July 18, 2005

Mr. James A. Spina
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 05000220/2005003 and 05000410/2005003

Dear Mr. Spina:

On June 30, 2005, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Nine Mile Point Nuclear Station (NMPNS) Units 1 and 2. The enclosed integrated inspection report documents the inspection results, which were discussed on July 15, 2005, with Mr. Tim O'Connor and other members of your staff.

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

This report documents one NRC-identified finding of very low safety significance (Green). The finding was determined to involve a violation of NRC requirements. However, because of the very low safety significance and because the violation was entered into your corrective action program, the NRC is treating this violation as a non-cited violation (NCV) consistent with Section VI.A of the NRC Enforcement Policy. If you contest the NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. 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. 20555-0001; and the NRC Resident Inspector at Nine Mile Point.

In accordance with 10 CFR 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 Publically Available Records (PARS) component of

NRC's document system (ADAMS). ADAMS is accessible from the NRC Website at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

James M. Trapp, Chief
Projects Branch 1
Division of Reactor Projects

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

Enclosure: Inspection Report 05000220/2005003 and 05000410/2005003
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos.:	50-220, 50-410
License Nos.:	DPR-63, NPF-69
Report No.:	05000220/2005003 and 05000410/2005003
Licensee:	Nine Mile Point Nuclear Station, LLC (NMPNS)
Facility:	Nine Mile Point, Units 1 and 2
Location:	348 Lake Road Oswego, NY 13126
Dates:	April 1, 2005 - June 30, 2005
Inspectors:	G. Hunegs, Senior Resident Inspector B. Fuller, Resident Inspector E. Knutson, Resident Inspector T. Burns, Reactor Inspector L. Cheung, Senior Reactor Inspector J. Furia, Senior Health Physicist J. Krafty, Reactor Inspector S. McCarver, Reactor Inspector
Approved by:	James M. Trapp, Chief Projects Branch 1 Division of Reactor Projects

Enclosure

CONTENTS

SUMMARY OF FINDINGS

IR 05000220/2005003, 05000410/2005003; 04/01/05 - 06/30/05; Nine Mile Point, Units 1 and 2; Other Activities.

This report covered a 3-month period of inspection by resident inspectors, and an announced inspection by five region-based inspectors. One Green non-cited violation (NCV), was 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 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

- Green. The inspectors identified a non-cited violation (NCV) for multiple types of cable splices at Unit 1 that were not environmentally qualified. 10 CFR 50.49(f) requires that each item of electric equipment important to safety within the scope of 10 CFR 50.49(b) must be qualified by one of several methods described in that section. As of April 2005, there were 11 Okonite cable splices, 47 Raychem splices and one barrel-type butt splice in the Unit 1 drywell that were not environmentally qualified because these splices did not conform to the qualified configurations described in Procedure N1-EMP-GEN–003, “Insulating Medium and Low Voltage Power Connections Control and Instrumentation Cables.” These cable splices were used in the control circuitry of motor-operated valves and solenoid-operated valves that were required for accident mitigation and the circuitry of temperature instruments that were required for accident monitoring. This electric equipment is within the scope of 10 CFR 50.49(b).

  The finding is greater than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and affects the cornerstone objective of equipment reliability. The issue was a qualification deficiency that the licensee had evaluated in accordance with Generic Letter (GL) 91-18, and was determined to be of very low safety significance (Green) because the unqualified cable splices were determined to be either operable (i.e., insignificant leakage currents when subject to accident environment), or in a condition where the function of the inoperable cable splice (reactor vent valve unable to open) could be bypassed by an alternate mitigating method (alternate reactor vent path) as prescribed in an existing emergency operating procedure (EOP) to achieve similar accident mitigation results. The unqualified cable splices were replaced by qualified ones during the April refueling outage. The inspectors identified that a contributing cause of this finding was related to the cross-cutting area of problem identification and resolution. The relevant causal factor was problem identification because the nonconforming splices in the drywell were not identified by the engineering staff in a timely manner. (Section 4OA5.3)

B. Licensee-Identified Violations

None

REPORT DETAILS

Summary of Plant Status

Nine Mile Point Unit 1 (Unit 1) began the inspection period in refueling outage RFO18, which had begun on March 21. The plant was returned to service on April 25. The reactor was shutdown on April 26 to repair a leaking union on the reactor building closed loop cooling (RBCLC) piping to the 15 reactor recirculation pump (RRP). The plant was restarted on April 27 and commenced an extensive run-in of the new monoblock low pressure turbine rotors which had been installed during the outage. Unit 1 reached 100 percent power on May 9.

Nine Mile Point Unit 2 (Unit 2) began the inspection period at 100 percent power. On May 21, power was reduced to 11 percent for a drywell entry to perform temporary repairs for a recirculation flow control valve hydraulic leak, and to adjust the packing on one of the recirculation flow control valves. Power was returned to 100 percent on May 22. Unit 2 operated at 100 percent for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems and Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope (71111.01 - 1 Sample - Hot Weather)

The inspectors examined four risk significant systems in the Unit 1 and Unit 2 Reactor and Turbine Buildings to verify that design features, operating procedures, and in-plant conditions supported operation of these systems during periods of warm weather. Unit 1 documents reviewed included the Unit 1 Final Safety Analysis Report (FSAR), the Unit 1 Individual Plant Examination for External Events (IPEEE), N1-OP-64, “Meteorological Monitoring,” and EPIP-EPP-26, “Natural Hazard Preparation and Recovery.” Unit 2 documents reviewed included the Unit 2 Updated Final Safety Analysis Report (UFSAR), the Unit 2 IPEEE, and N2-OP-102, “Meteorological Monitoring.” The following systems were examined:

- Unit 1 Turbine Building Ventilation System
- Unit 1 Service Water System
- Unit 2 Emergency Diesel Generator System
- Unit 2 Control Building Ventilation System

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

a. Inspection Scope

Partial System Walkdown (71111.04 - 3 Samples)

The inspectors performed partial system walkdowns to verify proper system and component alignment and to note any discrepancies that would impact system operability. The walkdowns included control room switch and indication verification, physical inspection, and partial verification of the system lineup.

- On April 12, the inspectors performed a partial system walkdown of the Unit 1 safety-related instrument air system based on safety significance. Procedure N1-OP-20, “Service, Instrument, and Breathing Air Systems,” was used for this review. In addition, the inspectors referenced NMP’s response to Generic Letter 88-14, “Instrument Air Supply System Problems Affecting Safety-Related Equipment.”

- On May 11, the inspectors performed a partial system walkdown of the Unit 2, division 2, emergency diesel generator (EDG). Procedures N2-OP-100A, “Standby Diesel Generators,” and N2-VLU-01, “Walkdown Order Valve Lineup and Valve Operations,” attachment 100A, “N2-OP-100A Walkdown Valve Lineup,” were used for this review.

- On June 7, the inspectors selected the Unit 1, 11 liquid poison system to conduct a partial system walkdown due to increased risk significance during a planned surveillance of the 12 train of liquid poison. Procedures N1-ST-M1A, “Liquid Poison Pump 11 Operability Test,” and N1-OP-12, ”Liquid Poison System,” were used for this review.

