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

July 25, 2008

Mr. Keith J. Polson
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 05000220/2008003 and 05000410/2008003

Dear Mr. Polson:

On June 30, 2008, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Nine Mile Point Nuclear Station, Units 1 and 2. The enclosed integrated inspection report documents the inspection results discussed on July 16, 2008, with you and 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 three self-revealing findings and two NRC-identified findings of very low safety significance (Green). Four of the findings were determined to involve violations of NRC requirements. However, because of their very low safety significance and because they were entered into your corrective action program (CAP), the NRC is treating these findings as non-cited violations in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you contest the non-cited violations noted in this report, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington, D.C. 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement; U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-001; and the NRC Senior 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 Web Site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

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

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

Enclosure: Inspection Report 05000220/2008003 and 05000410/2008003
w/Attachment: Supplemental Information

cc w/encl:
M. Wallace, Vice – Chairman, Constellation Energy
H. Barron, President, CEO & Chief Nuclear Officer, Constellation Energy Nuclear Group
C. Fleming, Esquire, Senior Counsel, Nuclear Generation, Constellation Energy Group, LLC
M. Wetterhahn, Esquire, Winston & Strawn
T. Syrell, Director, Licensing, Nine Mile Point Nuclear Station
P. Tonko, President and CEO, New York State Energy Research and Development Authority
J. Spath, Program Director, New York State Energy Research and Development Authority
P. Eddy, New York State Department of Public Service
C. Donaldson, Esquire, Assistant Attorney General, New York Department of Law
Supervisor, Town of Scriba
P. Church, Oswego County Administator
T. Judson, Central NY Citizens Awareness Network
D. Katz, Citizens Awareness Network
G. Detter, Manager, Nuclear Safety and Security, Constellation Energy
NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web Site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,
/RA/

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

NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web Site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

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

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

Enclosure: Inspection Report 05000220/2008003 and 05000410/2008003
w/Attachment: Supplemental Information

cc w/encl:
M. Wallace, Vice – Chairman, Constellation Energy
H. Barron, President, CEO & Chief Nuclear Officer, Constellation Energy Nuclear Group
C. Fleming, Esquire, Senior Counsel, Nuclear Generation, Constellation Energy Group, LLC
M. Wetterhahn, Esquire, Winston & Strawn
T. Syrell, Director, Licensing, Nine Mile Point Nuclear Station
P. Tonko, President and CEO, New York State Energy Research and Development Authority
J. Spath, Program Director, New York State Energy Research and Development Authority
P. Eddy, New York State Department of Public Service
C. Donaldson, Esquire, Assistant Attorney General, New York Department of Law
Supervisor, Town of Scriba
P. Church, Oswego County Administator
T. Judson, Central NY Citizens Awareness Network
D. Katz, Citizens Awareness Network
G. Detter, Manager, Nuclear Safety and Security, Constellation Energy

DISTRIBUTION
see next page

SUNSI Review Complete: ____NSP_____ (Reviewer's Initials)
DOCUMENT NAME: T:\DRP\BRANCH1\Nine_Mile_Point\Reports\2007 - 2008 Inspection Reports in WORD\IR 2008-003\Final IR 2008 003.doc
After declaring this document "An Official Agency Record" it will be released to the Public.
To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy ML082110481

OFFICE	RI/DRP		RI/DRP		RI/DRP	
NAME	*EKnutson/ECK		*NPerry/NSP		Gdentel/GTD	
DATE	07/25/08		07/25/08		07/25/08	

*Concurrence received via telecon

OFFICIAL RECORD COPY

DISTRIBUTION
S. Collins, RA
M. Dapas, DRA
G. Dentel, DRP
J. Hawkins, DRP
S. Williams, RI OEDO
R. Nelson, NRR
M. Kowal, NRR
R. Guzman, NRR
D. Pickett, NRR
E. Knutson, SRI - Nine Mile Point
D. Dempsey, RI - Nine Mile Point
K. Kolek, DRP, OA
Region I Docket Room (with concurrences)
ROPREPORTS RESOURCE (All IRs)

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.:	50-220, 50-410
License No.:	DPR-63, NPF-69
Report No.:	05000220/2008003 and 05000410/2008003
Licensee:	Nine Mile Point Nuclear Station, LLC (NMPNS)
Facility:	Nine Mile Point, Units 1 and 2
Location:	Lake Road Oswego, NY
Dates:	April 1, 2008 through June 30, 2008
Inspectors:	E. Knutson, Senior Resident Inspector D. Dempsey, Resident Inspector B. Bickett, Senior Project Engineer J. Furia, Senior Health Physicist A. Rosebrook, Senior Project Engineer R. Cureton, Reactor Inspector

TABLE OF CONTENTS

SUMMARY OF FINDINGS

IR 05000220/2008003, 05000410/2008003; 04/01/08 - 06/30/08; Nine Mile Point Nuclear Station, Units 1 and 2; Maintenance Risk Assessment, Outage Activities, Surveillance Testing, and Other Activities.

The report covered a three-month period of inspection by resident inspectors and regional specialist inspectors. Four Green non-cited violations (NCVs), and one Green finding, 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)." 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.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Initiating Events

- Green. A self-revealing finding was identified on April 18, 2008, when NMPNS failed to take appropriate corrective actions to address corrosion products in the instrument air (IA) system in a timely manner, which led to an accumulation of water in the Unit 2 IA system. As a result, water intrusion into the air operator for the 'B' reactor feedwater pump recirculation valve caused the valve to open during plant power ascension, causing a reduction in feedwater flow to the reactor and thereby challenging plant stability. As immediate corrective action, operators secured power ascension and isolated the recirculation valve.

  The finding was greater than minor because it was associated with the equipment performance attribute of the Initiating Events cornerstone and adversely affected the 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 finding was evaluated in accordance with IMC 0609, Attachment 4, and determined to be of very low safety significance per the SDP Phase one determination because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available, and it did not screen as potentially risk significant due to external events. The finding had a cross-cutting aspect in the area of problem identification and resolution because NMPNS did not take appropriate corrective actions to address corrosion products in the IA system in a timely manner (P.1.d per IMC 0305). (Section 1R20)

Cornerstone: Mitigating Systems

- Green. A self-revealing non-cited violation (NCV) of Technical Specification (TS) 6.1, "Responsibility," was identified on April 26, 2008, when the Unit 1 shift manager (SM)

left the control room without designating another senior reactor operator (SRO) qualified individual to assume the control room command function. When the condition was identified, the SM promptly returned to the control room.

The finding was greater than minor because it could reasonably be viewed as a precursor to a significant event. Specifically, the absence of SRO oversight during licensed control room activities increases the likelihood of human performance errors, which in turn, increases the likelihood of an initiating event and reduces the effectiveness of event mitigation. 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 because of the short period that the SM was not present in the control room, and because no initiating events occurred during that time. The finding had a cross-cutting aspect in the area of human performance because of the ineffective use of human error prevention techniques (H.4.a per IMC 0305). (Section 1R13)

- Green. A self-revealing non-cited violation (NCV) of 10 CRF 50, Appendix B, Criterion XVI, "Corrective Action," was identified on March 22, 2008, when the Unit 2 Division I emergency diesel generator (EDG) service water (SW) return isolation valve failed to fully open following a start of the Division I EDG, thus challenging the EDG's ability to perform its safety function. The motor operated valve (MOV) malfunction was due to age-related failure of the J-10 relay in the MOV control circuit. The susceptibility of J-10 relays to age-related failure had been previously identified; however, NMPNS did not take action to establish a maintenance strategy to replace these relays prior to failure. As corrective action, the EDG was declared inoperable, the J-10 relay was replaced, and an extent of condition review was initiated.

  The finding was greater than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely 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 evaluated in accordance with IMC 0609, Attachment 4, and determined to be of very low safety significance per the SDP Phase one determination because the finding 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. (Section 1R22)

- Green. An NRC-identified non-cited violation (NCV) of Unit 1 Technical Specification (TS) 6.2.2 and Unit 2 TS 5.2.2, "Unit Staff," was identified for not properly implementing and maintaining procedures for controlling plant staff work hours of personnel performing safety-related activities. Specifically, over 400 overtime deviations were approved between July 2007 and April 2008 for Operations personnel to work greater than procedurally established work hour limits for routine outage support activities during outages and other reasons not permitted by TS. Corrective actions were being developed to increase qualified operator levels.

  The finding was greater than minor because, if left uncorrected, it would become a more significant safety concern. Specifically, the excessive work hours would

increase the likelihood of human errors during plant activities and response to plant events. The finding has been reviewed by NRC management in accordance with IMC 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria." Although the increased likelihood of human error would adversely affect the station's defense-in-depth, the violation was determined to be of very low significance because no significant events or human performance issues were directly linked to personnel fatigue as a result of the hours worked. The issue had a cross-cutting aspect in the area of human performance because the licensee did not use conservative assumptions in decision making, in that, the consequences of the high number of overtime deviations were not fully considered and the possible unintended consequences evaluated. (H.1.b per IMC 0305). (Section 4OA5)

- Green. A non-cited violation (NCV) of Unit 1 Technical Specification (TS) 6.2.2 and Unit 2 TS 5.2.2, "Unit Staff," was identified by the inspectors for a recurring trend of operations personnel being required to stand 24 hour shifts in order to ensure adequate shift coverage. There were eight occurrences between May 2007 and May 2008. Several of these overtime deviations were not properly authorized or documented in accordance with station procedures as required by TS. Corrective actions were being developed to increase qualified operator levels.

