI 99-02, PI Guidelines, Revision 2  
CNG-HU-1.01, "Human Performance Program"  
CNG-HU-1.01-1000, "Human Performance"  
CNG-HU-1.01-1001, "Human Performance Tools and Verification Practices"  
S-ODP-OPS-0001, "Conduct of Operations"  
N1-SOP-1, "Reactor Scram"  
N1-SOP-6.1, "Loss of SFP/RX Cavity Level/Decay Heat Removal"  
N2-SOP-101C, "Reactor Scram"  
N1-EOP-02, "RPV Control"  
N1-EOP-05, "Secondary Containment Control"  
N2-ARP-01, "Control Room Alarm Response Procedures."

N2-EOP-RPV, "RPV Control"  
N2-SOP-1, "Station Blackout"  
N2-SOP-02, "Station Blackout Support Procedure"  
N2-SOP-03, "Loss of AC Power"  
Unit 1 Alarm response procedures

**Section 1R12: Maintenance Effectiveness**

NIP-REL-01, "Maintenance Rule"  
S-MRM-REL-0101, "Maintenance Rule"  
S-MRM-REL-0104, "Maintenance Rule Scope"  
GAP-PSH-03, "Control of On-line Work Activities"  
Unit 1 Integrated Performance Criteria Matrix  
S-MRM-REL-0105, "Maintenance Rule Performance Criteria"  
Unit 1 Integrated Scoping Matrix  
Unit 1 High Safety Significant Functions and Related Key Safety Functions Matrix  
Unit 2 Integrated Scoping Matrix  
Unit 2 High Safety Significant Functions and Related Key Safety Functions Matrix  
Nine Mile Point Vendor Manual No. N21187, Instruction manual for Atlas Copco Compressor Model ZR4-60  
NMPNS Periodic Assessment of Maintenance Rule Program, October 2003 through September 2005  
WO 06-07714-00, IAC C3B check valve failed, extent of condition replace check valve on C3A  
WO 05-10965-00, N2-MPM-IAS-V606, IAC PM (3 year inspection), perform running checks day prior  
GAP-REL-01, "Preventative Maintenance Optimization"  
CR 2006-2109, Trip of IAC caused NMP2 to enter numerous SOPs  
Bonnington, Alex, 11 May 2006, NMP2 IAC Check Valve Failure, LSS Report No. 06-0269, memorandum, Constellation Generation Group, LLC, Generation Services Department, Lab Services Section  
CR 2005-2551, Certain design features of the HPCI system are not currently being tested  
CR 2004-4525, SSDI inspection follow-up questions from the NRC concerning th Bennetts Bridge Hydro station and the Unit 1 HPCI system  
(a)(1) Action Plan, "Untested High Pressure Coolant Injection Components", Revision 1  
Maintenance Rule Monitoring Report, August 2006  
S-RCPM-GEN-062, "HFA Armature Test and Calibration/Ten Year Visual Inspection"  
System Health Report, Q3 2006  
WO 05-15227-00

**Section 1R13: Maintenance Risk assessments and Emergent Work Control**

GAP-OPS-117, "Integrated Risk Management"  
GAP-PSH-03, "Control of On-line Work Activities"  
NAI-PSH-03, "On-line Work Management Process"  
WO 05-20929-00, Unit 2 2ICS\*P2 Vibration measurements  
WO 05-20912-00, Unit 2 2ICS\*MOV124 MCC. Breaker cubicle maintenance per N2-EPM-GEN-V582

WO 05-21018-00, Unit 2 RCIC pump and valve operability and system integrity test and ASME IX functional test  
N2-OSP-ICS-Q@002, "RCIC System Flow Test"  
N2-ISP-ICS-Q023, "Quarterly Functional Test and Trip Unit Calibration of Group 10 Isolation on RCIC Exhaust Diaphragm Pressure High"  
WO 05-20926-00, Unit 2 Semi-annual A IAC preventative maintenance  
WO 05-20982-00, Unit 2 Calibration of 2IAS-TIS28A, Compressor LP outlet temperature high  
WO 04-05452-00, Unit 1 Replace LT-60-22 and LT-60-23 with equivalent Rosemount Models  
WO 05-19957-00, Unit 1 Semi-annual 13 IAC preventative maintenance  
WO 05-07937-00, Unit 2 TB1 operations WO to perform line outage switching  
N2-ESP-ENS-Q731, "Quarterly Functional Test of LPCS/LPCI Pumps A, B, C (Normal and Emergency Power) Auto Start Time Delay Relays"  
WO 05-20495-00, Unit 1 PM on breaker for 12 liquid poison pump  
N1-EPM-GEN-153, "Inspection And Testing of AK-15/25 Breakers and Associated Motors"  
N1-ST-Q13, "Emergency Service Water Pump Operability Test"  
N2-OSP-EGS-M@001, "Diesel Generator Air And Diesel Air Start Valve Operability Test - Division I and II"