Complete System Walkdown (71111.04S - 1 Sample)

The inspectors performed a complete system walkdown of the Unit 1 service water (SW) system, selected due to ongoing modifications to the system during the onset of warmer lake temperatures. The walkdown was conducted to identify any discrepancies between the existing equipment alignment and the required alignment. The inspectors determined the correct system lineup using procedure N1-OP-15, “Service Water System,” Attachment 1, “Valve Lineup,” Attachment 2, “Electrical Lineup,” and Attachment 3, “Control Switch Lineup,” along with the appropriate piping and instrument drawings. In addition, the inspectors reviewed temporary modifications, maintenance rule status, operator workarounds, and outstanding maintenance work requests and historical deficiencies that could potentially affect the ability of the system to perform its design basis function and to assess overall system health. During this inspection the inspectors verified the following: valves were correctly positioned; electrical power was available as required; labeling was correct; and valves required to be locked were properly locked. Minor issues identified were provided to system engineering personnel.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope (71111.05Q - 8 Samples)

The inspectors walked down accessible portions of fire areas described below to assess the licensee's control of transient combustible material and ignition sources, fire detection and suppression capabilities, and fire barriers and any related compensatory measures. The condition of fire detection devices, and readiness of sprinkler fire suppression systems and fire doors, were also inspected against industry standards. In addition, the fire protection features were inspected, including ventilation system fire dampers, structural steel fire proofing, and electrical penetration seals. Reference material reviewed for installed features included the Unit 1 FSAR and the Unit 2 USAR.

- Unit 1 Torus Room, Reactor Building (RB) 198 ft
- Unit 1 RB 237 ft
- Unit 1 RB 281 ft
- Unit 2 Division 1 Cable Spreading Room, Control Building 244 ft
- Unit 2 Division 2 Cable Spreading Room, Control Building 244 ft
- Unit 2 Refueling Floor, RB 353 ft
- Unit 2 Reactor Building Closed Loop Cooling Water Pump area, RB 328 ft
- Unit 2 Normal 13.8 KV Switchgear Rooms, Control Building 261 ft

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures

a. Inspection Scope (71111.06 - 1 Sample - Internal)

The inspectors examined the susceptibility of the Unit 2 Turbine Building to flooding from the circulating water system. This scenario was considered to be potentially risk significant due to the possibility of it leading to flooding in the Reactor Building if the piping tunnel building separation seals were to fail. Documents reviewed included the USAR, the Unit 2 Individual Plant Examination (IPE), N2-EOP-SC, "Secondary Containment Control," and drawing 12177-EB-406A-6, "Air and Water Tightness Design Requirements." The inspectors also performed a physical inspection of the turbine building basement.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

a. Inspection Scope (71111.07A - 1 Sample)

The inspectors completed one annual review sample by reviewing the most recent residual heat removal (RHR) subsystem B heat exchanger performance test. This test is performed in accordance with N2-TTP-RHS-4Y002, "Residual Heat Removal System Heat Exchangers Performance Monitoring (Suppression Pool Cooling Mode)." The inspectors also discussed the heat exchanger performance monitoring program with the heat exchanger component engineer.

b. Findings

No findings of significance were identified.

1R08 Inservice Inspection Activities

a. Inspection Scope (71111.08 - 1 Sample)

The inspectors observed selected samples of in-process nondestructive examination (NDE) activities. Also, the inspectors reviewed documentation of additional samples of NDE and component replacement activities which involved welding processes. The sample selection was based on the inspection procedure objectives and risk priority of those components and systems where degradation would result in a significant increase in risk of core damage. The observations and documentation reviews were performed to verify activities were performed in accordance with the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code requirements. The inspectors reviewed a sample of Deviation/Event Reports (DER) initiated as a result of nonconforming conditions identified during Inservice inspection (ISI) examinations. Also, the inspectors evaluated effectiveness in the resolution of problems identified during ISI activities performed during this period.

The inspectors observed automatic and manual ultrasonic (UT), magnetic particle (MT), liquid penetrant (PT) and visual testing (VT) activities to verify effectiveness of the examiner, test equipment and process in identifying degradation of risk significant systems, structures and components and to evaluate those activities for compliance with the requirements of ASME Section XI of the Boiler and Pressure Vessel Code.

The inspectors selected DER NM-2005-1345 for review as representative of a nonconforming condition that was evaluated and dispositioned "accept as-is" for continued service without repair. This report identified a relevant indication in each of the four Unit 1 steam dryer hold down assembly leveling screw tack welds. The indication was characterized as a crack and the deviation report was initiated at the time of discovery to capture the nonconformance for analysis and disposition within the licensee's corrective action program. The inspectors assessed the licensee's evaluation and disposition for continued service without repair of a non-conforming condition identified during ISI activities.

The inspectors observed the manual UT test of circumferential field weld (FW) 32-WD-050 in the reactor recirculation system, the PT testing of FW 39-H10-WD001 in the emergency condenser (#112) condensate return line and the automatic UT testing of the reactor pressure vessel recirculation system nozzle N1B. In addition, the inspectors performed a documentation review of the PT testing results of FW 80-23-WD-006 in the core spray (CS) system. The inspectors verified by both direct observation and documentation review that these test activities were performed in accordance with the ASME Boiler and Pressure Vessel Code requirements. The inspectors reviewed the radiographs and examination test results of field welds 38-WD-094R and 32-WD-204B made to replace containment isolation valve IV-38-13 in the reactor shutdown cooling return line. The inspectors confirmed that for the radiographs evaluated, the examination was in compliance with the requirements of ASME Section XI.

Also, the inspectors interviewed the licensee's radiographic personnel responsible for the review and interpretation of the film to assess examiner experience and knowledge of the ASME Code requirements. The inspectors reviewed a sample of video recordings of the remote in-vessel visual inspection (IVVI) of the steam dryer base metal and selected fabrication welds. This review was conducted to confirm examiner skill, test equipment capabilities and examination techniques were sufficient for performance of the visual examination of selected vessel internals. The inspectors concluded that this remote visual examination met the requirements of ASME Section XI. The inspectors reviewed welding activities associated with the replacement of containment isolation valve IV-38-13 in the reactor shutdown cooling return line to verify that welding activities on FW's 38-WD-094R and 32-WD-204B were performed in accordance with the requirements of ASME Section IX and XI. The inspectors reviewed the joint process control instructions, welding instructions, welding procedure specification 08-08-TS-001 R2 and 08-316L-T-001 R0, applicable procedure qualification records, welders performance qualifications, NDE requirements and test results of the completed welds for compliance with the requirements of ASME Section IX and XI. The inspectors concluded that the activities reviewed were in compliance with ASME Section IX and XI.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program

a. Inspection Scope (71111.11Q - 1 Sample and 71114.06 - 1 Sample)

The inspectors observed Unit 1 licensed operator simulator training on June 6, to assess the licensee's training program effectiveness. The inspectors reviewed performance in the areas of procedure use, self-checking and peer-checking, completion of critical tasks, and training performance objectives. Following the simulator training, the inspectors reviewed simulator fidelity through a sampling process. During the training, the inspectors evaluated the emergency response organization (ERO) performance regarding initial and subsequent actions by licensed operators.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope (71111.12Q - 2 Samples)

The inspectors reviewed one performance-based problem during this inspection period, involving the Unit 1 spent fuel pool liner leakage detection system, to assess the effectiveness of the maintenance program. In addition, the inspectors reviewed the performance and condition history of one high safety significant system, the Unit 2 low pressure core spray system. Reviews focused on: (1) proper maintenance rule (MR) scoping in accordance with 10 CFR 50.65; (2) characterization of failed structures, systems, and components (SSCs) safety significance classifications; and, (3) 10 CFR 50.65(a)(1)/(a)(2) classifications. The inspectors reviewed the Unit 1 FSAR and Unit 2 USAR, procedures N1 and N2-MRM-REL-0104, "Maintenance Rule Scope," and N1 and N2-MRM-REL-0105, "Maintenance Rule Performance Criteria," and the applicable system health reports.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope (71111.13 - 5 Samples)

The inspectors reviewed five risk assessments and emergent work activities during this inspection period. For selected maintenance, work items or work orders the inspectors evaluated: (1) the effectiveness of the risk assessments performed before the maintenance activities were conducted; (2) risk management control activities; (3) the necessary steps taken to plan and control resultant emergent work tasks; and, (4) the overall adequacy of identification and resolution of emergent work and the associated maintenance risk assessments. GAP-OPS-117, "Integrated Risk Management," was used for this review. The following assessments/activities were reviewed:

- On April 11, the inspectors evaluated the licensee's activities to address failure of a turbo oil pump which caused EDG 103 to be inoperable. Reference DER NM-2005-1571 (Unit 1)
- On June 7, the inspectors reviewed the licensee's response to the 13 feedwater pump seal degradation. Reference DER NM-2005-2317 (Unit 1)
- On May 18, the inspectors reviewed reactor recirculation flow calibrations being performed concurrently with a swap of the instrument air dryers, which resulted in a yellow risk condition. (Unit 1)

- On April 26, the inspectors evaluated the licensee's plans to perform repair of a leak in the reactor building closed loop cooling (RBCLC) system piping to the 15 reactor recirculation pump. Reference DER NM-2005-1936 (Unit 1)
- On June 20, the inspectors examined the licensee's efforts to complete acceptance testing of a new Division 2 uninterruptible power supply (UPS), 2VBA*UPS2D, to allow it to be placed in service following failure of 2VBA*UPS2B the previous day. Reference DER NM-2005-2543 (Unit 2)

b. Findings

No findings of significance were identified.

