

January 29, 2007

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

SUBJECT: NINE MILE POINT NUCLEAR STATION - NRC INTEGRATED INSPECTION  
REPORT 05000220/2006005 and 05000410/2006005

Dear Mr. O'Connor:

On December 31, 2006, the US Nuclear Regulatory Commission (NRC) completed an inspection at your Nine Mile Point Nuclear Power Plant Unit 1 and Unit 2. The enclosed inspection report documents the inspection results discussed on January 19, 2007, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

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

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

Sincerely,

/RA/

Brian J. McDermott, Chief  
Projects Branch 1  
Division of Reactor Projects

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

T. O'Connor

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Enclosure: Inspection Report 05000220/2006005 and 05000410/2006005

w/Attachment: 1: Supplemental Information

w/Attachment: 2: TI-2515/169 Additional Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.: 50-220, 50-410

License No.: DPR-63, NPF-69

Report No.: 05000220/2006005 and 05000410/2006005

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

Facility: Nine Mile Point, Units 1 and 2

Location: Lake Road  
Oswego, NY

Dates: October 1 - December 31, 2006

Inspectors: L. Cline, Senior Resident Inspector  
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Approved by: Brian J. McDermott, Chief  
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## SUMMARY OF FINDINGS

IR 05000220/2006-005, 05000410/2006-005; 10/01/06 - 12/31/06; Nine Mile Point, Units 1 and 2; Routine Integrated Report.

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

A. NRC-Identified and Self-Revealing Findings

No findings of significance were identified.

B. Licensee-Identified Violations

None.

## REPORT DETAILS

### Summary of Plant Status

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

Nine Mile Point Unit 2 (Unit 2) began the inspection period at full power and remained at full power throughout the inspection period.

### **1. REACTOR SAFETY**

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

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

##### a. Inspection Scope

The inspectors completed two adverse weather protection samples. The inspectors reviewed and verified Nine Mile Point Nuclear Station's (NMPNS's) completion of the cold weather preparation checklists contained in operating procedures (OPs) N1-OP-64, "Meteorological Monitoring" and N2-OP-102, "Meteorological Monitoring" for Unit 1 and 2, respectively. The inspectors toured selected plant areas to verify cold weather readiness for the diesel generators and station batteries at Units 1 and 2, the screen and pump house at Unit 1, and the screenwell and reactor buildings at Unit 2. The inspectors conducted interviews with operations staff and reviewed the applicable sections of the Updated Final Safety Analysis Report (UFSAR) for Unit 1 and 2, the Individual Plant Examination for External Events (IPEEE) for Unit 1 and 2, and the site emergency procedure EPIP-EPP-26, "Natural Hazard Preparation and Recovery."

##### b. Findings

No findings of significance were identified

#### 1R04 Equipment Alignment (71111.04 - 4 samples)

##### .1 Partial System Walkdown

##### a. Inspection Scope

The inspectors performed four partial system walkdown inspection samples to verify that a train was properly restored to service following maintenance or evaluate the operability of one train while the opposite train was inoperable or out of service for maintenance and testing. The inspectors compared system lineups to system OPs, system drawings, and the applicable chapters in the UFSAR. The inspectors also verified the operability of critical system components by observing component material condition during the system walkdown. Documents reviewed during this inspection are listed in Attachment 1. The inspectors performed partial walkdowns of the following systems:

- Unit 2 low pressure core spray (LPCS) on November 2, 2006;
- Unit 1 12 emergency cooling on November 6, 2006;
- Unit 1 containment spray raw water on December 6, 2006; and
- Unit 2 Division II emergency diesel generator (EDG) on December 7, 2006.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05Q - 15 samples)

.1 Fire Protection - Tours

a. Inspection Scope

The inspectors completed 15 quarterly fire protection inspection samples. The inspectors toured 15 areas important to reactor safety on the Nine Mile Point site to evaluate NMPNS's control of transient combustibles and ignition sources and the material condition, operational status, and operational lineup of fire protection systems including detection, suppression, and fire barriers. The inspectors used procedure GAP-INV-02, "Control of Material Storage Areas," the UFSARs for Unit 1 and 2 and the fire hazards analysis and pre-fire plans to perform the inspection. Documents reviewed for this inspection are listed in Attachment 1. The areas inspected included:

- Unit 1 northeast containment spray pump room;
- Unit 1 east reactor building (RB) elevation 237 foot;
- Unit 1 RB elevation 318 foot;
- Unit 1 RB elevation 340 foot;
- Unit 1 northwest containment spray pump room;
- Unit 1 southeast core spray pump room;
- Unit 1 emergency condenser (EC) isolation valve room;
- Unit 2 south RB elevation 196 foot;
- Unit 2 north auxiliary bay elevation 240 foot;
- Unit 2 Division I cable routing area;
- Unit 2 A standby gas treatment (SGT) room;
- Unit 2 B SGT room;
- Unit 2 RB elevation 261 foot;
- Unit 2 Division I service water pump room; and
- Unit 2 Division II service water pump room.

1R06 Flood Protection Measures (71111.06 - 1 sample)

.1 Internal Flooding

a. Inspection Scope

The inspectors completed one internal flood protection measures sample. The inspectors walked down the 214 foot and 261 foot elevations in the Unit 2 control building. The risk significant flooding scenario for these areas involved flooding initiated



from a break in either EDG service water supply or a fire water supply header. The inspectors reviewed the Unit 2 UFSAR, the Unit 2 Individual Plant Examination (IPE), and Unit 2 procedure N2-ARP-01, "Control Room Alarm Response Procedures," to verify the validity of assumptions regarding potential flooding sources and that control building sump equipment remained functional to support water removal.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

.1 Biennial Sample (71111.07B - 3 samples)

a. Inspection Scope

Based on plant specific risk assessment information, past inspection results, and resident inspector input, the inspectors selected the following heat exchangers to review for this inspection:

- Unit 1 - 13 RB closed loop cooling (RBCLC) heat exchanger (HTX-70-15R);
- Unit 2 - Division II diesel jacket water heat exchangers (2EGS\*E1B, E2B); and
- Unit 2 - C RBCLC heat exchanger (2CCP-E1C).

The inspectors verified that potential common cause heat sink performance problems that had the potential to increase risk were identified and corrected by NMPNS. The inspectors also verified that potential macro fouling issues and biotic fouling issues were closely examined by NMPNS. The inspectors reviewed NMPNS's methods and frequency of inspection, cleaning, chemical control, and performance monitoring for the selected components to ensure alignment with their response to Generic Letter (GL) 89-13, "Service Water System Problems Affecting Safety-Related Equipment." The inspectors compared surveillance and inspection results including as found conditions, photographs, and eddy current summary sheets to the established acceptance criteria to verify that the heat exchanger operation was acceptable and consistent with design. The inspectors reviewed heat exchanger design basis values and assumptions, plugging limit calculations, and vendor information to verify that they were incorporated into the heat exchanger inspection and maintenance procedures.

The inspectors walked down the Unit 1 and Unit 2 screen houses and portions of the service water, emergency service water (ESW), fire water, EDGs, and RBCLC systems to assess the material condition of these systems and components. The inspectors reviewed a sample of condition reports (CRs) and operating experience (IN 1998-25 and IN 2006-17) related to the RBCLC and EDG heat exchangers and the service water systems, and interviewed responsible system engineers to ensure that NMPNS was appropriately identifying, characterizing, and correcting problems related to these systems and components. Documents reviewed for this inspection are listed in Attachment 1.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors completed two licensed operator requalification training (LORT) program inspection samples. These samples were coordinated with the NRC inspection of the LORT program documented in Inspection Report 05000220/2006011. Documents reviewed for this inspection are listed in Attachment 1. For each scenario observed, the inspectors assessed the clarity and effectiveness of communications, the implementation of appropriate actions in response to alarms, the performance of timely control board operation and manipulation, and the oversight and direction provided by the shift manager. During the scenario the inspectors also compared simulator performance with actual plant performance in the control room. The following simulator scenarios were observed:

- On November 21, 2006, the inspectors observed Unit 2 LORT to assess operator and instructor performance during a scenario involving a spurious reactor core isolation cooling (RCIC) initiation, a loss of feed water heating, and a loss of coolant accident. The inspectors evaluated the performance of risk significant operator actions including the use of emergency Operating Procedures (EOPs), N2-EOP-RPV, "RPV Control," and N2-EOP-PC, "Primary Containment Control."
- On November 29, 2006, the inspectors observed Unit 1 LORT to assess operator and instructor performance during a scenario involving an unisolable scram discharge volume leak that required reactor pressure vessel (RPV) blowdown. The inspectors evaluated the performance of risk significant operator actions including the use of EOPs, N1-EOP-2, "RPV Control," N1-EOP-4, "Primary Containment Control," N1-EOP-5, "Secondary Containment Control," and N1-EOP-8, "RPV Blowdown."