### **Section 1R15: Operability Evaluations**

NMPNS, Calculation No. EGF-16, Unit 2, Division I, II Standby Diesel Generator Storage Tank  
NMPNS, Calculation No. EGF-17, Unit 2, Determine the Six Day Fuel Oil Supply for 2 EGS\*EG2

### **Section 1R19: Post Maintenance Testing**

GAP-SAT-02, "Pre/Post-Maintenance Test Requirements"  
CNG-HU-1.01, "Human Performance Program"  
CNG-HU-1.01-1000, "Human Performance"  
CNG-HU-1.01-1001, "Human Performance Tools and Verification Practices"  
GAP-MAI-01, "Conduct of Maintenance"  
DCP N2-03-069, SLCS Pump Discharge Relief Valve Setpoint Change due to Maximum Pump Discharge Pressure Increase Under ATWS/LOOP Conditions  
Vendor Technical Manual Number N1107500BLOWER003, "Compressor Operation and Maintenance, XLE Valve Record And Maintenance Guide, Non-Lubricated Type A Channel Valves"  
Vendor Technical Manual Number N1107500BLOWER002, "XLE 125-600 HP All Units Lubricated and Non-Lubricated Operators/Instruction Manual, Installation, Maintenance"

### **Section 1R22: Surveillance Testing**

CR 2006-3969, Apparent procedure non-compliance  
N1-ITP-01, "Ultrasonic Flow Test"  
CNG-HU-1.01, "Human Performance Program"  
CNG-HU-1.01-1000, "Human Performance"  
CNG-HU-1.01-1001, "Human Performance Tools and Verification Practices"  
GAP-SAT-01, "Surveillance Test Program"



**Section 1R23: Temporary Plant Modifications**

FPEE-0-02-001, "Carbon Dioxide Fire Suppression Systems at NMP1 and NMP2 For Compliance with EPA Recommendations", Revision 0  
FPEE-0-03-002, "Evaluation of Interim Action Taken to Prevent Personnel Injury From Carbon Dioxide", Revision 0  
FPEE-0-03-003, "Engineering Evaluation of the Nine Mile Point Carbon Dioxide Protected Areas", Revision 0  
GAP-CON-01, "Control of Temporary Alterations", Revision 0  
LDCR 2-05-UFS-016  
NIP-CON-01, "Design and Configuration Control Process", Revision 15  
NIP-CON-02, "Review of Temporary Changes", Revision 0  
S-SAD-FPP-0105, "Compensatory Measures for Inoperable Fire Protection Systems and Components", Revision 12

**Section 1EP2: Alert and Notification System Testing**

Wyle Research Report WR 84-22 "Evaluation of the Oswego County Prompt Notification System"  
EPMP-EPP-08, Maintenance, Testing, and Operation of the Oswego County Prompt Notification System, Revision 13  
2005 Maintenance Worksheets

**Section 1EP3: Emergency Response Organization (ERO) Augmentation Testing**

Site Emergency Plan Section 8.0, Maintaining Emergency Preparedness  
EPMP-EPP-06, Emergency Response Organization Notification Maintenance and Surveillance, Revision 12  
EPIP-EPP-18, Activation and Direction of the Emergency Plans, Revision 14  
EPIP-EPP-20, Emergency Notifications, Revision 17  
NTP-TQS-202, Emergency Preparedness Training and Qualification Program, Revision 26  
NIP-EPP-01, Emergency Response Organization Expectations and Responsibilities, Revision 15  
Nine Mile Point Emergency Planning Department Work Plan 2006  
EPMP-EPP-10, Site Emergency Plan Demonstration Criteria, Revision 1  
Operator Job Performance Measure: Communications Aide Emergency Notification, Revision 1c  
CAN Test Results: 3/3/05; 6/23/05; 9/27/05; 12/11/05; 3/9/06; and 5/16/06

