UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

January 27, 2010

Mr. Regis T. Repko
Vice President
Duke Energy Carolinas, LLC
McGuire Nuclear Station
12700 Hagers Ferry Road
Huntersville, NC 28078-8985

SUBJECT: WILLIAM B. MCGUIRE NUCLEAR STATION - NRC INTEGRATED INSPECTION REPORT 05000369/2009005 AND 05000370/2009005 AND NRC OFFICE OF INVESTIGATIONS REPORT 2-2009-019 SYNOPSIS

Dear Mr. Repko:

On December 31, 2009, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your William B. McGuire Nuclear Station, Units 1 and 2. The enclosed inspection report documents the inspection results, which were discussed on January 6, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel. Based on the results of this inspection, no findings of significance were identified.

Also, enclosed for your information is the synopsis of the NRC Office of Investigations' (OI) report regarding an individual who failed to report an arrest while working at McGuire Nuclear Station. OI determined that there was not sufficient evidence to substantiate that the individual willfully failed to report an arrest. We plan no further action with regard to this matter.

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

Enclosures: 1. NRC Integrated Inspection Report 05000369/2009005 and 05000370/2009005 w/Attachment - Supplemental Information
2. OI Synopsis, Investigation 2-2009-019

cc w/encl: (See page 3)

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Letter to Regis T. Repko from Jonathan H. Bartley dated January 27, 2010

SUBJECT: WILLIAM B. MCGUIRE NUCLEAR STATION - NRC INTEGRATED INSPECTION REPORT 05000369/2009005 AND 05000370/2009005 AND NRC OFFICE OF INVESTIGATIONS REPORT 2-2009-019 SYNOPSIS

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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:	05000369/2009005, 05000370/2009005
Licensee:	Duke Energy Carolinas, LLC
Facility:	McGuire Nuclear Station, Units 1 and 2
Location:	Huntersville, NC 28078
Dates:	October 1, 2009, through December 31, 2009
Inspectors:	J. Brady, Senior Resident Inspector J. Heath, Resident Inspector G. Ottenberg, Resident Inspector, Oconee
Approved by:	Jonathan H. Bartley, Chief Reactor Projects Branch 1 Division of Reactor Projects

SUMMARY OF FINDINGS

IR05000369/2009-005, IR05000370/2009-005; 10/1/2009 – 12/31/2009; McGuire Nuclear Station Units 1 and 2, Quarterly Integrated Inspection Report.

The report covered a three month period of inspection by three resident inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, “Reactor Oversight Process.”

REPORT DETAILS

Summary of Plant Status

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

Unit 2 began the inspection period in a refueling outage. Unit 2 went critical on October 9 and was synchronized to the grid on October 10. Unit 2 reached 100 percent RTP on October 14. The unit remained at 100 percent RTP for the rest of the period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope

Adverse Weather Preparations: 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 13, 2007. The inspectors walked down the auxiliary feedwater (CA) system 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 of significance were identified.

1R04 Equipment Alignment

a. Inspection Scope

Partial Walkdown: The inspectors performed a partial walkdown of the following three 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 train of chemical volume control system while 1A train was out of service for maintenance on October 20
- 1B diesel generator while 1A diesel generator was out of service for maintenance on November 17
- 2A train of chemical volume control system while 2B train and the standby make-up pump were out of service for maintenance on December 21

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

Fire Protection Walkdowns: The inspectors walked down accessible portions of the four plant areas listed below to determine if they were consistent with the Updated Final Safety Analysis Report (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 plan for the areas selected to determine if it was consistent with the fire protection program and presented an adequate fire fighting strategy. Documents reviewed are listed in the Attachment.

- Unit 1 733 elevation containment penetration room and ETB switchgear room (fire area 9-11)
- Unit 2 733 elevation containment penetration room and ETB switchgear room (fire area 10-12)
- Auxiliary Building 750 elevation shared equipment room (fire area 21)
- Auxiliary Building 716 elevation common equipment area (fire area 4)

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures

a. Inspection Scope

Internal Flooding: The inspectors walked down the Standby Shutdown Facility manholes 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. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

a. Inspection Scope

Annual Resident Inspection: The inspectors selected the 2B Component Cooling System (KC) Heat Exchanger based on its risk significance and reviewed the results to determine if the heat exchanger was available to perform its intended functions as described in the UFSAR. The inspectors evaluated if the frequency of inspection was sufficient to detect degradation prior to loss of heat removal capabilities below design requirements; that the inspection results were appropriately categorized against pre-established engineering acceptance criteria including the impact of tubes plugged on the heat exchanger performance; and that the licensee had developed adequate acceptance criteria for bio-fouling controls. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors observed operators in the plant's simulator on two occasions during licensed operator requalification training to determine the effectiveness of licensed operator requalification training required by 10 Code of Federal Regulations (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 crew's response to the scenarios listed below. Documents reviewed are listed in the Attachment.

