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

May 4, 2012

Mr. Kenneth Langdon
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 05000220/2012002 AND 05000410/2012002

Dear Mr. Langdon:

On March 31, 2012, 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 April 12, 2012, 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.

This report documents two self-revealing findings of very low safety significance (Green). One finding 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, the NRC is treating the finding as a non-cited violation (NCV), consistent with Section 2.3.2 of the NRC Enforcement Policy. If you contest any NCV noted in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the 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 Resident Inspector at Nine Mile Point Nuclear Station. In addition, if you disagree with the cross-cutting aspect assigned to 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 Resident Inspector at Nine Mile Point Nuclear Station.

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,

/RA/

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

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

Enclosure: Inspection Report 05000220/2012002 and 05000410/2012002
w/Attachment: Supplementary Information

cc w/encl: Distribution via ListServ

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos.:	50-220, 50-410
License Nos.:	DPR-63, NPF-69
Report No.:	05000220/2012002 and 05000410/2012002
Licensee:	Nine Mile Point Nuclear Station, LLC (NMPNS)
Facility:	Nine Mile Point, Units 1 and 2
Location:	Oswego, NY
Dates:	January 1 through March 31, 2012
Inspectors:	K. Kolaczyk, Senior Resident Inspector D. Dempsey, Resident Inspector B. Dionne, Health Physicist
Approved By:	Glenn T. Dentel, Chief Reactor Projects Branch 1 Division of Reactor Projects

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SUMMARY OF FINDINGS

IR 05000220/2012002, 05000410/2012002; 01/01/2012 - 03/31/2012; Nine Mile Point Nuclear Station, Units 1 and 2, Maintenance Risk Assessments and Emergent Work Control, Follow-up of Events and Notices of Enforcement Discretion.

This 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 0310, "Components Within Cross-Cutting Areas." 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: Initiating Events

- Green. A Green self-revealing finding was identified for the failure of Nine Mile Point Nuclear Station (NMPNS) to properly implement procedure N1-OP-30, "4.16 kV, 600V and 480V House Service," Revision 02800 when shifting the power supply for power board (PB) 101 from the south reserve transformer to the north reserve transformer on January 3, 2012. As a result, power was momentarily interrupted to PB 101 which caused the 13 reactor recirculation pump to trip resulting in an unplanned reactor power reduction from 100 to 84 percent. NMPNS immediate corrective actions included removing the control room supervisor and plant operator who were involved in the event from shift activities, conducting a prompt investigation, and installing warning placards on the exterior cabinets to the potential transformers that state de-energizing the potential transformers could cause a loss of power to PB 101.

  The finding is more than minor because it was associated with the configuration control attribute of the Initiating Events Cornerstone and adversely impacted cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. The finding was determined to be of very low safety significance (Green), because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. This finding has a cross-cutting aspect in the area of Human Performance, decision making because NMPNS operators did not use conservative assumptions in decision making when questions arose regarding how to implement procedure N1-OP-30 [H.1(b)]. (Section 1R13)

- Green. A Green self-revealing NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified due to NMPNS' failure to adequately implement Standard Design Specification SDS-006, "Bolt-Torque Requirements for Unit 1 and Unit 2," to determine the amount of torque to apply to the bonnet bolts of shutdown cooling isolation valve IV-38-01. This resulted in a reactor coolant system (RCS) leak of one gallon per minute and a Unit 1 shutdown. NMPNS' corrective actions included applying an appropriate torque to the body to bonnet bolts, performing an extent of condition

review of similar valves in the drywell, and checking the torque of bolts on valve IV-38-02, located outside the drywell, that had similarly been modified in 2011.

This finding is more than minor because it adversely impacted the equipment performance attribute of the Initiating Events Cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors determined this finding to be of very low significance (Green) because assuming the worst case degradation of the body to bonnet seal, the leak would not have exceeded the technical specification limit for identified reactor coolant system leakage. The finding has a cross-cutting aspect in the area of human performance, resources, because NMPNS' design documentation regarding required torque values was not complete and accurate [H.2(c)]. (Section 4OA3)

Other Findings

None

REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period at 100 percent power. On January 28, 2012, operators reduced power to approximately 90 percent to place the 15 recirculation pump in service. Power was returned to 100 percent later that day. On February 18, Unit 1 commenced a reactor shutdown when leakage was identified from a shutdown cooling system valve body to bonnet joint. The plant reached cold shutdown on February 19. On February 24, following completion of repairs, the reactor was restarted and the turbine was synchronized to the grid. On February 24, operators manually tripped the turbine when high vibrations were detected on the main turbine shaft. The turbine was placed on the grid on February 25 and 100 percent power was reached on February 26. On March 24, reactor power was reduced to 68 percent power to conduct a rod sequence exchange and quarterly turbine valve testing. Reactor power was returned to 100 percent later that day. Unit 1 operated at or near full power for the remainder of the inspection period.

Unit 2 began the inspection period at 100 percent power. On January 21 operators reduced reactor power to 75 percent to conduct a rod line adjustment and surveillance testing. Reactor power was returned to 100 percent later that day. On February 11, reactor power was lowered to approximately 70 percent to perform a rod line adjustment and surveillance testing. Reactor power was returned to 100 percent later that day. On March 21, Unit 2 entered end-of-cycle coastdown (gradual power reduction due to fuel depletion). At the end of the inspection period, Unit 2 was operating at approximately 97 percent rated thermal power.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

Readiness for Seasonal Extreme Weather Conditions (One sample)

a. Inspection Scope

The inspectors performed a review of Nine Mile Point Nuclear Station's (NMPNS') readiness for the onset of seasonal low temperatures. During the week of January 1, 2012, NMPNS experienced cold temperatures with windy conditions. The review focused on the Unit 1 battery and emergency diesel generator (EDG) rooms. The inspectors reviewed the updated final safety analysis report (UFSAR), technical specifications (TSs), control room logs, and the corrective action program (CAP) to determine what temperatures or other seasonal weather could challenge the systems, and to ensure NMPNS personnel had adequately prepared for these challenges. The inspectors performed walkdowns of the selected systems to ensure that NMPNS procedure N1-OP-64, "Meteorological Monitoring" Revision 00600 was implemented. During the tours, the inspectors verified that temperatures in those rooms did not decrease below the values outlined in the plant UFSAR. Documents reviewed for each section of this inspection report are listed in the Attachment.

b. Findings

No findings were identified.