**Section 1EP4: Emergency Action Level (EAL) Revision Review**

10 CFR 50.54(q) Reviews:

- Site Emergency Plan, Revision 51
- EPIP-EPP-01, Classification of Emergency Conditions at Unit 1, Revision 15
- EPIP-EPP-02, Classification of Emergency Conditions at Unit 2, Revision 15
- EPIP-EPP-01-EALs, Revision 14
- EPIP-EPP-02-EALs, Revision 14
- EPIP-EPP-04, Personnel Injury or Illness, Revision 12
- EPIP-EPP-10, Security Contingency Event, Revision 11, 12
- EPIP-EPP-11, Hazardous Material Incident Response, Revision 9
- EPIP-EPP-16, Environmental Monitoring, Revision 12
- EPIP-EPP-22, Damage Control, Revision 22
- EPIP-EPP-25, Emergency Reclassification, Revision 13
- EPIP-EPP-27, Emergency Public Information Procedure, Revision 15
- EPIP-EPP-28, Firefighting, Revision 11, 12

**Section 1EP5: Correction of Emergency Preparedness Weaknesses and Deficiencies**

- EPMP-EPP-01, Maintenance of Emergency Preparedness, Revision 21
- EPMP-EPP-05, Emergency Planning Program Self Assessment, Revision 13
- White Paper: 01/28/99 TSC Emergency Ventilation Loss: 10CFR50.72 Applicability
- Report of Audit EPP-05-02-N, Emergency Preparedness

**Section 1EP6: Drill Evaluation**

- NEI 99-02, PI Guidelines, Revision 2
- CNG-HU-1.01, "Human Performance Program"
- CNG-HU-1.01-1000, "Human Performance"
- CNG-HU-1.01-1001, "Human Performance Tools and Verification Practices"
- S-ODP-OPS-0001, "Conduct of Operations"
- EPIP-EPP-01, "Classification of Emergency Conditions at Unit 1"
- EPIP-EPP-17, "Emergency Communications Procedure"
- EPIP-EPP-20, "Emergency Notifications"
- Emergency Preparedness Scenario for the EP Drill to be Conducted on August 22, 2006

**Section 4OA1: Performance Indicator Verification**

- EPMP-EPP-05, Emergency Planning Program Self Assessment, Revision 13
- Drill Participation Report July-2006

**Section 4OA2: Identification and Resolution of Problems**

Condition Reports

2003-3600	2005-2775	2005-3191	2005-3194
2005-1943	2005-3156	2005-3192	2005-3195
2005-2410	2005-3158	2005-3193	2005-3196

2005-3620	2006-3556	2006-1627	2006-3288
2005-3640	2006-1354	2006-1626	2006-3209
2005-3973	2006-1771	2006-1562	2006-1974
2005-4035	2006-1769	2006-1896	2006-0221
2006-1041	2006-1678	2006-3186	2006-0973
2006-1889	2006-1687	2006-0282	2006-0498
2006-2411	2006-1654	2006-2915	2006-1504
2006-3553	2006-1618	2006-1037	
2006-3554			

### LIST OF ACRONYMS

ADAMS	agency-wide document and management system
ANS	alert and notification system
CAP	corrective action program
CFR	Code of Federal Regulations
CR	condition report
DBD	design basis document
DEP	drill and exercise performance
EAL	emergency action level
EDG	emergency diesel generator
EOP	emergency operating procedure
EP	emergency preparedness
ERO	emergency response organization
ESW	emergency service water
HPCI	high pressure coolant injection
IAC	instrument air compressor
LORT	licensed operator requalification training
MR	maintenance rule
NMPNS	Nine Mile Point Nuclear Station
NRC	Nuclear Regulatory Commission
OP	operating procedure
PI	performance indicator
PM	preventive maintenance
RCIC	reactor core isolation cooling
RHR	residual heat removal
SSC	structure, system, and component
TS	technical specification
UFSAR	Updated Final Safety Evaluation Report
WO	work order