



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

January 25, 2017

Mr. Steven D. Capps
Site 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
05000369/2016004 AND 05000370/2016004

Dear Mr. Capps:

On December 31, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your McGuire Nuclear Station Units 1 and 2. On January 11, 2017, the NRC inspectors discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report. The NRC inspectors did not identify any finding or violation of more than minor significance.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Frank Ehrhardt, Chief
Reactor Projects Branch 1
Division of Reactor Projects

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

Enclosure:
IR 05000369/2016004, 05000370/2016004
w/Attachment - Supplemental Information

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S. Capps

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Letter to Steven D. Capps from Frank Ehrhardt dated January 25, 2017

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05000369/2016004, 05000370/2016004

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.: 50-369, 50-370

License Nos.: NPF-9, NPF-17

Report No.: 05000369/2016004 and 05000370/2016004

Licensee: Duke Energy Carolinas, LLC

Facility: McGuire Nuclear Station, Units 1 and 2

Location: Huntersville, NC 28078

Dates: October 1, 2016 through December 31, 2016

Inspectors: A. Hutto, Senior Resident Inspector
R. Cureton, Resident Inspector
M. Meeks, Senior Operations Engineer (Section 1R11)

Approved by: Frank Ehrhardt, Chief
Reactor Projects Branch 1
Division of Reactor Projects

Enclosure

SUMMARY

IR 05000369/2016004, 05000370/2016004, October 1, 2016 through December 31, 2016; McGuire Nuclear Station, Units 1 and 2; Integrated Inspection Report

The report covered a 3-month period of inspection by resident inspectors and regional inspectors. No findings were identified during this inspection period. The significance of inspection findings are indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," (SDP) dated April 29, 2015. The cross-cutting aspects are determined using IMC 0310, "Aspects within the Cross-Cutting Areas" dated December 14, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated February 4, 2015. The NRC's program for overseeing the safe operations of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 6.

REPORT DETAILS

Summary of Plant Status

Unit 1: Operated at approximately 100 percent rated thermal power (RTP) for the entire inspection period.

Unit 2: Operated at approximately 100 percent RTP for the entire inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

a. Inspection Scope

.1 Seasonal Extreme Weather Conditions

The inspectors conducted a detailed review of the station's adverse weather procedures written for extreme low temperatures. The inspectors verified that weather-related equipment deficiencies identified during the previous year had been placed into the work control process and/or corrected before the onset of seasonal extremes. The inspectors evaluated the licensee's implementation of adverse weather preparation procedures and compensatory measures before the onset of and during seasonal extreme weather conditions. Documents reviewed are listed in the attachment.

The inspectors evaluated the following risk-significant systems:

- Unit 1 and 2 freeze protection for refueling water storage tank level instrumentation
- Unit 1 and 2 main feedwater flow transmitter compartments
- Unit 1 and 2 freeze protection for auxiliary feedwater (CA) storage tank level instrumentation

.2 Readiness to Cope with External Flooding

The inspectors evaluated the licensee's implementation of flood protection procedures and compensatory measures during impending conditions of flooding or heavy rains. The inspectors reviewed the updated final safety analysis report and related flood analysis documents to identify those areas containing safety related equipment that could be affected by external flooding and their design flood levels. The inspectors walked down flood protection barriers, reviewed procedures for coping with external flooding, and reviewed corrective actions for past flooding events. The inspectors verified that the procedures for coping with flooding could reasonably be used to achieve the desired results. For those areas where operator actions are credited, the inspectors assessed whether the flooding event could limit or prevent the required actions. Documents reviewed are listed in the attachment.

The inspectors conducted walkdowns of the following plant areas containing risk-significant structures, systems, and components that are below flood levels or otherwise susceptible to flooding:

- Unit 1 and 2 yard drains inside the protected area
- Unit 1 and 2 auxiliary building, service building, and fuel handling building rooftop drainage systems

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

a. Inspection Scope

.1 Partial Walkdown

The inspectors verified that critical portions of the selected systems were correctly aligned by performing partial walkdowns. The inspectors selected systems for assessment because they were a redundant or backup system or train, were important for mitigating risk for the current plant conditions, had been recently realigned, or were a single-train system. The inspectors determined the correct system lineup by reviewing plant procedures and drawings. Documents reviewed are listed in the attachment.

