UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

January 28, 2011

Mr. Regis T. Repko
Vice President
Duke Energy Carolinas, LLC
McGuire Nuclear Station
MG01VP/12700 Hagers Ferry Road
Huntersville, NC 28078

SUBJECT: MCGUIRE NUCLEAR STATION - NRC INTEGRATED INSPECTION REPORT 05000369/2010005 AND 05000370/2010005

Dear Mr. Repko:

On December 31, 2010, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your McGuire Nuclear Station Units 1 and 2. The enclosed inspection report documents the inspection results, which were discussed on January 11, 2011, with Mr. Steven Capps and other members of your staff.

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

Based on the results of this inspection, no findings were identified. However, a licensee identified violation which was determined to be of very low safety significance is listed in this report. However, because of the very low safety significance and because it was entered into your corrective action program, the NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the NRC Enforcement Policy. If you contest this NCV, you should provide a written response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington, D.C. 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at McGuire.

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 Publicly 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/

Jonathan H. Bartley, Chief
Reactor Projects Branch 1
Division of Reactor Projects

Docket Nos.: 50-369, 50-370
License Nos.: NPF-9, NPF-17

Enclosure: NRC Integrated Inspection Report 05000369/2010005 and 05000370/2010005
w/Attachment - Supplemental Information

cc w/encl: (See page 3)

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Letter to Regis T. Repko from Jonathan H. Bartley dated January 28, 2011

SUBJECT: MCGUIRE NUCLEAR STATION - NRC INTEGRATED INSPECTION REPORT 05000369/2010005 AND 05000370/2010005

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.:	50-369, 50-370
License Nos.:	NPF-9, NPF-17
Report Nos.:	05000369/2010005, 05000370/2010005
Licensee:	Duke Energy Carolinas, LLC
Facility:	McGuire Nuclear Station, Units 1 and 2
Location:	Huntersville, NC 28078
Dates:	October 1, 2010, through December 31, 2010
Inspectors:	J. Brady, Senior Resident Inspector J. Heath, Resident Inspector K. Ellis, Resident Inspector, Oconee (Section 1R05) G. Laska, Senior Operations Examiner (Section 1R11) S. Ninh, Senior Project Engineer (Section 1R05) R. Williams, Reactor Inspector (Section 4OA7)
Approved by:	Jonathan Bartley, Chief Reactor Projects Branch 1 Division of Reactor Projects

Enclosure

Enclosure

SUMMARY OF FINDINGS

IR05000369/2010005, IR05000370/2010005; 10/1/2010 – 12/31/2010; McGuire Nuclear Station Units1 and 2, Routine Integrated Report.

The report covered a three month period of inspection by three resident inspectors and three region-based inspectors. No findings were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process."

One violation of very low safety significance (Green), which was identified by the licensee, has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and corrective action tracking number are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period at approximately 100 percent rated thermal power (RTP) and remained there for the rest of the period.

Unit 2 began the inspection period at approximately 100 percent RTP and remained there for the rest of the period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope

Impending Adverse Weather Condition: On October 27, 2010, a tornado watch was experienced on site. The inspectors reviewed the plant preparations for the conditions to determine whether procedural requirements, compensatory actions, and operator actions and staffing were sufficient to protect risk significant systems. The inspectors toured the plant site and assessed the readiness of risk significant systems. The inspectors reviewed licensee actions associated with the preparation activities to determine whether these actions were sufficient to prevent unnecessary weather related Notices of Enforcement Discretion, and that risks associated with the weather related actions were properly managed to limit risk. Documents reviewed are listed in the Attachment.

Seasonal Extreme Weather Conditions: After the licensee completed preparations for seasonal cold temperature, the inspectors discussed the licensee's cold weather program and the licensee's cold weather performance test with the licensee. The inspectors reviewed the completed test results for PT/0/B/4700/038, Verification of Freeze Protection Equipment and Systems, dated November 5, 2010. The inspectors walked down the auxiliary inboard/outboard doghouses and the fueling water storage tank for both units. This equipment was selected because their safety-related functions could be affected by adverse weather (freezing conditions). The inspectors observed plant conditions and evaluated those conditions using criteria documented in procedure IP/1/B/3250/059B, Monthly Check of Freeze protection. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R04 Equipment Alignment

a. Inspection Scope

Partial Walkdowns: The inspectors performed a partial walkdown of the following five systems to assess the operability of redundant or diverse trains and components when safety equipment was inoperable. The inspectors focused on discrepancies that could impact the function of the system, and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, walked down control systems components, and determined whether selected breakers, valves, and support equipment were in the correct position to support system operation. Documents reviewed are listed in the Attachment.