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12Q - 1 sample)

a. Inspection Scope

The inspectors completed one annual maintenance effectiveness inspection sample. The inspectors reviewed performance-based problems involving the Unit 1 uninterruptible power supply (UPS) 162B to assess the effectiveness of the maintenance program. The review for this inspection focused on: proper maintenance rule (MR) scoping in accordance with 10 CFR 50.65; characterization of reliability issues; changing system and component unavailability; 10 CFR 50.65 (a)(1) and (a)(2) classifications; identifying and addressing common cause failures, trending key parameters, and the appropriateness of (a)(2) performance criteria as well as the adequacy of (a)(1) goals and corrective actions. The inspectors reviewed system health

reports, maintenance backlogs, and MR basis documents. Other documents reviewed for the inspection are listed in Attachment 1.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors reviewed risk assessments for the six work weeks below during the inspection period. The inspectors verified that risk assessments were performed in accordance with GAP-OPS-117, "Integrated Risk Management," that risk of scheduled work was managed through the use of compensatory actions and schedule adherence; and that applicable contingency plans were properly identified in the integrated work schedule. Documents reviewed for the inspection are listed in Attachment 1.

Unit 1

- Week of October 2, 2006, that included planned maintenance on offsite power 115 kilovolt (kV) Line 4, and 12 high pressure coolant injection (HPCI) pump and valve surveillance testing.
- Week of November 13, 2006, that included 11 HPCI pump and valve surveillance testing, 11 reactor protection system (RPS) UPS 162B planned maintenance, and 102 and 103 EDG cooling water pump surveillance testing.
- Week of November 27, 2006, that included planned maintenance on 102 EDG and 111 and 121 core spray quarterly surveillance testing.

Unit 2

- Week of October 2, 2006, that included 'B' residual heat removal (RHR) valve maintenance and testing, Division 2 EDG monthly surveillance testing, and 115 kV Line 5 and A 115 kV reserve station transformer planned maintenance.
- Week of October 30, 2006, that included planned maintenance on the Division 2 EDG, and B and C RHR.
- Week of November 13, 2006, that included Division 1 EDG planned maintenance, A RHR instrument calibrations, and Division 1 SGT instrument calibrations and maintenance.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15 - 5 samples)

a. Inspection Scope

The inspectors completed five operability evaluation inspection samples. The inspectors reviewed the operability determinations associated with the five CRs listed below. The inspectors evaluated the acceptability of the selected determinations; when needed, the use and control of compensatory measures; and the compliance with technical specifications (TSs). The inspectors' review verified that the operability determinations were made as specified by procedure CNG-NL-1.01-1003, "Conduct of Operability Determinations." The inspectors reviewed the technical adequacy of the operability determinations based on comparisons to the TSs, UFSAR, Technical Requirements Manual (TRM) and associated design basis documents (DBD). Other documents reviewed for this inspection are listed in Attachment 1. The following five evaluations were reviewed:

- CR-2006-4840 concerning the Unit 1 plant process computer that was declared inoperable due to erratic indications.
- CR-2006-4665 concerning the use of wrong lubrication oil in the Unit 1 diesel fire pump air start motors.
- CR-2006-4907 concerning multiple core spray valve components that have been inappropriately excluded from the scope of the NMPNS equipment qualification (EQ) program.
- CR-2006-4499 concerning discrepancies identified in the Unit 1 average power range monitor calibration procedure.
- CR-2006-4580 concerning the Unit 1 control room ventilation circulation fan surveillance test failure.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (71111.17A - 1 sample)

a. Inspection Scope

The inspectors completed one permanent plant modification inspection sample. The inspectors reviewed Unit 2 design change package DCP N2-06-027, "Emergency Core Cooling System (ECCS) Suction Strainer Debris Loading." The purpose of this change was to update the corrosion product debris term for the Unit 2 suppression pool ECCS suction strainers from 96 pounds to 750 pounds. The inspectors verified the adequacy of the modification package and verified that margins to the design and licensing bases requirements of the affected systems were not unacceptably degraded. Documents reviewed for this inspection are listed in Attachment 1.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing (71111.19 - 7 samples)

a. Inspection Scope

The inspectors completed seven post maintenance testing inspection samples. The inspectors reviewed post maintenance test procedures and associated testing activities for selected risk significant mitigating systems to assess whether the effect of maintenance on plant systems was adequately addressed by control room and engineering personnel. The inspectors verified that test acceptance criteria were clear, demonstrated operational readiness and were consistent with DBDs; that test instrumentation had current calibrations, and the range and accuracy for the application; and that tests were performed, as written, with applicable prerequisites satisfied. Upon completion, the inspectors verified that equipment was returned to the proper alignment necessary to perform its safety function. The adequacy of the identified post maintenance testing requirements were verified through comparisons with the recommendations of GAP-SAT-02, "Pre/Post-Maintenance Test Requirements," and the design basis documentation contained in the TSs, UFSAR and associated DBDs. Other documents reviewed for this inspection are listed in Attachment 1. The following post maintenance test activities were reviewed:

- Unit 1 work order (WO) 06-19050-00 and WO 06-19045-00 that replaced UPS 172A/B alternate load protection overvoltage relays. The retest was performed in accordance with N1-ESP-RPS-331, "RPS Motor-Generator Set Instrument Channel Test Excluding Output Contactors," and WO 05-26182-00 step text.
- Unit 1 action request (ACR) 06-05324 that fluffed Unit 1 control room ventilation roughing filters FLT 210-59 and 210-60. The retest was performed in accordance with Section 8.2 of N1-ST-C9, "Control Room Emergency Ventilation System Operability Test," and the action request documentation.
- Unit 1 WO 05-24502-00 that changed the oil in the 11 liquid poison pump speed reducer. The retest was performed in accordance with surveillance test (ST) procedure N1-ST-Q8A, "Liquid Poison Pump 11 and Check Valve Operability Test."
- Unit 2 WO 05-26988-00 that performed limitorque motor-operated valve (MOV) testing on the suction valve for the 'A' standby liquid control pump 2SLS\*MOV1A. The retest was performed in accordance with S-EPM-GEN-063 "Limitorque MOV Testing."
- Unit 2 Division I EDG test run, performed per N2-OP-100A, "Standby Diesel Generators," following repairs to the EDG five minute cooldown circuit.
- Unit 2 test procedure N2-OSP-EGS-M@001, "Diesel Generator and Diesel Air Start Valve Operability Test - Division I," performed as a retest for various instrument loop calibrations and mechanical maintenance activities performed during a two day planned maintenance period for the Division I EDG.
- Unit 2 WO 06-14097-00 that involved replacement of a logic circuit board in battery charger 2VBA\*UPS2B. The retest was performed in accordance with N2-ESP-BYS-W675, "125 Volt DC Weekly Battery Surveillance."

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22 - 4 samples)

a. Inspection Scope

The inspectors completed four quarterly surveillance testing inspection samples. The inspectors witnessed performance of and/or reviewed test data for four risk-significant STs to assess whether the structures, systems and components tested satisfied TS, UFSAR, TRM, and NMPNS procedure requirements. The inspectors verified that test acceptance criteria were clear, demonstrated operational readiness and were consistent with the DBDs; that test instrumentation had current calibrations, and the range and accuracy for the application; and that tests were performed, as written, with applicable prerequisites satisfied. Upon ST completion the inspectors verified that equipment was returned to the status specified to perform its safety function. Documents reviewed for this inspection are listed in Attachment 1. The following four STs were reviewed:

- N2-ESP-SWP-W790, "Weekly Service Water Heater Current Test;"
- N1-REP-8, "Core Thermal Power;"
- N1-ST-Q6D, "Containment Spray System Loop 122 Quarterly Operability Test;" and
- N2-OSP-EGS-R006, "Operating Cycle Diesel Generator 24 Hour Run and Load Rejection Test Division III."