  The finding was greater than minor because, if left uncorrected, it would become a more significant safety concern. Specifically, the excessive work hours would increase the likelihood of human errors during plant activities and response to plant events. The finding has been reviewed by NRC management in accordance with IMC 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria." Although the increased likelihood of human error would adversely affect the station's defense-in-depth, the violation was determined to be of very low significance because no significant events or human performance issues were directly linked to personnel fatigue as a result of the hours worked. The issue has a cross-cutting aspect in the area of problem identification and resolution because NMPNS failed to periodically trend and assess information from the corrective action program and other assessments in the aggregate to identify programmatic and common cause problems (P.1.b per IMC 0305). (Section 4OA5)

B. Licensee-Identified Violations

A violation of very low safety significance, which was identified by NMPNS, has been reviewed by the inspectors. Corrective actions taken by NMPNS have been entered into NMPNS' corrective action program (CAP). The violation and corrective action tracking number are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Nine Mile Point Unit 1 began the inspection period at full rated thermal power (RTP). On May 3, power was reduced to 70 percent for a control rod sequence exchange, single rod scram time testing, repair of a shell side leak from the 132 feedwater heater, and to restore 15 reactor recirculation pump (RRP) to service. Power was restored to full RTP later that day. On May 13, a loss of offsite power line 4 while offsite power line 1 was out of service for maintenance resulted in a power reduction to 92 percent due to loss of power to 13 RRP. Later that day, offsite power was restored through line 1, 13 RRP was returned to service, and power was restored to full RTP. With the exception of short duration power reductions and recoveries for planned maintenance and testing, Unit 1 operated for the remainder of the inspection period at full RTP.

Nine Mile Point Unit 2 began the inspection period in refueling outage (RFO) 11, which had commenced on March 22. On April 16, operators commenced plant startup and reached full RTP on April 20. On May 31, power was reduced to 70 percent for a control rod sequence exchange, single rod scram time testing, turbine valve testing, and maintenance on the 'B' heater drain pump. Power was restored to full RTP the following day. Except for two occasions when 6B feedwater heater equipment malfunctions required short duration power reductions, Unit 2 operated for the remainder of the inspection period at full RTP.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 - Five samples)

.1 Readiness of Offsite and Alternate AC Power Systems (Two samples)

a. Inspection Scope

The inspectors verified that plant features and procedures for operation and continued availability of offsite and alternate alternating current (AC) power systems for Unit 1 and Unit 2 during adverse weather are appropriate. The inspectors reviewed Operations Administrative Procedure S-ODP-OPS-0112, "Off-Site Power Operations and Interface," to ensure that appropriate information is exchanged between NMPNS and the transmission system operator (TSO) when issues arise that could impact the offsite power system. The inspectors also verified that NMPNS procedures address measures to monitor and maintain availability and reliability of both the offsite AC power system and the onsite alternate AC power system prior to, and during, adverse weather conditions.

b. Findings

No findings of significance were identified.

.2 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." The inspectors reviewed and verified completion of the operations department hot weather preparation checklists contained in procedures N1-OP-64 and N2-OP-102, "Meteorological Monitoring," for Units 1 and 2, respectively. The inspectors reviewed the procedural limits and actions associated with elevated lake temperature and walked down selected areas of the plants to assess the effectiveness of the ventilation systems. In addition, the inspectors performed partial system walkdowns of the following risk significant systems that could be susceptible to the effects of hot weather:

- Unit 1 service water system;
- Unit 1 reactor building emergency ventilation system;
- Unit 2 service water system; and
- Unit 2 control building air conditioning system.

b. Findings

No findings of significance were identified.

.3 Readiness to Cope with External Flooding (One sample)

a. Inspection Scope

The inspectors reviewed the individual plant examinations (IPEs) and updated final safety analysis reports (UFSARs) for Units 1 and 2 concerning external flooding events at the site. The inspection included a walkdown of accessible areas of each unit's perimeter to look for potential susceptibilities to external flooding and to verify the assumptions included in each unit's external flooding analysis. The inspectors also reviewed relevant abnormal and emergency plan procedures.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

.1 Partial System Walkdown (71111.04 - Four samples)

a. Inspection Scope

The inspectors performed four 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 UFSAR. The inspectors verified the operability of critical system components by observing component material condition during the system walkdown. The inspectors performed partial walkdowns of the following systems:

- Unit 1 core spray system 112 while the core spray system 111 was inoperable for valve inspections;
- Unit 1 EDG 102 and power board while EDG 103 was inoperable for emergent maintenance;
- Unit 2 'A' residual heat removal (RHR) system while the 'C' RHR system was inoperable for planned maintenance; and
- Unit 2 high pressure core spray (HPCS) system while the low pressure core spray (LPCS) system was inoperable for planned maintenance.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors performed a complete walkdown of the Unit 2 ‘C’ RHR system to identify discrepancies between the existing equipment configuration and that specified in the design documents. During the walkdown, system drawings and operating procedures were used to determine the proper equipment alignment and operational status. The inspectors reviewed the open maintenance work orders (WOs) that could affect the ability of the system to perform its functions. Documentation associated with temporary modifications, operator workarounds, and items tracked by plant engineering were also reviewed to assess their collective impact on system operation. In addition, the inspectors reviewed the condition report (CR) database to verify that equipment alignment problems were being identified and appropriately resolved.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

.1 Quarterly Inspection (71111.05Q - Seven samples)

a. Inspection Scope

The inspectors toured seven areas important to reactor safety at NMPNS 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 areas inspected included:

- Unit 1 111/121 containment spray pump room, reactor building 198 foot elevation;
- Unit 1 cable spreading room, control complex 250 foot elevation;
- Unit 1 auxiliary control room, control complex 261 foot elevation;
- Unit 1 diesel fire pump room, screen house 256 foot elevation;
- Unit 1 turbine building east, 277 foot elevation;
- Unit 2 west electrical tunnel, control building 220 foot elevation; and
- Unit 2 turbine building 250 foot elevation.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06 - One sample)

a. Inspection Scope

The inspectors completed one internal flooding sample. The inspectors reviewed the individual plant examination (IPE) and UFSAR for Unit 2 concerning internal flooding events and completed walkdowns of two areas in which flooding could have a significant impact on risk. The EDG and emergency standby switchgear rooms, and the turbine building/reactor building elevation 250 foot interfacing areas were reviewed.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors reviewed the testing and results for the Unit 1 reactor building closed loop cooling system heat exchanger 13, performed in accordance with procedure N1-TTP-033, "Reactor Building Closed Loop Cooling Heat Exchanger Performance Test." The inspectors reviewed performance data to verify that heat exchanger operation was consistent with its design basis. The inspectors conducted interviews with design and system engineers to ensure the test was controlled properly and to verify the overall condition of the heat exchanger.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (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 May 21, 2008, the inspectors observed Unit 1 LORT to assess operator and instructor performance during a scenario involving electronic pressure regulator oscillations, a ground on battery board 11, initiation of emergency cooling loop 11, and an unisolable steam leak in the reactor building. The inspectors evaluated the performance of risk significant operator actions including the use of special operating procedures (SOPs) and emergency operating procedures (EOPs).

- On May 21, 2008, the inspectors observed Unit 2 LORT to assess operator and instructor performance during a scenario involving an inadvertent isolation of reactor core isolation cooling (RCIC), loss of the running instrument air compressor while another compressor was unavailable for maintenance, an unplanned reactor power increase due to a recirculation flow control valve drifting open, and an unisolable steam leak outside of the primary containment that led operators to perform a reactor blowdown. 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.

1R12 Maintenance Effectiveness (71111.12Q - Three samples)

a. Inspection Scope

The inspectors reviewed performance-based problems and the performance and condition history of selected 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. The following three maintenance rule inspection samples were reviewed:

- Unit 1 instrument air system for possible common failure modes with Unit 2;

- Unit 1 service water seal water system based on system degradation due to fouling; and
- Unit 2 turbine building closed loop cooling system based on degraded pump expansion joints and a heater drain pump seal cooler leak that resulted in condensate leakage into the system.

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 April 28, 2008, that included main steam isolation valve (MSIV) partial stroke testing, control rod drive pump quarterly surveillance, liquid poison pump monthly surveillance, the start of a planned two week outage of one of the two outgoing 345 kilovolt (kV) transmission lines, emergency service water quarterly surveillance, and a planned power reduction to 70 percent for a control rod sequence exchange, single rod scram time testing, repair of a shell side leak on the 132 feedwater heater, and recovery of 15 reactor recirculation pump.