1R14 Operator Performance During Non-routine Evolutions and Events

a. Inspection Scope (71111.14 - 1 Sample)

On April 27, operators performed the initial roll of the new mono-block low pressure turbine rotors during startup from refueling outage RFO18. The manufacturing and operational characteristics of mono-block rotors provide very tight tolerances upon installation, which require a careful series of turbine runs to wear in the rotating turbine element to fit the casing. As a result, rubs and vibrations of the rotor are expected and contingencies were planned to correct the cause of the rub, to include up to an emergency power reduction and trip of the turbine. Multiple turbine startups were conducted, generator loading increased and reheaters and feedwater heating were placed in service during the period April 28 to May 9, 2005, when the plant reached rated power. The inspectors observed control room activities associated with these evolutions, including crew briefings. The inspectors assessed plant response and conditions specific to the evolution, and evaluated the performance of licensed operators. The inspectors also reviewed control room procedures and operator logs to determine if operators performed the appropriate actions in accordance with their training and established station procedures.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope (71111.15 - 6 Samples)

The inspectors reviewed six operability evaluations during this inspection period, which affected risk significant mitigating systems, assessing: (1) the technical adequacy of the evaluation; (2) whether other existing degraded systems adversely impacted the affected system or compensatory measures; and, (3) where compensatory measures were used, whether the measures were appropriate and properly controlled; and (4) that the degraded systems remained operable. Procedure S-ODP-OPS-0116,

"Operability Determinations," was used for this review. Operability evaluations associated with the following issues were reviewed:

- DER NM-2005-1936, #15 Recirculation pump RBCLC flange leakage (Unit 1)
- DER NM-2005-1969, Remote shutdown panel all rods in indicating light (Unit 1)
- DER NM-2005-2065, EDG 103 turbo oil pump failure (Unit 1)
- ACR 05-03243, Off-gas radiation monitors non-conservative setpoint (Unit 1)
- DER NM-2005-1803, Assessment of containment spray pumps 111 and 112 operability after having been run dead-headed during N1-SP-R2, "Loss of Coolant Accident and Emergency Diesel Generator Simulated Auto Initiation Test." Also reviewed N1-ST-Q6A and C, "Containment Spray System Loop 111 and 112 Quarterly Operability Tests," which were performed to verify that there were no significant changes in pump performance. (Unit 1)
- DER 2005-1788, Reviewed NMP's assessment of past operability of the electromatic relief valve (ERV) expansion bellows while the tie rods had been improperly adjusted (Unit 2)

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds

a. Inspection Scope (71111.16 - 1 Cumulative Sample and 2 Selected Samples)

The inspectors reviewed operator workarounds at Units 1 and 2 to determine if any had a potential adverse effect on the functionality of mitigating systems. Included in this review were the effect on (1) the reliability, availability and potential for mis-operation of a system; (2) the potential increase in initiating event frequency; and (3) the ability of operators to respond in a correct and timely manner to plant transients and accidents. The inspectors looked for any cumulative effects of operator workarounds. NAI-REL-02, "Workaround Program," was used for this review.

Additionally, the inspectors selected two operator workarounds for a more detailed review:

- WA-02-02, HVR*UC413 operation requires the standby gas treatment system train to be declared inoperable (Unit 2)

- WA-02-01, Overvoltage reactor protection system electrical protective assembles need to be manually adjusted (Unit 2)

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications

a. Inspection Scope (71111.17A - 1 Sample)

The inspectors reviewed one permanent plant modification, DCP N2-05-030, "UPS Reliability Improvement." The inspectors verified the adequacy of the modification package, and verified that the design and licensing bases requirements of the system were not degraded during the associated work activities. The inspectors also verified that post-modification testing was completed in accordance with established station procedures which adequately demonstrated continued reliability and satisfactory performance of the associated system. The inspectors interviewed cognizant licensee personnel and performed system walkdowns to verify the modification was implemented as planned.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope (71111.19 - 7 Samples)

The inspectors reviewed post-maintenance testing (PMT) procedures and associated testing activities for seven selected risk significant mitigating systems, assessing whether: (1) the effect of testing on the plant had been adequately addressed by control room and engineering personnel; (2) testing was adequate for the maintenance performed; (3) acceptance criteria were clear and adequately demonstrated operational readiness, consistent with the design and licensing basis documents; (4) test instrumentation had current calibrations, and appropriate range and accuracy for the application; (5) tests were performed as written, with applicable prerequisites satisfied; (6) jumpers installed or leads lifted were properly controlled; and, (7) test equipment was removed following testing and equipment was returned to the status required to perform its safety function. The following PMT activities were reviewed:

- WO 04-08878-00, Feedwater/High Pressure Coolant Injection power supply modification to eliminate single point vulnerability (Unit 1)
- N1-ST-Q26, "Feedwater and Main Steam Line Power Operated Isolation Valves Partial Exercise Test" (Unit 1)
- WO 04-09023-00, EDG turbo oil pump replacement (Unit 1)
- N1-ST-W15, "Manual Scram Instrument Channel Test,"11K55 RPS manual scram relay replacement (Unit 1)
- N1-MFT-094, "XF-T101N Acceptance Test," following replacement of this transformer (Unit 1)
- N1-ST-R30, "Reactor Pressure Vessel and ASME Class 1 System Leakage Test," performed as PMT for vessel reassembly and various other component maintenance performed during the refueling outage (Unit 1)

- N2-OSP-EGS-M@001, “Diesel Generator and Diesel Air Start Valve Operability Test - Division I and II,” performed as PMT following jacket water cooling system corrective maintenance (Unit 2)

b. Findings

No findings of significance were identified.