- 1B Chemical and Volume Control (NV) pump while 1A NV pump was out of service for emergent repair on October 12
- 1B Component Cooling Water (KC) pump while 1A KC was out of service for emergent repair on October 12
- 2A Emergency Diesel Generator (EDG) while 2B EDG was out of service for planned maintenance (linkshaft actuator inspection and lube oil strainer cleaning) on October 26
- 1B Safety Injection (NI) pump while 1A NI pump was inoperable for emergent work (filling cold leg accumulators) on October 28
- 1A EDG while 1B Nuclear Service water (RN) pump was out of service for planned maintenance on November 30

Complete Walkdown: The inspectors conducted a detailed review of the 125 VDC Vital Battery system. To determine the correct system alignment, the inspectors reviewed the procedures, drawings, and the Updated Final Safety Analysis Report (UFSAR). Items reviewed during the inspection included: (1) valves were correctly positioned, do not exhibit leakage, and were locked as required; (2) electrical power was available; (3) system components were correctly labeled, cooled lubricated, ventilated, etc.; (4) hanger and supports were correctly installed and functional; (5) essential system support systems were functional; (6) system performance was not hindered by debris; and (7) tagging clearances were appropriate. The inspectors reviewed the operator workaround list, the temporary modification list, system health reports, and other outstanding items tracked by the engineering department to determine the effect of outstanding design issues on the operability of the systems. In addition, the inspectors reviewed outstanding maintenance work requests/work orders and deficiencies that could affect the ability of the system to perform its function. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R05 Fire Protection

a. Inspection Scope

Fire Protection Walkdowns: The inspectors walked down accessible portions of the following five plant areas to determine if they were consistent with the UFSAR and the fire protection program for defense in depth features. The features assessed included the licensee's control of transient combustible material and ignition sources, fire detection and suppression capabilities, fire fighting equipment, and passive fire features such as fire barriers. The inspectors also reviewed the licensee's compensatory measures for fire deficiencies to determine if they were commensurate with the significance of the deficiency. The inspectors reviewed the fire plans for the areas selected to determine if they were consistent with the fire protection program and presented an adequate fire fighting strategy. Documents reviewed are listed in the Attachment.

- Standby Shutdown Facility (SSF) (Fire Area SSF)
- Unit 2 Turbine Building 750' elevation (Fire Area TB 750)
- 2A EDG (Fire Area 7)
- 2B EDG (Fire Area 8)
- Unit 2 750' Cable spreading room following cable routing for Unit 1 Distributive Control System modification on November 9

b. Findings

No findings were identified.

1R06 Flood Protection Measures

a. Inspection Scope

Internal Flooding: The inspectors walked down the two areas listed below to determine if the area configuration, features, and equipment functions were consistent with the descriptions and assumptions used in UFSAR sections and in the supporting basis documents. The inspectors reviewed the operator actions credited in the flooding analysis, and contained in the licensee's flood mitigation procedures, to determine if the desired results could be achieved by the times credited in the flooding analysis. Documents reviewed are listed in the Attachment.

- Residual Heat Removal (ND) and NS pump room sump
- Unit 1 and Unit 2 EDG compartments

Manhole Cable Review: The inspectors observed the following two manholes/trenches that are associated with the medium voltage cable for the SSF. This cable was discussed in NUREG 1772, Safety Evaluation Report Related to License Renewal of McGuire Nuclear Station, Units 1 and 2, and Catawba Nuclear Station, Units 1and 2.

- Trench TR-5
- Trench TR-3

The inspectors also reviewed Problem Investigation Program document (PIP) M-09-6877 to determine whether the licensee identified and implemented appropriate corrective actions.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program

a. Inspection Scope

Resident Requalification Activities Review: On November 17, 2010, the inspectors observed operators in the plant's simulator during licensed operator requalification training for fire in the EVCA battery room, reactor trip, and loss of vital bus 1ETB to determine the effectiveness of licensed operator requalification training required by 10 CFR 55.59 and the adequacy of operator performance. The inspectors focused on clarity and formality of communication, use of procedures, alarm response, control board manipulations, group dynamics and supervisory oversight. The inspectors observed the post-exercise critique to determine whether the licensee identified deficiencies and discrepancies that occurred during the simulator training. The inspectors observed the shift crew's response to the scenario listed below. Documents reviewed are listed in the Attachment.