- Initial Criticality, Zero Power Physics Testing, Rod Malfunction/Dropped Rod (Oct. 3)
- Feed line break inside containment complicated by an anticipated transient without scram (Oct. 29)

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the two samples listed below for items such as: (1) appropriate work practices; (2) identifying and addressing common cause failures; (3) adequacy of corrective actions; (4) scoping in accordance with 10 CFR 50.65(b) of the maintenance rule; (4) characterizing reliability issues against performance criteria; (5) trending key parameters for condition monitoring; (6) charging unavailability for performance; (7) classification and reclassification in accordance with 10 CFR 50.65(a)(1) or (a)(2); and (8) appropriateness of performance criteria for structures, systems, and components (SSCs)/functions classified as (a)(2); and/or (9) 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.

- Unit 1 and Unit 2 hydrogen mitigation systems placed into Maintenance Rule (a) (1) for repetitive maintenance preventable functional failures
- Unit 1 and Unit 2 feedwater pump turbine supervisory controls placed into Maintenance Rule (a) (1) for repetitive maintenance preventable functional failures

b. Findings

No findings of significance 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 four 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.

- Emergent issue on October 2 associated with off-site power source 4160 V breaker to safety bus 2ETA that caused an emergent Yellow on the Unit 2 defense in depth risk assessment for power availability.
- Emergent issue on October 4 associated with removing 2B train nuclear service water from service due to 2B component cooling heat exchanger fouling that resulted in an emergent Yellow on the Unit 2 defense in depth for decay heat removal, inventory control, and spent fuel cooling.

- Emergent issue on October 6 for 1C main condenser discharge gate not having remote control or indication from the control room. This issue can affect flood mitigation for both units, increasing loss of offsite power frequency, and resulted in an emergent Yellow for Unit 1 but no color change for Unit 2.
- Emergent issue on October 21 associated with Unit 2 safety injection calibrations affecting probabilistic risk assessment not being accurately reflected in the licensee's risk assessment tool. The licensee identified the issue prior to performing work and re-evaluated the risk assessment to reflect the appropriate risk for the configuration.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

For the two operability evaluations listed below, the inspectors evaluated the technical adequacy of the evaluations to determine whether Technical Specification (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 if the measures were in-place and adequately compensated for the degradation to justify operability. The inspectors reviewed the UFSAR to determine if the measures resulted in changes to the licensing basis functions and if a license amendment was required per 10 CFR 50.59. Documents reviewed are listed in the Attachment.

- M-09-5871, Immediate Determination of Operability on 1A and 2A Nuclear Service Water based on fouling of 2B KC and 2B Containment Spray heat exchangers due to corrosion products
- 2B auxiliary feedwater (CA) pump outboard bearing motor found with discolored oil following pump quarterly test run

b. No findings of significance were identified.

1R18 Plant Modifications

a. Inspection Scope

The inspectors reviewed the temporary modification MD201772, Install Kerotest cap & inject to stop leak on valve 2NC-30 (Unit 2 loop 2 pressurizer spray valve bypass), and the associated 10 CFR 50.59 review to determine whether the modification satisfied the requirements of 10 CFR 50, Appendix B, and compared each against the UFSAR and TS to determine if 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 (and/or removal testing for temporary modifications) 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 of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

For the three 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 test listed and/or reviewed the test data to determine whether the test results adequately demonstrated restoration of the affected safety functions. Documents reviewed are listed in the Attachment.