1R04 Equipment Alignment

Partial System Walkdown (71111.04Q – Five samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

- The Unit 1 125 volt direct current (Vdc) power supply system on January 18, 2012 following a discovery that the voltage in a battery cell for the 11 main station battery was less than the TS allowed value
- The Unit 1 120 volt (V) alternating current (AC) control and instrument power while motor generator 167 was out of service for planned maintenance on February 2 and 3, 2012
- The Unit 1 4.16 kilovolt (kV), 600 V and 480 V power supplies when the 103 diesel generator was out of service for planned surveillance testing on February 6, 2012
- The Unit 2 standby gas treatment system (SGTS) on February 17, 2012
- Both trains of the Unit 1 reactor building (RB) emergency ventilation system following the completion of planned filter surveillance testing on March 7, 2012

The inspectors selected these systems based on their risk-significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors reviewed applicable operating procedures, system diagrams, the UFSAR, TSs, work orders (WOs), condition reports (CRs), and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have impacted system performance of their intended safety functions. The inspectors also performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and were operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. The inspectors also reviewed whether NMPNS staff had properly identified equipment issues and entered them into the CAP for resolution with the appropriate significance characterization.

b. Findings

No findings were identified.

1R05 Fire Protection

Resident Inspector Quarterly Walkdowns (71111.05Q - Six samples)

a. Inspection Scope

The inspectors conducted tours of the areas listed below to assess the material condition and operational status of fire protection features. The inspectors verified that NMPNS controlled combustible materials and ignition sources in accordance with administrative procedures. The inspectors verified that fire protection and suppression equipment was available for use as specified in the area pre-fire plan, and passive fire barriers were maintained in good material condition. The inspectors also verified that station personnel implemented compensatory measures for out of service, degraded, or inoperable fire protection equipment, as applicable, in accordance with procedures.

- Unit 2 Division II standby switchgear room 261 foot elevation on January 11, 2012
- Unit 2 Division II diesel generator 261 foot elevation on January 11, 2012
- Unit 2 Division III diesel generator 261 foot elevation on January 11, 2012
- Unit 2 north RB 240 foot elevation on January 11, 2012
- Unit 1 screenhouse, 261 foot elevation (fire area 13) on January 13, 2012
- Unit 1 diesel fire pump room, 261 foot elevation (fire area 14) on January 13, 2012

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11- Four samples)

.1 Quarterly Review of Licensed Operator Requalification Testing and Training

a. Inspection Scope

The inspectors observed a Unit 2 licensed operator simulator training scenario on January 10, 2012, which included loss of instrument air compressors, control rod outward drift, a recirculation pump trip, a main steam line break outside of the containment with failure to isolate, and a radiological offsite release. On January 17, 2012, the inspectors observed a licensed operator simulator training scenario for Unit 1. The scenario involved a control rod drive system failure that caused a control rod to insert into the core, a loss of power board (PB) 101, a fuel failure, followed by a tube leak in an emergency condenser. The inspectors evaluated operator performance during the simulated events and verified completion of risk significant operator actions, including the use of abnormal and emergency operating procedures (EOPs). The inspectors assessed the clarity and effectiveness of communications, implementation of actions in response to alarms and degrading plant conditions, and the oversight and direction provided by the control room supervisors (CRSs.). The inspectors verified the accuracy and timeliness of the emergency classifications made by the shift managers.

Additionally, the inspectors assessed the ability of the crew and training staff to identify and document crew performance problems.

b. Findings

No findings were identified.

.2 Quarterly Review of Licensed Operator Performance in the Main Control Room

a. Inspection Scope

The inspectors observed a planned power reduction at Unit 2 and a reactor startup performed at Unit 1 on February 11 and 24, 2012, respectively. The inspectors observed infrequently performed test or evolution, pre-shift, and reactivity control briefings to verify that the briefings met the criteria specified in procedures CNG-OP-1.01-2001, "Communications and Briefings," Revision 00100 and CNG-OP-3.01-1000, "Reactivity Management," Revision 00700. Additionally, the inspectors verified that procedure use, crew communications, and coordination of plant startup activities among work groups similarly met established expectations and standards.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12 - One sample)

a. Inspection Scope

The inspectors reviewed the sample listed below to assess the effectiveness of maintenance activities on structure, system, and component (SSC) performance and reliability. The inspectors reviewed system health reports, CAP documents, maintenance WOs, and maintenance rule basis documents to ensure that NMPNS was identifying and properly evaluating performance problems within the scope of the maintenance rule. For the selected sample, the inspectors verified that the SSC was properly scoped into the maintenance rule in accordance with 10 CFR Part 50.65 and verified that the (a)(2) performance criteria established by NMPNS staff was reasonable. As applicable, for SSCs classified as (a)(1), the inspectors assessed the adequacy of goals and corrective actions to return these SSCs to (a)(2). Additionally, the inspectors ensured that NMPNS staff was identifying and addressing common cause failures that occurred within and across maintenance rule system boundaries.

- Unit 1 turbine auxiliary extension building, elevation 261 foot

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed station evaluation and management of plant risk for the maintenance and emergent work activities listed below to verify that NMPNS performed the appropriate risk assessments prior to removing equipment for work. The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that NMPNS personnel performed risk assessments as specified by 10 CFR Part 50.65(a)(4) and that the assessments were accurate and complete. When NMPNS performed emergent work, the inspectors verified that operations personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work and discussed the results of the assessment with the station's probabilistic risk analyst to verify plant conditions were consistent with the risk assessment. The inspectors also reviewed the TS requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

- Emergent work activities to recover the 13 reactor recirculation pump motor generator set following the inadvertent de-energization of electrical PB 101 during a planned power swap evolution on January 4, 2012
- Planned maintenance on the Unit 2 high pressure core spray support systems, and unplanned corrective maintenance on a main transformer cooling bank and Division III EDG service water inlet valve 2SWP*MOV95A on January 23, 2012
- Planned maintenance on the Unit 2 Division II EDG that placed the plant in an elevated risk condition on January 31 and February 1, 2012
- Emergent work activities to retorque body-to-bonnet bolting on Unit 1 shutdown cooling outlet inside isolation valve IV-38-01 on February 21, 2012
- Replacement of cell 58 in Unit 1 station battery BAT-B11, that had been bypassed due to low voltage on February 22, 2012
- Planned testing of the Unit 2 Division II diesel generator coincident with switchgear testing on the number 6 offsite power line, while planned maintenance was being performed in the Scriba switchyard by the local grid operator on March 6, 2012

b. Findings

Introduction. A Green self-revealing finding (FIN) was identified for NMPNS' failure to properly implement procedure N1-OP-30, "4.16 kV, 600 V and 480 V House Service," Revision 02800 when shifting the power supply for PB 101 from Reserve Transformer South T101S (R1014) to Reserve Transformer North T101N (R1011) on January 3, 2012. As a result, power was momentarily interrupted to PB 101 which caused the 13 reactor recirculation pump to trip resulting in an unplanned reactor power reduction from 100 to 84 percent.

