UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

January 29, 2010

Mr. Sam Belcher
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 05000220/2009005 AND 05000410/2009005

Dear Mr. Belcher:

On December 31, 2009, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Nine Mile Point Nuclear Station Units 1 and 2. The enclosed inspection report documents the inspection results, which were discussed on January 15, 2010, with Mr. Tom Lynch, Plant General Manager, 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.

This report documents one NRC-identified and one self-revealing finding of very low safety significance (Green). One of the findings was determined to involve a violation of NRC requirements. However, because of the very low safety significance and because it is entered into your corrective action program (CAP), the NRC is treating the finding as a non-cited violation (NCV) consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Senior Resident Inspector at Nine Mile Point Nuclear Station. In addition, if you disagree with the characterization of any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region I, and the NRC Senior Resident Inspector at Nine Mile Point Nuclear Station. The information you provide will be considered in accordance with Inspection Manual Chapter 0305.

In accordance with 10 CFR Part 2.390 of the NRC's "Rules of Practice," a copy of this letter, 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 Website at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

Glenn T. Dentel, Chief
Projects Branch 1
Division of Reactor Projects

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

Enclosure: Inspection Report 05000220/2009005 and 05000410/2009005
w/Attachment: Supplemental Information

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Sincerely,

/RA/

Glenn T. Dentel, Chief
Projects Branch 1
Division of Reactor Projects

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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.:	05000220/2009005; 05000410/2009005
Licensee:	Nine Mile Point Nuclear Station, LLC (NMPNS)
Facility:	Nine Mile Point, Units 1 and 2
Location:	Oswego, NY
Dates:	October 1 through December 31, 2009
Inspectors:	E. Knutson, Senior Resident Inspector D. Dempsey, Resident Inspector M. Schneider, Senior Resident Inspector J. Furia, Senior Health Physicist J. Caruso, Senior Operations Engineer G. Johnson, Operations Engineer M. Balazik, Reactor Inspector A. Rao, Project Engineer
Approved By:	Glenn T. Dentel, Chief Projects Branch 1 Division of Reactor Projects

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SUMMARY OF FINDINGS

IR 05000220/2009005, 05000410/2009005; 10/01/2009 - 12/31/2009; Nine Mile Point Nuclear Station, Units 1 and 2; Maintenance Risk Assessment, and Identification and Resolution of Problems.

The report covered a three-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. Two Green findings, one of which was a non-cited violation (NCV), were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process (SDP)." The cross cutting aspects for the findings were determined using IMC 0305, "Operating Reactor Assessment Program." Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

Cornerstone: Mitigating Systems

- Green. A self-revealing non-cited violation (NCV) of Technical Specification (TS) 6.4, "Procedures," was identified when Unit 1 operators removed average power range monitor (APRM) 18 from service for maintenance while APRM 14 was inoperable due to a detector malfunction, contrary to a prerequisite of the APRM 18 maintenance procedure. Operators did not use a readily available control room indication of APRM 14, which showed that the instrument was malfunctioning, when verifying that it was operable. As immediate corrective action, APRM 14 was placed in bypass. The failed local power range monitor (LPRM) input that was causing the malfunction was identified and placed in bypass, and APRM 14 was returned to service. The issue was entered into the corrective action program (CAP) as condition report (CR) 2009-7943.

  The finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because it was not a design or qualification deficiency, did not represent a loss of a system/train safety function, and did not screen as potentially risk significant due to external events. The finding had a cross-cutting aspect in the area of human performance, work practices, because operators did not utilize all available information when verifying that APRM 14 was operable, and thereby did not satisfy a procedure requirement prior to proceeding with the APRM 18 maintenance activity (H.4.b per IMC 0305). (Section 1R13)

- Green. An NRC-identified finding was identified on November 19, 2009, when inspectors determined the NMPNS Operator Workaround program had not been implemented at Unit 1 and Unit 2 in accordance with Nuclear Administration Instruction NAI-REL-02, "Control of Operator Workarounds, Burdens and Interests," Revision 07, during the year 2009. As a result, determinations of operational encumbrances that constituted workarounds, burdens, and interests, had not been made by the Unit Workaround Coordinators, lists of these items had not been maintained, and quarterly aggregate reviews of their impact on the ability of

operators to perform their duties had not been performed during that period. As corrective action, NMPNS performed a review of work orders that were opened during 2009, and were coded as being operator workarounds or burdens, to identify existing operator workarounds and burdens. An evaluation of that information was performed, which concluded that the station had not been in an unrecognized increased risk condition as a result of the cumulative effects of all workarounds and burdens. The issue was entered into the corrective action program (CAP) as condition report (CR) 2009-8395.

The finding was more than minor because the NRC considers licensee identification of operator workaround problems at an appropriate threshold, and implementation of follow-on actions that focus and progress corrective actions to completion, to be an important aspect of problem identification and resolution, as discussed in IP 71152, "Identification and Resolution of Problems." The failure to implement the operator workaround program, if left uncorrected, had the potential to increase the likelihood of operator errors during normal and off-normal conditions and lead to a more significant safety concern. The finding had a cross-cutting aspect in the area of human performance, decision-making, because the roles and authorities of the Operator Workaround Coordinators for Units 1 and 2 were not effectively communicated during the personnel turnover that occurred at the beginning of 2009, and therefore were not implemented as designed during the year 2009 (H.1.a per IMC 0305). (Section 4OA2)

Other Findings

None.

REPORT DETAILS

Summary of Plant Status

Nine Mile Point Unit 1 began the inspection period at full rated thermal power (RTP). On October 5, operators inserted a manual scram due to a failure of the reactor feedwater flow control valve that resulted in rising reactor vessel water level. The scram was uncomplicated and the unit was returned to service on October 8, with steady state full RTP being achieved on October 10. On several occasions, power was briefly reduced to 95 percent to secure a reactor recirculation pump (RRP) for work on its associated motor-generator (MG), or to 85 percent to return an RRP to service. Unit 1 otherwise operated at full RTP for the remainder of the inspection period.

Nine Mile Point Unit 2 began the inspection period at full RTP. On November 21, power was reduced to 95 percent for a control rod pattern adjustment. Power was restored to full RTP the following day. On December 19, power was reduced to 78 percent for a control rod pattern adjustment. Power was restored to full RTP later that day and remained there for the rest of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Readiness for Seasonal Extreme Weather Conditions (Two samples)

a. Inspection Scope

The inspectors verified the seasonal readiness for Unit 1 and Unit 2 in accordance with NMPNS procedure NAI-PSH-11, "Seasonal Readiness Program," Revision 06. The inspectors reviewed and verified completion of the operations department cold weather preparation checklists contained in procedures N1-OP-64 and N2-OP-102, "Meteorological Monitoring," Revisions 01 and 00500, respectively. The inspectors toured selected areas at Unit 1 and 2 to verify cold weather readiness. Additionally, the inspectors assessed the readiness of the following risk significant systems that could be susceptible to the effects of cold weather:

- Unit 1 emergency diesel generator (EDG) room heating and ventilation systems;
- Unit 1 service water (SW) system in the screenwell;
- Unit 2 fire water protection system heat tracing; and
- Unit 2 SW pump rooms heating and ventilation systems.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

.1 Partial System Walkdown (71111.04Q - Two samples)

a. Inspection Scope

The inspectors performed partial system walkdowns to verify risk-significant systems were properly aligned for operation. The inspectors verified the operability and alignment of these risk-significant systems while their redundant trains or systems were inoperable or out of service for maintenance. The inspectors compared system lineups to system operating procedures, system drawings, and the applicable chapters in the updated final safety analysis report (UFSAR). The inspectors verified the operability of critical system components by observing component material condition during the system walkdown.