- PT/2/A/4253/003 A, Condensate Feedwater Train A Valve Stroke Timing Shutdown, and PT/2/A/4253/003 B, Condensate Feedwater Train B Valve Stroke Timing Shutdown for feed control valve 2CF-32AB (2A S/G Condensate Feedwater control valve) after the solenoid valves were replaced
- PT/0/A/4250/037, Main Steam Safety Valve Setpoint Test Using Set Pressure Verification Device for Main Steam Safety Valves 2SV-2, 2SV-3, 2SV-4, 2SV-5, and 2SV-6, after maintenance in the refueling outage
- PT/0/A/4600/105, Rod Control Cluster Assembly Drop Timing Using Digital Rod Positioning Indication System after reassembly of reactor after refueling

b. Findings

No findings of significance were identified.

1R20 Refueling and Other Outage Activities

a. Inspection Scope

The inspectors observed portions of the following activities when Unit 2 entered the refueling outage. Documents reviewed are listed in the Attachment.

- Reviewed the licensee's responses to emergent work and unexpected conditions, to determine if configuration changes were controlled in accordance with the outage risk control plan.
- Observed outage activities to determine if the licensee maintained defense-in-depth commensurate with the outage risk control plan for the key safety functions and applicable TS.
- Assessed outage activities that were conducted during short time-to-boil periods.

- Prior to mode changes, the inspectors reviewed selected system lineups and/or control board indications to determine if TSs, license conditions, and other requirements, commitments, and administrative procedure prerequisites for mode changes were met prior to changing modes or plant configurations.
- Reviewed reactor coolant system boundary leakage data, and observed the setting of containment integrity, to determine whether the reactor coolant system and containment boundaries were in place and had integrity when necessary.
- Conducted a containment walk-down prior to reactor startup to determine whether containment cleanliness supported Emergency Core Cooling System sump operability, observed Reactor Coolant System heat-up and reviewed mode change check lists to determine whether TS requirements were being met, observed reactor criticality to determine whether procedural requirements were followed and whether the estimated critical position was consistent with actual, and reviewed reactor physics testing to determine whether core operating parameters were consistent with core design.
- Reviewed the items that had been entered into the licensee's corrective action program, to determine if the licensee had identified problems related to outage activities at an appropriate threshold and had entered them into the corrective action program. For the significant problems, the inspectors reviewed the results of the licensee's investigations, to determine whether the licensee had determined the root cause and implemented appropriate corrective actions.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

For the eight 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 TS, the UFSAR, 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.

Routine Surveillance Tests

- PT/2/A/4200/009B, Engineered Safety Features Actuation Periodic Test Train B
- PT/2/A/4200/009A, Engineered Safety Features Actuation Periodic Test Train A
- PT/2/A/4252/001, #2 Turbine Driven CA Pump Performance Test
- PT/2/A/4250/004C, Turbine Overspeed Protection Controller and Mechanical Overspeed Trip Test
- PT/0/A/4200/002, Standby Shutdown Facility Operability Test

In-Service Tests

- PT/2/A/4252/004, Steam Generator Injection Valve Verification for #2 Turbine Driven CA Pump

Containment Isolation Valve Testing

- PT/2/A/4255/003C, Main Steam Valve Timing Test at Full Temperature and Pressure

Ice Condenser Systems Testing

- PT/0/A/4200/018, Ice Bed Analysis

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors evaluated the conduct of a licensee emergency drill conducted on December 16 to identify any weaknesses or deficiencies in classification, notification, dose assessment and protective action recommendation development activities in accordance with 10 CFR 50, Appendix E. The inspectors also attended the licensee critique of the drill to compare any inspector-observed weakness with those identified by the licensee in order to verify whether the licensee was properly identifying failures. The inspectors reviewed the licensee's performance indicator determinations for this drill to determine whether they were in conformance with the criteria contained in Nuclear Energy Institute 99-02. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstones: Occupational Radiation Safety

2OS1 Access Controls To Radiologically Significant Areas

a. Inspection Scope

During the week of July 27-31, 2009, the inspectors walked-down the Independent Spent Fuel Storage Installation (ISFSI) facility and observed the physical condition of the casks, radiological postings, and barriers. The inspectors performed independent gamma and neutron radiation surveys of the area and reviewed gamma/neutron radiation surveys of the ISFSI facility performed by the licensee. The inspectors evaluated neutron measurement instrumentation being used and planned for use by the licensee. Inspectors compared the independent survey results to previous surveys and against procedural and TS limits. The inspectors evaluated implementation of radiological controls, including labeling and posting, and discussed controls with HP staff. Environmental monitoring results for direct radiation from the ISFSI were reviewed

and inspectors observed the placement and physical condition of thermoluminescent dosimeters around the facility.