Description. On January 3, 2012, a plant operator (PO) was instructed to transfer the power supply for PB 101 from T101S (R1014) to T101N (R1011) in preparation for scheduled maintenance on breaker (R1014) using section H.8.0 of procedure N1-OP-30. Step 8.1 of N1-OP-30 specified the PO to verify that three potential transformers J1017,

J1016, and J015 for PB 101 were racked in. Unsure of how to perform this step, the PO contacted the CRS, a senior reactor operator, for guidance. The CRS instructed the PO to ensure that fuses for the three potential transformers were correctly installed. When the PO opened the drawer that held the fuses for transformer J1015, which was energized, the 13 reactor recirculation pump breaker opened and an under voltage flag dropped. Control room operators responded to the loss of the 13 pump by implementing 1-SOP-1.3, "Recirculation Pump Trip at Power," Revision 01 and SOP-1.5, "Unplanned Reactor Power Change," Revision 04. Following the trip of the 13 recirculation pump, reactor power stabilized at 84 percent. The pump was subsequently restarted and reactor power was restored to 100 percent on January 4.

The NMPNS initial investigation of the event concluded that the primary cause was human error. Specifically, although both the PO and the CRS were unsure of how to verify the potential transformers were racked in as specified by procedure N1-OP-30, they did not seek additional guidance from more experienced personnel. As a result, they took steps not described in the procedure and opened the drawers of the potential transformers that resulted in the inadvertent de-energization of the undervoltage relay for the 13 reactor recirculation pump. The inspectors determined the operators actions were contrary to the general procedure usage requirements outlined in section 5.3 of CNG-PR-1.01-1009, "Procedure Use and Adherence Requirements," Revision 00601 which state, in part, personnel using procedures shall understand the impact of performing a procedure step before taking the directed action.

NMPNS immediate corrective actions included removing the CRS and PO who were involved in the event from shift activities, conducting a prompt investigation, and installing warning placards on the exterior cabinets to the potential transformers that state de-energizing the potential transformers could cause a loss of power to PB 101. These conclusions were outlined in CR 2012-000052.

This finding has a cross-cutting aspect in the area of human performance, decision-making, because NMPNS personnel did not use conservative assumptions in decision making when determining what actions to take when they had questions regarding the status of the potential transformers for PB 101.

Analysis. The failure to properly implement N1-OP-30 during the planned power transfer of PB 101 on January 3, 2012, is a performance deficiency. Specifically, the PO under the direction of the CRS performed an incorrect action which inadvertently de-energized the 13 reactor recirculation pump, which resulted in a reduction in reactor power. The finding is more than minor because it was associated with the configuration control attribute of the Initiating Events Cornerstone and adversely impacted cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. This finding is also similar to example 4.b in IMC 0612, Appendix E, "Examples of Minor Issues," where a procedure error resulted in a reactor plant trip or other plant transient.

The inspectors evaluated the finding using Phase 1, "Initial Screening and Characterization" worksheet in Attachment 4 to IMC 0609, "Significance Determination Process." The finding was determined to be of very low safety significance (Green), because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. This finding has a cross-cutting aspect in the area of human performance, decision making because NMPNS operators did not use conservative assumptions in decision making when questions arose regarding how to implement procedure N1-OP-30 [H.1(b)].

Enforcement. Enforcement action does not apply because this performance deficiency did not involve a violation of a regulatory requirement. Specifically, the primary components involved in this event, PB 101 and power supply breakers, are not safety related. As such, the applicable maintenance and surveillance procedures are not governed by the requirements of NMPNS Unit TS 6.4 "Procedures." This issue was entered into NMPNS CAP as CR 2012-000052. Because this finding does not involve a violation of regulatory requirements and has very low safety significance, it is identified as a finding. **(FIN 05000220/2012002-01, Did Not Correctly Implement Procedure During Power Supply Transfer)**

1R15 Operability Determinations and Functionality Assessments (71111.15 - Six samples)

a. Inspection Scope

The inspectors reviewed operability determinations for the following degraded or non-conforming conditions:

- Failed individual cell voltage for Unit 1 BAT-B11 pilot cell on January 17, 2012
- Valve 2SWP*MOV95A did not close during surveillance test (ST) on January 25, 2012
- Trending of Unit 2 jet pump performance on February 8, 2012
- Channel interference with Unit 2 control rod 34-59 on February 13, 2012
- Unit 1 drywell equipment drain tank instrumentation reading higher than normal in control room on February 28, 2012
- Degradation found with Unit 2 stator bar support ring on March 13, 2012

The inspectors selected these issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the operability determinations to assess whether TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TSs and UFSAR to NMPNS evaluations to determine whether the components or systems were operable. Where compensatory measures were specified to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled by NMPNS. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

Temporary Modifications (One sample)

a. Inspection Scope

The inspectors reviewed the temporary modification listed below to determine whether the modification affected the safety functions of systems that are important to safety. The inspectors reviewed the 10 CFR 50.59 documentation and post-modification testing results, and performed field walkdowns of the modifications to verify that the temporary modifications did not degrade the design bases, licensing bases, and performance capability of the affected system.

- Engineering change package, ECP-12-000043, jumpering of cell 58 on 125 Vdc station battery 11

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed the post-maintenance tests (PMTs) for the maintenance activities listed below to verify that procedures and test activities ensured system operability and functional capability. The inspectors reviewed the test procedures to verify that the procedures adequately tested the safety functions that may have been affected by the maintenance activity, that the acceptance criteria in the procedures were consistent with the information in the applicable licensing basis and/or design basis documents, and that the procedures had been properly reviewed and approved. The inspectors also witnessed the tests or reviewed test data to verify that the test results adequately demonstrated restoration of the affected safety functions.

- Unit 2 WO C91757286 that concerned a leak on the northeast gear cover on the Division II EDG. The PMT was to start and run the machine using N2-OSP-EGS-M@001, “Diesel Generator and Diesel Air Start Valve Operability Test – Division I and II,” Revision 00800 on February 1, 2012
- Unit 1 WO C91799400 that retorqued the body-to-bonnet bolting on shutdown cooling isolation valve IV-38-01. The PMT consisted of verifying adequate gasket crush using feeler gages and no leakage at reactor coolant system pressure at 900 psig on February 20, 2012
- Unit 1 WO C91766150 that replaced cell 58 in station battery BAT-B11s. The PMT was to verify overall battery voltage, individual cell voltages and specific gravities,

and intercell connector resistances in accordance with N1-EMP-SB 262, "24/48 Vdc, 250 Vdc and 125 Vdc Batteries – Cell and Connector Replacement," Revision 01200, N1-EMP-SB-275, "125 Vdc Battery Cell Surveillance," Revision 00600, and N1-EMP-SB-262, "24/48, 125 Vdc and 250 Vdc Batteries – Single Cell Charging," Revision 07 on February 23. 2012