Annual Review of Licensee Requalification Examination Results: On June 30, 2010, the licensee completed the comprehensive biennial requalification written examinations and annual requalification operating tests required to be administered to all licensed operators in accordance with 10 CFR 55.59(a)(2). The inspectors performed an in-office review of the overall pass/fail results of the written examinations, individual operating tests and the crew simulator operating tests. These results were compared to the thresholds established in Manual Chapter 609 Appendix I, Operator Requalification Human Performance Significance Determination Process.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the two activities listed below for items such as: (1) appropriate work practices; (2) identifying and addressing common cause failures; (3) scoping in accordance with 10 CFR 50.65(b) of the Maintenance Rule; (4) characterizing reliability issues for performance; (5) charging unavailability for performance; (6) balancing reliability

and unavailability; (7) trending key parameters for condition monitoring; (8) classification and reclassification in accordance with 10 CFR 50.65(a)(1) or (a)(2); and (9) appropriateness of performance criteria for Structures, Systems, and Components (SSCs)/functions classified as (a)(2) and/or appropriateness and adequacy of goals and corrective actions for SSCs/functions classified as (a)(1). For each item selected, the inspectors performed a detailed review of the problem history and surrounding circumstances, evaluated the extent of condition reviews as required, and reviewed the generic implications of the equipment and/or work practice problem. Documents reviewed are listed in the Attachment.

- SSF diesel generator start failures
- Maintenance Rule A(3) periodic assessments dated December 22, 2008 and December 2, 2010

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors reviewed the licensee's risk assessments and the risk management actions used to manage risk for the plant configurations associated with the nine activities listed below. The inspectors assessed whether the licensee performed adequate risk assessments, and implemented appropriate risk management actions when required by 10 CFR 50.65(a)(4). For emergent work, the inspectors verified that any increase in risk was promptly assessed, that appropriate risk management actions were promptly implemented, and that work activities did not place the plant in unacceptable configurations. Documents reviewed are listed in the Attachment.

- Cross Tie between EVDB and EVDD busses to take Engineering Data on October 5
- Unplanned Technical Specification (TS) entry for 1A NV pump declared inoperable due to oil cooler leak on October 12
- Gas leak on Unit 2 power operated switchyard circuit breaker 62 on October 20
- Unplanned yellow condition on both units due to Tornado Watch declared on October 27
- Emergent cross train work requiring 1A NI pump being declared inoperable for makeup to 1B, 1C, and 1D cold leg accumulators during a 'B' train work week on October 28
- Planned Orange risk due to 1B RN train out of service for pump and motor oil change on November 30
- Emergent Red risk condition when a tornado watch was declared while planned 1B EDG maintenance was being returned to service on November 30
- Cross-tie EVDB to EVDD on December 4
- Planned Orange risk for 2B RN strainer packing replacement on December 18 and 19

b. Findings

No findings were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the six technical evaluations listed below to determine if TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors reviewed any compensatory measures taken for degraded SSCs to determine whether the measures were in-place and adequately compensated for the degradation. For the degraded SSCs, or those credited as part of compensatory measures, the inspectors reviewed the UFSAR to determine whether the measures resulted in changes to the licensing basis functions, as described in the UFSAR, and whether a license amendment was required per 10 CFR 50.59. Documents reviewed are listed in the Attachment.

- M-10-6304, 2A1 EDG halon main pilot cylinder flexible tubing installed incorrectly
- M-10-6505, "A" Control Area Ventilation and Chilled Water System Chiller Hot gas bypass Valve Closure Overdue alarm locked in
- M-10-6624, 1B RN pump inboard bearing oil leak discovered
- M-10-6713, Leak in 2A RN strainer
- M-10-7698, A train RN suction pipe from the Standby Nuclear Service Water Pond has significantly greater head loss than the B train
- M-10-7668, Backup Instrument Air Accumulator Supply pressure to 1B RN Strainer high

b. Findings

No findings were identified.

1R18 Plant Modifications

a. Inspection Scope

The inspectors reviewed permanent plant modification EC 104249 to replace L1 choke and C1 bank capacitors in all 120 volt vital inverters, and the associated 10 CFR 50.59 evaluation to determine if the modifications satisfied the requirements of 10 CFR 50, Appendix B, and compared each against the UFSAR and TS to determine whether the operability or availability of SSCs were affected by completion of the modification. The inspectors reviewed the modification to ensure that it was installed in accordance with the modification documents and reviewed post-installation testing to verify that the actual impact on permanent systems was adequately verified by the tests. In addition, the inspectors determined whether the appropriate procedures, design documents, and

licensing documents were updated to reflect the installation of the modification. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

For the seven post-maintenance tests listed below, the inspectors determined the safety functions described in the UFSAR and TS that were affected by the maintenance activity. The inspectors witnessed the post-maintenance tests listed and/or reviewed the test data to determine whether the test results adequately demonstrated restoration of the affected safety function(s). Documents reviewed are listed in the Attachment.