The following plant system alignments were reviewed:

- Unit 1 EDG 103 due to increased risk significance while EDG 102 was inoperable for planned maintenance; and
- Unit 2 'C' residual heat removal (RHR) system due to increased risk significance while the 'A' RHR and low pressure core spray (LPCS) systems were inoperable due to planned maintenance.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Routine Resident Inspector Tours (71111.05Q - Six samples)

a. Inspection Scope

The inspectors toured areas important to reactor safety to evaluate the station's control of transient combustibles and ignition sources, and to examine the material condition, operational status, and operational lineup of fire protection systems including detection, suppression, and fire barriers. The inspectors evaluated fire protection attributes using the criteria contained in Unit 1 UFSAR Appendix 10A, "Fire Hazards Analysis," and Unit 2 procedure N2-FPI-PFP-0201, "Unit 2 Pre-Fire Plans." The areas inspected included:

- Unit 1 core spray 12 corner room, reactor building (RB) 198, 218, and 237 foot elevations;
- Unit 1 containment spray 12 corner room, RB 198 and 218 foot elevations;
- Unit 1 feedwater heater bays, turbine building (TB) 250 through 317 foot elevations;
- Unit 2 refueling floor, RB 353 foot elevation;
- Unit 2 Division 1 switchgear room, control building 261 foot elevation; and
- Unit 2 TB 250 foot elevation.

b. Findings

No findings of significance were identified.

.2 Annual Inspection (71111.05A - One sample)

a. Inspection Scope

The inspectors completed one annual fire drill observation inspection sample. The inspectors observed a fire brigade drill on November 17, 2009, in the Unit 1 turbine building. The inspectors observed brigade performance during the drill to evaluate donning and use of protective equipment and self-contained breathing apparatus (SCBA), fire brigade leader command and control, fire brigade response time, communications, and the use of pre-fire plans. The inspectors attended the post-drill critique and reviewed the disposition of issues and deficiencies identified during the drill. The inspectors evaluated NMPNS performance against the requirements contained in NMP-TR-1.01-107, "Nuclear Fire Brigade Training Program," Revision 00700.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06 - One sample)

a. Inspection Scope

The inspectors inspected Unit 2 manhole 3, which contains the 4160 volt alternating current (VAC) power cables for the high pressure core spray (HPCS) pump. This manhole is susceptible to flooding due to precipitation and ground water infiltration, and is dewatered on a monthly basis to prevent the water level from reaching the HPCS pump power cables. During this inspection, the inspectors verified that the water level had not exceeded the level of the HPCS pump power cables prior to dewatering.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

.1 Quarterly Review (71111.11Q - Two samples)

a. Inspection Scope

The inspectors evaluated two simulator scenarios in the licensed operator requalification training (LORT) program. 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 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 scenarios were observed:

- On November 3, 2009, the inspectors observed Unit 1 LORT to assess operator and instructor performance during a scenario involving a loss of main generator hydrogen seal oil, service water strainer high differential pressure, a reactor scram, failures of 13 reactor feedwater pump (RFP) flow control valve and 11 RFP, and an unisolable steam leak in the drywell. The inspectors evaluated the performance of risk significant operator actions including the use of special operating procedures (SOPs) and emergency operating procedures (EOPs).

- On October 20, 2009, the inspectors observed Unit 2 LORT to assess operator and instructor performance during a scenario involving failure of the turbine building closed loop cooling system temperature control valve, loss of control of a reactor recirculation flow control valve, failure of the 'A' control rod drive (CRD) pump along with failure of the 'B' CRD flow control valve, a manual scram due to loss of all condensate pumps, and failure of the scram to insert all control rods that led to initiation of the standby liquid control system, reactor pressure vessel (RPV) blowdown, and RPV flooding. The inspectors evaluated the performance of risk significant operator actions including the use of SOPs and EOPs.

b. Findings

No findings of significance were identified.

.2 Biennial Review (71111.11B - One sample)

a. Inspection Scope

The following inspection activities were performed using NUREG 1021, Revision 9, Supplement 1, "Operator Licensing Examination Standards for Power Reactors," Inspection Procedure Attachment 71111.11, "Licensed Operator Requalification Program," Appendix A, "Checklist for Evaluating Facility Testing Material," and Appendix B, "Suggested Interview Topics."

A review was conducted of recent operating history documentation found in inspection reports, licensee event reports (LERs), NMPNS's corrective action program (CAP), and the most recent NRC plant issues matrix. The inspectors also reviewed specific events from NMPNS's CAP, which indicated possible training deficiencies, to verify that they had been appropriately addressed. The senior resident inspector was also consulted for insights regarding licensed operators' performance. These reviews did not detect any operational events that were indicative of possible training deficiencies.

The operating and written tests for two of the six exam weeks for Unit 2 were reviewed for quality and performance. Compliance with overlap controls of the facility program was verified.

On December 21, 2009, the results of the Unit 2 biennial written examination for 2009 and the annual operating tests for both units for 2009 were reviewed against the criteria of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1, and NRC Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance SDP [Significance Determination Process]." The review verified the following:

Unit 1

- Crew pass rates were greater than 80 percent (Pass rate was 83.3 percent);
- Individual pass rates on the job performance measures (JPMs) of the operating exam were greater than 80 percent (Pass rate was 100 percent);
- More than 75 percent of the individuals passed all portions of the exam (95.2 percent of the individuals passed all portions of the examination); and
- No biennial written examination was administered this year.

Unit 2

- Crew pass rates were greater than 80 percent (Pass rate was 83.3 percent);
- Individual pass rates on the written exam were greater than 80 percent (Pass rate was 100 percent);
- Individual pass rates on the JPMs of the operating exam were greater than 80 percent (Pass rate was 97.9 percent); and
- More than 75 percent of the individuals passed all portions of the exam (89.5 percent of the individuals passed all portions of the examination).

Observations were made of the Unit 2 dynamic simulator exams and JPMs administered during the week of the inspection. These observations included facility evaluations of one operating crew and individual performance during the dynamic simulator exams and individual performance of five JPMs.

The remediation plans for one crew operating test failure, seven individual operating test failures, and two biennial written exam failures were reviewed to assess the effectiveness of the remedial training.

Operators, instructors, and training/operations management were interviewed for feedback on their training program and the quality of training received.

Simulator performance and fidelity were reviewed for conformance to the reference plant control room.

A sample of administrative records was reviewed for compliance with license conditions, including NRC regulations. This sample included two years of licensed operator watchstanding proficiency, three license reactivation records, and seven licensed operator medical records.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12Q - One sample)

a. Inspection Scope

The inspectors reviewed performance-based problems, and the performance and condition history for the Unit 1 EDG systems, to assess the effectiveness of the maintenance program. The inspectors reviewed the systems to ensure that the station's review focused on proper maintenance rule scoping in accordance with 10 CFR Part 50.65, characterization of reliability issues, tracking system and component unavailability, and 10 CFR Part 50.65(a)(1) and (a)(2) classification. In addition, the inspectors reviewed the site's ability to identify and address common cause failures, and to trend key parameters.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors evaluated the effectiveness of the maintenance risk assessments required by 10 CFR Part 50.65(a)(4). The inspectors reviewed equipment logs, work schedules, and performed plant tours to verify that actual plant configuration matched the assessed configuration. Additionally, the inspectors verified that risk management actions for both planned and emergent work were consistent with those described in station procedures. The inspectors reviewed risk assessments for the activities listed below.

Unit 1

- Week of September 28, that included maintenance on RRP MG 12, liquid poison system monthly surveillances, high pressure coolant injection (HPCI) system 12 quarterly surveillance, replacement of control room ventilation system 11 chilled water pump, and emergent maintenance to identify the cause of the liquid poison system 11 pump discharge relief valve lifting during the system surveillance and to troubleshoot failure of the acoustic monitor for reactor vessel head safety valve 01-119B.

- Week of October 12, that included a power reduction to 85 percent to return RRP 12 to service following maintenance on its associated MG, spent fuel pool cooling system maintenance that required the system to be removed from service, calibration of the average power range monitor (APRM) system using the traversing in-core probe system, a power reduction to 95 percent to secure RRP 14 for

maintenance on its associated MG, and emergent maintenance to troubleshoot a malfunction of the drywell leak detection system.