1R20 Refueling and Other Outage Activities

a. Inspection Scope (71111.20 - 1 Sample)

The inspectors evaluated Unit 1 outage activities to ensure that the licensee considered risk in the development of outage schedules; the adherence to administrative risk reduction methodologies developed to control plant configuration; developed mitigation strategies for losses of key safety functions, and adhered to operating license and TS requirements that ensure defense in depth. The following specific areas were reviewed:

- Review of outage plan
- Monitoring of shutdown activities
- Licensee control of outage activities
- Material condition of spaces inaccessible during power operations
- Refueling activities including fuel movement and reactor vessel inspections
- Monitoring of reactor startup and heatup activities
- Monitoring of mono-block turbine initial roll activities

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope (71111.22 - 6 Samples)

The inspectors witnessed performance of surveillance test procedures and/or reviewed test data of selected risk significant SSCs to assess whether the testing satisfied TS, FSAR/USAR, and licensee procedure requirements, and to determine if the testing appropriately demonstrated that the SSCs were operationally ready and capable of performing their intended safety functions. The following surveillance tests were reviewed:

- N1-ST-C2, “Solenoid-actuated Pressure Relief Valves Operability and Flow Verification Test” (Unit 1)
- N1-ST-M3, “Suppression Chamber-drywell Relief Valve Exercising,” (Unit 1)
- N1-ST-Q6B, “Containment Spray System Loop 121 Quarterly Operability Test” (Unit 1)

- N1-ST-Q1A, “Core Spray 111 Pump, Valve and SDC Water Seal Check Valve Operability (Unit 1)
- N1-ST-R2, “Loss of Coolant Accident and Emergency Diesel Generator Simulated Auto Initiation Test,” (Unit 1)
- N2-OSP-RHS-Q@005, “RHR System Loop B Pump and Valve Operability Test and System Integrity Test” (Unit 2)

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope (71111.23 - 2 Samples)

The inspectors reviewed the following temporary plant modifications to determine whether the temporary change adversely affected system or support system availability, or adversely affected a function important to plant safety. The inspectors reviewed the associated system design bases, including the FSAR/USAR and TS, and assessed the adequacy of the safety determination screening and evaluation. The inspectors also assessed configuration control of the temporary change by reviewing selected drawings and procedures to verify whether appropriate updates had been made. The inspectors compared the actual installation with the temporary modification documents to determine whether the implemented change was consistent with the approved documented modification. The inspectors reviewed the post-installation test results to verify whether the actual impact of the temporary change had been adequately demonstrated by the test. NIP-CON-01, “Design and Configuration Control,” was used in this review.

- N1-04-165, “Spent Fuel Pool Temporary Cooling System for RFO18” (Unit 1)

- N2-05-059, “Reactor Recirculation Flow Control Valve Actuator Seal” (Unit 2)

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control To Radiologically Significant Areas

a. Inspection Scope (71121.01 - 7 samples)

The inspectors reviewed radiation work permits (RWPs) for airborne radioactivity areas with the potential for individual worker internal exposures of >50 mrem committed effective dose equivalent (CEDE), and verified barrier integrity and engineering controls performance.

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

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

The inspectors discussed with the Radiation Protection Manager (RPM) high dose rate high radiation areas, and very high radiation area (VHRA) controls and procedures. The inspectors verified that any changes to licensee 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 VHRAs during certain plant operations. The inspectors determined that these plant operations require communication beforehand with the HP group, so as to allow corresponding timely actions to properly post and control the radiation hazards.

During job performance observations, the inspectors observed radiation worker performance with respect to stated radiation protection work requirements. The inspectors determined that they were aware of the significant radiological conditions in their workplace, and the RWP controls/limits in place, and that their performance took into consideration the level of radiological hazards present.

During job performance observations, the inspectors observed radiation protection technician performance with respect to radiation protection work requirements. The inspectors determined that they were aware of the radiological conditions in their workplace and the RWP controls/limits, and that their performance was consistent with their training and qualifications with respect to the radiological hazards and work activities.

b. Findings

No findings of significance were identified.

2OS2 ALARA Planning and Controls

a. Inspection Scope (71121.02 - 5 Samples)

The inspectors obtained from the licensee a list of work activities ranked by actual/estimated exposure that had been completed during the last outage (Unit 1 RFO18) and select the five work activities of highest exposure significance. The inspectors evaluated the licensee's use of as low as is reasonably achievable (ALARA) controls for these work activities by performing the following: evaluated the licensee's use of engineering controls to achieve dose reductions; evaluated procedures and controls to verify consistency with the licensee's ALARA reviews; verified sufficient shielding of radiation sources provided for; verified dose expended to install/remove the shielding did not exceed the dose reduction benefits afforded by the shielding.

b. Findings

No findings of significance were identified.

2OS3 Radiation Monitoring Instrumentation and Protective Equipment

h. Inspection Scope (71121.03 - 1 Sample)

The inspectors verified the calibration, operability, and alarm setpoint of several types of instruments and equipment. Verification methods included: review of calibration documentation and observation of licensee source check or calibrator exposed readings. The inspectors determined what actions were taken when, during calibration or source checks, an instrument is found significantly out of calibration (>50%). The inspectors determined possible consequences of instrument use since last successful calibration or source check. The inspectors determined that the out of calibration result was entered into the corrective action program.

b. Findings

No findings of significance were identified.

Cornerstone: Public Radiation

2PS3 Radiological Environmental Monitoring Program

i. Inspection Scope (71122.03 - 9 Samples)

The inspectors reviewed the current Annual Environmental Monitoring Report, and licensee assessment results, to verify that the radiological environmental monitoring

program (REMP) was implemented as required by technical specifications (TS) and the offsite dose calculation manual (ODCM). The review included 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 also reviewed the ODCM to identify environmental monitoring stations. In addition, the inspectors reviewed: licensee self-assessments and audits; licensee event reports; inter-laboratory comparison program results; the final safety analysis report (FSAR) for information regarding the environmental monitoring program and meteorological monitoring instrumentation; and the scope of the audit program to verify that it met the requirements of 10 CFR 20.1101.

The inspectors walked down 15 air particulate and iodine sampling stations; five ground water sampling locations; and 25 thermoluminescent dosimeter (TLD) monitoring locations. The inspectors determined the equipment material condition to be acceptable.

The inspectors observed the collection and preparation of a variety of environmental samples (listed above) and 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 FSAR, 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 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.

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 also reviewed technical justifications for any changed sampling locations and 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. The inspectors reviewed: results of the licensee's interlaboratory comparison program to verify the adequacy of environmental sample analyses performed by the licensee; the licensee's quality control evaluation of the interlaboratory comparison program and the corrective actions for any deficiencies; the licensee's determination of any bias to the data and the overall effect on the REMP; and quality assurance (QA) audit results of the program to determine whether the licensee met the TS/ODCM requirements. The inspectors verified that the appropriate detection sensitivities with respect to TS/ODCM

are utilized for counting samples and reviewed the results of the quality control program including the interlaboratory comparison program to verify the adequacy of the program.

The inspectors observed several locations where the licensee monitors potentially contaminated material leaving the radiologically controlled area (RCA), and inspected the methods used for control, survey, and release from these areas. The inspectors observed the performance of personnel surveying and releasing material for unrestricted use verifying that the work is 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 the licensee'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; and reviewed the licensee'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 also reviewed the licensee's procedures and records to verify that the radiation detection instrumentation was used at its typical sensitivity level based on appropriate counting parameters and verified that the licensee has 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.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA2 Identification and Resolution of Problems

1. Selected Issue Follow-up Inspection - Unit 1 Shutdown Cooling System Supply Outboard Isolation Valve 38-02

a. Inspection Scope (71152 - 1 Sample)

On August 30, 2004, while attempting to place the Shutdown Cooling (SDC) system into service to support plant cool down, valve 38-02 failed to open on demand from the control room. Immediate actions included declaring the valve inoperable, entering the appropriate technical specification action statements, and manually opening the valve to initiate shutdown cooling. Subsequent troubleshooting identified a blown fuse in the motor operator circuit and damage to the electric motor. Corrective actions taken included replacing the valve operator motor and fuses. Also, temporary instrumentation was installed to assist in gathering information to identify the root cause for failure of valve 38-02. On March 21, 2005, when shutdown cooling was again needed to continue with a plant cool down for a refueling outage, valve 38-02 experienced a failure similar to

the August 2004 event. Troubleshooting and testing conducted after the August 2004 failure, combined with information gathered following the March 2005 failure, led Constellation to conclude that the most probable cause of valve 38-02 failing to open when demanded was thermal binding of the valve disc in the valve seat. Valve 38-02 uses a solid wedge valve disc. This type of disc is known to be susceptible to thermal binding.