The inspectors selected the following two systems or trains to inspect:

- 2A diesel generator (DG) while the 2B DG was out of service for planned maintenance
- 1B CA pump while the 1A CA pump was out of service for testing

.2 Complete Walkdown

The inspectors verified the alignment of the Unit 1, "A" train CA system. The inspectors selected this system for assessment because it is a risk-significant mitigating system. The inspectors determined the correct system lineup by reviewing plant procedures, drawings, the updated final safety analysis report, and other documents. The inspectors reviewed records related to the system design, maintenance work requests, and deficiencies. The inspectors verified that the selected system was correctly aligned by performing a complete walkdown of accessible components. The inspectors observed whether there was indication of degradation, and if so, verified the degradation was being appropriately managed in accordance with an aging management program and it had been entered into the licensee's corrective action program.

To verify the licensee was identifying and resolving equipment alignment discrepancies, the inspectors reviewed corrective action documents, including condition reports and outstanding work orders. The inspectors also reviewed periodic reports containing

information on the status of risk-significant systems, including maintenance rule reports and system health reports. Documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05AQ)

a. Inspection Scope

.1 Quarterly Inspection

The inspectors evaluated the adequacy of selected fire plans by comparing the fire plans to the defined hazards and defense-in-depth features specified in the fire protection program. In evaluating the fire plans, the inspectors assessed the following items:

- control of transient combustibles and ignition sources
- fire detection systems
- fire suppression systems
- manual firefighting equipment and capability
- passive fire protection features
- compensatory measures and fire watches
- issues related to fire protection contained in the licensee's corrective action program

The inspectors toured the following four fire areas to assess material condition and operational status of fire protection equipment. Documents reviewed are listed in the attachment.

- Unit 1 and Unit 2 auxiliary building 716' elevation (fire area 4)
- standby shutdown facility
- Unit 1 and 2 cable spread room 750" elevation (fire areas 19 and 20)
- Unit 1 and 2 auxiliary building 733" elevation (fire area 14)

.2 Annual Inspection

The inspectors evaluated the licensee's fire brigade performance during a drill on November 12, 2016 and assessed the brigade's capability to meet fire protection licensing basis requirements. The inspectors observed the following aspects of fire brigade performance:

- capability of fire brigade members
- leadership ability of the brigade leader
- use of turnout gear and fire-fighting equipment
- team effectiveness
- compliance with site procedures

The inspectors also observed the post-drill critique to assess if it was appropriately critical, included discussions of drill observations, and identified any areas requiring corrective actions. Documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

Internal Flooding

The inspectors reviewed related flood analysis documents and walked down the area(s) listed below containing risk-significant structures, systems, and components susceptible to flooding. The inspectors verified that plant design features and plant procedures for flood mitigation were consistent with design requirements and internal flooding analysis assumptions. The inspectors also assessed the condition of flood protection barriers and drain systems. In addition, the inspectors verified the licensee was identifying and properly addressing issues using the corrective action program. Documents reviewed are listed in the attachment.

- Unit 1 and 2 turbine building/auxiliary building interface flood mitigation features

b. Findings

No findings were identified.

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

Annual Review

The inspectors reviewed the performance of the "A" control room chilled water condenser performance test and evaluated the test data. The inspectors reviewed the system configuration associated with the test, heat load requirements, and the methodology used in calculating heat exchanger performance. Documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program and Licensed Operator Performance (71111.11)

a. Inspection Scope

.1 Resident Inspector Quarterly Review of Licensed Operator Requalification

On October 25, 2016, the inspectors observed an evaluated simulator scenario administered to an operating crew conducted in accordance with the licensee's accredited requalification training program.