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23 - 1 sample)

a. Inspection Scope

The inspectors completed one temporary modification inspection sample. The inspectors reviewed implementation and control of the clearance section N01NORM-FPF013 that placed all Unit 2 carbon dioxide fire protection suppression systems in alarm only. The inspectors assessed the adequacy of the 10 CFR 50.59 evaluations; verified that the change did not adversely affect the system's ability to perform its design functions as described in the UFSAR and TS, that the installation was consistent with the modification documentation; that the drawings and procedures were updated as applicable; and that the post-installation testing was adequate. Documents reviewed for this inspection are listed in Attachment 1.

b. Findings

No findings of significance were identified.

## 2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

### 2OS1 Access Control to Radiologically Significant Areas (71121.01 - 8 samples)

#### a. Inspection Scope

NMPNS had no performance indicators for the occupational exposure cornerstone for inspector followup.

The inspectors reviewed radiation work permits (RWP) for airborne radioactivity areas with the potential for individual worker internal exposures of >50 mrem committed effective dose equivalent (CEDE) (20 derived air concentration (DAC)-hrs). The inspectors verified barrier integrity and engineering controls performance (e.g. high efficiency particulate air ventilation system operation).

The inspectors reviewed and assessed the adequacy of NMPNS's internal dose assessment for any actual internal exposure greater than 50 mrem CEDE.

The inspectors examined NMPNS's physical and programmatic controls for highly activated or contaminated materials (non-fuel) stored within spent fuel and other storage pools.

For high radiation work areas with significant dose rate gradients (factor of 5 or more), the inspectors reviewed the application of dosimetry to effectively monitor exposure to personnel. The inspectors verified that NMPNS controls were adequate.

The inspectors discussed with the Radiation Protection Manager high dose rate/high radiation area (HRA) and very high radiation area (VHRA) controls and procedures. The inspectors verified that any changes to NMPNS procedures did not substantially reduce the effectiveness and level of worker protection.

The inspectors discussed with first-line health physics supervisors the controls in place for special areas that have the potential to become VHRA during certain plant operations. The inspectors determined that these plant operations require communication beforehand with the health physics group, so as to allow corresponding timely actions to properly post and control the radiation hazards.

Based on NMPNS's schedule of work activities, the inspectors selected one job being performed in radiation areas, airborne radioactivity areas, or HRAs (<1 R/hr) for observation (Unit 2 fuel pool clean-up). The inspectors reviewed radiological job requirements (radiation work permit requirements and work procedure requirements) and observed job performance with respect to these requirements. The inspectors determined that radiological conditions in the work area were adequately communicated to workers through briefings and postings.

#### b. Findings

No findings of significance were identified.

2OS2 ALARA Planning and Controls (71121.02 - 2 samples)

a. Inspection Scope

The inspectors reviewed the assumptions and basis for the current annual collective exposure estimate. The inspectors reviewed applicable procedures to determine the methodology for estimating work activity-specific exposures and the intended dose outcome.

The inspectors reviewed NMPNS's method for adjusting exposure estimates, or re-planning work, when unexpected changes in scope or emergent work were encountered.

The inspectors examined the exposure estimates for the replacement of the Unit 2 turbine building roof, the engineering controls utilized during this work, and the results achieved. The inspectors also reviewed the exposure estimates and the assumptions upon which they were based for the spent fuel pool work in Units 1 and 2, and for the spring 2007 refueling outage at Unit 1.

b. Findings

No findings of significance were identified.

2OS3 Radiation Monitoring Instrumentation (71121.03 -1 sample)

a. Inspection Scope

The inspectors identified the types of portable radiation detection instrumentation used for job coverage of HRA work, other temporary area radiation monitors currently used in the plant, and continuous air monitors associated with jobs with the potential for workers to receive 50 mrem CEDE.

b. Findings

No findings of significance were identified.



## Cornerstone: Public Radiation Safety

2PS2 Radioactive Material Processing and Transportation (71122.02 - 6 samples)a. Inspection Scope

The inspectors reviewed the solid radioactive waste system description in the UFSAR and the recent radiological effluent release reports for information on the types and amounts of radioactive waste disposed, and reviewed the scope of NMPNS's audit program to verify that it met the requirements of 10 CFR 20.1101.

The inspectors walked down the liquid and solid radioactive waste processing systems to verify and assess that the current system configuration and operation agree with the descriptions contained in the UFSAR and in the process control program; reviewed the status of any radioactive waste process equipment that is not operational and/or is abandoned in place; verified that the changes were reviewed and documented in accordance with 10 CFR 50.59, as appropriate; and, reviewed current processes for transferring radioactive waste resin and sludge discharges into shipping/disposal containers to determine if appropriate waste stream mixing and/or sampling procedures, and methodology for waste concentration averaging provide representative samples of the waste product for the purposes of waste classification as specified in 10 CFR 61.55 for waste disposal.

The inspectors reviewed the radiochemical sample analysis results for NMPNS's radioactive waste streams; reviewed NMPNS's use of scaling factors and calculations used to account for difficult-to-measure radionuclides; verified that NMPNS's program assures compliance with 10 CFR 61.55 and 10 CFR 61.56 as required by Appendix G of 10 CFR Part 20; and reviewed NMPNS's program to ensure that the waste stream composition data accounts for changing operational parameters and thus remains valid between the annual or biennial sample analysis updates.

The inspectors observed shipment packaging, surveying, labeling, marking, placarding, vehicle checks, emergency instructions, disposal manifest, shipping papers provided to the driver, and NMPNS verification of shipment readiness; verified that the requirements of any applicable transport cask Certificate of Compliance have been met; verified that the receiving licensee was authorized to receive the shipment packages; and, observed radiation workers during the conduct of radioactive waste processing and radioactive material shipment preparation activities. The inspectors observed the shipment of a Type B quantity of radioactive material from Unit 1 on December 12, 2006. The inspectors determined that the shippers were knowledgeable of the shipping regulations and that shipping personnel demonstrate adequate skills to accomplish the package preparation requirements for public transport with respect to NRC Bulletin 79-19 and 49 CFR Part 172 Subpart H, and verified that NMPNS's training program provides training to personnel responsible for the conduct of radioactive waste processing and radioactive material shipment preparation activities.

The inspectors sampled non-excepted package shipment records and reviewed these records for compliance with NRC and Department of Transportation requirements.

The inspectors reviewed NMPNS's licensee event reports (LERs), special reports, audits, State agency reports, and self-assessments related to the radioactive material and transportation programs performed since the last inspection and determined that identified problems are entered into the corrective action program (CAP) for resolution. The inspectors also reviewed corrective action reports written against the radioactive material and shipping programs since the previous inspection.

b. Findings

No findings of significance were identified.

**4. OTHER ACTIVITIES**

4OA1 Performance Indicator Verification (71151 - 4 samples)

a. Inspection Scope

The inspectors sampled NMPNS submittals for the performance indicators (PIs) listed below for Unit 1 and Unit 2. To verify the accuracy of the PI data reported during that period, the PI definition and guidance contained in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Indicator Guideline," Revision 4, were used to verify the basis in reporting for each data element.

Cornerstone: Mitigating Systems

- Unit 1 Safety System Functional Failures
- Unit 2 Safety System Functional Failures

Unit 1 and Unit 2 LERs issued between the end of the third quarter 2004 and the end of the third quarter 2006 were reviewed for safety system functional failures and are listed in Attachment 1.

Cornerstone: Occupational Radiation Safety

- Occupational Exposure Control Effectiveness Occurrences

The inspectors reviewed a listing of NMPNS action reports for the period January 1, 2006, through November 13, 2006, for issues related to the occupational exposure control effectiveness occurrences PI. This PI measures nonconformances with HRAs greater than 1R/hr and unplanned personnel exposures greater than 100 mrem total effective dose equivalent (TEDE), 5 rem skin dose equivalent (SDE), 1.5 rem lens dose equivalent (LDE), or 100 mrem to the unborn child. The inspectors determined if any of these PI events involved dose rates >25 R/hr at 30 centimeters or >500 R/hr at 1 meter. If so, the inspectors determined what barriers had failed and if there were any barriers left to prevent personnel access. For unintended exposures >100 mrem TEDE or >5 rem SDE or >1.5 rem LDE, the inspector determined if there were any overexposures or substantial potential for overexposure.