- 1A NV pump retest following repair to oil cooler leak on October 13
- 2CA-54AC Turbine-driven Auxiliary Feedwater Pump to 2B Steam Generator Isolation valve stroke following annual preventive maintenance inspection performed on October 14
- 2CA-50B Turbine-driven Auxiliary Feedwater Pump to 2C Steam Generator Isolation valve stroke following annual preventive maintenance inspection performed on October 14
- 2B EDG functional test after planned maintenance (linkshaft actuator inspection) on October 26
- 2B ND pump functional test following loop calibration of RHR #2 discharge pressure loop on October 26
- 2A EDG functional test following planned maintenance (leak repair of cooling water drain line valve, 2KD-198) on November 9
- SSF functional test following replacement of T1 Low Engine Lube Oil timer and T2 Overcrank timer on December 15

b. Findings

No findings were identified.

1R22 Surveillance Testing

a. Inspection Scope

For the three surveillance tests identified below, the inspectors witnessed testing and/or reviewed the test data, to determine if the SSCs involved in these tests satisfied the requirements described in the Technical Specifications, the Updated Final Safety Analysis Report, and applicable licensee procedures, and that the tests demonstrated that the

SSCs were capable of performing their intended safety functions. Documents reviewed are listed in the Attachment.

Surveillance Tests
- PT/1/A/4350/002B, 1B Diesel Generator Operability Test
- PT/2/A/4350/004, 4kV Loss of Voltage Trip Actuating Devices Operational Test

In-Service Tests
- PT/1/A/4252/002B, Auxiliary Feedwater Valve Stroke Timing – Quarterly 1B Motor Driven Pump Flowpath

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors sampled licensee data to confirm the accuracy of reported PI data for the following four indicators during the four quarters of 2009 and the first three quarters of 2010. To determine the accuracy of the PI data reported during that period, the inspectors compared the licensee's basis in reporting each data element to the PI definitions and guidance contained in NEI 99-02, Regulatory Assessment Indicator Guideline, Rev. 4.

Barrier Integrity Cornerstone
- Reactor Coolant System Specific Activity (Units 1 and 2)
- Reactor Coolant System Leak Rate Performance Indicator (Units 1 and 2)

The inspectors compared the licensee-reported performance indicator data with licensee records for RCS activity. The inspectors also reviewed the corrective action documents associated with this area to determine whether the licensee identified and implemented appropriate corrective actions. The inspectors reviewed surveillance test records of measured reactor coolant system identified leakage and compared these calculations with TS limiting values. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution

a. Inspection Scope

Routine Review: As required 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 screening of items entered into the licensee's corrective action program. This was accomplished by reviewing copies of PIPs, attending some daily screening meetings, and accessing the licensee's computerized database.

Selected Issue Follow-Up Inspection: The inspectors selected PIP M-09-0969, Unit 1 turbine-driven auxiliary feedwater pump auto start, for detailed review. The inspectors reviewed this item to determine whether the licensee identified the full extent of the issue, performed an appropriate evaluation, and specified and prioritized appropriate corrective actions. The inspectors evaluated the licensee documents against the requirements of the licensee's corrective action program and implementing procedures, and 10 CFR 50, Appendix B. The inspectors also reviewed the reportability aspects and the verbal 10 CFR 50.73 report. Documents reviewed are listed in the Attachment.

Semi-Annual Review to Identify Trends: The inspectors performed a trend review to determine if trends existed which were not contained in the corrective action program that could indicate the existence of a more significant safety issue. The inspector's review focused on repetitive equipment issues, but also considered the results of daily inspector corrective action program item screening, licensee trending efforts, and licensee human performance results. The review also included issues documented outside the normal corrective action program in major equipment problem lists, plant health team vulnerability lists, focus area reports, system health reports, self-assessment reports, maintenance rule reports, and Safety Review Group Monthly Reports. The inspectors compared and contrasted their results with the results contained in the licensee's latest quarterly trend reports. Documents reviewed are listed in the Attachment.

b. Findings and Observations

No findings were identified and no new trends were identified. The inspectors had previously identified a trend associated with UFSAR accuracy due to numerous violations for failing to update the UFSAR in accordance with regulations outlined in 10 CFR 50.71(e). During the six month period for the second half of 2010, two additional UFSAR inaccuracies were identified by the NRC. The inspectors continue to follow this trend.