- Week of November 23, that included liquid poison system monthly surveillances, a power reduction to 85 percent to return RRP 14 to service, planned maintenance on reactor building-to-torus vacuum relief valve 68-06, and emergent maintenance to troubleshoot failure of the SW system 11 strainer to rotate, troubleshoot a partial failure of the main transformer cooling system, and troubleshoot the failure of a local power range monitor (LPRM) that inputs into APRM channel 14.

Unit 2

- Week of September 28, that included Division 2 EDG monthly surveillance, 'B' RHR system quarterly surveillance, 'D' SW pump, valve, and discharge strainer maintenance, Division 2 SW makeup to circulating water isolation valve maintenance and quarterly surveillance, and emergent maintenance to replace a broken shear pin for the 'B' SW traveling screen and to address an overthrust condition that was identified during testing of the 'B' RHR pump minimum flow valve.

- Week of November 16, that included Division 3 EDG monthly surveillance, a power reduction to 95 percent for a control rod pattern adjustment, calibration of the APRM system using the traversing in-core probe system, quarterly testing of turbine protective devices, and emergent maintenance to replace a bearing in the 'A' SW pump, to troubleshoot the failure of an interlock between the two Division 3 off-site electrical supply breaker cubicles, and to repair a failed alarm for the Division 2 standby liquid control (SLC) system squib valve.

- Week of December 14, that included a two day maintenance period for the Division 1 EDG, Division 1 EDG monthly surveillance, LPCS system quarterly surveillance, Division 1 SLC pump rebuild and quarterly surveillance, and a power reduction to 78 percent for a control rod pattern adjustment and turbine valve testing.

b. Findings

Introduction. A self-revealing Green non-cited violation (NCV) of TS 6.4, "Procedures," was identified on November 24, 2009, when Unit 1 operators removed APRM 18 from service for maintenance while APRM 14 was inoperable due to a detector malfunction, contrary to a prerequisite of the APRM 18 maintenance procedure. Operators did not use a readily available control room indication of APRM 14, which showed that the instrument was malfunctioning, when verifying that it was operable.

Description. On November 24, 2009, Unit 1 technicians were performing Instrument Preventive Maintenance Procedure N1-IPM-092-310, "Performance Tests on LPRMs for Diagnostic Purposes," Revision 00200, sequentially on each of the eight APRM channels (11 through 18). The LPRMs at Unit 1 are prone to spiking, caused by in-core exposure and impurity-related growth of metallic "whiskers" in the detector chamber. LPRM spiking is undesirable because, when input to the associated APRM, it may result in a spurious half scram. This preventive maintenance procedure was developed to

reduce spiking of LPRM detectors by eliminating whiskers using a capacitor discharge. The associated APRM channel must be bypassed prior to the performance of this procedure.

Shortly after the procedure had been completed on APRM 14, one of its associated LPRM inputs began to intermittently fail. This resulted in the APRM output cycling between 100 percent and approximately 88 percent. The APRM outputs are displayed on electronic strip chart recorders (two channels per recorder) in the control console, located in front of the main control panels in the control room. By the time that the technicians had progressed to APRM 18, the affected LPRM had almost entirely failed, which resulted in a nearly solid trace on the strip chart at 88 percent for APRM 14.

The portion of N1-IPM-092-310 that is applicable to APRM 18 (Attachment 8) includes a prerequisite that APRM 14 is operable and unbypassed. This requirement is based on these two APRMs being located in the same quadrant of the core; if both were inoperable, there would be no valid APRM input to the reactor protection system (RPS) from that quarter of the reactor. Although the control console electronic strip chart clearly indicated that APRM 14 was malfunctioning, it was not noted by the control room operators; rather, they concluded that APRM 14 was operable based on its being current on all surveillance requirements. APRM 18 was bypassed, N1-IPM-092-301 Attachment 8 was performed, and APRM 18 was declared operable approximately 20 minutes later.

About two hours after completion of N1-IPM-092-310, the control room SRO noted the issue with APRM 14. It was nevertheless considered to be a self-revealing finding because it had been readily apparent before the APRM maintenance and was not identified by a program or process designed to detect the issue. As immediate corrective action, APRM 14 was placed in bypass. The failed LPRM input that was causing the malfunction was identified and placed in bypass, and APRM 14 was returned to service. The issue was entered into the CAP as condition report (CR) 2009-7943.

Analysis. The inspectors determined that NMPNS's failure to verify the operability of APRM 14, prior to bypassing APRM 18, was a performance deficiency. The finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of this finding using Inspection Manual Chapter (IMC) 0609.04, "Phase 1 - Initial Screening and Characterization of Findings." The finding was of very low safety significance because it was not a design or qualification deficiency, did not represent a loss of a system/train safety function, and did not screen as potentially risk significant due to external events. The finding had a cross-cutting aspect in the area of human performance, work practices, because operators did not utilize all available information when verifying that APRM 14 was operable, and thereby did not satisfy a procedure requirement prior to proceeding with the APRM 18 maintenance activity (H.4.b per IMC 0305).

Enforcement. TS 6.4, "Procedures," states, in part, "Written procedures and administrative policies shall be established, implemented and maintained that meet or exceed the requirements and recommendations of Sections 5.1 and 5.3 of ANSI N18.7-1972 and cover the applicable procedures recommended in Regulatory Guide 1.33, Appendix A, November 3, 1972." ANSI N18.7-1972, Section 5.1.2, "Procedure Adherence," states, in part, "Procedures shall be followed . . ." Regulatory Guide 1.33 [at that time, Safety Guide 33], Appendix A, November 3, 1972, Item D, "Procedures for Startup, Operation, and Shutdown of Safety-Related BWR Systems," lists the average power range nuclear instrument system as one of the applicable systems. NMPNS Instrument Preventive Maintenance Procedure N1-IPM-092-310, "Performance Tests on LPRMs for Diagnostic Purposes," Revision 00200, Attachment 8, "APRM 18," step 6.1.2 requires that APRM 14 be operable and unbypassed.

Contrary to the above, on November 24, 2009, Unit 1 operators did not properly complete step 6.1.2 of N1-IPM-092-310, Revision 00200, Attachment 8, in that they did not reference the control console electronic strip chart for APRM 14 when determining its status, and therefore concluded that APRM 14 was operable when it actually was not. As a result, APRM 18 was placed in bypass, which resulted in both channels of the RPS having no valid APRM inputs from one quadrant of the reactor core for a period of approximately 20 minutes. Because this violation was of very low safety significance and was entered into the CAP as CR 2009-7943, this violation is being treated as an NCV, consistent with the NRC Enforcement Policy. **(NCV 05000220/2009005-01, Two APRMs Inoperable Contrary to Procedure Requirement)**

1R15 Operability Evaluations (71111.15 - Five samples)

a. Inspection Scope

The inspectors evaluated the acceptability of operability evaluations, the use and control of compensatory measures, and compliance with TS. The evaluations were reviewed using criteria specified in NRC Regulatory Issue Summary 2005-20, "Revision to Guidance Formerly Contained in NRC Generic Letter (GL) 91-18, 'Information to Licensees Regarding Two NRC Inspection Manual Sections on Resolution of Degraded and Nonconforming Conditions and on Operability'," and Inspection Manual Part 9900, "Operability Determinations and Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety." The inspectors' review included verification that the operability determinations were made as specified by Procedure CNG-OP-1.01-1002, "Conduct of Operability Determinations / Functionality Assessments." The technical adequacy of the determinations was reviewed and compared to the TSs, UFSAR, and associated design basis documents (DBDs). The following evaluations were reviewed:

- CR 2009-6223 concerning the effect of a stem overthrust condition on continued valve operability that was identified for the Unit 2 'B' RHR minimum flow valve;
- CR 2009-5044 concerning the seismic qualification of control power fuse blocks for safety related 4160 KV circuit breakers at Unit 2;
- CR 2009-7547 concerning a crack on the top of a cell in the Unit 2 Division 1 vital battery;

- CR 2009-8085 concerning load fluctuations that occurred while unloading the Unit 2 Division 2 EDG at the conclusion of surveillance testing; and
- CR 2009-8463 concerning the operability of the Unit 2 SW system under high wind conditions, based on a lake grass intrusion event that had caused the 'A' SW pump to become inoperable.

b. Findings

No findings of significance were identified.