The scenario involved abnormal procedure entries for a failed spent fuel cooling pump as well as a failed pressurizer power operated relief valve. The emergency procedures were subsequently entered for a large loss of coolant accident.

The inspectors assessed the following:

- licensed operator performance
- the ability of the licensee to administer the scenario and evaluate the operators
- the quality of the post-scenario critique
- simulator performance

Documents reviewed are listed in the attachment.

.2 Resident Inspector Quarterly Review of Licensed Operator Performance in the Actual Plant/Main Control Room

The inspectors observed licensed operator performance in the main control room during the performance of a nuclear service water pump surveillance test and a 200 gallon dilution for reactor coolant temperature control. The inspectors also observed operator performance in the main control room while performing a procedure to put low pressure service water into an alternate alignment to troubleshoot 2RL-18 (Unit 2 LT coolers control).

The inspectors assessed the following:

- use of plant procedures
- control board manipulations
- communications between crew members
- use and interpretation of instruments, indications, and alarms
- use of human error prevention techniques
- documentation of activities
- management and supervision

Documents reviewed are listed in the attachment.

.3 Annual Review of Licensee Requalification Examination Results

On June 24, 2016, the licensee completed the comprehensive biennial requalification written examinations and the annual requalification operating examinations required to be administered to all licensed operators in accordance with Title 10 of the Code of Federal Regulations 55.59(a)(2), "Requalification Requirements," of the NRC's "Operator's Licenses." During the week of December 5, 2016, the inspectors performed an in-office review of the overall pass/fail results of the individual operating examinations and the crew simulator operating examinations in accordance with Inspection Procedure (IP) 71111.11, "Licensed Operator Requalification Program." These results were compared to the thresholds established in Section 3.02, "Requalification Examination Results," of IP 71111.11.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors assessed the licensee's treatment of the two issues listed below to verify the licensee appropriately addressed equipment problems within the scope of the maintenance rule (10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants"). The inspectors reviewed procedures and records to evaluate the licensee's identification, assessment, and characterization of the problems as well as their corrective actions for returning the equipment to a satisfactory condition. The inspectors also interviewed plant personnel to assess the licensee's treatment of performance deficiencies and extent of condition. In addition, the inspectors performed a review of the licensee's Quality Assurance Program to ensure the licensee was in compliance with their program requirements. Documents reviewed are listed in the attachment.

- Nuclear condition report (NCR) 2082955, "AP-22 Entry due to VI Header Pressure Drop"
- Unit 2, Commercial grade quality assurance program review of NCR 2049776, 2A1 diesel generator vent fan tripped due to manufacturing defect of overload heater

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed the four maintenance activities listed below to verify that the licensee assessed and managed plant risk as required by 10 CFR 50.65(a)(4) and

licensee procedures. The inspectors assessed the adequacy of the licensee's risk assessments and implementation of risk management actions. The inspectors also verified that the licensee was identifying and resolving problems with assessing and managing maintenance-related risk using the corrective action program. Additionally, for maintenance resulting from unforeseen situations, the inspectors assessed the effectiveness of the licensee's planning and control of emergent work activities. Documents reviewed are listed in the attachment.

- Unit 2, 2KF-20 critical plan for the 2A and 2B KF trains being removed from service
- Unit 1, 1B decay heat removal (ND) train protection plan while the 1B ND train was inoperable for room ventilation fan motor replacement
- Unit 2, EVCD vital battery protection plan while the battery was out of service for performance testing and equalize charge
- Unit 2, 2B DG while the 2A DG was out of service for fluid checks

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15)

a. Inspection Scope

Operability and Functionality Review

The inspectors selected the five operability determinations or functionality evaluations listed below for review based on the risk-significance of the associated components and systems. The inspectors reviewed the technical adequacy of the determinations to ensure that technical specification operability was properly justified and the components or systems remained capable of performing their design functions. To verify whether components or systems were operable, the inspectors compared the operability and design criteria in the appropriate sections of the technical specification and updated final safety analysis report to the licensee's evaluations. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. Additionally, the inspectors reviewed a sample of corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the attachment.