Following the March 2005 failure and identification of thermal binding as the problem, Constellation took several actions to minimize the potential for thermal binding. These included insulating the valve bonnet to minimize temperature differences between the valve body and the disc, adjusting the torque switch setting to the low end of the allowable range to minimize closing forces without compromising the ability to overcome design basis loads, and modifying the valve operator to minimize the effects of valve stem thermal growth and inertial thrust. Additionally, the SDC system operating procedure was revised so that after the SDC inboard isolation valves are closed, the disc and stem of valve 38-02 will be allowed to equalize in temperature with the valve body prior to being fully closed. These actions will mitigate the potential for thermal binding of the valve in the closed position. The final corrective action will be replacement of the solid wedge disc with a flexible wedge disc, which is not susceptible to thermal binding. Constellation is planning this action for the next scheduled refueling outage due to design, procurement, and manufacturing lead times.

This issue was selected for review due to intermittent, repetitive failures of this valve to open when demanded. Note that this valve has a design function to open to initiate shutdown cooling. Its safety function is to close automatically to isolate shutdown cooling from the reactor coolant system when conditions indicating a loss of coolant accident are sensed. The inspector reviewed the troubleshooting performed, motor operator sizing calculations, responses to Generic Letters 89-10 and 95-07, modifications to the valve operator, and changes to the system operating procedure. Also, the issue was discussed with system engineering personnel. The review was performed to verify:

- Completeness, accuracy and timeliness of the problem identification and significance;
- Evaluation and disposition of operability/reportability issues;
- Consideration of extent of condition, generic implications, common cause, and previous occurrences;
- Classification and prioritization of the resolution of the problem commensurate with its safety significance;
- Identification of root and contributing causes of the problem;
- Identification of appropriate corrective actions; and,
- Timely completion of corrective actions commensurate with the issue's safety significance and verification that interim corrective actions and/or compensatory actions were identified and implemented to minimize the problem and/or mitigate its effects, until the implementation of the permanent corrective actions.

A complete listing of documents reviewed are included in Attachment 1.

b. Findings

No findings of significance were identified and the inspectors identified no concerns with the corrective actions specified. Constellation personnel identified the root cause of the valve failure to be thermal binding of the valve disc in the valve body. Corrective actions that have been completed include fully insulating the valve, modifying the motor operator, reducing the torque switch setpoints within the allowable range, and revising system operating procedures. Replacement of the solid wedge valve disc with a flexible wedge disc is planned for the next refueling outage.

2. Selected Issue Follow-up Inspection - Environmental Qualification (EQ) of Unit 1 Cable Splices

a. Inspection Scope (71152 - 1 Sample)

The inspectors reviewed licensee corrective actions for resolving an unresolved item that pertained to potential unqualified cable splices inside Unit 1 drywell to determine whether the corrective actions were acceptable for the closure of the unresolved item. The inspectors also reviewed various activities that had been completed by the High Impact Team (HIT) that was formed in September 2004 to address unqualified cable splices at Nine Mile Point, the review was to assess the progress of HIT action items. The inspectors also reviewed the QA audit report on the HIT activities and interviewed the audit team leader to discuss the audit team's findings.

b. Findings

The licensee completed a thorough inspection of all devices that could contain cable splices requiring EQ inside the drywell, and replaced all unqualified cable splices with qualified ones using preplanned work orders. The licensee's corrective actions were acceptable and Unresolved Item 05000220/2004004-07 is closed as discussed in Section 4OA5.3.

The licensee created the HIT in order to develop an action plan to fully qualify all cable splices requiring EQ. The scope of the team was to identify all potentially unqualified cable splices that were installed for EQ equipment located in high energy line break (HELB) environments and to replace all cable splices that were found unqualified. As of April 2005, the inspections and replacements of the unqualified splices were all complete. Interview with the HIT project leader indicated that they expected to close all team activities (include approval and documentation) by the end of June 2005, two months ahead of the originally scheduled completion date of August 2005.

The QA audit team identified several programmatic issues that were documented in several DERs. As of April 2005, most of these DERs were still open but were in the licensee's corrective action program. The inspectors concluded that the HIT activities progressed well.

3. Inservice Inspection Activities

a. Inspection Scope

The inspectors reviewed a sample of corrective action reports associated with ISI shown in the attachment, which identified nonconforming conditions discovered during this and the previous outage. The inspectors verified that flaws and other nonconforming conditions identified during nondestructive testing were reported, characterized, evaluated and appropriately dispositioned and entered into the corrective action program.

b. Findings

No findings of significance were identified.

4. Public Radiation Safety

b. Inspection Scope

The inspectors reviewed the licensee's Licensee Event Reports, Special Reports, and audits related to the radiological environmental monitoring program performed since the last inspection. The inspectors determined that identified problems were entered into the corrective action program for resolution. The inspectors also reviewed corrective actions affecting environmental sampling, sample analysis, or meteorological monitoring instrumentation.

c. Findings

No findings of significance were identified.

5. Corrective Action Review by Resident Inspectors

a. Inspection Scope

Continuous Review

The inspectors performed a daily screening of items entered into the licensee's corrective action program as required by Inspection Procedure 71152, "Identification and Resolution of Problems." The review facilitated the identification of potentially repetitive equipment failures or specific human performance issues for follow-up inspection. It was accomplished by reviewing each issue report and attending daily screening meetings, and accessing the licensee's computerized database.

Semi-Annual Problem Identification and Resolution (PI&R) Review

The inspectors performed an in-depth, semi-annual, PI&R review of licensee documents written from January 2005 through June 2005 to verify that the licensee is identifying

issues at the appropriate threshold, entering them into the corrective action program, and ensuring that there are no significant adverse trends outside of the corrective action program which would indicate the existence of a more significant safety issue. The inspectors reviewed licensee PIs, self-assessment reports, quality assurance audit/surveillance reports, corrective action reports, and systems health reports and compared the results of the review with results reported in the NRC baseline inspection program. Additionally, the inspectors evaluated the reports against the guidance in the Nine Mile Point Corrective Action Program (CAP) as delineated in NIP-ECA-01, "Deviation/Event Report."

b. Findings

No findings of significance were identified.

6. Cross-Reference to PI&R Finding Documented Elsewhere

Section 4OA5 describes a finding for failure to identify nonconforming environmentally qualified cables splices in the Unit 1 drywell in a timely manner. The causal factor of problem identification in the cross-cutting area of problem identification and resolution has been assigned to this finding.

4OA3 Event Follow-up (71153)

1. (Closed) LER 05000220/2005-001-00, Automatic Reactor Scram Due to a Failure in the Circuitry for a Moisture Separator Tank Level Switch.

On March 7, 2005, Unit 1 experienced an automatic reactor scram initiated by a turbine trip caused by a failure in the circuitry of a moisture separator tank level switch. All systems worked as designed to stabilize the reactor.

The circuit failure was determined to be a short circuit between two terminal points caused by water intrusion into the junction box. The licensee determined the most likely source of the water was condensed steam from valve packing leaks in the vicinity. Corrosion products accumulated on adjacent terminal points over an extended period of time, eventually leading to a short circuit. Licensee actions to prevent recurrence included cleaning of terminal points and sealing top and side penetrations to the junction boxes. Additionally, a design change was implemented to change the trip logic of the moisture separator tank level switches to prevent a single switch failure from causing a turbine trip. This change was installed and tested during RFO18. The licensee performed an extent of condition review to identify and repair junction boxes with similar environmental conditions. The inspectors reviewed this licensee event report (LER) and no findings of significance were identified. This LER is closed.

4OA5 Other Activities

7. TI 2515/161, Transportation of Reactor Control Rod Drives in Type A Packages

a. Inspection Scope

Through inspection and interviews of cognizant personnel, the inspectors examined site specific records pertaining to the licensee's use of DOT Specification 7A Type A packaging for the shipment of Control Rod Drive Mechanisms (CRDM) for the period between CY 2002 and the present. The inspectors examined records for the purpose of determining the licensee's compliance with DOT transportation requirements contained in 49 CFR Parts 173.412 and 173.415. The inspectors determined that Nine Mile Point had undergone refueling activities between January 1, 2002, and the present; and that it had shipped irradiated control rod drives in Department of Transportation (DOT) Specification 7A, Type A packaging.

b. Findings and Observations

No findings of significance were identified.