1R18 Plant Modifications (71111.18)

.1 Temporary Modifications (One sample)

a. Inspection Scope

The inspectors reviewed Unit 2 temporary plant modification, Engineering Change Package supplement EC 2009-0164-001, "Weld a Temporary Patch to Minimum Flow Control Valve 2FWR-FV2A." A welded patch was installed to mitigate a through-body leak on this valve, which is the minimum flow valve for the 'A' RFP. This modification made the 'A' RFP available for use, and also prevents air in-leakage into the condenser when 'A' RFP is in standby. The modification was installed while the plant was operating at reduced power, to minimize the potential impact of condenser in-leakage when the previous temporary (non-welded) patch was removed, as well as to minimize worker radiation exposure.

The inspectors reviewed the 10 CFR Part 50.59 screening against the system design bases documentation to verify that the modification did not affect system operability. The inspectors reviewed the calculations that were performed using the valve operating parameters, to ensure an acceptable patch thickness and fillet weld leg dimension for the temporary plate was being utilized. The inspectors reviewed the piping specification and vendor drawing to verify that the modification would not adversely impact plant operations and maintained UFSAR-required system operating parameters.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19 - Five samples)

a. Inspection Scope

The inspectors reviewed the post maintenance tests (PMTs) listed below to verify that procedures and test activities ensured system operability and functional capability. The inspectors reviewed the test procedure to verify that the procedure adequately tested the safety functions that may have been affected by the maintenance activity, that the acceptance criteria in the procedure were consistent with information in the applicable licensing basis and/or DBDs, and that the procedure had been properly reviewed and

approved. The inspectors also witnessed the test or reviewed test data, to verify that the test results adequately demonstrated restoration of the affected safety functions.

- Unit 1, Work Order (WO) C090645400 to refurbish RRP motor-generator 14. The final PMT was to observe normal MG and RRP start and run characteristics in accordance with N1-OP-1, "Nuclear Steam Supply System (NSSS)," Revision 04901.

- Unit 1, WO C081460800 to replace EDG 102 raw water pump. The PMT was performed in accordance with N1-ST-Q25, "Emergency Diesel Generator Cooling Water Quarterly Test," Revision 01300, and N1-PM-V2, "Pump Curve Validation Test," Revision 06.

- Unit 2, WO C090620700 to replace the Division 3 EDG turbo charger. The PMT was to perform a two hour load test at 110 percent load in accordance with N2-OSP-EGS-R006, "Operating Cycle Diesel Generator 24 Hour Run and Load Rejection Test Division III," Revision 05, and N2-OSP-EGS-M@002, "Diesel Generator and Diesel Air Start Valve Operability Test - Division III," Revision 00400.

- Unit 2, WO C90699980 to replace the 'A' SW pump inboard bearing. The PMT was to perform pump performance testing, including vibration measurements, in accordance with N2-OSP-SWP-Q002, "Service Water Pump and Valve Operability Test," Revision 00900, and N2-OP-11, "Service Water System," Revision 00801.

- Unit 2, WO C081900600 to inspect and load test the supply breaker to Division 2 battery charger 2BYS*CHGR2B2. The PMT was to operate the breaker under load conditions by placing the battery charger in service in accordance with N2-ELU-01, "Walkdown Order Electrical Lineup and Breaker Operation," Revision 00, and N2-OP-74A, "Emergency DC Distribution," Revision 00902.

b. Findings

No findings of significance were identified.

1R20 Refueling and Other Outage Activities (71111.20 - One sample)

a. Inspection Scope

The inspectors observed and reviewed the following activities during the Unit 1 forced outage from October 5 to October 8, 2009.

The inspectors observed portions of the plant shutdown and verified that the TS requirements with respect to reactor coolant system cooldown limitations were satisfied. The inspectors reviewed outage schedules and procedures, and verified that TS specified safety system availability was maintained and that shutdown risk was considered.

The inspectors observed portions of the reactor startup following the outage, and verified through control room observations, discussions with personnel, and log reviews that safety-related equipment specified for mode change was operable.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22 - Five samples)

a. Inspection Scope

The inspectors witnessed performance of and/or reviewed test data for risk-significant surveillance tests (STs) to assess whether the components and systems tested satisfied design and licensing basis 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 test completion, the inspectors verified that equipment was returned to the status specified to perform its safety function.

The following STs were reviewed:

- N1-ST-Q3, "High Pressure Coolant Injection Pump and Check Valve Operability Test," Revision 01101;
- N1-ST-Q6B, "Containment Spray System Loop 121 Quarterly Operability Test," Revision 00801;
- N2-ISP-ICS-Q021, "Quarterly Functional Test of RCIC [reactor core isolation cooling] Steam Line Flow High Instrument Channels," Revision 01;
- N2-OSP-ICS-Q@002, "RCIC Pump and Valve Operability Test and System Integrity Test and ASME XI Functional Test," Revision 07; and
- Reactor water chemistry analyses for Units 1 and 2, performed in accordance with N1-CSP-D100, "Reactor Coolant Chemistry," Revision 09, and N2-CSP-GEN-D100, "Reactor Water / Auxiliary Water Chemistry Surveillance," Revision 05, respectively.

This represented a total of five inspection samples, of which two were Routine Surveillances, two were In-Service Testing, and one was a Reactor Coolant System Leakage Detection Surveillance as defined by Inspection Procedure 71111.22.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control to Radiologically Significant Areas (71121.01 - Seven samples)

a. Inspection Scope

The inspectors reviewed NMPNS's self assessments, audits, LERs, and special reports related to the access control program since the last inspection. The inspectors verified that identified problems were entered into the CAP for resolution.

The inspectors reviewed corrective action reports related to access controls. The inspectors interviewed staff and reviewed documents to determine if the follow-up activities were being conducted in an effective and timely manner commensurate with their importance to safety and risk. The inspectors reviewed the following:

- Initial problem identification, characterization, and tracking;
- Disposition of operability/reportability issues;
- Evaluation of safety significance/risk and priority for resolution;
- Identification of repetitive problems;
- Identification of contributing causes;
- Identification and implementation of effective corrective actions;
- Resolution of NCVs tracked in the corrective action system; and
- Implementation/consideration of risk significant operational experience feedback.

For repetitive deficiencies or significant individual deficiencies in problem identification and resolution identified above, the inspectors verified that NMPNS's self-assessment activities were also identifying and addressing these deficiencies.

The inspectors reviewed radiological problem reports since the last inspection that found that the cause of the event was due to radiation worker errors. The inspectors verified that there was no observable pattern traceable to a similar cause. The inspectors verified that this perspective matched the corrective action approach taken by NMPNS to resolve the reported problems. The inspectors discussed with the radiation protection manager any problems with the correction actions planned or taken.

The inspectors reviewed radiological problem reports since the last inspection that found that the cause of the event was radiation protection technician error. The inspectors verified that there was no observable pattern traceable to a similar cause. The inspectors verified that this perspective matched the corrective action approach taken by NMPNS to resolve the reported problems.

The inspectors evaluated NMPNS performance against the requirements contained in 10 CFR Part 20, and Unit 1 TS 6.7 and Unit 2 TS 6.12.

b. Findings

No findings of significance were identified.

2OS2 As Low As Reasonably Achievable (ALARA) Planning and Controls (71121.02 - Two samples)

a. Inspection Scope

Utilizing NMPNS records, the inspectors verified the historical trends and current status of tracked plant source terms. The inspectors verified that NMPNS was making allowances or developing contingency plans for expected changes in the source term due to changes in plant fuel performance issues or changes in plant primary chemistry.