4OA3 Followup of Events and Notices of Enforcement Discretion

.1 (Closed) Licensee Event Report (LER) 05000369/2010003, Dropped Control Rods Resulting in Completion of a Technical Specification Required Shutdown and Actuation of the Reactor Protection System and Auxiliary Feedwater System. The inspectors reviewed the LER, PIP M-10-4111, and the associated root cause evaluation. The licensee concluded that this event occurred because of the fatigue failure of a solder joint on a

regulation card in the rod control system. The inspectors concluded that this was a hardware failure which was not able to be detected by either the licensee's or vendor's automatic card testing equipment; therefore, no performance deficiency existed. The licensee planned action was to replace the regulation cards with a newer design at the next refueling outage for each unit.

.2 (Closed) LER 05000369/2010-004, Improper Technical Specification Application when Diesel Generator Starting Air Receivers Cross-Tied

The licensee discovered that the two EDG starting air receivers for a given EDG had been cross-tied while performing maintenance on one of the air start compressors. The cross-tie configuration effectively reduced the number of starting air receivers for each EDG from two to one. This was outside the basis for TS 3.8.3 Condition D. Consequently, Condition E required that the EDG be declared inoperable. The time that the licensee had the two receivers cross-tied was in excess of the allowed outage time requirement of TS 3.8.1 for one EDG being inoperable. The inspectors reviewed the LER, PIP M-10-5299, and the associated root cause investigation. The corrective actions were to modify the system operating procedure for each unit, submit a license amendment to revise TS 3.8.3, and to revise the UFSAR. The inspectors determined the licensee's planned corrective actions were adequate. The enforcement aspect of this issue is discussed in Section 4OA7.

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities:

a. Inspection Scope

During the inspection period, the inspectors conducted observations of security force personnel and activities to ensure that the activities were consistent with licensee security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours. These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status review and inspection activities.

b. Findings

No findings were identified.

.2 INPO Evaluation Review:

a. Inspection Scope

The inspectors reviewed the PIPs generated from the INPO evaluation that was conducted between October 25 and November 5. The inspectors did not note any safety issues that either warranted further NRC follow-up or that had not already been addressed by the NRC. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.3 Independent Spent Fuel Storage Installation (ISFSI):

a. Inspection Scope

The inspectors reviewed the 10 CFR 72.48 evaluations listed in the attachment for the changes made to the 10 CFR 72.212(b) evaluations for the McGuire ISFSI to determine whether they were properly performed. The inspectors also reviewed the corrective action documents issued concerning the ISFSI since 8/1/2009. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.4 (Closed) Temporary Instruction (TI) 2515/172, Reactor Coolant System Dissimilar Metal Butt Welds, Revision 1

a. Inspection Scope

The inspectors conducted a review of the licensee's activities regarding licensee dissimilar metal butt weld mitigation and inspection implemented in accordance with the industry self imposed mandatory requirements of Materials Reliability Program (MRP) 139, "Primary System Piping Butt Weld Inspection and Evaluation Guidelines." TI 2515/172, Revision 1 was issued May 27, 2010, to support the evaluation of the licensees' implementation of MRP-139.

b. Findings and Observations

No findings were identified. The licensee has met the MRP-139 deadlines for baseline examinations of all welds scoped into the MRP-139 program. TI 2515/172, Revision 1 is considered closed. In accordance with requirements of TI 2515/172, Revision 1, the inspectors evaluated the following areas:

(1) Implementation of the MRP-139 Baseline Inspections
This portion of the TI was not inspected during the period of this inspection report, but was previously covered in NRC Inspection Report 05000369/2008004.

(2) Volumetric Examinations
This portion of the TI was not inspected during the period of this inspection report, but was previously covered in NRC Inspection Report 05000369/2008004.

(3) Weld Overlays
This portion of the TI was not inspected during the period of this inspection report, but was previously covered in NRC Inspection Report 05000369/2008004.

(4) Mechanical Stress Improvement (SI)
There were no stress improvement activities performed or planned by this licensee to comply with their MRP-139 commitments.

(5) Application of Weld Cladding and Inlays
There were no weld cladding nor inlay activities performed or planned by this licensee to comply with their MRP-139 commitments.