Title 10 CFR 71.5 requires that NRC licensees comply with all applicable rules and regulations of the DOT when transporting Class 7 materials. DOT regulations contained in 49 CFR 173.415(a) requires that the shipper of a Specification 7A package have available complete documentation of tests and an engineering evaluation or comparative data showing that the construction methods, packaging design, and materials of construction comply with Specification 7A. Contrary to this requirement, Nine Mile Point shipped Class 7 materials, i.e., control rod drives, in Specification 7A packaging in the years 2004-2005 without having available documentation supporting the Specification 7A classification of the package. Although this issue should be corrected, it constitutes a violation of minor significance that is not subject to enforcement action in accordance with Section IV of the Enforcement Policy.

The inspectors reviewed the documentation files for the three irradiated control rod drive shipments made by the licensee in 2004 and 2005. In each instance, the licensee utilized a Specification 7A packaging. Review of these files, together with discussions with licensee personnel and management indicated that the licensee did not have available complete documentation of tests and an engineering evaluation or comparative data showing that the construction methods, packaging design, and materials of construction comply with Specification 7A, as required under Title 49, Code of Federal Regulations (CFR), Part 173.415(a).

The licensee reused DOT Specification 7A packaging from General Electric, which were utilized to transport refurbished control rod drives to the licensee in support of refueling outages. These packaging were reloaded with used control rod drives, which were then transported offsite. A review of these shipments indicated that no packages contained more than four used control rod drives, that the package gross weight did not exceed

7200 pounds, and that all other requirements for the transport of Class 7 material, as specified in 49 CFR Parts 100-177 were met.

This issue was screened in accordance with Manual Chapter 0612, Power Reactor Inspection Reports, Appendix B (Issue Screening). This issue is a performance deficiency, in that the licensee did not meet a requirement [49CFR173.415(a)]. The issue is not subject to traditional enforcement, in that it did not involve an actual safety consequence, did not have the potential to impact the NRC's ability to perform its regulatory function, and had no willful aspects. The issue is not more than minor in that: it cannot be reasonably viewed as a precursor to a more significant event; would not become a more significant safety concern if left uncorrected; is not related to a performance indicator; does not affect the public radiation cornerstone objective of ensuring adequate protection of public health and safety from exposure to radioactive materials released into the public domain as the result of routine civilian nuclear reactor operation; and, does not relate to maintenance risk assessment or risk management.

Nine Mile Point initiated actions to determine if other Specification 7A packaging were utilized without having the appropriate support documentation available, to determine if any additional shipments of irradiated control rod drives were made in the same Specification 7A packaging in earlier years (prior to 2004) and will contact the package vendor to obtain the required support documentation. Nine Mile Point entered this matter into its corrective action program (Deviation Event Report 2005-2626).

2. TI 2515/163, Operational Readiness of Offsite Power

The inspectors performed Temporary Instruction 2515/163, "Operational Readiness of Offsite Power." The inspectors collected and reviewed licensee procedures and supporting information pertaining to the offsite power system specifically relating to the areas of offsite power operability, the maintenance rule (10 CFR 50.65), and the station blackout rule (10 CFR 50.63). The inspectors reviewed this data against the requirements of 10 CFR 50.63; 10 CFR 50.65; 10 CFR 50 Appendix A General Design Criterion 17, Electric Power Systems; and Plant Technical Specifications. This information was forwarded to NRR for further review.

3. (Closed) URI 05000220/2004004-07: Potential of Unqualified Okonite Cable Splices in Drywell

a. Inspection Scope

During the July 2004 environmental qualification (EQ) followup inspection, the inspectors noted that no devices that required EQ inside the drywell were on the licensee's list for cable splice inspection. The licensee initially stated that they did not believe that there were any unqualified cable splices inside the drywell; however, they initiated a corrective action report to conduct a detailed review. Based on the high percentage of inspected cables outside the drywell that contained unqualified cable splices, the inspectors opened an unresolved item for reviewing the licensee's

inspection results and subsequent corrective actions for potential unqualified cable splices inside the drywell.

During this inspection, the inspectors reviewed the list of devices that the licensee inspected and various DERs the licensee generated following their identification of unqualified cable splices inside the drywell. The inspectors also reviewed selected samples of work orders which the licensee used to inspect the cable splice conditions and to replace unqualified cable splices. The inspector also reviewed operability determinations (Engineering Support Analyses (ESA)) which the licensee completed to provide reasonable assurance that the replaced cable splices, although not qualified, would be operable under the accident environment.

b. Findings

Introduction. A Green NCV for multiple types of cable splices that were not environmentally qualified was identified. 10 CFR 50.49(f) requires that each item of electric equipment important to safety within the scope of 10 CFR 50.49(b) must be qualified by one of several methods described in that section. As of April 2005, there were 11 Okonite cable splices, 47 Raychem splices and one barrel-type butt splice inside Unit 1 drywell that were not environmentally qualified because these splices did not conform to the qualified configurations described in Procedure N1-EMP-GEN–003, "Insulating Medium and Low Voltage Power Connections Control and Instrumentation Cables." These cable splices were used in: 1) the control circuitry of motor-operated valves and solenoid-operated valves that were required for accident mitigation, and 2) the circuitry of temperature instruments that were required for accident monitoring. All of these devices were within the scope of 10 CFR 50.49(b). The licensee replaced all unqualified cable splices during the April 2005 refueling outage and the corrective actions were appropriate. Unresolved Item 05000220/2004-04-07 is closed.

Description. During the Unit 1 outage from March to April 2005, the licensee conducted a thorough inspection of all devices that could contain unqualified cable splices inside the drywell. The following EQ deficiencies were identified:

- Eleven Okonite cable splices were not environmentally qualified because their configurations did not conform to the qualified Okonite splices prescribed in Attachment 4, "Instructions for EQ Okonite Tape Terminations" of Procedure N1-EMP-GEN–003, "Insulating Medium and Low Voltage Power Connections Control and Instrumentation Cables." Eight of these splices were used in the control circuitry of three motor operated valve (MOVs) and the other three splices were used for the circuitry of three solenoid operated valves (SOV). All six MOVs and SOVs were required for accident mitigation and were within the scope of 10 CFR 50.49(b). This is in violation of 10 CFR 50.49(f) which requires that each item of electric equipment important to safety within the scope of 10 CFR 50.49(b) must be qualified by one of several methods described in that section. The licensee replaced all 11 unqualified Okonite cable splices with qualified ones during the refueling outage. The licensee also completed a generic ESA documented in DER 2004-2694 which provided adequate reasonable assurance

that the replaced splices, although not environmentally qualified, would be able to perform their intended functions (insignificant leakage currents when contacting electrical ground) under the postulated accident environment.

- Forty-seven Raychem cable splices were not environmentally qualified because their configurations did not conform to the qualified Raychem splices prescribed in Section 7.3, “Raychem Installations” of Procedure N1-EMP-GEN–003, “Insulating Medium and Low Voltage Power Connections Control and Instrumentation Cables.” Ten of these splices used Raychem WCSF-050-N as splice sleeves as documented in DER-2005-1487. This configuration was prohibited EQ application as described in Attachment 1, “Typical WCSF-N Connections” of Procedure N1-EMP-GEN–003. These splices were used for the circuitry of five containment temperature instruments. These instruments were required for post-accident monitoring and were within the scope of 10 CFR 50.49(b). The other 37 Raychem splices had less than 2" overlaps with cable insulations as documented in DERs 2005-1473, -1477, -1549 and -1585. A minimum of 2" overlaps were required as described in Attachment 1 of Procedure N1-EMP-GEN–003. These splices were used for various accident mitigation devices inside the drywell, which were within the scope of 10 CFR 50.49(b). This is in violation of 10 CFR 50.49(f) which requires that each item of electric equipment important to safety within the scope of 10 CFR 50.49(b) must be qualified by one of several methods described in that section. The licensee replaced all 47 deficient cable splices with qualified ones during the outage. The licensee also completed ESAs documented in DER NM-2005-1549 and -1585, which provided adequate reasonable assurance that the replaced splices, although not environmentally qualified, would be able to perform their intended functions (with insignificant leakage currents when contacting electrical ground) under the postulated accident environment.