- Unit 1 WO C90988868 that performed breaker preventive maintenance (PM), and replaced the overcurrent trip device for the 11 emergency service water pump on February 28, 2012
- Unit 2 WO C91033578 that lubricated the stem of motor operated valve (MOV) 94A, service water outlet for the Division 3 emergency diesel generator, and performed diagnostic testing of the valve on February 29, 2012
- Unit 2 WO C91811630 that investigated why valve 2GTS*PV5B-POS located on the Division II SGTS was cycling. The PMT was to perform a calibration check of 2GTS*PV5B-POS on March 2, 2012
- Unit 1 WO 90908035 that performed PM on core spray topping pump 122. The PMT consisted of performing procedure N1-ST-Q1D, "CS 122 Pump and Valve Operability Test," Revision 00701 on March 14, 2012

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed the station's work schedule and outage risk plan for the unplanned outage at Unit 1, which was conducted February 18 through 26, 2012. The inspectors reviewed NMPNS' development and implementation of forced outage plans and schedules to verify that risk, industry experience, previous site-specific problems, and defense-in-depth were considered. During the outage, the inspectors observed portions of the shutdown and cooldown processes and monitored controls associated with the following outage activities:

- Configuration management, including maintenance of defense-in depth, commensurate with the outage plan for the key safety functions and compliance with the applicable technical specifications when taking equipment out of service
- Implementation of clearance activities and confirmation that tags were properly hung and that equipment was appropriately configured to safely support the associated work or testing
- Risk management activities, including plant tours, management outage meetings, and a post scram plant operations review committee meeting
- Repair activities on shutdown cooling isolation valve IV-38-01
- Startup activities, including reactor plant heatup, drywell closeout inspection, and initial criticality
- Status and configuration of electrical systems and switchyard activities
- Monitoring of decay heat removal operations

- Fatigue management
- Identification and resolution of problems related to outage activities

In preparation for the planned spring refueling outage scheduled to commence on April 8, 2012 for Unit 2, the inspectors performed the following activities:

- Review of the outage schedule and confirmation that NMPNS had appropriately considered risk, industry experience, and previous site specific problems
- Confirmation that NMPNS had mitigation response strategies for losses of key safety functions

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 - Seven samples)

a. Inspection Scope

The inspectors observed performance of the following STs and/or reviewed test data of selected risk-significant SSCs to assess whether test results satisfied TSs, the UFSAR, and NMPNS procedure requirements. The inspectors verified that test acceptance criteria were clear, tests demonstrated operational readiness and were consistent with design documentation, test instrumentation had current calibrations and the range and accuracy for the application, tests were performed as written, and applicable test prerequisites were satisfied. Upon test completion, the inspectors considered whether the test results supported that equipment was capable of performing the specified safety functions. The inspectors reviewed the following STs:

- N1-EPM-GEN-291, “Generator Shaft Voltage Reading and Brush Inspection,” Revision 00801 completed on January 3, 2012
- N1-ST-Q6C, “Containment Spray System Loop 112 Quarterly Operability Test,” Revision 00901 completed on January 26, 2012 (in-service test)
- N2-OSP-MSS-Q002, “Main Steam Isolation Valve Partial Exercise Test and Functional Test of RPS Main Steam Isolation Valve Closure in Operating Condition 1 or 2,” Revision 00600 completed on February 11, 2012
- N1-ST-M1A, “Liquid Poison Pump 11 Operability Test,” Revision 00400 completed on February 14, 2012 (in-service test)
- N1-TSP-202-001, “Testing of Unit 1 Reactor Building Emergency Ventilation System,” Revision 00300 on March 1, 2012
- N1-ST-M8, “Reactor Building Emergency Ventilation System Operability Test,” Revision 01500 completed on March 12, 2012
- N2-EPM-GEN-W665, ”DC Weekly Checks,” Revision 00900 completed on March 13, 2012

These activities represented five surveillance testing and two in-service testing inspection samples.

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06 – Two sample)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine NMPNS emergency drill on March 27, 2012 to identify any weaknesses and deficiencies in the classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the simulator and the technical support center to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also reviewed the results of the station drill critiques to compare inspector observations with those identified by NMPNS staff in order to evaluate NMPNS' critique and to verify whether the NMPNS staff was properly identifying weaknesses and entering them into the CAP.

b. Findings

No findings were identified.

.2 Training Observations

a. Inspection Scope

The inspectors observed a simulator training evolution for Unit 1 licensed operators on January 10 which specified emergency plan implementation by an operations crew. NMPNS planned for this evolution to be evaluated and included in performance indicator (PI) data regarding drill and exercise performance. The inspectors observed event classification and notification activities performed by the crew. The inspectors also attended the post-evolution critique for the scenario. The focus of the inspectors' activities was to note any weaknesses and deficiencies in the crew's performance and ensure that NMPNS evaluators noted the same issues and entered them into the CAP.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstone: Occupational/Public Radiation Safety

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01 – One sample)

This area was inspected to: (1) review and assess NMPNS' performance in assessing the radiological hazards in the workplace associated with licensed activities and the implementation of appropriate radiation monitoring and exposure control measures for both individual and collective exposures, (2) verify NMPNS is properly identifying and reporting PIs for the Occupational Radiation Safety Cornerstone, and (3) identify those performance deficiencies that were reportable as a PI and which may have represented a substantial potential for overexposure of the worker.

During March 12 to 15, 2012, the inspectors interviewed the radiation protection manager (RPM), radiation protection (RP) supervisors, RP technicians, and radiation workers. The inspectors performed walk-downs of various portions of the plant, performed independent radiation dose rate measurements, observed work activities in radiological control areas and reviewed NMPNS documents. The inspectors used the requirements in Title 10 of the Code of Federal Regulations (CFR) Part 20 and guidance in Regulatory Guide 8.38, "Control of Access to High and Very High Radiation Areas for Nuclear Plants," NMPNS Units 1 and 2 TSs, and NMPNS' procedures specified by TSs as criteria for determining compliance.

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed the 2011 NMPNS PIs for the occupational exposure cornerstone for NMPNS. The inspectors reviewed the results of RP program audits and any reports of operational occurrences related to occupational radiation safety since the last inspection.

b. Findings

No findings were identified.

.2 Radiological Hazard Assessment (02.02)

a. Inspection Scope

The inspectors determined if there have been changes to plant operations since the last inspection that may result in a significant new radiological hazard for onsite workers or members of the public. The inspectors evaluated whether NMPNS assessed the potential impact of these changes and has implemented periodic monitoring, as appropriate, to detect and quantify the radiological hazard. No new radiological hazards were identified.

The inspectors reviewed the last two radiological surveys from NMPNS Unit 1 RB 249 foot outer tip room, NMPNS Unit 1 RB 261 foot corridor heat exchanger room, and NMPNS Unit 2 RB 215 foot WCS P1A room. The inspectors evaluated whether the thoroughness and frequency of the surveys where appropriate for the radiological hazard.

