



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

January 31, 2017

Mr. Tom Simril
Site Vice President
Duke Energy Corporation
Catawba Nuclear Station
4800 Concord Road
York, SC 29745-9635

SUBJECT: CATAWBA NUCLEAR STATION - NRC INTEGRATED INSPECTION REPORT
05000413/2016004 AND 05000414/2016004

Dear Mr. Simril:

On December 31, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Catawba Nuclear Station Units 1 and 2. On January 24, 2016, 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.

NRC inspectors documented one finding of very low safety significance (Green) in this report. This finding involved a violation of NRC requirements. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2.a of the Enforcement Policy. If you contest the violation or significance of this NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement; and the NRC resident inspector at Catawba. If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region II, and the NRC resident inspector at Catawba.

T. Simril

2

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.: 50-413, 50-414
License Nos.: NPF-35, NPF-52

Enclosure:
IR 05000413/2016004 and 05000414/2016004
w/Attachment: Supplemental Information

cc: Distribution via ListServ

T. Simril

2

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.: 50-413, 50-414
License Nos.: NPF-35, NPF-52

Enclosure:
IR 05000413/2016004 and 05000414/2016004
w/Attachment: Supplemental Information

cc w/encl: Distribution via ListServ

DISTRIBUTION:
See next page

PUBLICLY AVAILABLE NON-PUBLICLY AVAILABLE SENSITIVE NON-SENSITIVE
ADAMS: Yes ACCESSION NUMBER: ML17031A007 SUNSI REVIEW COMPLETE FORM 665 ATTACHED

OFFICE	RII:DRP	RII:DRP	RII:DRS	RII:DRP	RII:DRP	RII:DRP
SIGNATURE	JDA via email	CBS via email	MKM3 via email	MMT2 via email	JGW1	FJE
NAME	JAustin	CScott	MMeeks	MToth	JWorosilo	FEhrhardt
DATE	1/24/2017	1/23/2017	1/18/2017	1/18/2017	1/17/2017	1/25/2017
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME: G:\DRPI\RPB1\CATAWBA\REPORTS\2016\2016004\REPORT 2016-004.DOCX

T. Simril

3

Letter to Tom Simril from Frank Ehrhardt dated January 31, 2017

SUBJECT: CATAWBA NUCLEAR STATION - NRC INTEGRATED INSPECTION REPORT
05000413/2016004 AND 05000414/2016004

DISTRIBUTION:

M. Kowal, RII

OE Mail

RIDSNRRDIRS

PUBLIC

RidsNrrPMCatawba Resource

U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.: 50-413, 50-414

License Nos.: NPF-35, NPF-52

Report No.: 05000413/2016004 and 05000414/2016004

Licensee: Duke Energy Carolinas, LLC

Facility: Catawba Nuclear Station, Units 1 and 2

Location: York, SC 29745

Dates: October 1, 2016 through December 31, 2016

Inspectors: J. Austin, Senior Resident Inspector
C. Scott, Resident Inspector
M. Meeks, Senior Operations Engineer (Section 1R11)

Approved by: Frank Ehrhardt, Chief
Reactor Projects Branch 1

Enclosure

SUMMARY

IR 05000413/2016004 and 05000414/2016004, October 1, 2016 through December 31, 2016; Catawba Nuclear Station, Units 1 and 2; Refueling and Outage Activities

The report covered a three-month period of inspection by resident inspectors and regional inspectors. There was one self-revealing violation documented in this report. 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, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated November 1, 2016. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 6.

Cornerstone: Mitigating Systems

- Green: A self-revealing Green non cited violation (NCV) of Technical Specification (TS) 5.4.1, "Procedures," was identified for the licensee's failure to follow procedure IP/2/A/4971/086, "2ETA 4160V Switchgear Lockout Relays," during relay testing, resulting in inadvertently tripping the "A" control room area chilled water system (CRACWS) compressor. Specifically, not following the procedure resulted in tripping the "A" CRACWS compressor and entering TS 3.7.11, "Control Room Area Chilled Water System (CRACWS)." As corrective actions, the licensee started the "B" CRACWS chiller, completed the testing on the "A" CRACWS chiller and returned it to operable. The licensee entered this issue as condition report (CR) 2062216.