Radiation protection activities were evaluated against the requirements of Updated Final Safety Analysis Report (UFSAR) Section 12; TS Section 5.7; 10 CFR Parts 19 and 20; and approved licensee procedures. Radiological control activities for ISFSI areas were evaluated against 10 CFR Part 20, 10 CFR Part 72, and TS details. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA2 Identification and Resolution of Problems

.1 Routine Review of Identification and Resolution of Problems

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 condition reports, attending some daily screening meetings, and accessing the licensee's computerized database. Documents reviewed are listed in the Attachment.

.2 Selected Issue Follow-Up

a. Inspection Scope

The inspectors selected Nuclear Service Water Heat Exchanger Fouling for detailed review. The inspectors reviewed the associated documents 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. Documents reviewed are listed in the Attachment.

b. Findings and Observations

No findings of significance were identified.

.3 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 was focused on repetitive equipment

issues, but also considered the results of daily inspector corrective action program item screening discussed above, 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 new trends were identified. The inspectors had previously identified a trend associated with failing to update the UFSAR in accordance with 10 CFR Part 50.71(e) in NRC Integrated Inspection Report (IIR) 2005005. The licensee initiated trend Problem Investigation Process report (PIP) M-06-080 which determined that a trend did not exist. In NRC IIR 2006005, the NRC trend was updated because of additional NRC-identified UFSAR inaccuracies. The licensee initiated PIP M-06-2889 and determined that a trend existed. The licensee identified several corrective actions and closed the PIP. In addition, the licensee reviewed a selected sample of the UFSAR. This review identified a significant number of UFSAR inaccuracies. However, due to additional NRC identified UFSAR inaccuracies, the licensee expanded the scope of the UFSAR sample review. After another NRC identified UFSAR inaccuracy in 2008, the licensee issued PIP M-08-4383 to evaluate the UFSAR review program and the corrective actions for PIP M-06-2889. The licensee determined that both the corrective actions and the scope of the UFSAR review program were not adequate. Additional corrective actions were identified in PIP M-08-4383.

During the first six months of 2009, the NRC identified two additional UFSAR inaccuracies associated with the accuracy and completeness of the FSAR from the original licensing basis. Because the licensee's UFSAR sample review would not have identified this type of inaccuracy, the licensee wrote trend PIP M-09-0473 to address all 13 NRC identified UFSAR inaccuracies between 2004 and 2008 and again expanded the scope of the UFSAR sample review.

During the second six months of 2009, the NRC identified an additional UFSAR inaccuracy. When the inspectors reviewed associated PIPs M-09-4361 and M-09-6771, along with trend PIP M-09-0473, the inspectors noted that the categorization of PIP M-09-6771 was downgraded based on the determination that previous cause evaluations and corrective actions for similar UFSAR inaccuracies should encompass this inaccuracy. However, the extent of condition review performed to determine if this inaccuracy was adequately encompassed by the corrective action taken for the previous sample review was not documented in the PIP. The licensee revised PIP M-09-6771 to include the extent of condition information and added an additional corrective action to PIP M-08-4383 to perform a completeness review when the overall corrective actions were complete.

4OA3 Event Follow-up

a. Inspection Scope

Personnel Performance: Operator performance was evaluated in planned and unplanned non-routine events and transients. The initiating cause was examined as well as the response to determine if the response was appropriate and in accordance with procedures. Documents reviewed are listed in the Attachment.

- Unit 2 Turbine-Generator Synchronization to the Grid
- Unit 2 Steam Leak Due to Steam Line Drain Valves Inadvertently Opening

b. Findings

No findings of significance were identified.

4OA5 Other Activities

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 of significance were identified.