Cornerstone: Public Radiation Safety

- Radiological Effluent Technical Specification (RETS)/Offsite Dose Calculation Manual (ODCM) Radiological Effluent Occurrences

The inspectors reviewed a listing of NMPNS action reports for the period January 1, 2006, through November 13, 2006, for issues related to the RETS/ODCM radiological effluent occurrences PI. This PI measures radiological effluent release occurrences per site that exceed 1.5 mrem/qtr whole body or 5 mrem/qtr organ dose for liquid effluents; or 5 mrads/qtr gamma air dose, 10 mrads/qtr beta air dose; or 7.5 mrem/qtr organ doses from I-131, I-133, H-3 and particulates for gaseous effluents.

b. Findings

No significant findings or observations were identified.

4OA2 Identification and Resolution of Problems (71152 - 6 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 all items entered into NMPNS's CAP. The review was accomplished by accessing the computerized database for CRs and attending CR screening meetings. In accordance with the baseline inspection modules the inspectors also selected 81 CAP items across the initiating events, mitigating systems, barrier integrity, occupational radiation safety and public radiation safety cornerstones for additional follow-up and review. The inspectors assessed NMPNS's threshold for problem identification, the adequacy of the cause analyses, extent of condition review, operability determinations, and the timeliness of the specified corrective actions. The CRs reviewed are listed in Attachment 1.

b. Findings

No findings of significance were identified.

.2 Semi-Annual Review to Identify Trends

a. Inspection Scope

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," the inspectors performed a review of NMPNS's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment and human performance issues. The review also included issues documented outside the CAP in the NMPNS work management program (e.g., ACRs). To perform the review, the inspectors examined

CRs and ACRs issued between June and November 2006, as well as a listing of NMPNS identified trends and departmental performance reports.

b. Assessment and Observations

No findings of significance were identified. The inspectors' review was focused on repetitive equipment and human performance issues. The results of the inspection were compared with the results of NMPNS's third quarter integrated quarterly assessment report as well as a listing of NMPNS identified trends and departmental performance reports. The inspectors did not identify any significant adverse performance trends.

.3 Annual Sample - CR-2002-4482 - EQ program weaknesses

a. Inspection Scope

The inspectors completed a detailed review of CR-2002-4482 that was written to address several EQ program deficiencies identified during the license renewal process at Nine Mile. The inspectors reviewed the CR to ensure that the extent of the problem was identified, a thorough evaluation was performed, and appropriate corrective actions specified. The inspectors reviewed the EQ program recovery project plan, quality assurance assessment reports, project status reports and procedures. The inspectors also conducted interviews with engineering programs personnel to determine if NMPNS's plan to resolve the identified program weaknesses was adequate. The inspectors reviewed the evaluation and corrective actions against the requirements of procedure NIP-ECA-01, "Corrective Action Program," and 10 CFR 50, Appendix B.

b. Assessment and Observations

There were no findings of significance identified and the inspectors did not identify open concerns regarding the operability or qualification of risk significant plant equipment. The inspectors determined that NMPNS identified, evaluated, and directed corrective actions for the identified EQ program deficiencies in accordance with the requirements of NMPNS procedure NIP-ECA-01, "Corrective Action Program," and 10 CFR 50, Appendix B.

.4 Annual Sample - CR-2006-0955 - Unit 2 service water check valve inservice testing (IST) failure

a. Inspection Scope

The inspectors completed a detailed review of CR-2006-0955 that was written to address the failure of Unit 2 service water check valve 2SWP\*V1025 to meet its quarterly IST acceptance criteria. This check valve supplies service water to the Division 2 RB emergency recirculation unit cooler, 2HVR\*UC413B. The inspectors reviewed the CR to ensure that the extent of the problem was identified, a thorough evaluation was performed, and appropriate corrective actions specified. The inspectors reviewed the evaluation and corrective actions against the requirements of procedure NIP-ECA-01, "Corrective Action Program," and 10 CFR 50, Appendix B.

b. Assessment and Observations

There were no findings of significance identified and the inspectors did not identify open concerns regarding the operability of risk significant plant equipment. The inspectors determined that NMPNS conducted a thorough review of the 2SWP\*V1025 forward flow test failure, identified specific causes, and verified system operability. The inspectors determined that NMPNS identified appropriate corrective actions to address the causes identified, that corrective actions were assigned to the appropriate individuals and taken in a timely manner.

.5 Annual Sample - CR-2006-0232 - Unit 1 post-scam reactor water levels greater than 95 inches

a. Inspection Scope

The inspectors completed a detailed review of CR-2006-0232 that was written to address the fact that reactor water level rose above 95 inches following all the scrams that occurred at Unit 1 since 2001. This was a concern because with reactor water level greater than 95 inches the heat removal capacity of the ECs was reduced, and EC initiation with reactor water level greater than 95 inches could result in damage to EC piping and supports. The inspectors reviewed the CR to ensure that the extent of the problem was identified, a thorough evaluation was performed, and appropriate corrective actions specified. The inspectors reviewed the evaluation and corrective actions against the requirements of procedure NIP-ECA-01, "Corrective Action Program," and 10 CFR 50, Appendix B.

b. Assessment and Observations

There were no findings of significance identified and the inspectors review did not identify any open concerns regarding the operability of risk significant plant equipment. The inspectors determined that NMPNS conducted a thorough review of the Unit 1 reactor water level control problem and identified specific causes for which corrective actions could be taken. The inspectors determined that NMPNS specified appropriate corrective actions to address the causes identified, that corrective actions were assigned to the appropriate individuals and actions taken were completed in a timely manner.

.6 Annual Sample - Unit 1 Operator Workarounds

Inspection Scope

The inspectors reviewed Unit 1 operator workarounds to verify that NMPNS was identifying operator workaround problems at an appropriate threshold and entering them into the CAP. The inspectors evaluated the potential for cumulative effects of identified operator workarounds, challenges, burdens, and control room deficiencies on the functionality of mitigating systems. The inspectors also reviewed NMPNS's assessment of the cumulative effects of the identified Unit 1 operator workarounds in accordance with NAI-REL-02, "Workaround Program."

b. Findings

No findings of significance were identified.

.7 Annual Sample - Unit 2 Operator Workarounds

Inspection Scope

The inspectors reviewed Unit 2 operator workarounds to verify that NMPNS was identifying operator workaround problems at an appropriate threshold and entering them in the CAP. The inspectors evaluated the potential for cumulative effects of identified operator workarounds, challenges, burdens, and control room deficiencies on the functionality of mitigating systems.

b. Findings

No findings of significance were identified.

4OA3 Event Followup (71153 - 2 samples)

.1 (Closed) LER 05000220/2006001-00, TS Required Shutdown due to Increased Drywell Leakage

On June 10, 2006, Unit 1 commenced a planned downpower to perform a drywell entry to determine the cause of increased drywell leakage. Packing on a reactor coolant recirculation system pump drain valve was found leaking. To reduce the leakage rate, the pump suction and discharge valves were closed and the drain valve backseated. As a result, a leak in a weld down stream of the drain valve was discovered. NMPNS closed the drain valve to isolate the weld leak and commenced power ascension. Several hours later on June 11, 2006, Unit 1 commenced a reactor shutdown in accordance with TS 3.2.5, "Reactor Coolant System Leakage," when the reactor coolant system leakage rate increased by greater than 2 gallons per minute in a 24-hour period. During the shutdown NMPNS replaced the failed packing and repaired the weld leak. The plant was restored to full power on June 15, 2006. NMPNS determined that the cause of the failed packing was the installation of incorrectly sized packing in March 1997. The cause of the leaking weld was determined to be outer diameter or inner diameter mechanical fatigue that propagated from an original defect at the root of the weld. The inspectors reviewed the issues associated with this LER and no new findings were identified. The finding regarding the installation of incorrectly sized packing constitutes a violation of minor significance that is not subject to enforcement action in accordance with Section IV of the NRC's Enforcement Policy. NMPNS entered the issues associated with this event into its CAP as CR 2006-2691. This LER is closed.