- One barrel-type insulated butt splice was not environmentally qualified because it did not conform to any of the qualified splice configurations prescribed in Procedure N1-EMP-GEN–003. The deficient splice was documented in DER 2004-5439 and was used in the control circuitry of Limitorque valve BV-37-01. The valve was designed for reactor head vent of potential non-condensable gas following a postulated accident, and was within the scope of 10 CFR 50.49(b). This is in violation of 10 CFR 50.49(f) which requires that each item of electric equipment important to safety within the scope of 10 CFR 50.49(b) must be qualified by one of several methods described in that section. The licensee replaced the deficient butt splice with qualified one during the outage. Although the licensee was unable to show that this type of splice was operable under the accident environment, there was an existing emergency operating procedure, N1-EOP-1, NMP1 EOP Support Procedure, which prescribed steps that provided alternate vent path if BV-37-01 could not be open to vent the potential non-condensable gas. The deficient splice did not represent an actual loss of safety function of a system or of a single train, was not a technical specifications equipment designated as risk-significant per 10 CFR 50.65, and the finding was not risk significant due to external events.

Analysis. The inspectors determined that the above deficient cable splices were more than minor because they were associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of equipment reliability. The issues were qualification deficiencies that the licensee had evaluated in accordance with GL 91-18, and were determined to be of very low safety significance (Green) in accordance with phase 1 of the significance determination process, because the unqualified cable splices were determined to be either: 1) operable (i.e., insignificant leakage currents under accident environment), or 2) in a condition where the function of the inoperable cable splice (reactor vent valve unable to open) could be bypassed by an alternate mitigating method (alternate reactor vent path) that had been prescribed in an existing emergency operating procedure (EOP) to achieve similar accident mitigation results.

The inspectors identified that a contributing cause of this finding was related to the cross-cutting area of problem identification and resolution. The relevant causal factor was problem identification because the nonconforming splices in the drywell were not identified by the engineering staff in a timely manner.

Enforcement. 10 CFR 50.49(f) requires that each item of electric equipment important to safety within the scope of 10 CFR 50.49(b) must be qualified by one of several methods described in that section. Contrary to the above, before April 2005, there were 11 Okonite cable splices, 47 Raychem cable splices, and one insulated butt splice, inside Unit 1 drywell, that were within the scope of 10CFR 50.49(b), were not environmentally qualified to meet the requirements of 10 CFR 50.49(f). Because this finding is of very low safety significance and the deficient cable splices have been replaced with qualified ones, this violation is being treated as an NCV, consistent with Section V1.A of the Enforcement Policy: NCV 05000220/2005003-01, Multiple Examples of Cable Splices Inside Unit 1 Drywell that were not Environmentally Qualified.

4OA6 Meetings, Including Exit

On July 15, the inspectors presented the inspection results to Mr. Tim O'Connor, and other members of licensee management. The licensee confirmed that proprietary information was not provided during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

M. Busch, CEG, NMP EQ
J. Gerber, ALARA Supervisor
R. Godley, Manager, Operations
B. Holston, Manager, Engineering Services
A. Julka, CEG, Director, Q&PA
T. Kulczycky, Reliability Engineering
S. Leonard, CEG, GS Licensing
T. Morgren, GS, Design Engineering
T. O'Connor, Plant General Manager
W. Paulhardt, Manager, Radiation Protection
G. Perkins, General Supervisor, Engineering Programs
J. Spina, Site Vice President
T. Syrell, Nuclear Regulatory Matters

NRC Personnel

W. Schmidt, Sr. Reactor Analyst

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000220/2005003-01	NCV	Multiple Examples of Cable Splices Inside Unit 1 Drywell That Were Not Environmentally Qualified

Closed

05000220/2005001-00	LER	Automatic Reactor Scram Due to a Failure in the Circuitry for a Moisture Separator Tank Level Switch
05000220/2004004-07	URI	Potential of Unqualified Okonite Cable Splices in Drywell

Discussed

NONE

LIST OF DOCUMENTS REVIEWED

Section 1R08: Inservice Inspection

Deviation Event Reports

2003-1080	Drywell Liner at 225 foot Elevation has Major Corrosion
2005-1430	Incomplete Vertical Welds on Steam Dryer
2005-1433	Tie Bar Welds Not as Shown on Dryer Assembly Drawing
2005-1361	Steam Dryer Tie Bar Weld Broken
2005-1345	Tack Weld on Four Leveling Bolts Cracked
2005-1365	Steam Dryer Bank-6 Gusset Plate Weld Crack
2004-4903	OE-Failed Drain Line Moisture Separator (HC)
2005-1551	Inadequate Weld Preparation for Examination
2005-1342	Poor Surface Finish on Shroud Repair Tie Rod Latches

Equivalency Evaluation

00833R4	Containment Isolation Valve (38-13) Reactor Shutdown Cooling Return

Miscellaneous

3/31/05 R3	IWE Unit 1 Section XI Category Summary Third Interval
NMPI-IWE-003 R3	Unit 1 Containment Inspection Program First ISI Interval
RR-IWE/IWL-1&2	Relief Request to Change IWE Section XI to 1998 Edition
NMP1L 1495	Code Comparison for IWE Code Date Change 1992 to 1998
0900	Ultrasonic Examiner NDE Certification (PDI) and Vision Tests

Radiograph Review

FW 32-WD-204B	Radiograph Film Review of Field Weld 204B (Valve IV-38-13)
FW 38-WD-094R	Radiograph Film Review of Field Weld 094R (Valve IV-38-13)

NDT Examination Reports

1-3.00-05-0008	Liquid Penetrant Examination Report (FW 80-23-WD-006) Core Spray
1-5.00-05-0007	Radiographic Exam Report (FW 38-WD-094R) Shutdown Cooling
1-5.00-05-0006	Radiographic Exam Report (FW 32-WD-204B) Shutdown Cooling
1-6.06-05-0002	Ultrasonic Calibration Report and Planar Flaw Sizing Worksheet
1-6.24-05-0055	Ultrasonic Examination Report of FW 32-WD-050 Recirculation
1-6.24-05-0055	Thickness/Profile Data Sheet for FW 32-WD-050 Recirculation
1-6.24-05-0056&57	Ultrasonic Examination and Indication Report for FW 32-WD-050

NDT Examination Procedures

UT-240 R0	Automated Phased Array Ultrasonic Flaw Detection and Length Sizing in Austenitic and Ferritic Piping with Tomoscan III (PDI)

UT-246 R1	Automated Ultrasonic Flaw Depth Sizing in Austenitic and Ferritic Piping Welds (PDI)
NDEP-UT-6.24 R7	Ultrasonic Examination of Austenitic Piping Welds (Manual-PDI)
NDEP-RT-5.00 R8	Radiographic Examination
NDEP-PT-3.00 R15	Liquid Penetrant Examination
NDEP-UT-6.06 R12	Manual Planar Flaw Sizing

Welding Procedure Specification/Welder Performance Qualification

08-08-TS-001 R2	Gas Tungsten/Shielded Metal Arc Welding of P8 to P8 Including PQR's 8-8-TS-001, 8.8.6-OKG & 8-8-TS-002
08-316L-T-001 R0	Gas Tungsten Arc Welding of P8 (Overlay) Including PQR 08-316L-T-001
08-08-TS-001	Welder Performance Qualification Matrix for Manual Butt Welding
08-316L-T-001	Welder Performance Qualification Matrix for GTAW Machine Welding