The inspectors verified that there have been two declared pregnant workers during the current assessment period. The inspectors reviewed the exposure results and monitoring controls employed by NMPNS with respect to requirements of 10 CFR Part 20.

The inspectors evaluated NMPNS performance against the requirements contained in 10 CFR Part 20.1101.

b. Findings

No findings of significance were identified.

2OS3 Radiation Monitoring Instrumentation and Protective Equipment (71121.03 - Three samples)

a. Inspection Scope

The inspectors verified the calibration, operability, and alarm setpoints of several types of radiation monitoring instruments and equipment. Verification methods included review of calibration documentation and observation of NMPNS source check or calibrator exposed readings. The inspectors reviewed the detector measurement geometry, calibration method and appropriate selection of calibration sources to closely represent the actual measurement conditions in the plant. The inspectors observed electronic and radiation calibration of these. The inspectors reviewed the alarm setpoint determinations. The inspectors observed in-field source checks. The inspectors verified that appropriate actions were taken when, during calibration or source checks, an instrument was found significantly out of calibration (greater than 50 percent). The inspectors determined the possible consequences of instrument use since last successful calibration or source check. The inspectors verified that the out of calibration result was entered into the CAP.

Based on UFSAR, TSs and EOPs requirements, the inspectors reviewed the status and surveillance records of SCBA staged and ready for use in the plant. The inspectors reviewed NMPNS's capability for refilling and transporting SCBA air bottles to and from

the control room and operations support center during emergency conditions. The inspectors verified that control room operators and other emergency response and radiation protection personnel were trained and qualified in the use of SCBA (including personal bottle change-out). The inspectors verified that personnel assigned to refill bottles were trained and qualified for that task.

The inspectors reviewed the qualification documentation for onsite personnel designated to perform maintenance on the vendor-designated vital components, and the vital component maintenance records for three SCBA units currently designated as "ready for service." For the same three units, the inspectors ensured that the required, periodic air cylinder hydrostatic testing was documented and up to date, and the Department of Transportation required retest air cylinder markings were in place. The inspectors reviewed the onsite maintenance procedures governing vital component work to identify any inconsistencies between NMPNS procedures and the SCBA manufacturer's recommended practices.

The inspectors evaluated NMPNS performance against the requirements contained in 10 CFR Part 20.1501, 10 CFR Part 20.1703,10 CFR Part 20.1704, American National Standards Institute (ANSI) N323-1978, ANSI N323A-1997 and ANSI N42.17A-2004.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151 - Four samples)

a. Inspection Scope

The inspectors sampled NMPNS submittals for the performance indicators (PIs) listed below. The PI definition guidance contained in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Indicator Guideline," Revision 6, was used to verify the basis in reporting for each data element and the accuracy of the PI data reported.

Cornerstone: Mitigating Systems

The inspectors reviewed Unit 1 and Unit 2 LERs, issued between the end of the second quarter 2008 and the end of the third quarter 2009, for safety system functional failures.

Cornerstone: Occupational Radiation Safety

The inspectors reviewed all NMPNS PIs for the Occupational Exposure Cornerstone for follow-up. The inspectors reviewed a listing of NMPNS condition reports for the period January 1, 2009, through November 9, 2009, for issues related to the occupational radiation safety PI, which measures non-conformances with high radiation areas greater

than 1 rad per hour (R/hr) and unplanned personnel exposures greater than 100 mrem total effective dose equivalent (TEDE), 5 rem skin dose equivalent (SDE), 1.5 rem lens dose equivalent (LDE), or 100 mrem to the unborn child.

The inspectors determined if any of these PI events involved dose rates greater than 25 R/hr at 30 centimeters or greater than 500 R/hr at one meter. If so, the inspectors determined what barriers had failed and if there were any barriers left to prevent personnel access. For unintended exposures greater than 100 mrem TEDE (or greater than 5 rem SDE or greater than 1.5 rem LDE), the inspectors determined if there were any overexposures or substantial potential for overexposure. The inspectors verified that no PI events had occurred during the assessment period.

Cornerstone: Public Radiation Safety

The inspectors reviewed a listing of NMPNS condition reports for the period January 1, 2009, through November 9, 2009, for issues related to the public radiation safety PI, which measures radiological effluent release occurrences per site that exceed: 1.5 mrem/quarter (qtr) whole body or 5 mrem/qtr organ dose for liquid effluents; or 5 millirad (mrad)/qtr gamma air dose, 10 mrad/qtr beta air dose; or 7.5 mrem/qtr organ doses from iodine (I)-131, I-133, hydrogen-3, and particulates for gaseous effluents.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152 - Five samples)

.1 Review of Items Entered into the 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 items entered into NMPNS's CAP. In accordance with the baseline inspection procedures, the inspectors also identified selected CAP items across the Initiating Events, Mitigating Systems, and Barrier Integrity cornerstones for additional follow-up and review. The inspectors assessed the threshold for problem identification, the adequacy of the cause analyses, extent of condition review, operability determinations, and the timeliness of the specified corrective actions.

b. Findings

No findings of significance were identified.

.2 Semi-Annual Review to Identify Trends (One sample)

a. Inspection Scope

As specified in Inspection Procedure 71152, "Identification and Resolution of Problems," the inspectors reviewed NMPNS's CAP and associated documents to identify trends that could indicate significant safety issues and/or low level trends before they become significant. The inspectors' review focused on repetitive equipment and corrective maintenance issues, and considered the results of the daily inspector CAP item screening. The review included issues documented outside of the normal CAP in system health reports, quality and performance assessment reports, and the unit significant issues lists. The inspectors' review considered the period July 2009 through December 2009.

b. Findings

No findings of significance were identified.

.3 Annual Samples - Unit 1 and Unit 2 Operator Workarounds (Two samples)

a. Inspection Scope

The inspectors reviewed the Unit 1 and 2 operator workarounds, operator burdens, operations items of interest, defeated annunciators, control room deficiencies, and open operability determinations. The review focused on the reliability and availability of mitigating systems with particular focus on issues that had the potential to affect the ability of operators to respond to plant transients and events. Also, the inspectors reviewed the governing procedure, NAI-REL-02, "Control of Operator Workarounds, Burdens, and Interests," Revision 07. The inspectors interviewed operations personnel on their knowledge of selected workarounds and the associated compensatory actions.

b. Findings

Introduction. An NRC-identified Green finding was identified on November 19, 2009, when inspectors determined the NMPNS Operator Workaround program had not been implemented at Unit 1 and Unit 2 in accordance with Nuclear Administration Instruction NAI-REL-02, "Control of Operator Workarounds, Burdens and Interests," Revision 07, during the year 2009. As a result, determinations of operational encumbrances that constituted workarounds, burdens, and interests, had not been made by the Unit Workaround Coordinators, lists of these items had not been maintained, and quarterly aggregate reviews of their impact on the ability of operators to perform their duties had not been performed during that period.

Description. During review of the most recent NAI-REL-02 required lists of operator workarounds, burdens, and interests for Units 1 and 2, the inspectors noted that no items had been added during the past year. The inspectors had identified two items that they had expected to see on the lists: For Unit 1, having to place a RRP MG in local

lock (thereby requiring a licensed operator to adjust pump speed locally, when required) had historically constituted an operator workaround, and RRP MGs had been placed in local lock on a number of occasions during 2009; and, for Unit 2, the minimum flow valve for the 'A' RFP had been gagged open, requiring an operator to perform local actions that would not otherwise be required if the RFP was to be started.

The inspectors subsequently requested to review the NAI-REL-02 required aggregate impact reviews for Units 1 and 2 for the third quarter 2009. NMPNS responded that the reviews had not been performed in 2009. NMPNS determined that this was due to inadequate change management during a turnover of the personnel responsible for the operator workaround program that had occurred early in 2009. As a result, the operator workaround program was not performed in accordance with NAI-REL-02 during 2009.