4OA6 Meetings, Including Exit

Quarterly Exit Meeting Summary

On January 6, the resident inspectors presented the inspection results to Mr. Regis T. Repko and other members of his staff. The inspectors confirmed proprietary information obtained during the inspection was returned to the licensee and would not be included in this report.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee
K. Ashe, Manager, Regulatory Compliance
D. Black, Security Manager
S. Bradshaw, Training Manager
D. Brewer, Manager, Safety Assurance
J. Bryant, Regulatory Compliance
S. Capps, Station Manager
K. Crane, Regulatory Compliance
B. Hamilton, former Site Vice President, McGuire Nuclear Station
J. Hicks, Superintendent, Maintenance
S. Mooneyhan, Radiation Protection Manager
J. Nolin, Manager, Mechanical and Civil Engineering
R. Parker, Superintendent, Work Control
R. Repko, Site Vice President, McGuire Nuclear Station
W. Scott, Chemistry Manager
T. Simril, Superintendent, Plant Operations
S. Snider, Manager, Reactor and Electrical Systems Engineering

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

DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection
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
IP/2/B/3250/059C, Preventative Maintenance and operational Check of Freeze Protection for Intake
PT/0/B/4700/038, Verification of Freeze Protection Equipment and Systems
NSD 317, Freeze Protection Program

Section 1R04: Equipment Alignment
Drawing MCFD-1554-03.01 Flow Diagram of Chemical Volume Control System (NV)
Drawing MCFD-1562-01.00 Flow Diagram of Safety Injection (SI)
PT/1/A/4350/002B Diesel Generator 1B Operability Test
OP/1/A/6350/002 Diesel Generator

Section 1R05: Fire Protection
PIPs: M-09-2822, M-09-2965, M-09-7671
MCS-1465.00-00-0008, Design Basis Specification for Fire Protection
UFSAR 9.5.1
Fire Strategies 9, 11, 10, 12, 21, 4

PIPs generated from this inspection: M-09-7154, Need for updating fire strategy drawings for both units ETA, ETB, and penetration rooms

Section 1R06: Flood Protection Measures

PIP M-06-2178, Review of NEI 06-05 Medium Voltage Underground Cable White Paper
M-05-3991, NEI Medium-voltage Underground cable survey
IN 2002-12, Submerged Safety-Related Electrical Cables
GL 2007-01, Inaccessible or Underground Power Cable Failures that Disable Accident Mitigation Systems or Cause Plant Transients
Duke response to GL 2007-01 dated May 8, 2007
NRC closure of GL 2007-01 dated October 27, 2008
UFSAR 18.2.15
NUREG 1772, SER Related to the License Renewal of McGuire Nuclear Station, Units 1 and 2 and Catawba Nuclear Station, Units 1 and 2, Section 3.6.2
October 2009 Inspector Newsletter
PIPs generated from this inspection: M-09-6877, Cat D sump pump PMs changed to as required; evaluate critical pumps for inspection on monthly rounds.

Section 1R07: Heat Sink Performance

Pictures from the 9/23/2009 2B KC Hx cleaning
Pictures from the 10/4/2009 2B KC Hx cleaning
Materials lab analysis from the samples taken from the 9/23/2009 and 10/4/2009 2B KC Hx cleaning
PIPs M-09-5511, M-09-5871, M-09-5244
Analytical laboratory reports 09-SEP-0242 and 09-SEP-0381 for the 2A and 2B KC Heat Exchangers

Section 1R11: Licensed Operator Requalification

PT/0/A/4150/028, Initial Criticality and Zero Power Physics Testing
OP/2/A/6100/003, Controlling Procedure for Unit Operation
AP/2/A/5500/014, Rod Control Malfunction
OP-MC-ASE-PRACTICE, Practice Active Simulator Exam
RP/0/A/5000/000, Classification of an Emergency
EP/1/A/5000/FR-S.1, Response to Nuclear Generation/ anticipated transient without scram
EP/1/A/5000/E-2, Faulted Steam Generator Isolation
EP/1/A/5000/FR-Z.1, Response to High Containment Pressure
EP/1/A/5000/F-0, Critical Safety Function Status Trees

Section 1R12: Maintenance Effectiveness

PT/1/A/4350/023, Hydrogen Mitigation Igniter Current Verification
PT/1/A/4350/023, Hydrogen Mitigation Igniter Glow Plug Test
EDM 210 Engineering Responsibilities for Maintenance Rule
Work Order (WO) 01858896
EHM – Hydrogen Mitigation Health Report
PIPs M-09-03047, M-09-00770, M-09-02419, M-08-1000, M-08-2143, M-08-2776, M-07-6133
System Health report for CF and IWE systems
A-1 list
MR database

Section 1R13: Maintenance Risk Assessments and Emergent Work Control
PIPs M-09-6079, M-09-6118