- Unit 1, NCR 2066839, 1RN-884 pipe flaw leakage has increased from 1 drop per minute to 60 drops per minute
- Unit 1, NCR 2069679, Unit 1 pressurizer heater group A loss of one heater bank
- Unit 1, NCR 02075441, Documentation of 1A ND pump AHU speed reduction
- Unit 1 and 2, NCR 2081163, Interior and exterior doghouse EQ walkdowns
- Unit 1 and 2, NCR 2087316, Temperature induced currents on containment high range radiation monitors

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors either observed post-maintenance testing or reviewed the test results for the four maintenance activities listed below to verify the work performed was completed correctly and the test activities were adequate to verify system operability and functional capability.

- 2A containment air and return fan following preventative maintenance
- 1B containment spray pump performance test following pump motor breaker preventive maintenance
- DG control air solenoid valve 2VG-SV5171 following repair
- 2A DG following planned maintenance

The inspectors evaluated these activities for the following:

- acceptance criteria were clear and demonstrated operational readiness
- effects of testing on the plant were adequately addressed
- test instrumentation was appropriate
- tests were performed in accordance with approved procedures
- equipment was returned to its operational status following testing
- test documentation was properly evaluated

Additionally, the inspectors reviewed a sample of corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with post-maintenance testing. Documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the four surveillance tests listed below and either observed the test or reviewed test results to verify testing adequately demonstrated equipment operability and met technical specification and current licensing basis. The inspectors evaluated the test activities to assess for preconditioning of equipment, procedure adherence, and equipment alignment following completion of the surveillance. Additionally, the inspectors reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with surveillance testing. Documents reviewed are listed in the attachment.

Routine Surveillance Tests

- PT/2/A/4403/001 A, "2A RN Pump Performance Test"
- PT/2/A/4209/001 C, "Unit 2 Standby Makeup Pump Flow Periodic Test"
- STRIDE: MC-16-2, "PORV Block Valve Stroke Time Testing"

In-Service Tests (IST)

- PT/2/A/4403/003 D, "RN Train A Valve Stroke Timing – Quarterly Plant Evolution Valves"

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

The inspectors reviewed a sample of the performance indicator (PI) data, submitted by the licensee, for the Unit 1 and Unit 2 PIs listed below. The inspectors reviewed plant records compiled between October 2015 and September 2016 to verify the accuracy and completeness of the data reported for the station. The inspectors verified that the PI data complied with guidance contained in Nuclear Energy Institute 99-02, "Regulatory Assessment Performance Indicator Guideline," and licensee procedures. The inspectors verified the accuracy of reported data that were used to calculate the value of each PI. In addition, the inspectors reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with PI data. Documents reviewed are listed in the attachment.

Cornerstone: Barrier Integrity

- reactor coolant system leak rate
- reactor coolant system specific activity

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152)

.1 Routine Review

The inspectors screened items entered into the licensee's corrective action program to identify repetitive equipment failures or specific human performance issues for follow-up.

The inspectors reviewed problem identification program reports, attended screening meetings, or accessed the licensee's computerized corrective action database.

.2 Semi-Annual Trend Review

a. Inspection Scope

The inspectors reviewed issues entered in the licensee's corrective action program and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors focused their review on repetitive equipment issues and human performance trends, but also considered the results of inspector daily problem identification program report screenings, licensee trending efforts, and licensee human performance results. The review nominally considered the 6-month period of July 2016 through December 2016 although some examples extended beyond those dates when the scope of the trend warranted. The inspectors compared their results with the licensee's analysis of trends. Additionally, the inspectors reviewed the adequacy of corrective actions associated with a sample of the issues identified in the licensee's trend reports. The inspectors also reviewed corrective action documents that were processed by the licensee to identify potential adverse trends in the condition of structures, systems, and/or components as evidenced by acceptance of long-standing non-conforming or degraded conditions. Documents reviewed are listed in the attachment.

b. Findings and Observations

No findings were identified.