(6) Inservice Inspection Program
This portion of the TI was not inspected during the period of this inspection report, but was previously covered in NRC Inspection Report 05000369/2008004.

4OA6 Meetings, Including Exit

On January 11, 2011, the resident inspectors presented the inspection results to Mr. Steven Capps and other members of your staff. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

4OA7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of the NRC Enforcement Policy, for being dispositioned as a Non-Cited Violation.

- Since June of 1999, the licensee cross-tied the two starting air receivers for a given EDG when performing maintenance on one of the air start compressors. TS 3.8.3 required that the starting air subsystem for each EDG be within limits when the associated EDG was required to be operable. TS 3.8.3 Condition D applied if one or more EDGs had one of two starting air receiver pressures < 210 psig. The cross-tied starting air receivers reduced the number of air receivers from two to one which placed the subsystem outside the licensing basis for TS 3.8.3 Condition D. If Condition D was not met, then Condition E required that the associated EDG be declared inoperable. TS 3.8.1 Condition B required that when an EDG was inoperable, it should be restored to operable status within 72 hours. If Condition B was not met, Condition G required that the unit be in Mode 3 in 6 hours and in Mode 5 in 36 hours. Contrary to the above, between June 29, 1999, and August 13, 2010, on multiple occasions the starting air receivers were cross-tied resulting in an EDG being inoperable for greater than 72 hours and the licensee not placing the unit in Mode 3 within 6 hours or Mode 5 within 36 hours. This violation is of very low safety significance (Green) because the cross-tied air receivers remained pressurized greater than or equal to 210 psig. This violation is in the licensee's corrective action program as PIP M-10-5299.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

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D. Black, Security Manager
S. Bradshaw, Training Manager
D. Brenton, Superintendent, Plant Operations
D. Brewer, Manager, Safety Assurance
S. Capps, Station Manager
K. Crane, Regulatory Compliance
C. Curry, Engineering Manager
J. Hicks, Superintendent, Maintenance
N. Kunkel, Superintendent, Work Control
J. Nolin, Manager, Mechanical and Civil Engineering
R. Repko, Site Vice President, McGuire Nuclear Station
W. Scott, Chemistry Manager
J. Smith, Radiation Protection Manager
S. Snider, Manager, Reactor and Electrical Systems Engineering

NRC personnel

J. Thompson, Project Manager, NRR
E. Stamm, Project Engineer, RII

LIST OF REPORT ITEMS

Closed

05000369/2010003	LER	Dropped Control Rods Resulting in Completion of a Technical Specification Required Shutdown and Actuation of the Reactor Protection System and Auxiliary Feedwater System (Section 4OA3.1).
05000369/2010-004	LER	Improper Technical Specification Application when Diesel Generator Starting Air Receivers Cross-Tied (Section 4OA3.2)
2515/172	TI	Reactor Coolant System Dissimilar Metal Butt Welds (Section 4OA5.4)

DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Site Specific Actual
RP/0/A/5700/006, Natural Disasters

Cold Weather Preps
PT/0/B/4700/070, On Demand Freeze Protection Verification Checklist
IP/1/B/3250/059B, Monthly Check of Freeze Protection
IP/2/B/3250/059B, Monthly Check of Freeze Protection
PT/0/B/4700/038, Verification of Freeze Protection Equipment and Systems
NSD 317, Freeze Protection Program

Section 1R04: Equipment Alignment

Partial System Walkdown
MCFD-1573-01.00, MCFD-1573-02.00, MCFD-1573-03.00, Flow Diagram of Component Cooling System
MCFD-1554-03.00, Flow Diagram of Chemical and Volume Control System (NV)
Pips generated: PIP M-10-6522
MCFD-2609-04.00, Flow Diagram of the 2A Diesel Generator Starting Air System
MCFD-2609-03.00, Flow Diagram of the 2A Diesel Generator Engine Fuel Oil System
MCFD-2609-02.00, Flow Diagram of the 2A Diesel Generator Engine Lube Oil System
MCFD-2609-01.00, Flow Diagram of the 2A DG Engine Cooling Water System
MCFD-1562-01.00, MCFD-1562-02.00, MCFD-1562-01.03, Flow Diagram of Safety Injection System