- Week of May 19, 2008, that included core spray 111 and 121 quarterly surveillances, EDG 102 monthly surveillance, power reductions to secure 15 reactor recirculation motor-generator for maintenance and then return it to service, calibration of the power range neutron monitoring system using the transverse in-core probe system, reactor vessel low level instrument calibrations, and emergent maintenance to provide a temporary water supply to the service water seal water system, correct a service water strainer malfunction, and repair the EDG 103 turbocharger lubricating oil pump.

Unit 2

- Week of April 21, 2008, that included HPCS instrument surveillances, valve testing and system quarterly surveillance, Division 3 EDG monthly surveillance, main steam line flow instrument calibration, an emergent issue with an instrument air dryer that resulted in water intrusion into the instrument air system, and an emergent failure of the 'A' reactor protection system motor-generator.

- Week of May 5, 2008, that included 1B battery charger maintenance, Division 1 EDG monthly surveillance, RCIC quarterly surveillance, 'A' RHR quarterly surveillance, test discharge of the 1B station battery, and an emergent issue to address voiding in the low pressure core spray pump suction line.

- Week of May 26, 2008, that included a power reduction for control rod sequence exchange, single rod scram time testing, MSIV and turbine valve partial exercise testing, maintenance on a stator water cooling system pump, maintenance on the 345 kV outgoing transmission lines, and a reactor water cleanup system outage.

- Week of June 16, 2008, that included low pressure core spray quarterly surveillance, Division 1 EDG monthly surveillance, Division 1 standby gas treatment system 24-month functional test, Division 1 standby liquid control system quarterly surveillance, an emergent failure of the normal level control valve for the 6B feedwater heater that resulted in a power reduction to 91 percent, and an emergent problem with uninterruptable power supply (UPS) 3B that produced a half scram.

b. Findings

Introduction. A self-revealing Green NCV of TS 6.1, "Responsibility," was identified on April 26, 2008, when the Unit 1 shift manager left the control room without designating another SRO-qualified individual to assume the control room command function.

Description. On April 26, 2008, an equipment problem developed with the Unit 1 plant communication system. The Control Room Supervisor (CRS), one of two SRO-qualified individuals in the watch section, left the control room to investigate the problem. While the CRS was gone, the SM wanted to show another individual the location of components in the auxiliary control room that could be associated with the problem. The auxiliary control room is located directly under the control room, but, in accordance with procedure GAP-OPS-01, "Administration of Operations," is not considered to be part of the control room. TS 6.1.2 states that the SM is responsible for the control room command function while the unit is in the power operating condition, and that, in his absence, an SRO-qualified individual (normally the CRS) shall be designated to assume the control room command function. However, the SM proceeded to the auxiliary control room without turning over the command function, since the CRS was already out of the control room at the time.

The Shift Technical Advisor (STA) promptly recognized that there was no SRO in the control room and contacted the SM. The SM returned to the control room, having been gone for approximately two minutes. As immediate corrective action, warning signs were posted at the control room exits to alert the individual assigned the control room command function not to leave. This issue was entered into the CAP as CR 2008-3688.

The performance deficiency associated with this event was that the SM left the control room without designating an SRO-qualified individual to assume the control room command function, contrary to the requirements of TS 6.1.2.

Analysis. The finding was greater than minor because it could reasonably be viewed as a precursor to a significant event. Specifically, the absence of SRO oversight during

licensed control room activities increases the likelihood of human performance errors, which in turn, increases the likelihood of an initiating event and reduces the effectiveness of event mitigation. 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 of the short period that the SM was not present in the control room, and because no initiating events occurred during that time.

The finding had a cross-cutting aspect in the area of human performance because of the ineffective use of human error prevention techniques, in that the SM did not effectively employ self checking before leaving the control room (H.4.a per IMC 0305).

Enforcement. TS 6.1, "Responsibility," states that the Station Shift Supervisor - Nuclear (SSS, also known as the SM) shall be responsible for the control room command function and that, during absence of the SM from the control room while the unit is in the power operating condition, an individual with an active SRO license shall be designated to assume the control room command function. The definition of areas that are considered to be in the Unit 1 control room, per Administrative Procedure GAP-OPS-01, "Administration of Operations," does not include the auxiliary control room.

Contrary to the above, on April 26, 2008, while the unit was in the power operating condition, the Unit 1 SM left the control room for a period of approximately two minutes without designating an individual with an active SRO license to assume the control room command function. Because this TS noncompliance is of very low safety significance and was entered into the CAP as CR 2008-3688, this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy. **(NCV 05000220/2008003-01, Failure to Meet TS Oversight Requirement)**

1R15 Operability Evaluations (71111.15 - Six samples)

a. Inspection Scope

The inspectors evaluated the acceptability of operability evaluations, the use and control of compensatory measures, and compliance with TSs. The evaluations were reviewed using criteria specified in NRC Regulatory Issue Summary 2005-20, “Revision to Guidance Formerly Contained in NRC Generic Letter 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 2008-3391 concerning an off-normal annunciator for Unit 1 battery charger SBC-161A;
- CR 2008-4844 concerning Unit 1 core spray topping pump 112 differential pressure found to be in the required action range during its quarterly surveillance;
- CR 2008-5174 concerning Unit 2 standby liquid control pump 2SLS*P1A low flow rate during quarterly surveillance test N2-OSP-SLS-Q001;
- CR 2008-2473 concerning the readiness of the Unit 2 instrument air (IA) system for plant startup following corrective actions for an IA pipe rupture that occurred during RFO11;
- CR 2008-3892 concerning voids in the Unit 2 emergency core cooling system (ECCS) and RCIC pump suction lines from the suppression pool; and
- CR 2008-4728 concerning Unit 2 SW pump 'D' differential pressure found to be in the required action range during its quarterly surveillance.

b. Findings

No findings of significance were identified.

1R18 Plant Modifications (71111.18 - Two samples)

.1 Temporary Modifications

a. Inspection Scope

The inspectors reviewed the installation of a temporary seal water supply system that was installed by action request (ACR) 08-3305 for the Unit 1 service and circulating water pumps. The inspectors assessed the 10 CFR Part 50.59 screening evaluation; verified that the change did not adversely affect the systems' ability to perform their design functions as described in the UFSAR; that the installation, operation, and removal were consistent with design documents; that the drawings and special procedures were updated as needed; and that post-installation and restoration tests were adequate.

b. Findings

No findings of significance were identified.

.2 Permanent Modifications

a. Inspection Scope

The inspectors reviewed Unit 2 design change package (DCP) N2-01-164, "Modify controls for 2TME-PV122 and Eliminate 2TME-PV111." The purpose of this change was to ensure the emergency steam seal system is able to reliably and automatically be placed into service without overpressurization of the system and without impacting condenser vacuum and its resultant turbine trips. The inspectors verified the adequacy of

the modification package and that margins to the design and licensing bases requirements of the affected systems were not degraded.

The inspectors verified that component safety classification, instrument setpoints, and supporting electrical and mechanical calculations and analyses were consistent with the design and licensing bases. The inspectors also reviewed the design inputs and assumptions to verify that they were technically appropriate and consistent with the UFSAR. Finally, the inspectors reviewed the affected procedures, drawings, and UFSAR sections to verify that the affected documents were appropriately updated.

For the accessible components associated with the modification, the inspectors walked down the systems to detect possible abnormal installation conditions. The inspectors reviewed applicable CRs associated with the plant modification to ensure that NMPNS was identifying, evaluating, and correcting problems associated with these areas.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing (71111.19 - 12 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, WO 08-08520-00 that replaced the master control card for station battery charger SBC-171B. The PMT consisted of a load bank test performed in accordance with the WO.

- Unit 1, WO 08-10671-00 that repaired uninterruptable power supply UPS-172A. The PMT consisted of electrical checks performed in accordance with N1-EPM-UPS-003, “UPS 10 Year Maintenance,” and a 24-hour confidence run.

- Unit 1, WO 08-07586-00 that repacked 11 service water pump. The PMT consisted of packing run-in and leakoff adjustments, performed in accordance with the WO.

- Unit 1, WO 08-07588-00 that repaired 12 service water Adams strainer. The PMT consisted of verifying normal operation, including backwash, in accordance with N1-OP-18, “Service Water System.”

- Unit 1, ACR 08-03347 that replaced motor brushes on EDG 103 turbocharger oil pump. The PMT consisted of a 90-minute confidence run performed in accordance with the ACR.

- Unit 2, N2-OSP-EGS-R001, “Diesel Generator ECCS Start Division 1/2,” performed as a portion of the PMT for various maintenance activities on the Division 1 EDG during RFO11.

- Unit 2, N2-PM-@026, "Diesel Generator Start Following Maintenance - Division I and II," performed as a portion of the PMT for various maintenance activities on the Division 2 EDG during RFO11.

- Unit 2, N2-ISP-MSS-R002, "Main Steam Isolation Valve Leak Rate Test (Reactor Vessel Head Removed)," performed as PMT for 2MSS*AOV6A rework following failure of the initial leak rate test during RFO11.