The inspectors determined the failure to follow procedure IP/2/A/4971/086 was a performance deficiency. The performance deficiency was more than minor because it was associated with the procedure adherence attribute of the mitigating systems cornerstone, and it adversely impacted the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, not following the procedure resulted in the unplanned inoperability of the "A" train of CRACWS. Using IMC 0609, "Significance Determination Process," Phase 1 screening worksheet of the SDP, this finding was determined to be of very low safety significance because it was not a design or qualification deficiency confirmed to result in a loss of operability or functionality, did not represent a loss of system safety function, did not result in a loss of safety system function for a single train for greater than TS allowed outage time, did not result in a loss of safety function of one or more non-TS trains of equipment designated as risk significant for greater than 24 hours, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding has a cross-cutting aspect of procedure adherence in the area of human performance because the licensee failed to follow procedure IP/2/A/4971/086 during lockout relay testing. (H.8) (Section 1R20)

REPORT DETAILS

Summary of Plant Status

Unit 1: Operated at or near 100 percent rated thermal power (RTP) for the entire inspection period except for a secondary plant transient on October 22 when a feedwater heater dump valve was isolated and power was reduced to 94 percent. Full power was restored on October 23.

Unit 2: Began the inspection period in Mode 6 due to 2EOC21 outage activities. The unit achieved 100 percent RTP on October 11, 2016 and remained at or near 100 percent RTP for the remainder of the 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 seasonal extreme weather conditions. Documents reviewed are listed in the attachment.

The inspectors evaluated the following risk-significant systems:

- nuclear service water
- emergency diesel generators

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. 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. Documents reviewed are listed in the attachment.

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

- 1A diesel generator (DG) while the 1B DG was out of service for (OOS) for maintenance
- Unit 2 A and B motor driven auxiliary feedwater (CA) pump while the turbine driven auxiliary feedwater pump was OOS for testing
- safe shutdown facility diesel while the 1A DG was OOS for preventive maintenance

.2 Complete Walkdown

The inspectors verified the alignment of the Unit 2 safety injection 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.

- safe shutdown facility, 594' and 611' elevations
- Unit 2 switchgear room, 594 elevation, fire zone 19
- Unit 2 reactor building, fire zone RB-2
- Unit 2 reactor building, fire zone RB-3

.2 Annual Inspection

The inspectors evaluated the licensee's fire brigade performance during a drill on December 2, 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 assessed the ability of control room operators to combat potential fires, including identifying the location of the fire, dispatching the fire brigade, and sounding alarms.

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.

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

a. Inspection Scope

.1 Resident Inspector Quarterly Review of Licensed Operator Requalification

On December 29, 2016, the inspectors observed a simulator scenario conducted for training of an operating crew for a crew performance evaluation. This was an evaluation scenario which contained a power reduction, a secondary transient and an electrical malfunction.

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 entry into AP/1/A/5000/021, "Loss of Component Cooling Water Unit 1," on November 10, 2016.

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 September 02, 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 three 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.

- Unit 1, 1NW-61B Failed to Open from the Control Room, CR 2074228
- Unit 1, Rod Control Urgent Alarm Issue, CR 2061457
- Unit 1, 1A Boron Dilution Monitoring System, CR 02080295

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed three 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.

- Unit 2, October 15, 2016, elevated risk condition during reduced inventory
- Unit 2, December 14, 2016, planned yellow risk while 2A motor driven CA pump was OOS for scheduled maintenance
- Unit 1, November 2, 2016, planned yellow risk while 1B emergency DG was OOS for connecting rod inspection

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15)

a. Inspection Scope

.1 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.

- Unit 1 and 2, Removal of Standby Makeup Pump Flow Instrument, CR 2077812
- Unit 2, Semi-daily Surveillance for Pressurizer Level not Documented, CR 2071139
- Unit 2, 1B Component Cooling Pump (KC) Outboard Oil Level Extremely Low, CR 2076505
- Unit 2, SCR-3 for DG 2B not Responding to Adjustments, CR 2065253
- Unit 2, Unable to Repair Leaks on 2 NC LT 5171, CR 2071622

.2 Operator Work-Around Review

The inspectors performed a detailed review of the licensee's operator work-around, operator burden, and control room deficiency lists for the station in effect on December 14, 2016 to verify that the licensee identified operator workarounds at an appropriate threshold and entered them in the corrective action program. The inspectors verified that the licensee identified the full extent of issues, performed appropriate evaluations, and planned appropriate corrective actions. The inspectors also reviewed compensatory actions and their cumulative effects on plant operation.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)a. Inspection Scope

The inspectors either observed post-maintenance testing or reviewed the test results for the 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.

- surveillance testing of the Unit 2 pressurizer level channel 3 following corrective maintenance, October 15, 2016
- operability performance test of the 2A containment spray (NS) pump following preventive maintenance on October 20, 2016
- operability performance test of the 1A KC non-essential header isolation following indication of a flown fuse on November 8, 2016
- operability performance test of the 1A DG following replacement of 1RN-846A, return to standby nuclear service water pond valve motor, November 15, 2016
- operability performance test of the 2B DG following replacement of the voltage regulator on November 30, 2016

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.