Complete System Walkdown
MCS-105.18-EPL-001 Design Spec for 125 VDC Vital I&C Power System (EPL)
McGuire SER for SBO (TACs M68564/M68565)
PIP M-06-05905
IP/0/A/3061/007, GNB Vital Battery and Terminal Post Inspection
PT/0/A/4350/040E, 125 VDC Vital I&C Battery Modified Performance Test using BCT-2000
PT/0/A/4350/008E, SCI Vital I&C Battery Charger performance Test
PT/0/A/4350/028B, 125 Volt Vital Battery Quarterly Inspection
OP/0/A/6350/001, Normal Power Checklist

Section 1R05: Fire Protection

MCS-1465.00-00-0008 Design Basis Specification for Fire Protection
MCS-1465.00-00-0008, Design Basis Specification for Fire Protection, Rev. 10
FS RB 4.1-1, Fire Strategy for the Standby Shutdown Facility, Rev. D
FS 46, Fire Strategy for the Unit 2 Turbine Building Elevation 750, Rev. 0
PT/0/B/4400/012, Fire Hose Hydrostatic Pressure Test Non-Committed Hose for Administration Building, Outside and Miscellaneous Locations, Rev. 9

PT/0/B/4400/012, Fire Hose Hydrostatic Pressure Test Non-Committed Hose Stations for Unit 1, Unit 2 Turbine, and Service buildings, Rev. 10
PT/0/A/4250/011, Fire Door Inspections, Rev. 18WO 01920034 (DCS cable routing)
Fire Impairment # 2010-498 (DCS cable routing)

Section 1R06: Flood Protection Measures

UFSAR Sections
9.3.3, Equipment and Floor Drainage System

Design Basis Documents
MCS-1154.00-00-004, Design Basis Specification for the Auxiliary Building Structures, section 30.2.1.3.4.1, Internal Flooding
MCC-1565.WL-00-0001, Design Basis Specification for the WL/WM System

Calculations:
MCC-1206.47-69-1001, Auxiliary Building Flooding Analysis, Sec.9.2-9.2.1

Procedures:
AP/0/A/5500/44, Plant Flooding, Rev. 3
IP/0/A/3215/004, Magnetrol Liquid Level Control Switch Calibration
IP/0/A/3215/002, Robertshaw SL-400 series Level AC - Liquid Level Controller Calibration
IP/0/A/3050/017D, ND and NS Pump Room Level Calibration

Other Documents:
IN 2005-11, Internal Flooding/ Spray Down of Safety Related Equipment Due to Unsealed Equipment Hatch Floor Plugs and/or Blocked Drains
IN 2003-08, Potential Flooding Through Unsealed Concrete Floor Cracks
W/R #00999490
PIP M-10-00677
WO 01839397
WO 01728233
Manholes:
NUREG 1772, section 3.6.2.2.2
UFSAR 18.2.15
PIP M-10-6777, Walkdown/Inspection of Cable Trenches/Manholes
PIP M-09-6877, M-10-4627

Section 1R11: Licensed Operator Requalification Program

AP/0/A/5500/045, Plant Fire
AP/1/A/5500/024, Loss of Plant Control Due to Fire or Sabotage
EP/1/A/5500/ES-0.1, Reactor Trip Response
EP/1/A/5500/E-0, Reactor Trip or Safety Injection
AP/1/A/5500/015, Loss of Vital or Aux Control Power
EP/2/A/5500/ES-0.1, Reactor Trip Response
EP/2/A/5500/E-0, Reactor Trip or Safety Injection
AP/2/A/5500/015, Loss of Vital or Aux Control Power
SRT-101 (Combined Crew) Simulator Exercise Guide

Section 1R12: Maintenance Effectiveness

SSF:
SLC 16.9.7, Standby Shutdown System
MCS-1223.SS-00-0001, Design Basis Specification for the Standby Shutdown System
PT/0/A/4200/002, Standby Shutdown Facility Operability Test
EP/1,2/A/5000/ECA0.0, Loss of All AC Power
AP/1,2/A/5500/24, Loss of Plant Control Due to Fire or Sabotage
AP/0/A/5500/45, Plant Fire
PIP M-10-4468, SSF diesel generator is being placed in A(1) status for Maintenance Rule
RG 1.155, Station Blackout
NRC SBO SERs dated 2/19/1992 and 6/16/1992

MR A(3):
NUMARC 93-01
Maintenance Rule Periodic Assessment 6/17/2004
Maintenance Rule Periodic Assessment 12/27/2005
Maintenance Rule Periodic Assessment 6/28/2007
Maintenance Rule Periodic Assessment 12/31/2008
Maintenance Rule Periodic Assessment 12/02/2010
Maintenance Rule Health Report
PM Program Health Report
A(1) List
PIPs: M-00-1340, M-04-2983, M-04-5396, M-05-2710, M-07-645, M-08-3496, M-10-1882, M-10-4468, M-09-4321
PIPs generated from this inspection: M-10-7757, PM in A(3) evaluation