In further discussion, NMPNS indicated that maintenance work orders are coded to indicate whether the particular issue is an operator workaround or burden, and therefore, they had been identifying these items despite having allowed the NAI-REL-02 program to lapse. They further indicated that one of their station performance indicators, the Operational Focus Index, monitored the status of operator workarounds, as well as other operational encumbrances (such as temporary modifications and operability determinations); because this indicator is reviewed by station management on a monthly basis, they considered that it significantly mitigated the failure to perform quarterly aggregate impact reviews in accordance with NAI-REL-02. However, the inspectors noted that work orders are only one of a number of sources listed in NAI-REL-02 that can be used to identify operator workarounds. Furthermore, the inspectors noted that operator interests were not specifically tracked by the Operational Focus Index, and therefore its periodic review did not fully satisfy the NAI-REL-02 requirement to perform a quarterly aggregate impact review of all workarounds, burdens, and interests.

The inspectors considered that existing programs had provided some mitigation for the lapse of the operator workaround program during 2009. However, the inspectors concluded that the requirements of NAI-REL-02 had not been fully satisfied, in that determinations of which operational encumbrances constituted workarounds, burdens, and interests, had not been made by dedicated Unit Workaround Coordinators, lists of these items had not been maintained, and quarterly aggregate reviews of their impact on the ability of operators to perform their duties had not been performed during that period.

As corrective action, the issue was entered into the corrective action program as CR 2009-8395. NMPNS performed a review of work orders that were opened during 2009, and were coded as being operator workarounds or burdens, to identify existing operator workarounds and burdens. An evaluation of that information was performed, which concluded that the station had not been in an unrecognized increased risk condition as a result of the cumulative effects of all workarounds and burdens. Additional actions are planned to ensure that aggregate impact reviews will be performed on a quarterly basis.

Analysis. The inspectors determined that NMPNS's failure to implement the operator workaround program in accordance with Nuclear Administration Instruction NAI-REL-02,

"Control of Operator Workarounds, Burdens and Interests," Revision 07, during the year 2009, was a performance deficiency. The finding was more than minor because the NRC considers licensee identification of operator workaround problems at an appropriate threshold, and implementation of follow-on actions that focus and progress corrective actions to completion, to be an important aspect of problem identification and resolution, as discussed in IP 71152, "Identification and Resolution of Problems." The failure to implement the operator workaround program, if left uncorrected, had the potential to increase the likelihood of operator errors during normal and off-normal conditions and lead to a more significant safety issue. The finding has been reviewed by NRC management in accordance with IMC 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," and was determined to be of very low safety significance (Green) because no adverse aggregate impact was identified during the subsequent review of operator workarounds and burdens. The finding had a cross-cutting aspect in the area of human performance, decision-making, because the roles and authorities of the Operator Workaround Coordinators for Units 1 and 2 were not effectively communicated during the personnel turnover that occurred at the beginning of 2009, and therefore were not implemented as designed during the year 2009 (H.1.a per IMC 0305).

Enforcement. No violation of regulatory requirements occurred. The inspectors determined that the finding did not represent a noncompliance issue because an operator workaround program is not required by either TS or 10 CFR 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants." **(FIN 05000220/2009005-02 and 05000410/2009005-02, Failure to Implement the Operator Workaround Program During 2009)**

.4 Annual Sample - Conditions Associated with Unit 1 Reactor Building Differential Pressure Indicator (DPI-202-17D) During Emergency Ventilation System Operation (One sample)

a. Inspection Scope

This inspection was conducted to assess NMPNS's identification, evaluation and resolution of the issue documented in CR 2008-8119. Specifically, on October 28, 2008, the Unit 1 reactor building emergency ventilation system (RBEVS) was placed in service and the reactor building ventilation system (RBVS) was secured to support maintenance on the RBVS supply filters. After the RBVS was secured, reactor building differential pressure indicator DPI-202-17D lowered to zero inches of water differential pressure. The event resulted in entry into emergency operating procedure N1-EOP-5, "Secondary Containment Control," which directed the restoration of the RBVS, upon which normal reactor building differential pressure was restored. NMPNS personnel concluded that exterior wind gusts of up to 40 miles per hour had contributed to the temporary loss of DPI-202-17D indication.

The inspection focused on NMPNS's problem identification, evaluation, and corrective actions associated with the above event. The inspectors interviewed plant personnel, and reviewed performance data, operating and surveillance test procedures, and test results to evaluate the performance of the associated components and the effectiveness

of the NMPNS corrective actions. The inspectors reviewed system health reports and CRs associated with the RBEVS to evaluate past performance of the system and determine if NMPNS had corrected deficient conditions when identified. The inspectors reviewed emergency plan implementing procedure EPIP-EPP-08, "Off-Site Dose Assessment and Protective Action Recommendation," Revision 22, to ensure that NMPNS would evaluate a potential unmonitored release based on DPI-202-17D indication. The inspectors also reviewed the UFSAR and TS to verify appropriate design and operating limits were properly translated into the operational and test procedures, and that the RBEVS could function under design conditions.

b. Assessment and Observations

No findings of significance were identified. The inspectors determined that NMPNS had performed a complete and accurate identification of the problem in a timely manner, commensurate with the issue's significance and ease of discovery. The inspectors noted the several historical CRs identified that, while operating RBEVS, exterior wind speed greater than 30 miles per hour created oscillations in reactor building differential pressure indication. The inspectors determined that NMPNS had identified and implemented appropriate corrective actions to address the issue and that those corrective actions had been completed.

.5 Annual Sample - Review of Adverse Trend of Pump Mechanical Seals (One sample)

a. Inspection Scope

This inspection reviewed the adverse performance trend of pump mechanical seals as documented in CR 2008-7358. The purpose of the NMPNS trend review was to investigate the design, maintenance, operation, and programmatic issues that were contributing to unacceptable performance of mechanical seals. The specific mechanical seals reviewed by NMPNS included the reactor recirculation, reactor water cleanup, and RFP seals. The inspectors reviewed NMPNS associated CRs and corrective actions, evaluations, and plant procedures for the associated pumps to determine the completeness of the evaluation and the adequacy of the corrective actions. The inspectors interviewed the component maintenance supervisor along with additional staff to understand past seal issues and the effectiveness of the corrective actions. The focus of this inspection was to verify that the evaluations and corrective actions were appropriate to the circumstances.

b. Assessment and Observations

No findings of significance were identified. The inspectors determined that the review of the performance trend documented in CR 2008-7358 was an adequate evaluation of the past performance of mechanical seals. The inspectors determined that NMPNS properly implemented their corrective action process regarding the identification, evaluation, and corrective actions for the pump seal performance issues. The inspectors concluded that the corrective actions were appropriate, and included the benchmarking of industry to establish future practices and resolution for pump mechanical seal issues, and the creation of administrative procedure GAI-REL-013,

"Pump Mechanical Seal Guideline," to provide seal leakage criteria to properly monitor and trend future performance. The inspectors noted that NMPNS still has a long-term corrective action open to reduce minor vibration to improve feedwater pump mechanical seal performance. The corrective action involves implementation of a design modification to the pump impeller to reduce vibration.

4OA3 Followup of Events and Notices of Enforcement Discretion (71153)

.1 Unit 1 Reactor Scram Due to Loss of Reactor Water Level Control

a. Inspection Scope

At 11:58 a.m. on October 5, 2009, Unit 1 operators inserted a manual scram from 100 percent power due to rising reactor water level. Operators had been alerted to the problem when they received a Feedwater Control System Trouble alarm. They attempted to take manual control of the feedwater flow control valve, but were unable to control level manually. Operators preemptively inserted a manual scram by placing the mode switch in shutdown. All rods fully inserted and the scram was uncomplicated. The HPCI system initiated as designed due to low reactor water level immediately after the scram, and was subsequently reset by the operators. Pressure control was established using the turbine bypass valves controlled by the manual pressure regulator and level control was established using one electric RFP. A normal plant cooldown was commenced and cold shutdown conditions were achieved on October 5 at 7:00 p.m.