.3 Annual Follow-up of Selected Issues

a. Inspection Scope

The inspectors conducted a detailed review of the following 2 NCRs:

- NCR 2013556, "1A Normal Charging Line Indication"
- NCR 2013590, "1NV-1002 Check Valve Appears to be Stuck"

The inspectors evaluated the following attributes of the licensee's actions:

- complete and accurate identification of the problem in a timely manner
- evaluation and disposition of operability and reportability issues
- consideration of extent of condition, generic implications, common cause, and previous occurrences
- classification and prioritization of the problem
- identification of root and contributing causes of the problem
- identification of any additional condition reports
- completion of corrective actions in a timely manner

Documents reviewed are listed in the attachment.

b. Findings and Observations

No findings were identified.

4OA6 Meetings, Including Exit

On January 11, 2017, the resident inspectors presented the inspection results to Mr. Steven Capps and other members of the licensee's staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

S. Capps, Vice President, McGuire Nuclear
J. Glenn, Organizational Effectiveness Manager
M. Kelly, Outage and Scheduling Manager
K. Kinard, Security Manager
N. Kunkel, Engineering Manager
S. Mooneyhan, Radiation Protection Manager
G. Murphy, Licensing Specialist
E. Pigott, Operations Manager
J. Robertson, Regulatory Affairs Manager
P. Schuerger, Training Manager
S. Snider, Plant Manager

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

AD-WC-ALL-0230, Seasonal Readiness
NSD 317, Freeze Protection Program
PT/0/B/4700/038, Cold Weather Protection
PT/0/B/4700/070, On Demand Freeze Protection Verification Checklist
Action Register Update Details Reports (of freeze protection program from September – December 2016)
UFSAR Section 2.4, Hydrology
MCS-1465.00-00-0012, Design Basis Specification for Flooding from External Sources
MCC-1100.00-00-0002, McGuire Probable Maximum Precipitation Flood Analysis
Drawing No. MC-1022-01.00, Grading Plan, Plant Area
AP/0/A/5500/044, Plant Flooding

Section 1R04: Equipment Alignment

MCFD-2592-01.01, Unit 1, Flow Diagram of Auxiliary Feedwater System
OP/2/A/6350/002, Diesel Generator
OP/1/A/6250/002, Auxiliary Feedwater System
Work Order AR 20080911, Unit 1 TD CA Pump Turbine Stop Valve
NCR 2070337, Operations CA pump room fire impairment reviews
NCR 2077870, Small amount of air vented at 1CA-163
NCR 2078207, 1A CA pump halon cylinder pressure low

Section 1R05: Fire Protection

Quarterly Inspection

MCS-1465.00-00-0008, Design Basis Specification for Fire Protection
MCS-1465.00-00-0022, Appendix R Safe Shutdown Analysis
MCC-1435.00-00-0059, NFPA 805 – Appendix R Safe Shutdown Deterministic Analysis
AD-EG-ALL-1520, Transient Combustible Control
NSD 316, Fire Protection Impairment and Surveillance
FS/0/B/9000/004, (Aux 716) Fire Strategy #4
FS/1/B/9000/019, 750 Unit 1 Aux Cable Room 801 Fire Strategy #19
FS/2/B/9000/020, 750 Unit 2 Aux Cable Room 801C Fire Strategy #20
FS/0/B/9000/014, Aux 733' Fire Strategy #14
Fire Strategy Number RB 4.1-1 (SSF)
MFSD-004, Aux 716
MFSD-014, Aux 733
MFSD-019, Unit 1 750 Aux Cable Room 801
MFSD-020, Unit 2 750 Aux Cable Room 801C

Annual Inspection

PT/0/B/4600/121, Fire Drill
RP/0/A/5700/025, Fire Brigade Response
FS/2/B/9000/044, Unit 2 Turbine Building Basement Fire Strategy #44