.2 (Closed) LER 05000410/2006002-00, RCIC Exhaust Piping Vacuum Breakers Isolated Resulting in an Unanalyzed Condition

On February 8, 2006, the Unit 2 RCIC was declared inoperable but available for planned maintenance on a RCIC turbine steam exhaust line vacuum breaker isolation valve. In preparation for this maintenance, the valve was deenergized shut. Since this rendered

the vacuum breakers incapable of performing their design function of preventing water hammer in the steam exhaust line following a RCIC turbine shutdown, automatic initiation of RCIC should also have been defeated. However, the condition was not recognized by Unit 2 until the inspectors pointed it out approximately two hours after the vacuum breakers had been isolated. Subsequent engineering evaluation by Unit 2 determined such a water hammer event may have produced stress in the steam exhaust line significantly above the allowable level.

This issue was investigated by the inspectors at the time of occurrence, as discussed in NRC integrated inspection report 05000220/2006003 and 05000410/2006003. The inspectors' review of this LER identified no additional findings, this LER is closed.

#### 4OA5 Other Activities

##### .1 Temporary Instruction (TI) - 2515/169, "Mitigating System Performance Index Verification"

###### Inspection Scope

The objective of TI 2515/169 is to verify that NMPNS has correctly implemented the mitigating systems performance index (MSPI) guidance for voluntarily reporting unavailability and unreliability of the monitored safety systems. On a sampling basis, the inspector validated the accuracy of the unavailability and unreliability input data used for both the 12-quarter period of baseline performance and for the first reported results in the second calendar quarter of 2006. Specific attributes examined by the inspectors per this TI included: surveillance activities which, when performed, do not render the train unavailable for greater than 15 minutes; surveillance activities which, when performed, do not render the train unavailable due to credit for prompt operator recovery actions; and for each MSPI system, on a sampling basis, the inspectors independently confirmed the accuracy of baseline planned unavailability, actual planned and unplanned unavailability, and the accuracy of the failure data for the monitored components.

###### Findings

No findings of significance were identified.

Per TI 2515/169-05 reporting requirements, Attachment 2 includes additional information pertaining to the inspectors' review.

#### 4OA6 Meetings, Including Exit

The inspectors presented the inspection results to Mr. Timothy O'Connor and other members of NMPNS's management on January 19, 2007. NMPNS acknowledged that some of the material reviewed by the inspectors during this period was proprietary, but the content of this report contains no proprietary information.

ATTACHMENT 1: SUPPLEMENTAL INFORMATION

ATTACHMENT 2: MITIGATING SYSTEM PERFORMANCE INDEX VERIFICATION



**ATTACHMENT 1**

**SUPPLEMENTAL INFORMATION**

**KEY POINTS OF CONTACT**

Licensee personnel

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

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

Closed

05000220/2006001-00	LER	TS Required Shutdown due to Increased Drywell Leakage (4OA3)
05000410/2006002-00	LER	RCIC Exhaust Piping Vacuum Beakers Isolated Resulting in an Unanalyzed Condition (4OA3)

**LIST OF DOCUMENTS REVIEWED**

**Section 1R04: Equipment Alignment**

N2-OP-100A, "Standby Diesel Generators", Revision 9  
N2-OSP-EGS-M@001, "Diesel Generator and Diesel Air Start Valve Operability Test - Division I and II", Revision 4, 12/4-5/06  
N2-OSP-EGS-R002, "Operating Cycle Diesel Generator 24 Hour Run and Load Rejection Division I and II", Revision 4, 12/4-5/06  
N2-OP-32, "Low Pressure Core Spray"  
N2-VLU-01, "Walkdown Order Valve Lineup and Valve Operations," Attachment 32, "N2-OP-32 Walkdown Valve Lineup"  
N1-OP-13, "Emergency Cooling System"

P&ID C-18017-C  
N1-OP-14, "Containment Spray System"  
P&ID C-18012-C  
P&ID C-18022-C

**Section 1R05: Fire Protection**

Nine Mile Point Unit 1 UFSAR, Appendix 10A  
Nine Mile Point Unit 2 UFSAR, Appendix 9A  
GAP-INV-02, Revision 17, "Control of Material Storage Areas"  
N1-FPI-PFP-0101, "Pre-fire Plans", Revision 1  
N2-FPI-PFP-0201, "Pre-fire Plans", Revision 0

**Section 1R07: Heat Sink Performance**

Calculations

A10.1-0-093, CCP Supply Water Temperature, Revision 1  
A10.1-0-131, Tube Plugging for RBCLC, Revision 0  
EGS-002, EDG Jacet Water Cooler, Revision 00A  
ES-189, Impact of Service Water on CCP HX Outlet Water Temperature, Revision 1  
PM-0575, Verify sufficient heat removal capacity for loss of normal heat sink, Revision 1  
S13.4-70HX03, RBCLC HX Performance, Revision 3  
S13.4-70RBC, Min Wall and Tube Plugging for Unit 1 RBCLC, Revision 0

Test and Inspection Results

2CCP\*E1C Eddy Current Inspection Report, Dated 3/16/91  
2CCP\*E1C Eddy Current Inspection Report, Dated 1/10/95  
2CCP\*E1C Eddy Current Inspection Report, Dated 12/20/04  
EGS-E1B Eddy Current Inspection Report, Dated 3/21/02  
EGS-E1B Eddy Current Inspection Report, Dated 3/23/06  
EGS-E2B Eddy Current Inspection Report, Dated 3/21/02  
EGS-E2B Eddy Current Inspection Report, Dated 3/23/06  
HTX-70-15R Eddy Current Inspection Report, Dated 3/5/04  
HTX-70-15R Eddy Current Inspection Report, Dated 4/29/05  
HTX-70-15R Eddy Current Inspection Report, Dated 3/2/06  
N1-TTP-033, 13 RBCLC Performance Test, Dated 12/24/98  
N1-TTP-033, 13 RBCLC Performance Test, Dated 7/8/02  
N1-TTP-033, 13 RBCLC Performance Test, Dated 4/24/06  
WO 04-13319, Unit 1 Screen Well Inspection Report, Dated 3/30/05

Work Orders:

98-06695-04	05-11516-01	06-12621-00
03-03726-03	05-11947-00	06-12621-00
05-05061-00	05-13451-00	
05-10234-00	05-13452-00	
05-27150-00	05-27150-00	

System Health Reports

Unit 1 Containment Spray, 3rd quarter 2006  
Unit 1 Containment Spray, 4th quarter 2006  
Unit 2 Emergency Diesel Generators, 3rd quarter 2006  
Unit 2 Emergency Diesel Generators, 4th quarter 2006  
Unit 1 Reactor Building Closed Loop Cooling, 3rd quarter 2006  
Unit 1 Reactor Building Closed Loop Cooling, 4th quarter 2006  
Unit 2 Reactor Building Closed Loop Cooling, 3rd quarter 2006  
Unit 2 Reactor Building Closed Loop Cooling, 4th quarter 2006  
Unit 1 Service Water, 3rd quarter 2006  
Unit 1 Service Water, 4th quarter 2006  
Unit 2 Service Water, 3rd quarter 2006  
Unit 2 Service Water, 4th quarter 2006

Drawings

C-18022-C sheet 1, Unit 1 Service Water Reactor & Turbine Bldgs, Revision 60  
C-18022-C sheet 2, Unit 1 Reactor Bldg Closed Loop Cooling System, Revision 52  
C-18022-C sheet 3, Unit 1 Turbine Bldg Closed Loop Cooling System, Revision 37  
C-18022-C sheet 4, Unit 1 Waste Bldgs Closed Loop Cooling System, Revision 20  
C-18027-C sheet 1, Unit 1 Service Water Turbine and Admin Bldgs, Revision 34  
C-18027-C sheet 2, Unit 1 Service Water Reactor Building, Revision 16  
C-18027-C sheet 3, Unit 1 Service Water Off-Gas & Waste Disposal Bldgs, Revision 7  
PID-11A-16, Service Water System, Revision 16  
PID-11B-17, Service Water System, Revision 17  
PID-11C-16, Service Water System, Revision 16  
PID-11D-11, Service Water System, Revision 11  
PID-11E-11, Service Water System, Revision 9  
PID-11F-24, Service Water System, Revision 22  
PID-11G-16, Service Water System, Revision 14  
PID-11H-30, Service Water System, Revision 30  
PID-11J-18, Service Water System, Revision 17  
PID-11K-8, Service Water System, Revision 8  
PID-11L-22, Service Water System, Revision 22  
PID-11M-16, Service Water System, Revision 16  
PID-11N-9, Service Water System, Revision 8  
PID-11P-27, Service Water System, Revision 27  
PID-11Q-9, Service Water System, Revision 8  
PID-12-8, Traveling Water Screens Wash, Revision 6  
PID-13C-11, Reactor Building Closed Loop Cooling Water, Revision 10