- Unit 2, N2-OSP-RPV-@003, "Reactor Pressure Vessel and All Class I Systems Leakage Test with the RPV Solid," performed as PMT for vessel reassembly and various other component maintenance performed during RFO11.

- Unit 2, N2-OSP-RMC-@001, "Control Rod Drive Scram Insertion Time Testing," performed as PMT for control rod drive replacements performed during RFO11.

- Unit 2, WO 08-05698-00 that repaired a defective level switch for Division 1 EDG fuel oil transfer pump 2EGF*P1C that was causing the pump to run continuously. The PMT was performed in accordance with N2-IPM-GEN-@001, "Safety Related Loop Calibration."

- Unit 2, WO 08-08349-00 that replaced a leaking discharge relief valve on the Division 2 standby liquid control system pump that was causing low system flow. The PMT was performed in accordance with N2-OSP-SLS-Q001, "Standby Liquid Control Pump, Check Valve, Relief Valve Operability Test and ASME XI Pressure Test."

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/or reviewed the following Unit 2 refueling outage activities to verify that operability requirements were met and that risk, industry experience, and previous site-specific problems were considered.

- The inspectors reviewed the outage schedule and procedures, and verified that TS-required safety system availability was maintained and shutdown risk was

minimized. The inspectors verified that, when specified by NMPNS procedure NIP-OUT-01, "Shutdown Safety," contingency plans existed for restoring key safety functions.

- Through plant tours, the inspectors verified that NMPNS maintained and adequately protected electrical power supplies to safety-related equipment and that TS requirements were met.

- The inspectors verified proper alignment and operation of shutdown cooling and other decay heat removal systems. The verification also included reactor cavity and fuel pool makeup paths and water sources, and administrative control of drain down paths.

- The inspectors verified that requirements for refueling operations were met through refuel bridge observations, control room panel walkdowns, and discussions with Operations Department personnel.

- Before the drywell was closed from general access for startup, the inspectors performed an "as-left" walkdown to identify evidence of reactor coolant system leakage and verify the condition of drywell coatings, structures, valves, piping, supports, and other equipment in areas where maintenance was completed. The inspectors also verified that no debris was left in the drywell that could affect the performance of the emergency core cooling system suction strainers.

- The inspectors observed portions of the reactor startup following the outage, and verified through plant walkdowns, control room observations, and surveillance test reviews that safety-related equipment specified for mode change was operable.

b. Findings

Introduction. A self-revealing Green finding was identified on April 18, 2008, when failure to take appropriate corrective actions to address corrosion products in the IA system in a timely manner led to an accumulation of water in the Unit 2 IA system. As a result, water intrusion into the air operator for the 'B' reactor feedwater pump recirculation valve caused the valve to open during plant power ascension, causing a reduction in feedwater flow to the reactor and thereby challenging plant stability.

Description. On April 18, 2008, Unit 2 was performing power ascension after startup from RFO11. At approximately 45 percent power, operators placed a second reactor feedwater pump, 2FWS-P1A, in service. Shortly thereafter, operators received indication that the normally closed recirculation valve for the other operating reactor feedwater pump, 2FWS-P1B, had failed open. Because reactor feedwater demand was still within the capacity of a single pump, this did not result in a significant transient; however, if it had happened at full power, it would have resulted in an automatic scram due to low reactor water level. As immediate corrective action, operators isolated the recirculation valve. This issue was entered into the CAP as CR 2008-3471.

Investigation revealed that the 2FWS-P1B recirculation valve had failed open due to water in the air actuator. The cause of the water in the IA system was determined to be due to plugging of the air dryer condensate drain system by corrosion products. This allowed water to back up into the IA system, resulting in high humidity air throughout the system, from which water could then condense at various points in the system (in this case, the 'B' reactor feedwater pump recirculation valve air actuator). Actions to address the water in the IA system included placing the other IA dryer in service, periodic blowdowns at various locations in the system and daily dew point monitoring.

Corrosion in the IA system was a known problem before this event. In December 2007, the 'A' IA dryer was found to have heavy internal corrosion, and the condensate drain trap inlet strainer drain valve was found to be packed with corrosion products. The corrosion products were cleaned out and the 'B' IA dryer was scheduled to be examined for similar conditions during the week of April 28, 2008. However, no near-term corrective actions (such as periodic blowdowns of the air dryer) were taken to address continued use of the 'B' IA dryer. The 'B' IA dryer was in service at the time of the 'B' reactor feedwater pump recirculation valve failure and had been in service for the duration of RFO11.

The performance deficiency associated with this event was that corrective action to address corrosion products in the IA system were ineffective and resulted in an event that affected plant stability.

Analysis. The finding was greater than minor because it was associated with the equipment performance attribute of the Initiating Events cornerstone and adversely affected the 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 finding was evaluated in accordance with IMC 0609, Attachment 4, and determined to be of very low safety significance (Green) per the SDP Phase one determination because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available, and did not screen as potentially risk significant due to external events.

The finding had a cross-cutting aspect in the area of problem identification and resolution because NMPNS did not take appropriate corrective actions to address corrosion products in the IA system in a timely manner (P.1.d per IMC 0305).

Enforcement. No violation of regulatory requirements occurred. The inspectors determined that the finding did not represent a noncompliance issue because it occurred on non safety-related balance of plant equipment. **(FIN 05000410/2008003-02, Untimely Corrective Action for IA System Corrosion Resulted in Reactor Feedwater Valve Malfunction)**

1R22 Surveillance Testing (71111.22 - Six 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-Q2, “Control Rod Drive Pump Flow Rate Test;”
- N1-ST-Q3, “High Pressure Coolant Injection Pump and Check Valve Operability Test;”
- N1-ST-Q1D, “Core Spray 122 Pump and Valve Operability Test;”
- N2-OSP-EGS-R004, "Operating Cycle Diesel Generator Simulated Loss of Offsite Power with ECCS Division I and II;"
- N2-OSP-RHS-Q@006, "RHR System Loop C Pump and Valve Operability Test and System Integrity Test;” and
- N2-OSP-CSL-Q@002, "LPCS Pump and Valve Operability and System Integrity Test."

b. Findings

Introduction. A self-revealing Green NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified on March 22, 2008, when the Unit 2 Division I EDG service water (SW) return isolation valve failed to fully open following a start of the Division I EDG, due to age-related failure of the J-10 relay in the MOV control circuit. The susceptibility of J-10 relays to age-related failure had been previously identified; however, NMPNS did not take action to establish a maintenance strategy to replace these relays prior to failure.

Description. On March 22, 2008, Unit 2 performed surveillance procedure N2-OSP-EGS-R004, "Operating Cycle Diesel Generator Simulated Loss of Offsite Power with ECCS Division I and II," for Division I only. This surveillance begins with a simulated loss of off-site power to the Divisional switchgear, which is then reenergized approximately 10 seconds later by its respective EDG. When the Division I EDG started, the normally closed SW return isolation valve, 2SWP*MOV66A, started to open (as designed) but then stopped due to a loss of control power to the MOV. At the time of failure, SW flow to the Division I EDG was 1020 gallons per minute (gpm); this was greater than the minimum required SW flow of 800 gpm, but less than the nominal 1200 gpm flow.

Investigation revealed that the J-10 relay had short circuited, which caused the MOV control power fuse to open. This resulted in a loss of power to the MOV. The cause of

the J-10 relay failure was age-related heat degradation as a result of the relay being normally energized. The heat degrades the wiring insulation, as well as the plastic components in the relay's operating mechanism. Deformation of the plastic armature carriage restricts motion of the armature assembly, resulting in an armature gap being maintained after the relay is energized. This results in greater than normal current flow, which in turn, results in breakdown of the coil insulation and relay failure due to either an open circuit, or (as in this case) a short circuit.

The susceptibility of J-10 relays to age-related degradation had been previously identified in NRC Information Notice (IN) 92-27, "Thermally Induced Accelerated Aging and Failure of ITE/Gould A.C. Relays used in Safety-Related Applications," and IN 92-27, Supplement 1, dated March 21, 1997. NMPNS had reviewed this information in CR 1997-1171, but had incorrectly concluded that J-10 relays had a passive function. As a result, no maintenance strategy had been established for inspection, testing, or periodic replacement.

As immediate corrective action, the Division I EDG was declared inoperable pending repair of 2SWP*MOV66A. The issue was entered into the CAP as CR 2008-2203. Other J-10 relay failures during the performance of N2-OSP-EGS-R004 for both Divisions I and II led to an extent of condition review through CR 2008-2976.

The performance deficiency associated with this event was that NMPNS did not correctly evaluate the effects of age-related degradation of a component that could lead to failure of safety-related equipment. This resulted in failure of a SW valve to fully open when required, which could have prevented the Division I EDG from performing its safety function.

Analysis. The finding was greater than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely 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 evaluated in accordance with IMC 0609, Attachment 4, and determined to be of very low safety significance (Green) per the SDP Phase one determination because the finding 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.