The inspectors performed walk-downs and independent radiation measurements in the facility, including radioactive waste processing, storage, and handling areas to evaluate material and radiological conditions.

The inspectors selected the following radiologically risk-significant work activities that involved exposure to radiation.

- Decontamination of NMPNS Unit 2 RB 353 foot equipment storage pit
- Movement of local power range monitors in NMPNS Unit 2 RB 353 foot refuel floor for outage preps

For these work activities, the inspectors assessed whether the pre-work surveys performed were appropriate to identify and quantify the radiological hazard and to establish adequate protective measures. The inspectors evaluated the radiological survey program to determine if radiological hazards were properly identified (e.g. discrete radioactive hot particles, alpha emitters contamination, transuranics and hard to detect nuclides in air samples, transient dose rates and large gradients in radiation dose rate).

The inspectors evaluated whether continuous air monitors; for example, particulate, iodine, and noble gas monitors, were located in areas with low background to minimize false alarms and were representative of actual work areas.

b. Findings

No findings were identified.

.3 Instructions to Workers (02-03)

a. Inspection Scope

The inspectors selected the following containers: SA number 10 instrument calibrator, SA number 901 instrument calibrator, and SA number 2006 beta max check source holding non-exempt licensed radioactive materials that may cause unplanned or inadvertent exposure of workers. The inspectors assessed whether the containers were labeled and controlled in accordance with 10 CFR Part 20 requirements.

The inspectors reviewed two CRs for “Workers Losing their Electronic Dosimeter” or “Official Dosimeter” and three CRs for invalid dose rate alarms where a worker’s electronic personal dosimeter noticeably malfunctioned or alarmed. The inspectors evaluated whether workers responded appropriately to the off-normal condition. The

inspectors assessed whether the issues were included in the CAP and whether compensatory dose evaluations were performed as appropriate.

b. Findings

No findings were identified.

.4 Contamination and Radioactive Material Control (02.04)

a. Inspection Scope

The inspectors observed both access control points at NMPNS Units 1 and 2 where NMPNS monitors potentially contaminated material leaving the radiological control area and inspected the methods used for control, survey, and release from these areas. The inspectors observed the performance of personnel surveying and releasing material for unrestricted use and evaluated whether the work was performed in accordance with plant procedures. The inspectors assessed whether the radiation monitoring instrumentation used for equipment release and personnel contamination surveys had appropriate sensitivity for the type(s) of radiation present.

The inspectors reviewed NMPNS' criteria for the survey and release of potentially contaminated material. The inspectors evaluated whether there was guidance on how to respond to an alarm that indicates the presence of licensed radioactive material.

The inspectors reviewed NMPNS' procedures and records to verify that the radiation detection instrumentation was used at its typical sensitivity level based on appropriate counting parameters. The inspectors selected the SA numbers 10, 39, and 387 sealed sources from NMPNS' inventory records and assessed whether the sources were accounted for and were tested for loose surface contamination.

The inspectors evaluated whether any transactions, since the last inspection, involving nationally tracked sources were reported in accordance with 10 CFR Part 20 requirements.

b. Findings

No findings were identified.

.5 Radiological Hazards Control and Work Coverage (02.05)

a. Inspection Scope

The inspectors evaluated ambient radiological conditions and performed independent radiation measurements during the walk-down of the facility. The inspectors assessed whether the conditions were consistent with applicable posted surveys, radiation work permits (RWP), and associated worker briefings.

The inspectors evaluated the adequacy of radiological controls, such as specified surveys, RP job coverage, and contamination controls. The inspectors evaluated NMPNS' use of electronic personal dosimeters in high noise area that were also high radiation areas (HRA).

The inspectors assessed whether radiation monitoring devices were placed on the individual's body consistent with NMPNS procedures. The inspectors assessed whether the dosimeter was placed in the location of highest expected dose or that NMPNS properly implemented an NRC-approved method of determining effective dose equivalent.

The inspectors reviewed the application of dosimetry to effectively monitor exposure to personnel in high-radiation work areas with significant dose rate gradients.

The inspectors reviewed the following RWPs for work within radiological areas with the potential for individual worker internal exposures.

- RWP 212461M , RB 353 foot refueling floor, cleanup/decon/vacuum equipment storage pit
- RWP 212460 M, refuel floor outage preparation, LPRM moves in spent fuel pool

For these RWPs, the inspectors evaluated airborne radioactive controls and monitoring, including potential for significant airborne levels. The inspectors assessed applicable containment barriers integrity, and the testing, installation and operation of temporary high-efficiency particulate air ventilation system.

The inspectors examined NMPNS' physical and programmatic controls for highly activated or contaminated materials stored within spent fuel and other storage pools. The inspectors assessed whether appropriate controls were in place to preclude inadvertent removal of these materials from the pool.

The inspectors examined the posting and physical controls for selected HRAs and very high radiation areas (VHRAs) to verify conformance with the occupational PI.

b. Findings

No findings were identified.

.6 Risk-Significant High Radiation Area and Very High Radiation Area controls (02.06)

a. Inspection Scope

The inspectors discussed with the NMPNS RPM the controls and procedures for high-risk HRAs and VHRAs. The inspectors assessed whether any changes to NMPNS relevant procedures substantially reduce the effectiveness and level of worker protection. The RP procedure S–RAP-RPP-801, "High, Locked High and Very High Radiation Area Monitoring and Control," was recently revised to strengthen controls for locked HRAs.

The inspectors discussed with NMPNS' first-line health physics supervisors the controls in place for special areas that have the potential to become VHRAs during certain plant operations. The inspectors assessed whether these plant operations require communication beforehand with the health physics group, so as to allow corresponding timely actions to properly post, control, and monitor the radiation hazards including re-access authorization.

The inspectors evaluated NMPNS controls for VHRAs and areas with the potential to become a VHRA to ensure that an individual was not able to gain unauthorized access to these VHRAs.

b. Findings

No findings were identified.

.7 Radiation Worker Performance (02.07)

a. Inspection Scope

The inspectors observed radiation worker performance with respect to stated RP work requirements. The inspectors assessed whether workers were aware of the radiological conditions in their workplace and the RWP controls/limits in place, and whether their behavior reflected the level of radiological hazards present.

The inspectors reviewed CR 2012-000607 and CR 2012-001389 that documented issues regarding the RP program related to human performance. The inspectors evaluated whether there was an observable pattern traceable to a similar cause. The inspectors assessed whether this perspective matched the corrective action approach taken by NMPNS to resolve the reported problems.

b. Findings

No findings were identified.