Section 1R15: Operability Evaluations
PT/2/A/4252/001 B, 2B CA Pump Performance Test
WO 18871997
PIPs M-09-06915, M-09-07056

Section 1R18: Plant Modifications
MD201772, Install Kerotest cap & inject to stop leak on valve 2NC-30
EC 97814, WOs 1805755 and 1803359
WO 1837939, Replacement of Kerotest valve 2NC-30 with new valve of different type

Section 1R19: Post-Maintenance Testing
TS 3.6.3, 3.1.4, 3.7.1, and 3.7.3

Section 1R20: Refueling and Other Outage Activities
OP/2/A/6100/003, Controlling Procedure for Unit Operation
PT/0/A/4150/021, Post Refueling Controlling Procedure for Criticality, Zero Power Physics, and Power Escalation Testing
PT/0/A/4150/028, Initial Criticality and Zero Power Physics Testing
TS 3.1.3 through 3.1.6, and 3.1.8
PIP M-09-6298

Section 1R22: Surveillance Testing
Routine Surveillance Tests
TS 3.3.1, 3.3.2, 3.5.2, 3.6.10, 3.6.6, 3.6.3, 3.7.2, 3.7.6, 3.7.7, 3.7.9, 3.7.11, 3.8.1
SLC 16.7.5, Turbine Overspeed Trip Testing
SLC 16.9.7, Standby Shutdown System

In-Service-Tests
TS 5.5.8

Containment Isolation Valve Testing
TS 3.7.2

Ice Condenser Systems Testing
TS 3.6.12

Section 1EP6: Drill Evaluation
PIP M-09-7620, Drill critique items from the 12/16/09 ERO drill

Section 2OS1: Access Controls to Radiologically Significant Areas

Procedures, Manuals, and Guidance Documents
HP/0/B/1003/063, Routine Surveillance, Rev. 28

Licensee Records and Data
HP/0/B/1003/063 Enclosure 5.17, Routine Surveillance of ISFSI (5/18/09, 2/16/09, 12/9/08)
HP/0/B/1003/063 Enclosure 5.32, Quarterly Trending of ISFSI Survey Data (3/18/09, 12/15/08)

Section 4OA2: Identification and Resolution of Problems
PIPs M-09-5511, M-09-5871, M-09-5244, M-09-3387
Apparent cause evaluations for PIPs M-09-3387 and M-09-5511
Graphs of SNSWP Dissolved Oxygen vs elevation and Temperature vs elevation
Graphs for Unit 1 and 2 component cooling heat exchangers for service water flow vs time and pressure differential vs time

6 month trend review
FSAR: PIP M-09-0576, M-09-2202, M-09-0473, M-09-6771, M-09-4361
Department Quarterly PIP trend reports for the 2nd and 3rd quarters.
Corrective Action Program Health Report Card
Maintenance Rule (a)(1) list
System Health Reports

Section 4OA3: Event Follow-up
OP/2/A/6100/003, Controlling Procedure for Unit Operation
OP/2/A/6300/001, Turbine-Generator Startup-Shutdown
Steam drain issue: AP/2/A/5500/01, Steam Leak; PIP M-09-6622

LIST OF ACRONYMS

CA	-	Auxiliary Feedwater
CFR	-	Code of Federal Regulations
IIR	-	Integrated Inspection Report
ISFSI	-	Independent Spent Fuel Storage Installation
KC	-	Component Cooling System
PIP	-	Problem Investigation Process Report
RTP	-	Rated Thermal Power
SSC	-	Structures, Systems and Components
TS	-	Technical Specifications
UFSAR	-	Updated Final Safety Analysis Report

SYNOPSIS

This investigation was initiated on March 11, 2009, by the U.S. Nuclear Regulatory Commission (NRC), Office of Investigations (OI), Region II (RII), to determine whether a former Scaffold Builder, employed by DZ Atlantic, and working at the McGuire Nuclear Station (McGuire), willfully failed to report an arrest to his management personnel or Duke Energy Corporation (Duke Energy) officials.

Based on the evidence developed, this investigation did not substantiate the allegation that a former Scaffold Builder, employed by DZ Atlantic, and working at McGuire, willfully failed to report an arrest to his management personnel or Duke Energy officials.

Approved for release
Oscar de Miranda 12-3-2009