Enforcement. 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," states, in part, "Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected." Contrary to the above, from 1997 until 2008, NMPNS did not establish measures to assure that thermally induced accelerated aging of J-10 relays at Unit 2 would be promptly identified and corrected, in that J-10 relays were evaluated to be passive components, and consequently, no maintenance strategy was established for inspection, testing, or periodic replacement. As a result, on March 22, 2008, the Division I EDG SW return isolation valve, 2SWP*MOV66A, failed to fully open when required. Because this noncompliance is of very low safety significance and was entered into the CAP as CR 2008-2203, this violation

is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy. **(NCV 05000410/2008003-03, Failure to Appropriately Evaluate the Effect of Accelerated Aging of J-10 Relays)**

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06 - One sample)

a. Inspection Scope

The inspectors observed control room operator emergency plan response actions during the Unit 2 evaluated LORT scenario on May 21, 2008. The inspectors verified that emergency classification declarations and notifications were completed in accordance with 10 CFR Part 50.72, 10 CFR Part 50 Appendix E, and emergency plan implementing procedures.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Public Radiation Safety

2PS3 Radiological Environmental Monitoring Program (REMP) and Radioactive Materials Control Program (71122.03 - 10 samples)

a. Inspection Scope

The inspectors reviewed the most current Annual Environmental Monitoring Report and licensee assessment results to verify that the REMP was implemented as required by TS and the offsite dose calculation manual (ODCM). The inspectors reviewed the report for changes to the ODCM with respect to environmental monitoring, commitments in terms of sampling locations, monitoring and measurement frequencies, land use census, interlaboratory comparison program, and analysis of data. The inspectors reviewed the ODCM to identify environmental monitoring stations. The inspectors reviewed licensee self assessments, audits, licensee event reports, and interlaboratory comparison program results. The inspectors reviewed the UFSARs for information regarding the environmental monitoring program and meteorological monitoring instrumentation. The inspectors reviewed the scope of the licensee's audit program to verify that it meets the requirements of 10 CFR Part 20.1101(c).

The inspectors walked-down the air sampling stations, groundwater monitoring stations, milk sampling stations and the thermoluminescence dosimeter (TLD) monitoring stations to determine whether they were located as described in the ODCM and to determine the equipment material condition.

The inspectors observed the collection and preparation of environmental samples (e.g., milk). The inspectors verified that environmental sampling was representative of the release pathways as specified in the ODCM and that sampling techniques were in accordance with procedures.

Based on direct observation and review of records, the inspectors verified that the meteorological instruments were operable, calibrated, and maintained in accordance with guidance contained in the UFSARs, NRC Safety Guide 23, and licensee procedures. The inspectors verified that the meteorological data readout and recording instruments in the control room and at the tower were operable. The inspectors compared readout data (i.e., wind speed, wind direction, and delta temperature) in the control room and at the meteorological tower to identify if there was any line loss differences.

The inspectors reviewed each event documented in the Annual Environmental Monitoring Report which involved a missed sample, inoperable sampler, lost TLD, or anomalous measurement for the cause and corrective actions. The inspectors conducted a review of the licensee's assessment of any positive sample results (i.e., licensed radioactive material detected above the lower limits of detection (LLDs)). The inspectors reviewed the associated radioactive effluent release data that was the likely source of the released material.

The inspectors reviewed any significant changes made by the licensee to the ODCM as the result of changes to the land census or sampler station modifications since the last inspection. The inspectors reviewed technical justifications for any changed sampling locations. The inspectors verified that the licensee performed the reviews required to ensure that the changes did not affect its ability to monitor the impacts of radioactive effluent releases on the environment.

The inspectors reviewed the calibration and maintenance records for air samplers and composite water samplers. The inspectors reviewed calibration records for the environmental sample radiation measurement instrumentation. The inspectors verified that the appropriate detection sensitivities with respect to TS/ODCM were utilized for counting samples. The inspectors reviewed quality control charts for maintaining radiation measurement instrument status and actions taken for degrading detector performance. The inspectors reviewed the results of Constellation's interlaboratory comparison program to verify the adequacy of environmental sample analyses performed by Constellation. The inspectors reviewed Constellation's quality control evaluation of the interlaboratory comparison program and the corrective actions for any deficiencies. The inspectors reviewed Quality Assurance (QA) audit results of the program to determine whether Constellation met the TS/ODCM requirements.

The inspectors observed several locations where Constellation monitors potentially contaminated material leaving the radiologically controlled area (RCA), and inspected the methods used for control, survey, and release from these areas. When possible, the inspectors observed the performance of personnel surveying and releasing material for unrestricted use to verify that the work was performed in accordance with plant procedures.

The inspectors verified that the radiation monitoring instrumentation was appropriate for the radiation types present and was calibrated with appropriate radiation sources. The inspectors reviewed Constellation's criteria for the survey and release of potentially contaminated material. The inspectors verified that there was guidance on how to respond to an alarm which indicates the presence of licensed radioactive material. The inspectors reviewed Constellation's equipment to ensure the radiation detection sensitivities were consistent with the NRC guidance contained in IE Circular 81-07 and IE Information Notice 85-92 for surface contamination and HPPOS-221 for volumetrically contaminated material. The inspectors reviewed Constellation's procedures and records to verify that the radiation detection instrumentation was used at its typical sensitivity level based on appropriate counting. The inspectors verified that Constellation had not established a "release limit" by altering the instrument's typical sensitivity through such methods as raising the energy discriminator level or locating the instrument in a high radiation background area.

The inspectors reviewed Constellation's Licensee Event Reports, Special Reports, audits, and self-assessments related to the radiological environmental monitoring program performed since the last inspection. The inspectors determined if identified problems were entered into the corrective action program for resolution.

The inspectors reviewed corrective action reports affecting environmental sampling, sample analysis, or meteorological monitoring instrumentation. The inspectors interviewed staff and reviewed documents to determine if the following activities were being conducted in an effective and timely manner commensurate with their importance to safety and risk:

- 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 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 determined if Constellation's self-assessment activities were also identifying and addressing these deficiencies.

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. To verify the accuracy of the PI data reported during that period, the PI definition guidance contained in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Indicator Guideline," Revision 5, was used to verify the basis in reporting for each data element.

Cornerstone: Barrier Integrity

The inspectors reviewed operator logs, plant computer data, and daily sampling and surveillance procedure results to verify the accuracy of NMPNS's reported reactor coolant system performance indicators from July 2007 to March 2008.

- Unit 1 reactor coolant system leak rate;
- Unit 1 reactor coolant system specific activity;
- Unit 2 reactor coolant system leak rate; and
- Unit 2 reactor coolant system specific activity.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152 - Two 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

a. Inspection Scope

As specified by 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. The inspectors' review focused on repetitive equipment and corrective maintenance issues but also considered the results of daily inspector CAP item screening. The review included issues documented outside the normal CAP in system health reports, quality performance and assurance assessment reports, maintenance rule status reports, the operator workaround lists, and the 2008 top ten issues list. The inspectors' review considered the six month period of January 2008 through June 2008.

b. Assessments and Observations

No findings or observations of significance were identified.

.3 Annual Sample - Review of Corrective Actions Associated with a Non-Conservative EAL High Drywell Radiation Threshold Calculation Error

a. Inspection Scope

The inspectors reviewed NMPNS's actions in response to its discovery of a non-conservative emergency action level (EAL) threshold found while reviewing the potential impact of an Alternate Source Term change on EALs. NMPNS discovered that a previous calculation caused the General Emergency EAL 1.3.3, "Drywell Radiation," threshold value to correspond to 100 percent core damage as opposed to 20 percent core damage, which caused the value to be non-conservative. The inspectors also reviewed NMPNS's EAL Technical Bases as well as the erroneous calculation causing the non-conservative EAL threshold. In addition, the inspectors interviewed applicable members of NMPNS's staff including the Emergency Preparedness Manager and Licensing Director.

b. Assessment and Observations

The inspectors determined there was a licensee identified violation (see Section 4OA7).

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

.1 Unit 1 Loss of Offsite Power

a. Inspection Scope

At 6:37 a.m. on May 13, Unit 1 operators removed one of two 115 kV offsite power lines (line 1) from service for planned maintenance. Later that morning, at 8:06 a.m., power was lost to the remaining 115 kV offsite power line (line 4). This resulted in a loss of electrical power to the vital AC switchgear and non-vital power board (PB) 101. EDGs

102 and 103 both automatically started as designed and re-powered the vital AC switchgear. RRP 13 tripped as a result of the loss of PB 101, which caused reactor power to lower to 92 percent. The Unit 1 Shift Manager declared an Unusual Event (UE) emergency action level at 8:25 a.m., based on a loss of 115 kV offsite power for greater than 15 minutes (EAL 6.1.1). Unit 2 was not affected.

The cause of the loss of power to line 4 was not immediately known. However, maintenance had not yet commenced on line 1, and Unit 1 operators coordinated with the grid operator to rapidly return it to service. At 10:22 a.m., line 1 was restored and Unit 1 terminated the UE. The loss of line 4 was later determined to have been due to an off-site equipment failure, and therefore, no NMPNS performance deficiency was identified. Line 4 was returned to service on May 16.

b. Findings

No findings of significance were identified.