Heat Exchanger Specification Sheets

77A20008, Unit 2 EDG Jacket Water, Revision 1  
H1004U, Unit 1 RBCLC, Dated 12/30/87  
NMP2-P221L, Unit 2 RBCLC, Dated 3/20/74

Maintenance, Operating, and Administrative Procedures

GAP-HSC-02, System Cleanness Controls, Revision 15

#### A-1-4

N1-CTP-V938, Treatment of Screen and Pump House Raw Water with Biocide, Revision 1  
N1-CTP-V945, Service Water Zebra Mussel Treatment, Revision 7  
N1-MPM-074-018, Circulating Water Gates and Hoists PM, Revision 3  
N1-MPM-074-018, Circulating Water Gates and Hoists PM, Revision 4 (draft)  
N1-OP-11, Reactor Building Closed Loop Cooling System, Revision 21  
N1-OP-14, Containment Spray System, Revision 43  
N1-OP-18, Service Water System, Revision 23  
N1-OP-19, Circulating Water System, Revision 26  
N1-OP-45, Emergency Diesel Generators, Revision 26  
N2-CTP-GEN-2643, EVAC Treatment of the Service Water System, Revision 3  
N2-CTP-SCT-D201, Service Water Chemical Treatment System, Revision 2  
N2-MPM-GEN-V403, Preventative Maintenance of RBCLC/TBCLC Heat Exchangers, Revision 3  
N2-OP-100A, Standby Diesel Generators, Revision 9  
N2-OP-11, Service Water System, Revision 8  
N2-OP-11A, Service Water Chemical Treatment System, Revision 0  
N2-OP-12, Traveling Water Screens, Revision 2  
N2-OP-13, Reactor Building Closed Loop Cooling System, Revision 7  
NMPNS-HX-001, GL 89-13 Heat Exchanger Program Plan, Revision 1  
NMPNS-HX-002, Balance of Plant Heat Exchanger Program Plan, Revision 1  
S-TDP-0102, Service Water HX and Component Inspection Guide, Revision 2  
S-TDP-REL-0103, GL 89-13 Program Plan, Revision 0

#### Miscellaneous

Niagra Mohawk Letter, C. Terry to NRC, Dated 2/16/90, Response to GL 89-13  
Niagra Mohawk Letter, C. Terry to NRC, Dated 12/10/90, Revision to response to GL 89-13  
Niagra Mohawk Letter, C. Terry to NRC, Dated 2/7/91, Revision to response to GL 89-13  
Niagra Mohawk Letter, C. Terry to NRC, Dated 7/17/92, Implementation Status of GL 89-13

#### **Section 1R11: Licensed Operator Regualification Program**

N2-EOP-RPV, "RPV Control"  
N2-EOP-PC, "Primary Containment Control"  
NMPNS Operations Manual  
NEI 99-02, "Regulatory Assessment Performance Indicator Guidelines," Revision 4  
CNG-HU-1.01, "Human Performance Program"  
CNG-HU-1.01-1000, "Human Performance"  
CNG-HU-1.01-1001, "Human Performance Tools and Verification Practices"  
S-ODP-OPS-0001, "Conduct of Operations"  
N1-SOP-1, "Reactor Scram"  
N2-SOP-101C, "Reactor Scram"  
N1-EOP-02, "RPV Control"  
N1-EOP-05, "Secondary Containment Control"  
N2-ARP-01, "Control Room Alarm Response Procedures."  
N2-EOP-RPV, "RPV Control"  
Unit 1 Alarm response procedures  
N1-SOP-18.1, "Service Water Failure/Low Intake Level"  
N1-SOP-5.1, "Loss of Control Rod Drive"  
N1-SOP-16.1, "Feedwater System Failures"

**Section 1R12: Maintenance Effectiveness**

Unit 1 UPS 162B Evaluation, Corrective Action, and Goal Setting Plan, 9/18/06  
MR Monitoring Report, August 2006  
S-MRM-REL-0101, "Maintenance Rule", Revision 17  
System Health Report, Q3 2006

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

Nine Mile Point Site T-0 System Schedules, Schedule Risk Assessment Summary Tables, and  
PRA Work Week Summaries for work weeks 643, 644, 645, 646, and 648  
GAP-OPS-117, "Integrated Risk Management"  
GAP-PSH-03, "Control of On-line Work Activities"  
NAI-PSH-03, "On-line Work Management Process"  
WO 05-16136-00, Hot spot on disconnect needs to be repaired next line outage  
WO 05-23136-00, Assist Electrical PM - Cal Breaker R40 Pressure switches  
N1-ST-Q3, "HPCI Pump and Check Valve Operability Test"  
WO 05-07937-01, Operation work order to perform 115 kV line outage switching  
WO 05-23192-00, 2RHS\*MOV27B, S-EPM-063, Limitorque actuator static testing  
N1-ST-Q25, "Emergency Diesel Generator Cooling Water Quarterly Test"  
N1-ESP-RPS-331, "RPS Motor-Generator Set Instrument Channel Test Excluding Output  
Contactors"  
WO 05-13287-00, N2-OSP-RHS-R@005, RHS pressure isolation valve leakage testing  
N2-OSP-EGS-M@001, "Diesel Generator and Diesel Air Start Valve Operability Test - Division I  
and II"  
WO 05-25445-00, CPS (Group 9) isolation logic time delay relay calibration  
WO 06-05703-00, 2ENS\*SWG101-1 Breaker racking mechanism is misaligned  
WO 04-08957-00, 2EGF\*V103, fuel oil leak, repair and replace fittings  
WO 05-12810-00, 2EGF\*FLT14, minor fuel oil leak on filter assembly  
WO 06-06316-00, 2EGS\*EG1, oil leaking from cover on fuel injection cover gasket  
WO 05-25520-00, Functional test and trip unit calibration of LPCI pump discharge pressure  
WO 05-25523-00, Operating cycle channel calibration of A RHS pump discharge flow  
instrument channel  
N2-ISP-RHS-Q014, "Quarterly Functional Test and Trip Unit Calibration of LPCI Pump  
Discharge Pressure High ADS Permissive Instrument Channels"  
N2-ISP-RHS-R122, "Operating Cycle Channel Calibration of RHS Pump Discharge Flow  
Instrument Channels"

**Section 1R15: Operability Evaluations**

Regulatory Guide 1.89, Environmental Qualification of Certain Electric Equipment Important to  
Safety for Nuclear Plants  
SDBD-201, Core spray system DBD  
N1-OP-42, Process Computer/SPDS  
N1-REP-31, "Manual Monitor"  
N1-REP-8, "Core Thermal Power"  
NEDE-24810, Station Nuclear Engineering  
NEDC-32601P-A, "Methodology and Uncertainties for Safety Limits MCPR Evaluations"

Regulatory Guide 1.97, "Criteria for Accident Monitoring Instrumentation for Nuclear Power Plants"

Vendor Manual No. N1G08000INSTRU010, General Electric Nuclear, GEK-105870, 02/1997, Operation and Maintenance Instructions Average Power Range Monitor 216X543G001, G002

N1-ISP-092-321, "APRM No. 11 Instrument Channel Calibration/Test"

N1-MPM-100-851, Diesel Fire Pump Engine Preventative Maintenance"

Vendor Manual No. N1I07500MECFUN001, Ingersoll-Rand, P6031, 09/1992, Sizes 150BM and 150BMG Air and Gas Starters

Email dated 10/10/2006, R. Sanaker to B. Craig regarding CR-NM-2006-4665

Daniel P. Anderson, Malte Lukas and Brian K. Lynch, "Diesel Engine Coolant Analysis, New Application for Established Instrumentation," report prepared for Spectro Incorporated, Littleton, MA

WO 95-04222-01, Overhaul valve actuator 40-30 using N1-EMP-GEN-129

NEG-EQCAP-01, Performing Qualifiability Determinations

Regulatory Guide 1.89, "Environmental Qualification of Certain Electric Equipment Important to Safety for Nuclear Power Plants"

Niagra Mohawk Power Corporation Environmental Qualification Report, Report No. R1ACTX001, "Environmental Qualification Deficiency Resolution Report on Limitorque Valve Actuators for Use in Nine Mile Point Unit One"