.8 Radiation Protection Technician Proficiency (02.08)

a. Inspection Scope

The inspectors observed the performance of the RP technicians with respect to RP work requirements. The inspectors evaluated whether technicians were aware of the radiological conditions in their workplace and the RWP controls/limits, and whether their behavior was consistent with their training and qualifications with respect to the radiological hazards and work activities.

The inspectors reviewed CR 2012-001225 and CR 2012-001389 that documented issues regarding RP technician error. The inspectors evaluated whether there was an observable pattern traceable to a similar cause. The inspectors assessed whether this

perspective matched the corrective action approach taken by NMPNS to resolve the reported problems.

b. Findings

No findings were identified.

.9 Problem Identification and Resolution (02.09)

a. Inspection Scope

The inspectors evaluated whether problems associated with radiation monitoring and exposure control were being identified by NMPNS at an appropriate threshold and were properly addressed for resolution in NMPNS' CAP. The inspectors assessed the appropriateness of the corrective actions for a selected sample of problems documented by NMPNS that involve radiation monitoring and exposure controls. The inspectors assessed NMPNS' process for applying operating experience to their plant. The inspectors discussed corrective actions for identified concerns with radiation monitoring and exposure control with the NMPNS RPM.

b. Findings

No findings were identified.

2RS2 Occupational ALARA Planning and Controls (71124.02 - One sample)

This area was inspected to assess performance with respect to maintaining occupational individual and collective radiation exposures as low as is reasonably achievable (ALARA). During March 12 to 15, 2012, the inspectors interviewed NMPNS personnel, performed walk-downs, and reviewed NMPNS documents. The inspectors used the requirements in 10 CFR Part 20; Regulatory Guide 8.8, "Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Plants will be As Low As is Reasonably Achievable;" Regulatory Guide 8.10, "Operating Philosophy for Maintaining Occupational Radiation Exposure As Low As is Reasonably Achievable;" the Nine Mile Point TSs; and NMPNS' procedures specified by TSs as criteria for determining compliance.

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed pertinent information regarding NMPNS' collective dose history, current exposure trends, and ongoing or planned activities in order to assess current performance and exposure challenges. The inspectors reviewed the plant's three year rolling average collective exposure.

The inspectors compared the site-specific trends in collective exposures against the industry average values and those values from similar vintage reactors. In addition, the

inspectors reviewed any changes in the radioactive source term by reviewing the trend in average contact dose rates on recirculation piping. The inspectors reviewed site-specific procedures associated with maintaining occupational exposures ALARA, which included a review of processes used to estimate and track exposures from specific work activities.

b. Findings

No findings were identified.

.2 Radiological Work Planning (02.02)

a. Inspection Scope

The inspectors selected one of the NMPNS Unit 2 outage work activities that had one of the most complete ALARA review (AR) packages.

- AR 212830 “Chemical Decontamination of Recirculation, Reactor Cleanup System, and RHR piping”

The inspectors reviewed the ALARA work activity evaluations, exposure estimates, and exposure reduction requirements. The inspectors determined whether NMPNS reasonably grouped the radiological work into work activities, based on historical precedence, industry norms, and/or special circumstances.

The inspectors assessed whether NMPNS’ planning identified appropriate dose reduction techniques, considered alternate dose reduction features, and estimated reasonable dose goals. The inspectors determined whether NMPNS’ work planning considered the use of remote technologies as a means to reduce dose and the use of dose reduction insights from industry operating experience and plant-specific lessons learned. The inspectors assessed the integration of ALARA requirements into work procedure and RWP documents.

b. Findings

No findings were identified.

.3 Verification of Dose Estimates and Exposure Tracking Systems (02.03)

a. Inspection Scope

The inspectors reviewed the assumptions and basis for the current annual collective exposure estimate for accuracy. The inspectors reviewed applicable procedures to determine the methodology for estimating exposures from specific work activities and for department and station dose goals.

The inspectors evaluated whether NMPNS had established measures to track, trend, and if necessary, to reduce occupational doses for ongoing work activities. The

inspectors assessed whether threshold criteria were established to prompt additional reviews and/or additional ALARA planning and controls.

The inspectors evaluated NMPNS' method of adjusting exposure estimates, or re-planning work, when unexpected changes in scope or emergent work were encountered. The inspectors assessed whether adjustments to exposure estimates were based on sound RP and ALARA principles or if they were just adjusted to account for failures to plan/control the work.

b. Findings

No findings were identified.

.4 Source Term Reduction and Control (02.04)

a. Inspection Scope

The inspectors used NMPNS records to determine the historical trends and current status of plant radioactive source term known to contribute to elevated facility collective exposure. The inspectors assessed whether NMPNS had made allowances or developed contingency plans for expected changes in the radioactive source term as the result of changes in plant fuel performance issues or changes in plant primary chemistry. NMPNS plans to have Westinghouse perform a chemical decontamination of the reactor recirculation system, the reactor water cleanup system, and residual heat removal system piping during the NMPNS Unit 2 outage.

b. Findings

No findings were identified.

.5 Radiation Worker Performance (02.05)

a. Inspection Scope

The inspectors observed radiation worker and RP technician performance during work activities being performed in radiation areas, airborne radioactivity areas, or HRAs. The inspectors evaluated whether workers demonstrated the ALARA philosophy in practice (e.g., workers are familiar with the work activity scope and tools to be used, workers used ALARA low-dose waiting areas) and whether there were any procedure compliance issues.

b. Findings

No findings were identified.

.6 Problem Identification and Resolution (02.06)

a. Inspection Scope

The inspectors evaluated whether problems associated with ALARA planning and controls were being identified by NMPNS at an appropriate threshold and were properly addressed for resolution in NMPNS' CAP. The inspectors discussed with the NMPNS RPM the status of corrective actions for identified concerns with the occupational ALARA program.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

Initiating Events (Six samples)

a. Inspection Scope

The inspectors reviewed NMPNS' submittal of the Initiating Events PIs for the following systems for the period of January 1, 2011, through December 31, 2011:

- Units 1 and 2 unplanned scrams per 7000 critical hours
- Units 1 and 2 unplanned scrams with complications
- Units 1 and 2 unplanned power changes per 7000 critical hours

To determine the accuracy of the PI data reported during those periods, the inspectors used definitions and guidance contained in Nuclear Energy Institute document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors also reviewed NMPNS' operator narrative logs, CRs, event reports, and NRC integrated inspection reports to validate the accuracy of the submittals.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152 - One sample)

.1 Routine Review of Problem Identification and Resolution Activities

a. Inspection Scope

As specified by Inspection Procedure 71152, "Problem Identification and Resolution," the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that NMPNS entered issues into the CAP at an appropriate

threshold, gave adequate attention to timely corrective actions, and identified and addressed adverse trends. In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the CAP.

b. Findings

No findings were identified.