4OA5 Other Activities

.1 Review of the Use of Overtime at NMPNS

a. Inspection Scope

The inspectors reviewed the use of plant staff overtime at NMPNS to verify that procedures for control of overtime were consistent with TS requirements and were being effectively implemented.

b. Findings

1. Deficient Control of Plant Staff Overtime

Introduction. The inspectors identified a Green non-cited violation of Unit 1 TS 6.2.2.d and Unit 2 TS 5.2.2.e for not properly implementing procedures for controlling plant staff work hours of personnel performing safety-related activities. The plant manager authorized over 400 overtime deviations for Operations personnel to work greater that TS work hour limits for routine outage support activities during NMPNS outages and other reasons during the last 12 months.

Description. TS 6.2.2.d and TS 5.2.2.e require, in part, that overtime for staff performing safety-related functions be limited. These TSs were developed to meet commitments made by the station is response to NRC Generic Letter (GL) 82-12, “Nuclear Power Plant Staff Working Hours,” dated June 15, 1982. The Unit 2 TS specifies, in part, that during extended periods of shutdown for refueling, individuals should not be permitted to work more than 72 hours in any 7-day period, and specifically states that these guidelines shall be followed during refueling outages and that routine deviations to these guidelines shall not be authorized.

The inspectors observed that, since 2006, there has been a significant increasing trend in the use of overtime deviations in the Operations Department. In 2006, there were a total of 15 deviations approved. In the first 6 months of 2007 this number rose to 96 (not including 78 deviations due to an inclement weather event), in the second six months of 2007 there were 159 deviations authorized, and in the first four months of 2008 there were 256 authorized deviations. It was also noted that, in many cases, the reasons supplied for the deviations to be given were outage support, attending meetings, shift coverage, and other reasons which would not constitute "very unusual circumstances." As such, these deviations would be prohibited by NMPNS procedures and TSs.

The inspectors also noted that, in many cases, groups of up to 29 personnel were authorized deviations for a common reason. NMPNS procedures reference NRC GL 82-12, which states: "Recognizing that very unusual circumstances may arise requiring deviation from the above guidelines, such deviation shall be authorized by the plant manager or his deputy, or higher levels of management. The paramount consideration in such authorization shall be that significant reductions in the effectiveness of operating personnel would be highly unlikely." Since deviations were being granted for large groups, each individual may not have been effectively evaluated and monitored for fitness for duty due to fatigue. Therefore, the intent of the deviation provision of GL 82-12, and thus the station procedures, may not have been met.

Unit 1 TSs state, "Controls shall be included in the procedures to require a periodic independent review be conducted to ensure that excessive hours have not been assigned." Unit 2 TSs state, "Controls shall be included in the procedures such that individual overtime shall be reviewed monthly by a specified corporate officer or a designee to ensure that excessive hours have not been assigned." These reviews were not effective in identifying this increasing trend of reliance on overtime deviations; that reasons for granting deviations were not in accordance with station procedures, GL 82-12 guidelines, or TS; and that the granting of overtime deviations for a group of operators is not consistent with the guidance of GL 82-12 or station procedures.

The inspectors also reviewed group overtime work hours for Operations Department personnel and found that average group overtime work hours for Operations Department since 2006 were approximately 20 percent, with a peak in excess of 40 percent in March and April of 2008. NMPNS TSs specify that adequate shift coverage shall be maintained without routine heavy use of overtime.

The inspectors determined that failure to properly implement procedures to limit work-hours for plant staff performing safety-related functions in accordance with TS 6.2.2.d and 5.2.2.e was a performance deficiency. Corrective actions were being developed to increase the number of qualified operators.

Analysis. The violation affected the Mitigating Systems cornerstone and is more than minor because, if left uncorrected, it would become a more significant safety concern, in that the excessive work hours would increase the likelihood of human errors during refueling outage activities and response to plant events. The finding has been reviewed by NRC management in accordance with IMC 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria." The resulting increased likelihood of

human error would adversely affect the station's defense-in-depth. However, the violation was determined to be of very low safety significance (Green), because no significant events or human performance issues were directly linked to personnel fatigue as a result of the hours worked.

The issue had a cross-cutting aspect in the area of human performance, because the licensee did not use conservative assumptions in decision making, in that, the consequences of the high number of overtime deviations were not fully considered and the possible unintended consequences evaluated. Specifically, plant management decided to change the manner in which existing plant procedures where interpreted and did not evaluate the impact of this decision on TS compliance and the increased potential for fatigue related fitness for duty issues (H.1.b per IMC 0305).

Enforcement. Unit 1 TS 6.2.2.d and Unit 2 TS 5.2.2.e require that procedures be developed and implemented to limit the hours worked by staff performing safety-related functions. Recognizing that unforeseen problems may arise, requiring deviation from this guideline, such deviation shall be authorized in advance by the plant manager or his deputy, or higher levels of management. Routine deviation from the guidelines is not authorized.

Contrary to the above, procedures for the control of plant staff overtime were not properly implemented to limit work hours in accordance with TS 6.2.2.d and 5.2.2.e. Consequently, during various time periods between July 2007 and April 2008, the plant manager or designated manager authorized over 400 overtime deviations for licensee employees from the Operations Department (including reactor operators, senior reactor operators, auxiliary operators, and the emergency response organization members) for reasons not permitted by NMPNS's TSs. The majority of these individuals worked more than 72 hours during a 7-day period for outage support. These constitute routine deviations of working hour guidelines. Because this violation was of very low safety significance, was not repetitive or willful, and it was entered into NMPNS's corrective action program (CR 2008-4021), this violation is being treated as an NCV, consistent with section VI.A.1 of the NRC Enforcement Policy. **(NCV 05000220 & 05000410/2008003-04, Failure to Properly Control Operations Staff Overtime)**

2. Repetitive Improper Authorization and Evaluation of Overtime

Introduction. A Green NCV of Unit 1 TS 6.2.2.d and Unit 2 TS 5.2.2.e was identified by the inspectors for a recurring trend of operations personnel being required to stand 24 hour shifts in order to provide adequate shift coverage due to foreseeable shift absences. There were eight occurrences between May 2007 and May 2008. Several of these overtime deviations were not properly authorized in accordance with station procedures as required by TSs.

Description. From May 2007 to May 2008, there were eight occurrences of operations department personnel being authorized overtime deviations and standing 24 hour shifts in order to ensure the plant met TS required shift manning requirements. Four occasions were for Unit 2 (5/11/07, 8/24/07, 8/29/07, 2/6/08), three were for Unit 1 (7/21/07, 11/19/07, 5/6/08) and one was for a dual unit fire brigade leader (2/29/08). Seven of the

deviations were for non-licensed operator (NLO) positions and one of the deviations was for a licensed reactor operator (RO) position. All of these deviations were granted for irregular, but nonetheless foreseeable difficulties (i.e., an individual calling in sick) during non-outage plant conditions. The NMPNS administrative procedures required by TSs 6.2.2.d and 5.2.2e, permit deviations of TS work hours guidelines of no more than 16 hours consecutive and no more than 16 hours in a 24 hour period, for very unusual circumstances, provided that adequate measures are taken to ensure the operator's fitness for duty (FFD). In each case, FFD evaluations were conducted and compensatory measures were put in place to enhance monitoring the operator and ensure FFD. Nevertheless, the plants' defense in depth was weakened during these occasions, since the personnel being compensated for were part of the minimum allowable shift staff, and, as such, constituted a part of the first line of defense during an event and would be relied on to implement immediate mitigative actions.

Several of the overtime deviations were improperly approved or documented. In two cases, a deviation was authorized for a portion of the extra shift, but a relief operator was not able to support the watch and the operator had to remain on shift. Authorization for the additional six hours was not obtained. In several other cases, overtime deviation forms did not include required information such as reason for deviation and safety-related tasks to be performed, and in one case the overtime deviation form could not be found. Proper documentation and approval of overtime prior to performing overtime in excess of TS 6.2.2.d and TS 5.2.2.e guidelines is required by TS.

Unit 1 TSs state, "Controls shall be included in the procedures to require a periodic independent review be conducted to ensure that excessive hours have not been assigned." Unit 2 TSs state, "Controls shall be included in the procedures such that individual overtime shall be reviewed monthly by a specified corporate officer or a designee to ensure that excessive hours have not been assigned." These reviews were not effective in identifying this repeating trend of reliance upon 24 hour shifts in order to meet technical specification manning requirements during non-outage periods, and that the deviations were not completed and retained in accordance with station procedures. In fact, a Nuclear Safety and Review Board (NSRB) report only indentified two of the eight instances, and senior plant management stated they were unaware of this trend.