Section1R13: Maintenance Risk Assessments and Emergent Work Control

Critical Activity plan for PM-1RNST0001–Lube/Inspect Strainer
PT/1/B/4700/077, Unit 1 Primary Chemistry Periodic Surveillance Items with a Frequency of Once every 31 Days.
WO 01948474
Complex plan for cross-tie EVDB to EVDD
TT/0/A/9600/200 EVDB/EVDD Cross Tie Verification
2B RN Strainer Critical Activity Plan
WO 01945354

Section1R15: Operability Evaluations

NSD 203,Operability/Functionality
PIPs M09-2341,M09-2216, M10-5982, M10-6613, M10-6152
PIPs generated from this inspection: M10-7698, A train RN head loss when aligned to Standby Nuclear Service Water Pond

Section1R18: Plant Modifications

TT/0/A/9600/201, EVCA/EVCC Crosstie Verification
Pre-job brief form for EVCA/EVCC
Critical Activity Plan for EVCA & EVDC
TT/0/A/9600/200, EVDB/EVDD Cross Tie Verification

Critical Activity Plan for EVDB & EVDD
WO 1900442
WO 1928913
WO 1941853

Section 1R19: Post-Maintenance Testing
WO 01950032 (1A NV pump)
PIP M-10-6507
IP/0/A/3066/002, Rotork Actuator Lubrication and Inspection
MP/0/A/7400/083 Nordberg Diesel Engine Hydraulic Governor Oil Replacement, Linkshaft Actuator Inspection, and Fuel Rack Inspection/Lubrication
WO 01926157 (2B D/G)
IP/2/B/3004/004, RHR pump 1 and 2 discharge Pressure Calibration
WO 01910906 (2B ND)
PIP M-10-6846
WO 01931760 (2A D/G)
WO 01888934 (2A D/G)

Section1R22: Surveillance Testing
WO 01944224
PT/2/A/4350/004 4kV Loss of Voltage Trip Actuating Devices Operational Test

Section 4OA1: Performance Indicator (PI) Verification
PT/1/B/4700/076, Unit 1 Primary Chemistry Periodic Surveillance Items with a Frequency of Once per 7 Days
PT/2/B/4700/076, Unit 2 Primary Chemistry Periodic Surveillance Items with a Frequency of Once per 7 Days
Reactor Coolant System Dose equivalent Iodine-131 specific activity for 2009

Section 4OA2: Problem Identification and Resolution
NSD208, Problem Investigation Process (PIP)
NSD 201, Reporting Requirements
NSD 202, Reportability
NUREG 1022
PIP M-10-3627

Section 4OA3: Followup of Events and Notices of Enforcement Discretion
LER: Rod Drop
PIP M-10-4111, root cause, and attachments
Rod control system health reports

Section 4OA5: Other
PIPs M-10-7470 through 74780 and PIPs M-10-7497 through 7503

ISFSI
RG 3.72
NEI 96-07 Appendix B

72.48 screen dated 2/25/2009
72.48 screen dated 1/11/2010
72.48 screen dated 1/14/2010
PIPs: M-09-4675, M-09-4901, M-09-5706, M-09-5931, M-09-6419, M-09-7468, M-10-429, M-10-1275, M-10-M-10-3234, M-10-34321, M-10-3441, M-10-3669, M-10-4034, M-10-4044, M-10-4463, M-10-4705, M-10-6014, M-10-6065, M-10-6184, M-10-3341, M-10-3542, M-10-5101, M-10-6059

LIST OF ACRONYMS

EDG	-	Emergency Diesel Generator
ISFSI	-	Independent Spent Fuel Storage Installation
LER	-	Licensee Event Report
MRP	-	Materials Reliability Program
NCV	-	Non-Cited Violation
NV	-	Chemical and Volume Control
PI	-	Performance Indicator
PIP	-	Problem Investigation Program
RHR	-	Residual Heat Removal
RN	-	Nuclear Service Water
RTP	-	Rated Thermal Power
SSC	-	Structures, Systems and Components
SSF	-	Standby Shutdown Facility
TI	-	Temporary Instruction
TS	-	Technical Specifications
UFSAR	-	Updated Final Safety Analysis Report