The inspectors responded to the control room and observed operators' responses to the event. The inspectors verified that operators responded in accordance with the applicable procedures. The inspectors confirmed that no emergency plan emergency action level thresholds had been exceeded and that the event was appropriately reported to the NRC.

The inspectors reviewed the circumstances surrounding the event. The inspectors monitored troubleshooting activities and corrective actions through attendance at outage update meetings, discussions with plant personnel, and review of records, including the post-scram review.

b. Findings

No findings of significance were identified.

.2 (Closed) LER 05000410/2009-001-00, Momentary Loss of Control Power to High Pressure Core Spray Pump Due to Degraded Fuse Block Connection

On August 23, 2009, alarms in the Unit 2 control room indicated that a loss of direct current (DC) control power for the HPCS pump breaker had occurred for a period of approximately one second. During that one second, the HPCS system was inoperable because the pump breaker would not have closed on a system initiation signal. Troubleshooting identified that the contact gap for one of the receiver connections in the stationary portion of the HPCS pump breaker DC control power fuse block was slightly

wider than the specified value. This resulted in a momentary loss of continuity, which had caused the one second loss of DC control power. As corrective action, the contact gap was adjusted and the breaker was returned to service.

Further investigation revealed that a 1978 vendor advisory had identified the potential for this condition to develop, and had recommended actions to preclude it. One of these recommendations, to check the fuse block contact gap setting, had not been incorporated by NMPNS into the breaker preventive maintenance procedure. As corrective action, the preventive maintenance procedure will be revised to include the contact gap verification and adjustment.

The inspectors reviewed this LER and no findings of significance were identified. The failure to incorporate vendor-provided maintenance information in the procedure for 4.16 kilovolt (KV) breaker maintenance resulted in an inadequate procedure. This failure to comply with TS 5.4, "Procedures," constitutes a violation of minor significance that is not subject to enforcement action in accordance with the NRC's Enforcement Policy. This LER is closed.

.3 (Closed) LER 05000220/2009-003-00, Manual Scram and High Pressure Coolant Injection Following a Loss of Feedwater Level Control Due to Firmware Deficiency

On October 5, 2009, Unit 1 was manually scrammed from 100 percent power due to loss of control of the reactor feedwater flow control valve which caused reactor water level to increase. Following the scram, the HPCI system automatically initiated as designed due to low reactor water level. The event is further discussed in section 4OA3.1 of this report.

NMPNS determined that the cause of the event was a programming error that prevented the flow control valve positioner transfer logic from switching control of the valve to the backup positioner after the main positioner had become mechanically bound. As corrective action, failed components in the main positioner were replaced and the standby positioner internals were inspected. NMPNS plans to upgrade the transfer logic programming to ensure that degraded positioner performance will result in a transfer to the standby positioner.

The inspectors reviewed this LER; no findings of significance were identified and no violation of NRC requirements occurred. This LER is closed.

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period, the inspectors performed observations of security force personnel and activities to ensure that the activities were consistent with site security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours.

These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status review and inspection activities.

b. Findings

No findings of significance were identified.

4OA6 Meetings

.1 Exit Meeting

The inspectors presented the inspection results to Mr. Tom Lynch and other members of licensee management at the conclusion of the inspection on January 15, 2010. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

S. Belcher, Vice President
T. Lynch, Plant General Manager
A. Armstrong, Requalification Training Program Supervisor
R. Brown, General Supervisor of Operations Training
W. Byrne, Manager, Nuclear Safety and Security
R. Dean, Training Manager
J. Kaminski, Director, Emergency Preparedness
J. Krakuszeski, Manager, Operations
F. Payne, Unit 1 General Supervisor Operations
S. Sova, Radiation Protection Manager
H. Strahley, Unit 2 General Supervisor Operations
T. Syrell, Director, Licensing

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None.

Opened and Closed

05000220/2009005-01	NCV	Two APRMs Inoperable Contrary to Procedure Requirement (Section 1R13)
05000220/2009005-02 and 05000410/2009005-02	FIN	Failure to Implement the Operator Workaround Program During 2009 (Section 4OA2)

Closed

05000410/2009-001-00	LER	Momentary Loss of Control Power to High Pressure Core Spray Pump Due to Degraded Fuse Block Connection (Section 4OA3)

05000220/2009-003-00	LER	Manual Scram and High Pressure Coolant Injection Following a Loss of Feedwater Level Control Due to Firmware Deficiency (Section 4OA3)

Discussed

None.

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

NAI-PSH-11, "Seasonal Readiness Program," Revision 06
N1-OP-64, "Meteorological Monitoring," Revision 01
N2-OP-102, "Meteorological Monitoring," Revision 00500
N2-PM-A001, "Annual Draining and Refilling of ACUs and Cooling Coils," Revision 00
Operations Night Order of October 4, 2009

Section 1R04: Equipment Alignment

N1-OP-45, "Emergency Diesel Generators," Revision 02800
N2-OP-31, "Residual Heat Removal System," Revision 01900
N2-VLU-01, "Walkdown Order Valve Lineup and Valve Operation," Revision 00, Attachment 31, "N2-OP-31 Walkdown Valve Lineup"

Section 1R05: Fire Protection

NMPNS Unit 1 UFSAR, Appendix 10A, "Fire Hazards Analysis"
NMPNS Unit 2 UFSAR, Appendix 9B, "Safe Shutdown Evaluation"
N1-FPI-PFP-0101, "Unit-1 Pre-Fire Plans," Revision 0
N2-FPI-PFP-0201, "Unit 2 Pre-Fire Plans," Revision 0
NMP-TR-1.01-107, "Nuclear Fire Brigade Training Program," Revision 00700

Section 1R11: Licensed Operator Requalification Program

Procedures
N1-SOP-18.1, "Service Water Failure/Low Intake Level," Revision 00400
N1-SOP-32, "Generator Auxiliaries Failures," Revision 02
N1-EOP-2, "RPV Control," Revision 01400
N1-EOP-4, "Primary Containment Control," Revision 01400
N2-SOP-14, "Loss or Degraded CCS [turbine building closed loop cooling] System," Revision 02

N2-SOP-8, "Unplanned Power Changes," Revision 06
N2-SOP-101D, "Rapid Power Reduction," Revision 00700
N2-SOP-30, "Control Rod Drive Failures," Revision 03
N2-EOP-RPV, "RPV Control," Revision 01200
N2-EOP-C5, "Failure to Scram," Revision 11
N2-EOP-C2, "RPV Blowdown," Revision 11
N2-EOP-C4, "RPV Flooding," Revision 12
NMP-TR-1.01-102, "Licensed Operator Requalification Training Program," Revision 01000
NMP-TR-1.01-60, "Simulator Operation and Testing," Revision 5
CNG-TR-1.01-1007, "Simulator Configuration Management and Testing," Revision 0

Simulator Testing: 2008 and 2009 Annual Testing
Computer Real Time Tests
Operating Limits Exceeded Tests
Steady State Performance Tests
Core Performance Testing
Transient Tests - Reactor Scram, Simultaneous Trip of all Feed Water Pumps, Single Recirculation Pump Trips, Simultaneous Trip of All Recirculation Pumps, Main Turbine Trip, Maximum Rate Power Ramp, Design Basis Loss of Coolant Accident with a Loss of Offsite Power, Maximum Size Un-isolated Main Steam Line Rupture, Simultaneous Closure of Main Steam Isolation Valves with Stuck SRV and High Pressure Emergency Core Cooling System

Design Changes
DCP N2-07-012/SWR-2-07-111, "Condensate Deminerlizer Bypass"
DCP N2-07-005/SWR-2-07-025, "Rod Block Monitor"

Bench Mark Tests
EOC Cycle 11 Planned Shutdown
Unit 2 CRAM Rod Transient, September 4, 2008
Minimum Flow Valve Failure, 'B' Feed Water Pump, April 18, 2008
Unit 2 Down-Power for Feed Pump Swap, May 12, 2009
Unit 2 Shutdown, November 12, 2008