Operations staff, plant management, and corporate review failed to identify and correct a significant adverse trend. While a series of events could occur which result in an operator having to perform a 24 hour shift, this should be a rare occurrence. The risk of accidents due to fatigue related events increases significantly for a worker working greater than 16 consecutive hours. The worker's FFD due to excessive fatigue would be in doubt and they should not be relied upon to perform safety related tasks unless compensatory measures have been put in place. Having eight occurrences in a 12 month period indicates that NMPNS has not identified and taken corrective actions to address an underlying problem, and would indicate the administrative procedures and policies in place to limit the working hours of unit staff who perform safety related functions were not effective in preventing this issue.

The failure to properly authorize, document, and evaluate overtime deviations for eight occurrences of operations personnel being authorized to, and stand, 24 consecutive

hours of duty for foreseeable shift absences is a performance deficiency. Corrective actions are being developed to increase the number of qualified operators.

Analysis. The violation affected the Mitigating Systems cornerstone and is more than minor because, if left uncorrected, it would become a more significant safety concern. The excessive work hours would increase the likelihood of human errors during plant activities and response to plant events. The finding has been reviewed by NRC management in accordance with IMC 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria." The resulting increased likelihood of human error would adversely affect the station's defense-in-depth. However, the violation was determined to be of very low significance (Green), because no significant events or human performance issues were directly linked to personnel fatigue as a result of the hours worked.

This issue has a cross-cutting aspect in the area of problem identification and resolution. Specifically, NMPNS failed to periodically trend and assess information from the CAP and other assessments in the aggregate to identify programmatic and common cause problems (P.1.b per IMC 0305).

Enforcement. Unit 1 TS 6.2.2.d and Unit 2 TS 5.2.2.e require that procedures be developed and implemented to limit the hours worked by staff performing safety-related functions. Any deviation from the above guidelines shall be authorized by the plant manager or a designee, in accordance with approved administrative procedures, with documentation of the basis for granting the deviation. Controls shall be included to require a periodic review to ensure that excessive hours have not been assigned. Routine deviation from the guidelines is not authorized.

Contrary to the above, eight instances were identified where plant personnel performed safety-related work in excess of the overtime limits established by TS without obtaining proper authorization and/or documenting the overtime deviation, and a trend of excessive reliance upon 24 hour shifts due to foreseeable shift absences during non-outage periods was not identified and corrected. However, because this failure to adequately implement the TS required administrative procedure for controlling overtime is considered to be of very low safety significance and has been entered into Constellation's corrective action program as CR 2008-3879, this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy. **(NCV 05000220 & 5000410/2008003-05, Repetitive Improper Authorization and Evaluation of Overtime Deviations)**

4OA6 Meetings, including Exit

Exit Meeting Summary

The inspectors presented the inspection results to Mr. Keith Polson and other members of NMPNS management on July 16, 2008. NMPNS acknowledged that no proprietary information was involved.

4OA7 Licensee Identified Violations

The following violation of very low safety significance (Green) was identified by NMPNS and is a violation of NRC requirements which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as an NCV.

10 CFR Part 50.54(q) requires licensees to follow and maintain in effect an emergency plan which meets the standards of 10 CFR Part 50.47(b). Nine Mile Point's Site Emergency Plan states that emergency action level values are based upon criteria established under NUMARC/NESP-007, "Methodology for Development of Emergency Action Levels." NUMARC/NESP-007 directs the licensee to use site-specific values for containment radiation levels corresponding to 20 percent fuel clad damage for the General Emergency EAL 1.3.3, "Drywell radiation," threshold value. Contrary to the above, NMPNS identified that the value used was based on an erroneous calculation, completed in March of 1994, that assumed 100 percent fuel clad damage as opposed to 20 percent. This miscalculation led to a non-conservative value for EAL 1.3.3 being in place because the classification would not be made until the containment radiation levels reached a value corresponding to 100 percent core damage.

Upon discovery of this error, in February of 2008, NMPNS took immediate action to correct the drywell area radiation value and issued CR 2008-1569, which initiated a root cause evaluation as well as a technical evaluation to understand what redundant EAL thresholds may have been exceeded before the drywell area radiation threshold. The inspectors determined that the error associated with this EAL parameter was of very low safety significance because it would not have delayed the declaration of a General Emergency due to redundant EALs based upon vessel water level that would have been exceeded prior to the drywell radiation monitor reaching its stated threshold.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

S. Belcher, Plant Manager
W. Byrne, Manager, Nuclear Security
R. Dean, Director, Quality and Performance Assessment
T. Inc, I&C Technician
J. Kaminski, Manager, Emergency Preparedness
J. Krakuszeski, Manager, Operations
J. Laughlin, Manager, Engineering Services
K. Polson, Vice President
J. Schultz, Chemistry Supervisor, J.A. FitzPatrick Nuclear Power Plant
T. Shortell, Manager, Training
S. Sova, Manager, Radiation Protection
K. Stoffle, Environmental Support Supervisor
J. Stone, Chemistry Technician
T. Syrell, Director, Licensing

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000220/2008003-01	NCV	Failure to Meet TS Oversight Requirement (Section 1R13)
05000410/2008003-02	FIN	Untimely Corrective Action for IA System Corrosion Resulted in Reactor Feedwater Valve Malfunction (Section 1R20)
05000410/2008003-03	NCV	Failure to Appropriately Evaluate the Effect of Accelerated Aging of J-10 Relays (Section 1R22)
05000220&410/2008003-04	NCV	Failure to Properly Control Operations Staff Overtime (Section 4OA5)

05000220&410/2008003-05	NCV	Repetitive Improper Authorization and Evaluation of Overtime Deviations (Section 4OA5)

Closed

None.

Discussed

None.

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

N2-OP-102, "Meteorological Monitoring," Revision 04
N1-OP-64, "Meteorological Monitoring," Revision 01
NAI-PSH-11, "Seasonal Readiness Program," Revision 04
N2-TSP-HVK-2Y001, "Control Building Chiller Performance Test," Revision 06
WO 07-05703-00, "Perform Hot Weather Checklist"
QP&A Assessment Report 08-050, "Summer Readiness Assessment"
S-ODP-OPS-0112, "Off-Site Power Operations and Interface," Revision 12
N1-SOP-33A.3, "Major 115 KV Grid Disturbances," Revision 01
N2-SOP-70, "Major Grid Disturbances," Revision 01
GAP-PSH-03, "Control of On-Line Work Activities," Revision 15
EPIP-EPP-26, "Natural Hazard Preparation and Recovery," Revision 01

Section 1R04: Equipment Alignment

N1-OP-2, "Core Spray System," Revision 31
N1-OP-45, "Emergency Diesel Generators," Revision 26
N2-OP-31, "Residual Heat Removal System," Revision 18
N2-VLU-01, "Walkdown Order Valve Lineup and Valve Operations," Revision 00, Attachment 31, "N2-OP-31 Walkdown Valve Lineup"
N2-OP-33, "High Pressure Core Spray System," Revision 07
N2-VLU-01, "Walkdown Order Valve Lineup and Valve Operations," Revision 00, Attachment 33, "N2-OP-33 Walkdown Valve Lineup"

Section 1R05: Fire Protection

NMPNS Unit 1 UFSAR, Appendix 10A, “Fire Hazards Analysis”
NMPNS Unit 2 UFSAR, Appendix 9A, “Degree of Compliance with Branch Technical Position CMEB 9.5-1”
NMPNS Unit 2 UFSAR, Appendix 9B, “Safe Shutdown Evaluation”

GAP-INV-02, “Control of Material Storage Areas,” Revision 19
N2-FPI-PFP-0201, "Unit 2 Pre-Fire Plans," Revision 0

Section 1R07: Heat Sink Performance

N1-TTP-033, "Reactor Building Closed Loop Cooling Heat Exchanger Performance Test," Revision 03

Section 1R11: Licensed Operator Requalification Program

N1-SOP-31.2, “Pressure Regulator Malfunctions,” Revision 00
N1-SOP-1.5, “Unplanned Reactor Power Changes,” Revision 04
N1-EOP-2, “RPV Control,” Revision 1400
N1-EOP-5, “Secondary Containment Control,” Revision 1400
N2-OP-35, "Reactor Core Isolation Cooling," Revision 07
N2-SOP-19, "Loss of Instrument Air," Revision 04
N2-SOP-101D, "Rapid Power Reduction," Revision 04
N2-SOP-29, "Sudden Reduction in Core Flow," Revision 05
N2-SOP-08, "Unplanned Power Changes," Revision 04
N2-EOP-SC, "Secondary Containment Control," Revision 10
N2-EOP-RPV, "RPV Control," Revision 11
N2-EOP-C2, "RPV Blowdown," Revision 11
N2-EOP-PC, "Primary Containment Control," Revision 12

Section 1R12: Maintenance Effectiveness

Unit 2 Integrated Scoping Matrix
Unit 2 Integrated Performance Criteria Matrix
Unit 2 High Safety Significance Functions and Related Key Safety Functions, Revision 15
S-MRM-REL-0101, "Maintenance Rule," Revision 18
S-MRM-REL-0104, "Maintenance Rule Scope," Revision 1
S-MRM-REL-0105, "Maintenance Rule Performance Criteria," Revision 1