Section 1R06: Flood Protection Measures

MCC-1206.47-69-100, Auxiliary Building Flooding Analysis
MCS-1154.00-0004, Design Basis Specification for Auxiliary Building Structures
AP/0/A/5500/44, Plant Flooding

Section 1R07: Heat Sink Performance

PT/0/A/4457/003, VC/YC Condenser A Delta P Performance Test

Section 1R11: Licensed Operator Requalification Program and Licensed Operator Performance**Quarterly Resident Inspector LOR Activity Review**

NSD-509, Site Standards in Support of Operational Focus

SOMP 01-07, Control Room Oversight

Active Simulator Examination ASE-17

AP/1/A/5500/041, Loss of Spent Fuel Cooling or Level

EP/1/A/5000/E-0, Reactor Trip or Safety Injection

EP/1/A/500/E-1, Loss of Reactor or Secondary Coolant

Resident Inspector Quarterly Review of Licensed Operator Performance in the Actual Plant/Main Control Room

AD-OP-ALL-1000, Conduct of Operations

NSD 509, Site Standards in Support of Operational Focus

OMP 4.3, Use of Emergency and Abnormal Procedures and FLEX Support Guidelines

SOMP 01-07, Control Room Oversight

Section 1R12: Maintenance Effectiveness

AD-EG-ALL-1204, Single Point Vulnerability Identification, Elimination and Mitigation

AD-EG-ALL-1206, Equipment Reliability Classification

AD-EG-ALL-1209, System, Component, and Program Health Reports and Notebooks

AD-EG-ALL-1210, Maintenance Rule Program

AD-EG-ALL-1211, System Performance Monitoring and Trending

Duke Equipment Reliability Maintenance Rule Database

NCR 2049776, 2A1 diesel generator vent fan tripped due to manufacturing defect of overload heater

Commercial Grade Item Evaluation, GDC-3014.03-01-0001, Joslyn Clark Controls, TM Motor Starter Overload Heater Elements

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

NSD-213, Risk Management Process

NSD-415, Operational Risk Management (Modes 1–3) per 10 CFR 50.65(a)(4)

SOMP 02-02, Operations Roles in the Risk Management Process

OMP 13-7, Operational Control of Protected Equipment

AD-OP-ALL-0201, Protected Equipment

Section 1R15: Operability Determinations and Functionality Assessments

AD-OP-ALL-0102, Operability Decision Making

AD-OP-ALL-0105, Operability Determinations and Functionality Assessment

WO 20095274, Investigate/Repair loss of Unit 2 control room annunciators

Section 1R19: Post-Maintenance Testing

NSD-408, Testing

AD-EG-ALL-1155, Post Modification Testing

Section 1R22: Surveillance Testing

AD-EG-ALL-1202, Preventive Maintenance and Surveillance Testing Administration
AD-WC-ALL-0250, Work Implementation and Completion
AD-EG-ALL-1720, In-service Testing (IST) Program Implementation
Surveillance Test Risk-Informed Document Evaluation (STRIDE), MC-16-2, PORV Block Valve Stroke Time Testing
Plant Operations Review Committee (PORC) STRIDE MC-16-2 Review Meeting Minutes
NEI 04-10, Risk Informed Technical Specifications Initiative 5b, Risk Informed Method for Control of Surveillance Frequencies

Section 40A1: Performance Indicator (PI) Verification

AD-LS-ALL-0004, NRC Performance Indicators and Monthly Operating Report
AD-PI-ALL-0100, Corrective Action Program

Section 40A2: Problem Identification and Resolution

AD-PI-ALL-0100, Corrective Action Program
AD-PI-ALL-0101, Root Cause Evaluation
AD-PI-ALL-0102, Apparent Cause Evaluation
AD-PI-ALL-0103, Quick Cause Evaluation
AD-PI-ALL-0104, Prompt Investigation Response Team
AD-PI-ALL-0105, Effectiveness Reviews
AD-LS-ALL-0006, Notification/Reportability Evaluation
NCR 2013556, 1A Normal Charging Line Indication
NCR 2013590, 1NV-1002 check valve appears to be stuck