Other Documents
Nine Mile Point Nuclear Station Focused Self-Assessment Report, September 12, 2008
NRC LOR Inspection Readiness Assessment, October 7, 2009
Reactivity Management Self Assessment, FSA-2008-036-01, February 2008
Focused Self Assessment Report (Work Control), FSA-2008-0036-20, November 24, 2008
Simulator Advisory Committee Meeting Minutes, February 19, 2009, June 3, 2009, and August 20, 2009
S-SAF-16, "Schedule, Perform, Process and Transient Results for Physical Examinations on Licensed Operators and License Candidates," Revision 8

Section 1R12: Maintenance Effectiveness

CNG-AM-1.01-1023, "Maintenance Rule Program," Revision 0

Unit 1 LER 2008-01, "Loss of Offsite Power due to an Equipment Malfunction"
Unit 1 Mitigating System Performance Indicator data for EDGs
Unit 1 EDG System Health Report
CNG-AM-1.01-2000, "Scoping and Identification of Critical Components," Revision 00200
Work Order 07-13522-00
Work Order 07-15902-00
Unit 1 EDG Functional Scoping data sheet

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

CNG-OP-4.01-1000, "Integrated Risk Management," Revision 00300
CNG-MN-4.01-1004, "On-Line T-Week Process," Revision 00000
CNG-MN-4.01-1006, "Online Schedule Management," Revision 00001

Section 1R15: Operability Evaluations

CNG-OP-1.01-1002, "Conduct of Operability Determinations / Functionality Assessments," Revision 00100

Section 1R18: Plant Modifications

ECP Supplement 20090164-000, "Engineering Service Request for Welding a Temporary Patch to Minimum Flow Control Valve (2FWR-FV2A)"
ECP Supplement 20090164-001, "Weld a Temporary Patch to Minimum Flow Control Valve (2FWR-FV2A)"
10 CFR 50.59 Screening Form for ECP 20090164, "Temporary Change Package for Installation of a Patch to Limit Leakage at 'A' Feed Water Minimum Flow Control Valve (2FWR-FV2A," Revision 000
PID 006 sheet A, "Piping Specification for Class 153, 150lb type 304 Stainless Steel Standard Wall Piping and Class 1511, 1500 lb Carbon Steel Piping," Revision 25
Vendor Valve Drawing 0007161945068

Section 1R19: Post-Maintenance Testing

GAP-SAT-02, "Pre/Post-Maintenance Test Requirements," Revision 28

Section 1R22: Surveillance Testing

GAP-SAT-01, "Surveillance Test Program," Revision 16
CNG-HU-1.01-1000, "Human Performance," Revision 00300
CNG-HU-1.01-1001, "Human Performance Tools and Verification Practices," Revision 00400
CNG-HU-1.01-1002, "Pre-Job Briefings and Post-Job Critiques," Revision 00300
CNG-OP-4.01-1000, "Integrated Risk Management," Revision 00300

Section 2OS1: Access Control to Radiologically Significant Areas

Nine Mile Point Site Roll-Up: 1st Quarter 2009; 2nd Quarter 2009; 3rd Quarter 2009
Snapshot Self-Assessment: SA-2009-000020; SA-2009-000021
Q&PA Assessment Report: 09-006; 09-009; 09-023; 09-036; 09-037; 09-046; 09-051; 09-058; 09-076; 09-078; 09-085; 09-090; 09-091
Q&PA Periodic Assessment Report: 09-1P-N; 09-2P-N

Section 2OS2: As Low As Reasonably Achievable (ALARA) Planning and Controls

Snapshot Self-Assessment: SA-2009-000019; SA-2009-000030; SA-2009-000032; SA-2009-000059
Q&PA Assessment Report 09-060

Section 2OS3: Radiation Monitoring Instrumentation and Protective Equipment

Snapshot Self-Assessment SA-2009-000027
Q&PA Assessment Report: 09-024; 09-073

Section 4OA2: Identification and Resolution of Problems

Procedures
N1-OP-10, "Reactor Building Heating, Cooling, and Ventilation System," Revision 2100
EOP-5, "Secondary Containment Control," Revision 1400
N2-OP-37, "Reactor Water Cleanup Operating Procedure," Revision 1700
N2-MMP-WCS, "Mechanical Maintenance of Reactor Water Cleanup Pumps," Revision 600

Drawings
C-18013-C, Reactor Building Normal and Emergency Ventilation System, Revision 1

Miscellaneous
CNG-CA-1.01-1000, "Corrective Action Program," Revision 100
N1-IPM-202-004, "Reactor Building Ventilation Calibration," performed December 7, 2007
N1-ST-C5, "Secondary Containment and Reactor Building Emergency Ventilation System Operability Test," performed March 16, 2009 and March 3, 2009
System Health Report, Reactor Building Ventilation, 3rd Quarter 2009
Nine Mile Point Nuclear Station Site Emergency Plan, Revision 55
GAI-REL-013, "Pump Mechanical Seal Guideline," Revision 0
Root Cause Analysis Report 2007-5306, "Foreign Material Control Program Implementation and Related Foreign Material-Induced Fuel Failures," dated October 30, 2007
Reactor Water Cleanup Pump Maintenance Strategy, dated April 20, 2009
Reactor Recirculation Pump Maintenance Strategy, dated April 19, 2009
N2-MMP-WCS-125, "Maintenance of Reactor Water Cleanup Pumps," Revision 6, PCR 934
TRR NMP-2008-909, "Training Request Review for Operation of 2WCS-P1A/P1B," Revision 0

Work Orders
08-05606, 07-03425

Condition Report

2009-8738
2009-8742
2009-8743
2009-8745
2009-6890
2009-2350
2009-2238
2009-1887
2009-0548
2009-0467
2008-8127
2008-6834
2008-6555
2008-2888
2008-0618
2008-4884
2008-3688
2008-2013
2008-1752
2009-2875
2008-6536
2008-0162
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2004-0294
2004-0247
2009-7048
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2008-0358
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2007-5306
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2009-7377
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2009-7942
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2009-6896
2009-6738
2009-6547

Attachment

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
ALARA	as low as reasonably achievable
ANSI	American National Standards Institute
APRM	average power range monitor
CAP	corrective action program
CFR	Code of Federal Regulations
CR	condition report
CRD	control rod drive
DBD	design basis document
DC	direct current
EDG	emergency diesel generator
EOP	emergency operating procedure
FIN	finding
GL	generic letter
HPCI	high pressure coolant injection
HPCS	high pressure core spray
I	iodine
IMC	inspection manual chapter
JPM	job performance measure
KV	kilovolt
LDE	lens dose equivalent
LER	licensee event report
LORT	licensed operator requalification training
LPCS	low pressure core spray
LPRM	local power range monitor
MG	motor-generator
mrad	millirad
mrem	millirem
NCV	non-cited violation
NEI	Nuclear Energy Institute
NMPNS	Nine Mile Point Nuclear Station, LLC
NRC	Nuclear Regulatory Commission
NSSS	nuclear steam supply system
PARS	Publicly Available Records
PI	performance indicator
PMT	post maintenance test
qtr	quarter
RB	reactor building
RBEVS	reactor building emergency ventilation system
RBVS	reactor building ventilation system
RCIC	reactor core isolation cooling
RFP	reactor feedwater pump
RHR	residual heat removal
R/hr	rad per hour
RPS	reactor protection system

RPV	reactor pressure vessel
RRP	reactor recirculation pump
RTP	rated thermal power
SCBA	self-contained breathing apparatus
SDE	skin dose equivalent
SDP	significance determination process
SLC	standby liquid control
SOP	special operating procedure
ST	surveillance test
SW	service water
TB	turbine building
TEDE	total effective dose equivalent
TS	technical specification
UFSAR	updated final safety analysis report
VAC	volt alternating current
WO	work order