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

GAP-OPS-117, “Integrated Risk Management,” Revision 14
GAP-PSH-03, “Control of On-line Work Activities,” Revision 15
NAI-PSH-03, “On-line Work Management Process,” Revision 11

Section 1R15: Operability Evaluations

CNG-OP-1.01-1002, “Conduct of Operability Determinations / Functionality Assessments,” Revision 00
A10.1-N-341, “Revise SWP Pump IST Test Performance Flow Criteria from 9000 GPM to 10,000 GPM,” Revision 0, Disposition 00H
N2-OSP-SWP-@001, “Service Water Pump Curve Validation Test,” Revision 4
S14-81-F018, “Reactor Core Spray Input Into Appendix K Analysis,” Revision 2

S14-81-F035, “Core Spray System Design Basis Hydraulic Analysis,” Revision 0

Section 1R19: Post Maintenance Testing

GAP-SAT-02, “Pre/Post Maintenance Test Requirements,” Revision 26

Section 1R20: Refueling and Other Outage Activities

Outage Schedule Shutdown Safety Review Report for NMP2 Refueling Outage N2R11
NIP-OUT-01, "Shutdown Safety," Revision 20
GAP-PSH-01, “Work Control,” Revision 42
GAP-OPS-02, “Control of Hazardous Energy, Clearance, and Tagging,” Revision 24
N2-FHP-003, "Refueling Manual," Revision 07
N2-FHP-13.3, "Core Shuffle," Revision 02
Shutdown Safety Contingency Plan N2R11-003, "Reactor Cavity Drain Down to Mode 4"
Shutdown Safety Contingency Plan N2R11-004, "Division 1 Electrical Work with 2SFP*P1A Protected"
N2-SOP-38, "Loss of Spent Fuel Pool Cooling," Revision 03
N2-SOP-31, "Loss of Shutdown Cooling," Revision 04
N2-SOP-31R, "Refueling Operations Alternate Shutdown Cooling," Revision 04

Section 1R22: Surveillance Testing

CNG-HU-1.01, “Human Performance Program,” Revision 01
CNG-HU-1.01-1000, “Human Performance,” Revision 02
CNG-HU-1.01-1001, “Human Performance Tools and Verification Practices,” Revision 02
CNG-HU-1.01-1002, “Pre-Job Briefings and Post-Job Critiques,” Revision 02
GAP-SAT-01, “ST Program,” Revision 16
GAP-OPS-117, “Integrated Risk Management,” Revision 14

Section 1EP6: Drill Evaluation

EPIP-EPP-01, “Classification of Emergency Conditions at Unit 1,” Revision 17
EPIP-EPP-20, “Emergency Notifications,” Revision 18

Section 2PS3: Radiological Environmental Monitoring Program (REMP) and Radioactive Materials Control

2007 Radiological Environmental Operating Report
S-ENVSP-3.1, “Milk Animal Census and Milk Sample Collection,” Revision 01
S-CSP-925, “Sampling and Analysis of Fluids and Semifluids for Release from Radiologically Controlled Area,” Revision 02
S-IPM-MET-001, “Meteorological Monitoring System Equipment Check,” Revision 01
S-IPM-MET-201, “Dew Point Calibration,” Revision 01
S-IPM-MET-601, “Main Meteorological Tower 30 Foot Wind Speed and Direction Calibration,” Revision 01

S-IPM-MET-602, “Main Meteorological Tower 100 Foot Wind Speed and Direction Calibration,” Revision 04
S-IPM-MET-603, “Main Meteorological Tower 200 Foot Wind Speed and Direction Calibration,” Revision 01
S-IPM-MET-301, “Barometric Pressure Calibration,” Revision 03
S-IPM-MET-401, “Precipitation Gauge Calibration,” Revision 02
S-IPM-MET-611, “Backup Tower Wind Speed and Direction Calibration,” Revision 02
S-IPM-MET-621, “Inland Meteorological Tower Wind Speed and Direction Calibration,” Revision 01
S-IPM-MET-701, “Temperature and Delta Temperature Instrument Calibration,” Revision 01
GE Consumer and Industrial Instrumentation Services Calibration Certificates for Gas Meters (SN): N496851; 99A258625; 96X837640; 99A258626; 02C506509; 96X837986
Davis Calibration Laboratory Certificate of Calibration for Gas Meters (SN): 02C507137; 04E489538; 99A258625; 04E059140; 04E489542; 04E489540; 99A437615; 03D606557
Calibration Datasheet for the SAM (SN): 30; 46; 57; 59; 60; 544
ABS Consulting Monthly Meteorological Data Recovery Reports - January to December 2007
ABS Consulting 2007 Annual Meteorological Data Recovery Report
J.A. FitzPatrick Nuclear Power Plant Environmental Laboratory 2007 Quality Assurance Report
Analytics, Inc. Report of Activity, Environmental Cross Check Samples, 1st Quarter 2008
James A. FitzPatrick Quality Assurance Audit Report QA-2/6-2007-JAF, “Chemistry/Effluent and Environmental Monitoring”
Constellation Energy Report of Audit CHE-07-0-N, “Chemistry”
Constellation Energy Audit CHE-07-02-N, “Offsite Dose Calculation Manual”
Environmental Contractor Assessment, EA Engineering, Science and Technology, December 4, 2007

Section 4OA2: Identification and Resolution of Problems

NIP-ECA-01, “Corrective Action Program,” Revision 46
EPMP-EPP-0101, “Unit 1 Emergency Classification Technical Basis,” Revision 12
EPMP-EPP-0102, “Unit 2 Emergency Classification Technical Basis,” Revision 12
EPIP-EPP-01, “Classification of Emergency Conditions at Unit 1,” Revision 18
EPIP-EPP-02, “Classification of Emergency Conditions at Unit 2,” Revision 16
N1-EOP-7 “RPV Flooding,” Revision 09
N2-EOP-C4 “RPV Flooding-Flowchart,” Revision 12
Assessment of the Emergency Action Level Impact of the Calculation Error in the Drywell High Radiation Setpoint, March 24, 2008
Root Cause Analysis, “EAL Drywell Radiation Calculation Error,” March 28, 2008
NEDC 33045P, “Methods for Estimating Core Damage in BWRs”
NUMARC/NESP-007 “Methodology for the Development of Emergency Action Levels”
NRC Safety Evaluation for Nine Mile Point Nuclear Station Units No. 1 and No. 2, “Changes to Emergency Action Levels”

Condition Reports

2008-0749	2008-1020	2008-4244
2008-0853	2008-3472	2008-4555

2008-4728
2008-4751
2008-4844
2008-5104
2008-2760
2008-2756
2008-3415
2008-3434
2008-3471
2008-3492
2008-3510
2008-3863
2008-3867
2008-3885
2008-3354
2008-3892
2008-4077
2008-4263
2008-2829
2008-2875
2008-2888
2008-4336
2008-4363
2008-4588
2008-4612
2008-4690
2008-4806
2008-4884
2008-4980
2008-5105
2008-5174
2008-5234
2008-5255
2008-5265
2008-1569
2008-3393
2008-2938
2008-2976
2008-3009
2008-3346
2008-3337

Section 4OA5: Other Activities

GAP-FFD-02, "Control of Working Hours," Revision 01700

LIST OF ACRONYMS

AC	alternating current
ACR	action request
ADAMS	Agency Documents Access Management System
CAP	corrective action program
CFR	Code of Federal Regulations
CR	condition report
CRS	control room supervisor
DBD	design basis document
DCP	design change package
EAL	emergency action level
ECCS	emergency core cooling system
EDG	emergency diesel generator
EOP	emergency operating procedure
FFD	fitness for duty
GL	generic letter
gpm	gallons per minute
HPCS	high pressure core spray
IA	instrument air
IMC	inspection manual chapter
IN	information notice
IPE	individual plant examination
kV	kilovolt
LLD	lower limits of detection
LORT	licensed operator requalification training
LPCS	low pressure core spray
MOV	motor operated valve
MSIV	main steam isolation valve
NCV	non-cited violation
NEI	Nuclear Energy Institute
NESP	National Environmental Studies Project
NLO	non-licensed operator
NMPNS	Nine Mile Point Nuclear Station, LLC
NRC	Nuclear Regulatory Commission
NSRB	Nuclear Safety and Review Board
NUMARC	Nuclear Management and Resources Council
ODCM	Offsite Dose Calculation Manual
PARS	Publicly Available Records
PB	power board
PI	performance indicator
PMT	post maintenance test
QA	quality assurance
RCA	radiologically controlled area
RCIC	reactor core isolation cooling
REMP	radiological environmental monitoring program

RFO	refueling outage
RHR	residual heat removal
RO	reactor operator
RPV	reactor pressure vessel
RRP	reactor recirculation pump
RTP	rated thermal power
SDP	significance determination process
SM	shift manager
SOP	special operating procedure
SRO	senior reactor operator
ST	surveillance test
STA	shift technical advisor
SW	service water
TLD	thermoluminescence dosimeter
TS	technical specification
TSO	transmission system operator
UE	Unusual Event
UFSAR	updated final safety analysis report
UPS	uninterruptable power supply
WO	work order