Nine Mile Point Nuclear Station, Qualifiability Determination 2006-018, Limitorque Motor T-Drain Configuration Requirements for Unit 2

Nine Mile Point Nuclear Station, Qualifiability Determination 2006-020, Black Fiberite Limitorque Limit Switches

Nine Mile Point Nuclear Station, Qualifiability Determination 2006-040, Unit 1 DW Profile in EQEDC Based on Non-Design Basis Calculation SO-GOTHIC-M001

Niagra Mohawk Qualification File Review Checklist Number 11A, Valve Actuator, Limitorque, Model SMB-3

Nuclear Environmental Qualification Report, Report No. 17655-MOV-7, Wyle Laboratories, Scientific Services & Systems Group, Huntsville, Alabama, Nuclear Environmental Assessment Report on Reliance Motors with Magnesium Rotors for Use in Nine Mile Point Unit 1 Nuclear Plant Equipment Qualification Deficiency Resolution

Philip M. Holzman, "Clarification of Information Related to the Environmental Qualification of Limitorque Motorized Valve Operators," report prepared by the Nuclear Utility Group on Equipment Qualification for Limitorque Corporation, Lynchburg, VA, 08/1989

N1-MPM-210-552, "Control Room Ventilation System"

ACR 06-05324, Change CR HVAC Roughing Filters FLT-210-59 and 60

Completed N1-ST-C9, "Control Room Emergency Ventilation System Operability Test, " dated 10/05/2006

Completed N1-ST-C9, "Control Room Emergency Ventilation System Operability Test, " dated 10/13/2006

NUMAR 87-00, Guidelines and Technical Bases for NUMARC Initiatives Addressing Station Blackout at Light Water Reactors

Nine Mile Point Nuclear Station, Uni 1, Mechanical Calculation, S10-210HV12, "Evaluate Control Room & Auxiliary Control Room Building Temperature for Cold & hot Weather Scenarios with a Loss of Offsite Power (Appendix R) & Loss of Coolant Accident"

**Section 1R17: Permanent Plant Modifications**

DCP N2-06-027, "ECCS Suction Strainer Debris Loading"

Section 1R19: Post Maintenance Testing

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

GAP-MAI-01, "Conduct of Maintenance"

N2-OP-100A, "Standby Diesel Generators"

N1-ST-Q8A, "Liquid Poison Pump 11 and Check Valve Operability Test"

WO 05-24502-00, "Change Oil in Liquid Poison Pump 11 Speed Reducer"

N2-OSP-EGS-M@001, "Diesel Generator and Diesel Air Start Valve Operability Test - Division I"

WO 06-14097-00, "UPS2B Experienced High Rectifier Voltage During Startup"

N2-ESP-BYS-W675, "125 Volts DC Weekly Battery Surveillance"

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

CNG-HU-1.01, "Human Performance Program"

CNG-HU-1.01-1000, "Human Performance"

CNG-HU-1.01-1001, "Human Performance Tools and Verification Practices"

GAP-MAI-01, "Conduct of Maintenance"

N1-MPM-210-552, "Control Room Ventilation System"

ACR 06-05324, Change CR HVAC Roughing Filters FLT-210-59 and 60

Completed N1-ST-C9, "Control Room Emergency Ventilation System Operability Test, " dated 10/05/2006

Completed N1-ST-C9, "Control Room Emergency Ventilation System Operability Test, " dated 10/13/2006

**Section 1R22: Surveillance Testing**

N1-ST-Q6D, "Containment Spray System Loop 122 Quarterly Operability Test"

N2-OSP-EGS-R006, "Operating Cycle Diesel Generator 24 Hour Run and Load Rejection Test Division III"

CNG-HU-1.01, "Human Performance Program"

CNG-HU-1.01-1000, "Human Performance"

CNG-HU-1.01-1001, "Human Performance Tools and Verification Practices"

GAP-SAT-01, "Surveillance Test Program"

WO 05-23905-00, N2-ESP-SWP-W790, "Weekly Service Water Heater Current Test"

CR-2006-4764

Stone & Webster Engineering Corporation Calculation No. EC-109, Niagra Mohawk Power Corporation, Calculating the Watts Output of the Bar Rack Heaters at the Actual Operating Voltage on 2EHS\*MCC 101 and MCC 301

Nine Mile Point Nuclear Station, Unit 2, Mechanical Calculation, PH-087, "Determination of Minimum Number of SWP Intake Structure Heaters Required by Tech Specs"

CR-2006-4840

N1-OP-42, "Process Computer/SPDS"

NEDE-24810, Station Nuclear Engineering

NEDC-32601P-A, "Methodology and Uncertainties for Safety Limits MCPR Evaluations"

**Section 1R23: Temporary Plant Modifications**

GAP-CON-01, "Control of Temporary Alterations", Revision 0  
NIP-CON-01, "Design and Configuration Control Process", Revision 15  
NIP-CON-02, "Review of Temporary Changes", Revision 0  
Nine Mile Point Unit 2 UFSAR, Appendix 9A  
N2-FPI-PFP-0201, "Pre-fire Plans", Revision 0

**Section 2OS2: ALARA Planning and Controls**

Procedures:

AP-07.00, "Radiation Protection Program"  
AP-07.01, "Radiation Work Permit Program"

Design Basis Documentation:

DBD-066, Section 3.1.10, "Reactor Building HVAC Systems Unit Coolers"  
DBD-067, Section 3.2, "Electrical Bays Ventilation and Cooling Systems"  
DBD-093, Section 3.4.1, "EDG Jacket Water Heat Exchangers"

Other Documents:

UFSAR 9.7, "Service Water Systems"  
ESW System Health Reports: 1Q2002, 2Q2002, 3Q2002, 4Q2002, 1Q2003  
QA Surveillance Report 2337, "Heat Sink Performance," dated April 11, 2003  
JPN-90-015, "Response to NRC Generic Letter 89-13, 'Service Water System Problems Affecting Safety-Related Equipment'" dated February 13, 1990; updated April 18, 1991 and March 16, 1993  
JAF-RPT-MULTI\_01267, "Raw Water Systems Program Plan (JAF-ACT-00-49081)," Revision 2  
ST-8Q, "Testing of the ESW System"  
TST-104, "Testing of ESW Loop A"  
FM-46B, "Flow Diagram: ESW System 46 and 15"  
Visual/Eddy Current Exams of EDG Jacket Water Heat Exchangers  
AP-09.02, "Zebra Mussel Control Program"

**Section 2PS2: Radioactive materials Processing and Shipping**

Radioactive Material Shipments: 06-2027; 06-2030; 06-2031; 06-2032; 06-2039  
Quality & Performance Assessment (Q&PA) Quarterly Report 06-3Q-N  
Q&PA Report 06-037  
Radiation Protection Cycle Performance Report, September 2006  
10CFR61 Waste Stream Analysis Reports: U-1 Filter Sludge; U-1 Plant Smears; U-1 Condensate Demineralizers; U-2 Plant Smears; U-2 Condensate Demineralizers  
Lesson Plan: RP-CFR-CBT-05-3-00, Rev 0, 49 CFR Refresher CBT  
CHP-MISC-ADV-DOT-3-03, Rev 0, Packaging and Transportation of RAM

**Section 4OA1: Performance Indicator Verification**

LER 050000220/2004004-00, "Manual Reactor Scram Due to Failure of #13 Feedwater Flow Control Valve Positioner"



LER 050000220/2005001-00, "Automatic Reactor Scram due to a Failure in the Circuitry for a Moisture Separator Tank Level Switch"  
LER 050000220/2005002-00, "Fuel Moved with an Inoperable Source Range Monitor Due to Human Error Resulting in a TS Violation"  
LER 050000220/2005003-00, "Automatic Reactor Scram during Surveillance Testing due to Inadvertently De-energizing 4160 VAC Power Board 11"  
LER 050000220/2005004-00, "Operation Prohibited by TSs due to Unrevealed Inoperability of One Off-site Power Source"  
LER 050000220/2006001-00, "TS Required Shutdown due to Increased Drywell Leakage"  
LER 050000220/2006002-00, "HPCI Logic Actuation due to Turbine Trip"  
LER 050000410/2005001-00 and 01, "Both Standby Gas Treatment Subsystems Inoperable Due to an Original Design Deficiency"  
LER 050000410/2006001-00, "Automatic Reactor Scram due to a Loss of Main Turbine Gland Sealing Steam"  
LER 050000410/2006002-00, "RCIC Exhaust Piping Vacuum Breakers Isolated Resulting in an Unanalyzed Condition"