.2 Annual Sample: Circuit Breaker Preventive Maintenance

a. Inspection Scope

The inspectors performed an in-depth review of NMPNS' apparent cause evaluation and corrective actions associated with condition report CR 2011-009939, 12 turbine building exhaust fan load breaker degraded. Specifically, an electrical fault on the exhaust fan motor was not isolated by the load breaker. The fault was subsequently cleared by the upstream power board breaker. The isolation resulted in loss of the running reactor building exhaust fan, loss of normal reactor building pressure control and main steam tunnel cooling, and entry into the emergency operating procedure for primary containment control.

As part of an extent of condition review, the inspectors also followed up on NMPNS' corrective actions for condition report CR 2011-006003, turbine building heater board fire. The fire occurred in a nonsafety-related circuit breaker that supplied a domestic water heater, resulting in a notification of an unusual event.

The inspectors assessed NMPNS' problem identification threshold, cause analyses, extent of condition reviews, compensatory actions, and the prioritization and timeliness of corrective actions to determine whether NMPNS was appropriately identifying, characterizing, and correcting problems associated with these issues and whether the planned or completed corrective actions were appropriate. The inspectors compared the actions taken to the requirements of NMPNS' corrective action and preventive maintenance programs, and 10 CFR 50, Appendix B. In addition, the inspectors performed field walkdowns and interviewed personnel to assess the effectiveness of the corrective actions.

b. Findings and Observations

No findings were identified.

The 12 turbine building exhaust fan breaker failure involved the performance of procedure N1-EPM-GEN-192, "Motor Control Center (7700 Line) Inspection," Revision 01300, in December 2010. The circuit breaker is one of a unique set of four breakers that are hard-wired into their respective power boards. Because the safety tagout for the planned maintenance was not adequate to perform all of the steps in the procedure, the electrical supervisor erroneously marked the steps involving protective device testing as not applicable, rather than documenting the problem in a condition report as required by

the preventive maintenance program procedure. As a result, NMPNS did not test the breaker protective trip features and was unaware that additional safety tags were necessary to perform the maintenance tasks. This latent error became apparent on November 1, 2011, when the breaker failed to trip open when its associated motor load developed an electrical fault.

This issue was determined to be minor because no safety system operability or functionality was significantly affected, nor resulted in a plant transient. In accordance with NRC IMC 0612, "Power Reactor Inspection Reports," the issue constituted a finding of minor significance that is not subject to enforcement action in accordance with the Enforcement Policy. NMPNS entered the issue into its corrective action program as CR 2011-009939. Corrective actions included testing of other similarly configured breakers and a briefing of pertinent electrical maintenance personnel on preventive maintenance program requirements pertaining to this activity.

Regarding CR 2011-006003, the NRC documented a Green finding for failure to meet fleet standards for preventive maintenance templates for nonsafety-related molded case circuit breakers in section 4OA2 of Inspection Report 05000220/2011005 and 05000410/2011005. NMPNS performed an extent of condition review following this finding and identified approximately one thousand circuit breakers for which current preventive maintenance strategies were not reflected in the relevant preventive maintenance database. NMPNS has initiated long term corrective actions to add appropriate new preventive maintenance tasks to its program. The inspectors observed that the corrective actions are extensive and involve a significant impact on maintenance resources. The inspectors' review of selected circuit breaker maintenance records and condition reports identified no additional programmatic issues. The inspectors concluded that NMPNS performed appropriate cause analyses and extent of condition reviews, and has developed appropriate and timely corrective actions for these events.

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153 – Two samples)

.1 Plant Events

a. Inspection Scope

For the plant events listed below, the inspectors reviewed and/or observed plant parameters, reviewed personnel performance, and evaluated performance of mitigating systems. The inspectors communicated the plant events to appropriate regional personnel, and compared the event details with criteria contained in IMC 0309, "Reactive Inspection Decision Basis for Reactors," for consideration of potential reactive inspection activities. As applicable, the inspectors verified that NMPNS made appropriate emergency classification assessments and properly reported the event in accordance with 10 CFR Parts 50.72 and 50.73. The inspectors reviewed NMPNS' follow-up actions related to the events to assure that NMPNS implemented appropriate corrective actions commensurate with their safety significance.

- Unit 1 unplanned shutdown on February 18, due to body to bonnet joint leakage on shutdown cooling isolation valve IV-38-01 inside the drywell

b. Findings

Introduction. A Green self-revealing NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified due to NMPNS' failure to adequately implement Standard Design Specification SDS-006, "Bolt-Torque Requirements for Unit 1 and Unit 2," to determine the amount of torque to apply to the body to bonnet bolts of shutdown cooling isolation valve IV-38-01. This resulted in an RCS leak of one gallon per minute (GPM) and a Unit 1 shut down

Description. On February 19, 2012, NMPNS Unit 1 was shut down due to a step increase in unidentified drywell leakage to approximately one GPM. The source of the leakage was later identified as a body to bonnet leak of shutdown cooling isolation valve IV-38-01. Subsequently, NMPNS determined that the leak was caused by insufficient torque on the body to bonnet closure bolts.

The internals of valve IV-38-01 were replaced during the spring 2011 refueling outage. Using Table B-12 of Appendix B of SDS-006, NMPNS determined that the closure bolts should be torqued to 774 ft-lbs. Section 6.4.B of SDS-006 states that Table B-12 is to be used when other torque or tensioning parameters are not specified for a specific application. NMPNS engineering did not use the guidance for gasketed joints provided in Section 6.4.C.1 of SDS-006 Section 6.4.C.1. which states that "…the specified amount of gasket compression is usually the prime quantity in determining the bolt preload. Too little compression and the gasket may fail to seal." In addition to providing compression guidance, it also recommends the use of the gasket vendor in determining proper gasket compression.

Following the February 2012 shutdown, NMPNS engineering, with support from the gasket vendor, determined that the torque value should have been approximately 1950 ft-lbs. This value provided adequate gasket compression and sufficient metal to metal contact to ensure leak tight performance. The failure to properly implement SDS-006 during the 2011 valve modification was documented in CR 2012-001441. NMPNS' immediate corrective actions included applying an appropriate torque to the body to bonnet bolts, performing an extent of condition review of similar valves in the drywell, and checking the torque of bolts on valve IV-38-02, located outside of the drywell, that had similarly been modified in 2011. This finding has a cross-cutting aspect in the area of human performance, resources, because NMPNS' design documentation was not accurate.

Analysis. The inspectors determined that failure to provide a correct torque value for the valve body to bonnet bolts during the 2011 refueling outage in accordance with the standard design specification is a performance deficiency that was within NMPNS' ability to foresee and correct. This finding is more than minor because it adversely impacted the equipment performance attribute of the Initiating Events Cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors evaluated the finding using IMC 0609.04, Phase 1, "Initial Screening and Characterization" worksheet in Attachment 4 of IMC 0609. The inspectors determined this finding to be of very low significance (Green) because assuming the worst case degradation of the body to

bonnet seal, the leak would not have exceeded the technical specification limit for identified reactor coolant system leakage. The finding has a cross-cutting aspect in the area of human performance, resources, because NMPNS' design documentation regarding torque values was not complete and accurate [H.2(c)].