Drawings

F-45183-C S11A	Emergency Condenser Condensate Return-System 39
F-45183-C S7	Reactor Recirculation-System 32

Section 20S2: ALARA Planning and Controls

Nine Mile Point Unit 1 Offsite Dose Calculation Manual, Revision 25
Nine Mile Point Unit 2 Offsite Dose Calculation Manual, Revision 25
Nine Mile Point Nuclear Station, LLC 2003 Annual Radiological Environmental Operating Report
2004 Land Use Census Report
Nine Mile Point Audit Reports: 03-4Q, 04-1Q, 04-2Q, 04-3Q
Entergy Audit Report QA-6-2005-JAF-1
Environmental Contractor Assessment of EA Engineering, Support and Technology (9/24/03)
Document Packages for Shipments: 05-1061; 04-2020; 04-2027
Respiratory Status Report, dated 6/29/05

Nine Mile Point Procedures:

S-IPM-MET-201, Revision 1, Dew Point Calibration
S-IPM-MET-301, Revision 3, Barometric Pressure Calibration
S-IPM-MET-401, Revision 2, Precipitation Gauge Calibration
S-IPM-MET-601, Revision 1, Main Meteorological Tower 30 Foot Wind Speed and Direction Calibration
S-IPM-MET-602, Revision 4, Main Meteorological Tower 100 Foot Wind Speed and Direction Calibration
S-IPM-MET-603, Revision 1, Main Meteorological Tower 200 Foot Wind Speed and Direction Calibration
S-IPM-MET-611, Revision 2, Backup Tower Wind Speed and Direction Calibration
S-IPM-MET-621, Revision 1, Inland Meteorological Tower Wind Speed and Direction Calibration
S-IPM-MET-701, Revision 1, Temperature and Delta Temperature Instrument Calibration

S-ENVSP-6, Revision 4, Environmental Program Contractor Audit Procedure
S-ENVSP-3, Revision 5, Radiological Sample Collection, Processing and Shipment, Land Use Census and Quality Control
S-ENVSP-3.1, Revision 0, Milk Animal Census and Milk Sample Collection
S-ENVSP-3.2, Revision 0, Garden/Irrigation Census and Food Product (Vegetation and Irrigation Crop) Sample Collection
S-ENVSP-3.3, Revision 0, Nearest Meat Animal Census and Meat, Poultry and Egg Sample Collection
S-ENVSP-3.4, Revision 0, Soil Sample Collection
S-ENVSP-3.5, Revision 0, Fish Sample Collection
S-ENVSP-3.6, Revision 0, Shoreline Sediment and Cladophora Sample Collection
S-ENVSP-3.7, Revision 0, Nearest Residence Census
S-ENVSP-4.1, Revision 10, TLD Preparation, Collection and Analysis
S-ENVSP-4.2, Revision 10, Environmental Air Monitoring Sample Collection
S-ENVSP-4.3, Revision 4, Environmental Air Monitoring Station Inspection and Maintenance
S-ENVSP-4.4, Revision 7, Environmental Surface Water Sample Collection and Compositing
S-ENVSP-12, Revision 10, Environmental Surveillance Program Quality Assurance/Quality Control Program
S-ENVSP-15, Revision 5, Sampling and Analysis for Environmental Pathways
S-ENVSP-18, Revision 7, Environmental Data Review
S-RTP-154, Revision 2, Operation and Calibration of Automated Small Article Monitors
S-RTP-52, Rev 6,Calibration of the RO-2/RO-2A Ion Chamber
S-RTP-71, Rev 4, Calibration of the RM-14 Ratemeter
S-RPT-155, Rev 1, Calibration of the Bicron Frisk-Tech ratemeter

Section 40A2: Identification and Resolution of Problems

DERs
2004-3921
2003-3541
2004-0731
2004-1160
2004-3924
2005-1110

Calculations

S20.1-38WL020-01B, Maximum Allowable One-Time Only Stem Thrust in Opening Direction
S20.1-38WL020-01D, Maximum Opening Stem Thrust Allowable for Manual Operation of IV 38-02
S20.1-8910-MEDP, System Level and Maximum Expected Differential Pressure Evaluation for Generic Letter 89-10 Program Motor Operated Valves (IV 38-02 only)
S20.1-38V020, MOV 38-02 Actuator Sizing Calculation

Hardware Equivalency Evaluations

EE 1170 - Spring Compensator
EE 1174 - Viper Testing Strain Gauge

Miscellaneous

ACR 05-02355, Temporary Thermocouples
N1-OP-4, Procedure Change Evaluation
Evaluation of Expected Voltage Condition
MOV Group Evaluation of Pullout Capability at 75 Volts
DCP N1-05-082, Cable Installation
NER-1M-026, GL 95-07 Pressure Locking/Thermal Binding Review of Safety-Related Power Operated Valves, Revision 2 dated July 31, 1997
NER-2M-007, Pressure Locking/Thermal Binding of Safety Related Power Operated Gate Valves, Revision 3 dated June 27, 2000
Crane Valve Drawing PB-136371
SDC P&ID C-18018-C, Sheets 1 and 2
NMP1 Technical Specifications 3.3.4

Section 4OA5: Other Activities

N1-OP-33A, 115 kV System
N1-SOP-33A.1, Loss of 115 kV
N1-SOP-33A.2, Station Blackout
N1-SOP-33A.3, Major 115 kV Grid Disturbances
N2-OP-70, Station Electrical Feed and 115kV Switchyard
N2-SOP-01, Station Blackout
N2-SOP-70, Major Grid Disturbances
S-ODP-OPS-0112, Off-site Power Operations and Interface
GAP-PSH-03, Control of On-line Work Activities
GAP-OPS-117, Integrated Risk Management
NIP-ECA-01, Deviation/Event Report

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LIST OF ACRONYMS

ADAMS	agencywide documents access and management system
ALARA	as low as is reasonably achievable
ASME	American Society of Mechanical Engineers
CAP	corrective action plan
CFR	Code of Federal Regulations
CEDE	committed effective dose equivalent
CRDM	control rod drive mechanism
CS	core spray
DER	deviation/event report
DOT	department of transportation
EDG	emergency diesel generator
EQ	environmental qualification
ERO	emergency response organization
ERV	electronic relief valve
ESA	engineering support analysis
FSAR	final safety analysis report
FW	field weld

GL	generic letter
HELB	high energy line break
HIT	high impact team
IMC	inspection manual chapter
IPE	individual plant examination
IPEEE	individual plant examination for external events
IR	inspection report
ISI	inservice examination
IVVI	in-vessel visual inspection
LER	licensee event report
MOV	motor operated valve
MR	maintenance rule
MT	magnetic particle
NCV	non-cited violation
NDE	nondestructive examination
NMPNS	Nine Mile Point Nuclear Station
NRC	U.S. Nuclear Regulatory Commission
ODCM	offsite dose calculation manual
PARS	publically available records
PMT	post-maintenance testing
PT	liquid penetrant
QA	quality assurance
RB	reactor building
RBCLC	reactor building closed loop cooling
RCA	radiologically controlled area
REMP	radiological environmental monitoring program
RFO	refueling outage
RHR	residual heat removal
RPM	radiation protection manager
RRP	reactor recirculation pump
RWP	radiation work permit
SDC	shutdown cooling system
SDP	significance determination process
SOV	solenoid operated valve
SSCs	structures, systems, and components
SW	service water
TLD	thermoluminescent dosimeter
TS	technical specification
UPS	uninterruptible power supply
UT	ultrasonic
UFSAR	updated final safety analysis report
VHRA	very high radiation area
VT	visual testing