#### **Section 40A2: Identification and Resolution of Problems**

##### Documents Reviewed:

Environmental Qualification Corrective Action Plan (EQCAP) Recovery Project Plan, Revision. 3  
Report of Audit DES-06-02-N, Engineering Computer Systems, July 18, 2006  
EQCAP Recovery Project Status, September 8, 2006

##### Q&PA Assessment Reports:

05-063 Assessment of the NMP Environmental Qualification Program, 9/7/2005  
06-008 Follow Up Assessment of the NMP Environmental Qualification Corrective Action Project, 2/16/2005

##### Procedures

NDD-EQP, Environmental Qualification Program, Revision 03  
NEG-EQCAP-10, Adequacy Review of the Current Qualification Basis for EQ Equipment, Revision 0  
NEP-EQP-02, Environmental Qualification Program Administration, Revision. 02  
NIP-EQP-01, Environmental Qualification Program, Revision 05  
NIP-PES-01, Procurement of Items, Revision. 15  
NPAP-PES-310, Vendor Selection, Revision 05  
NPAP-PES-410, Procurement Requirements Evaluation and Dedication Planning / Material Review Checklist Processing, Revision 07  
NAI-REL-02, "Workaround Program"  
Unit 1 Operator Workaround List  
Unit 1 Control Room Deficiency Report  
Unit 1 Aggregate Workaround Impact Review  
Unit 2 Operator Workaround List  
Unit 2 Control Room Deficiency Report  
NAI-ECA-12, "Trending", Revision 07  
OD 2006-0955, Revision 1

N2-OP-52, "Reactor Building Ventilation", Revision 7  
 N2-OSP-SWP-Q004, "Division II Service Water Operability Test", Revision 1, 08/31/05  
 N2-OSP-SWP-Q004, "Division II Service Water Operability Test", Revision 1, 09/01/05  
 N2-OSP-SWP-Q004, "Division II Service Water Operability Test", Revision 1, 09/04/05  
 N2-OSP-SWP-Q004, "Division II Service Water Operability Test", Revision 1, 12/08/05  
 N2-OSP-SWP-Q004, "Division II Service Water Operability Test", Revision 1, 12/11/05  
 N2-OSP-SWP-Q004, "Division II Service Water Operability Test", Revision 1, 03/12/06  
 N2-OSP-SWP-Q004, "Division II Service Water Operability Test", Revision 1, 03/29/06  
 N2-OSP-SWP-Q004, "Division II Service Water Operability Test", Revision 1, 06/02/06  
 N2-OSP-SWP-Q004, "Division II Service Water Operability Test", Revision 1, 06/11/06  
 N2-OSP-SWP-Q004, "Division II Service Water Operability Test", Revision 1, 09/07/06  
 N2-TTP-HVR-@413, "Performance Evaluation Test for Unit Cooler 2HVR\*413A and 413B",  
 Revision 3  
 N2-TTP-HVR-@413, "Performance Evaluation Test for Unit Cooler 2HVR\*413A and 413B",  
 Revision 2, 06/07/04  
 Calculation HVR-038, "HVR Unit Coolers Evaluation for Post-LOCA & Appendix R Fire",  
 Revision 8  
 Calculation HVR-038, Disposition 08D, "HVR Unit Cooler Evaluation for Post-LOCA EQ,  
 Appendix R, and Drawdown - 2HVR\*413B Check Valve Test Failure Reconciliation",  
 03/10/06

#### Trend Review

Unescorted access CRs: 2006-2968, 2006-3045, 2006-3059  
 Chemistry CRs: 2006-2975, 2006-3083, 2006-3098, 2006-3335, 2006-3233, 2006-3594, 2006-  
 4623, 2006-4557, 2006-3216, 2006-4627, 2006-3372, 2006-3382, 2006-4046, 2006-  
 4353, 2006-5105, 2006-3451, 2006-3753, 2006-3638, 2006-3462, 2006-3416, 2006-  
 3320  
 Instrument Air CRs: 2006-3964, 2006-4092, 2006-4054

#### Condition Reports

2006-2214	2005-1939	2006-5232	2006-3335
2006-3159	2005-3726	2006-5238	2006-3233
2006-3995	2005-4047	2006-5244	2006-3594
2006-2071	2005-4084	2006-0294	2006-4623
2002-4482	2006-0269	2006-0542	2006-4557
2005-3399	2006-0742	2006-1901	2006-3216
2005-3402	2006-0793	2006-1981	2006-4627
2006-0302	2006-0852	2006-1983	2006-3372
2006-2821	2006-3106	2006-2683	2006-3382
2006-3403	2006-4244	2006-2804	2006-4046
2006-3404	2006-4924	2006-2968	2006-4353
2006-3245	2006-5134	2006-3045	2006-5105
2006-3751	2006-5136	2006-3059	2006-3451
1998-2367	2006-5137	2006-4460	2006-3753
2004-1271	2006-5179	2006-2975	2006-3638
2004-5639	2006-5228	2006-3083	2006-3462
2004-5718	2006-5229	2006-3098	2006-3416

2006-3320	2006-4667	2006-2566	2005-4959
2006-3991	2006-5225	2005-3410	2005-4974
2006-4193	2006-5405	2006-5133	
2006-4324	1995-2466		

## LIST OF ACRONYMS

ACR	action request
ADAMS	agency wide documents and management system
ALARA	as low as reasonably achievable
CAP	corrective action program
CEDE	committed effective dose equivalent
CFR	Code of Federal Regulations
CR	condition report
DAC	derived air concentration
DBD	design basis document
EC	emergency condenser
ECCS	emergency core cooling system
EDG	emergency diesel generator
EOP	emergency operating procedure
EPRI	Electric Power Research Institute
ESW	emergency service water
EQ	equipment qualification
EQCAP	equipment qualification corrective action program
FCV	flow control valve
FWP	feedwater pump
GL	generic letter
HPCI	high pressure coolant injection
HRA	high radiation area
IPEEE	individual plant examination for external events
IPE	individual plant examination
IST	inservice testing
kV	kilovolt
LDE	lens dose equivalent
LORT	licensed operator requalification training
LPCS	low pressure core spray
LER	licensee event report
MREM	millirem
MOV	motor-operated valve
MR	maintenance rule
MSPI	mitigating systems performance index
NEI	Nuclear Energy Institute
NMP	Nine Mile Point
NMPNS	Nine Mile Point Nuclear Station
NRC	Nuclear Regulatory Commission
ODCM	offsite dose calculation manual
OP	operating procedure

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PARS	publicly available records
PI	performance indicator
RB	reactor building
RBCLC	reactor building closed loop cooling
RCIC	reactor core isolation cooling
RETS	radiological effluent technical specification
RHR	residual heat removal
RPS	reactor protection system
RPV	reactor pressure vessel
RWP	radiation work permit
SDE	skin dose equivalent
SGT	standby gas treatment
ST	surveillance test
TEDE	total effective dose equivalent
TI	temporary instruction
TRM	Technical Requirements Manual
TS	technical specification
UFSAR	Updated Final Safety Analysis Report
UPS	uninterruptible power supply
VHRA	very high radiation area
WO	work order

**ATTACHMENT 2**

**TI-2515/169 ADDITIONAL INFORMATION**

Question 1: For the sample selected, did the licensee accurately document the baseline planned unavailability hours for the MSPI systems?

Answer: No significant inaccuracies identified.

Question 2: For the sample selected, did the licensee accurately document the actual unavailability hours for the MSPI systems?

Answer: No significant inaccuracies identified.

Question 3: For the sample selected, did the licensee accurately document the actual unreliability information for each MSPI monitored component?

Answer: No significant inaccuracies identified.

Question 4: Did the inspector identify significant errors in the reported data, which resulted in a change to the indicated index color? Describe the actual condition and corrective actions taken by the licensee, including the date when the revised PI information was submitted to the NRC.

Answer: No significant errors identified.

Question 5: Did the inspector identify significant discrepancies in the basis document which resulted in (1) a change to the system boundary; (2) an addition of a monitored component; or (3) a change in the reported index color? Describe the actual condition and corrective actions taken by the licensee, including the date of when the bases document was revised.

Answer: No significant errors identified.