Enforcement. 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Section 6.4.C.1 of NMPNS' procedure SDS-006, "Bolt-Torque Requirements for Unit 1 and Unit 2," provides guidance for determining the proper tightening requirements for gasketed joints. Contrary to the above, on March 27, 2011, NMPNS personnel did not use Section 6.4.C.1 of SDS-006 to determine an appropriate torque value for the body to bonnet bolts of valve IV-38-01. This resulted in inadequate gasket compression and a body to bonnet leak. NMPNS' corrective actions included applying an appropriate torque to the body to bonnet bolts, performing an extent of condition review of similar valves in the drywell, and checking the torque of bolts on valve IV-38-02, located outside the drywell, that had similarly been modified in 2011. Because this issue is of very low safety significance (Green) and NMPNS entered this issue into its corrective action program as CR-2012-001441, this finding is being treated as an NCV consistent with the NRC Enforcement Policy. **(NCV 05000220/2012002-02, Inadequate Torque Applied to Shutdown Cooling Isolation Valve Closure Bolts)**

.2 (Closed) Licensee Event Report (LER) 05000410/2012-001-00 and -01: Forced Shutdown Due to an Increase in Drywell Leakage in Excess of Technical Specifications Limit

On December 9, 2011, NMPNS shut down Unit 2 after identifying that unidentified reactor coolant system (RCS) leakage into the drywell had exceeded the TS limits. Following a drywell entry, the source of the leakage was found to be stem packing failure on recirculation pump discharge isolation valve 2RCS*MOV18A. Revision 01 of this LER discussed NMPNS' root cause determination for the event. Corrective actions included revised procedures and maintenance personnel training to incorporate the lessons learned from the event. The inspectors concluded that these corrective actions appropriately addressed the root cause of the event. The events detailed in this LER were discussed in Section 4OA3.3 of NRC Integrated Inspection Report 05000220/2011005 and 05000410/2011005 and resulted in a non-cited violation. The inspectors did not identify any new issues during the review of the original and revised LERs. This LER, and the revision, are closed.

4OA6 Meetings, Including Exit

On April 12, 2012, the inspectors presented the inspection results to Mr. Kenneth Langdon, Site Vice President, and other members of the NMPNS staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

NMPNS Personnel

K. Langdon, Vice President
M. Philippon, Plant General Manager
P. Bartolini, Supervisor, Design Engineering
J. Dean, Supervisor, Quality Assurance
R. Dean, Training Manager
S. Dhar, Design Engineering
J. Dosa, Director, Licensing
J. Holton, Supervisor, Systems Engineering
G. Inch, Principle Engineer, EPU Project Manager
M. Kunzwiler, Security Supervisor and Fatigue Rule Program Coordinator
J. Leonard, Supervisor Design Engineering
C. McClay, Senior Engineer
F. Payne, Manager, Operations
J. Reid, Design Engineer
M. Shanbhag, Licensing Engineer
T. Syrell, Manager, Nuclear Safety and Security
J. Thompson, Unit 2 General Supervisor Operations

LIST OF ITEMS OPENED, CLOSED, DISCUSSED AND UPDATED

Opened

None

Opened and Closed

05000220/2012002-01	FIN	Did Not Correctly Implement Procedure During Power Supply Transfer
05000220/2012002-02	NCV	Inadequate Torque Applied to Shutdown Cooling Isolation Valve Closure Bolts

Closed

05000410/2012001-00 and 05000410/2012001-01	LER	Forced Shutdown Due to an Increase in Drywell Leakage in Excess of Technical Specifications Limit

Discussed

None

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures
N1-OP-64, Meteorological Monitoring, Revision 00600
N2-OP-102, Meteorological Monitoring, Revision 01000

Section 1R04: Equipment Alignment

Procedures
N1-OP-47A, 125 VDC Power System, Revision 02100
N1-OP-48, Motor Generator Sets, Revision 02700
N1-OP-61B, Standby Gas Treatment System, Revision 00901

Drawings
C-19839-C, One Line diagram 125V D.C. Control Bus, Revision 13
C-19409-C, AC Station Power Distribution One-Line Diagram, Revision 14
C-15136-C, Reactor Building Equipment Location Plan Anchor Bolt Details and Foundations Floor El 298, Revision 5
C-18013-C, Reactor Building Heating Cooling and Ventilation System P&I Diagram, Revision 31

Condition Reports
2012-001926

Section 1R05: Fire Protection

Procedures
N1-PFP-0101, Unit 1 Pre-fire Plans, Revision 00100
N2-FPI-PFP-0201, Unit 2 Pre-fire Plans, Revision 02

Documents
Unit 1 UFSAR, Appendix 10A, Fire Hazards Analysis, Revision 22

Section 1R11: Licensed Operator Requalification Program

Procedures
N2-SOP-19, Loss of Instrument Air, Revision 00600
N2-SOP-08, Unplanned Power Changes, Revision 00701
N2-SOP-29, Sudden Reduction in Core Flow, Revision 01200
N2-SOP-101D, Rapid Power Reduction, Revision 00702
N2-SOP-83, Primary Containment Isolation Failure/Reset, Revision 00300
N2-SDOP-17, Fuel Failure or High Activity in Rx Coolant or Offgas, Revision 03
N2-EOP-SC/RR, Secondary Containment Control/Radioactive Release Control – Flowchart, Revision 01001
N2-EOP-RPV, RPV Control – Flowchart, Revision 01300
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LIST OF ACRONYMS

AC	alternating current
ADAMS	Agencywide Documents Access and Management System
ALARA	as low as is reasonably achievable
AR	ALARA review
CAP	corrective action program
CFR	Code of Federal Regulations
CR	condition report
CRS	control room supervisor
EDG	emergency diesel generator
EOP	emergency operating procedure
FIN	Finding
HRA	high radiation area
IMC	Inspection Manual Chapter
kV	kilovolt
LER	licensee event report
MOV	motor operated valve
NCV	non-cited violation
NMPNS	Nine Mile Point Nuclear Station, LLC
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records
PB	power board
PI	performance indicator
PM	preventive maintenance
PMT	post-maintenance test
PO	plant operator
RB	reactor building
RCS	reactor coolant system
RP	radiation protection
RPM	radiation protection manager
RWP	radiation work permit
SDP	significance determination process
SGTS	standby gas treatment system
SSC	structure, system, and component
ST	surveillance test
TS	technical specification
UFSAR	updated final safety analysis report
V	volt
Vdc	volts direct current
VHRA	very high radiation area
WO	work order