1R20 Refueling and Other Outage Activities (71111.20)a. Inspection Scope

For the Unit 2 refueling outage from September 10, 2016 through October 11, 2016 the inspectors evaluated the following outage activities:

- refueling, heatup, and startup
- reactor coolant system instrumentation and electrical power configuration
- reactivity and inventory control

- decay heat removal and spent fuel pool cooling system operation
- containment closure

The inspectors verified that the licensee:

- considered risk in developing the outage schedule
- controlled plant configuration per administrative risk reduction methodologies
- developed work schedules to manage fatigue
- developed mitigation strategies for loss of key safety functions
- adhered to operating license and technical specification requirements

The inspectors verified that safety-related and risk-significant structures, systems, and components not accessible during power operations were maintained in an operable condition. The inspectors also reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with outage activities. Documents reviewed are listed in the attachment.

b. Findings

Introduction: A self-revealing Green NCV of TS 5.4.1, "Procedures," was identified for the licensee's failure to follow procedure IP/2/A/4971/086, "2ETA 4160V Switchgear Lockout Relays," during relay testing, resulting in inadvertently tripping the "A" CRACWS compressor. Specifically, not following the procedure resulted in tripping the "A" CRACWS compressor and entering TS 3.7.11, "Control Room Area Chilled Water System (CRACWS)."

Description: On September 15, 2016, while the licensee was testing lockout relays on 2ETA breaker 17, the technicians tripped the "A" CRACWS chiller. The CRACWS chiller was being powered from 1ETA17 at the time of the testing and could also be powered from 2ETA17. The licensee was performing procedure IP/2/A/4971/086, Enclosure 9.1.5 "Lockout Relay Data," which tests the "86" relay for 2ETA17. Procedure IP/2/A/4971/086 requires the licensee to verify that the CRACWS chiller is OOS prior to testing. However, the licensee assumed the "A" CRACWS chiller was OOS by checking that the breaker 2ETA17 was open and racked out to the disconnect position. The technicians did not recognize that the "A" CRACWS chiller was able to be fed from either unit and was being fed from the Unit1 ETA17. When the technicians began testing and opened the first circuit the "A" CRACWS chiller tripped. The control room started the "B" CRACWS chiller and restored operability of the CRACWS.

Analysis: The inspectors determined the failure to follow procedure IP/2/A/4971/086 was a performance deficiency. The performance deficiency was more than minor because it is associated with the procedure adherence attribute of the mitigating systems cornerstone, and it adversely impacted the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, not following the procedure resulted in the unplanned inoperability of the "A" train of CRACWS. Using IMC 0609, "Significance Determination Process," Phase 1 screening worksheet of the SDP, this finding was determined to be of very low safety significance (Green) because it was not

a design or qualification deficiency confirmed to result in a loss of operability or functionality, did not represent a loss of system safety function, did not result in a loss of safety system function for a single train for greater than TS allowed outage time, did not result in a loss of safety function of one or more non-TS trains of equipment designated as risk significant for greater than 24 hours, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. Therefore, this finding was determined to be of very low safety significance (Green). The finding had a cross-cutting aspect of procedure adherence in the area of human performance, because the licensee failed to follow procedure IP/2/A/4971/086 during lockout relay testing. (H.8)

Enforcement: Technical Specification 5.4.1, "Procedures," requires that written procedures shall be established, implemented, and maintained, covering applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Section 9 of Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, states that written procedures should be provided for performing maintenance.

Contrary to the above, on September 15, 2016, the licensee failed to properly implement procedure IP/2/A/4971/086 as written during lockout relay testing. As a result, the technicians tripped the "A" CRACWS chiller. As corrective actions, the licensee started the "B" CRACWS chiller, completed the testing on the "A" CRACWS chiller and returned the "A" train of CRACWS to operable. This violation is being treated as an NCV, consistent with Section 2.3.2.a of the enforcement policy. The violation was entered into the licensee's corrective action program as CR 2062216. (NCV 05000413, 05000414/2016004-01, "Failure to Follow Lockout Relay Testing Procedure.").

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the five 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.

Routine Surveillance Test

- PT/2/A/4600/002G, "No Mode Periodic Surveillance Items"

In-Service Tests

- PT/2/A/4200/013G, "Nuclear Service Water (NI) Valve In-Service Test"

Containment Isolation Valve

- PT/2/A/4200/001 L, “Controlling Procedure for Type B & C Leak Rate Tests”

Ice Condenser Tests

- PT/0/A/4200/086, Ice Bed Analysis Periodic Test (Unit 2)

Reactor Coolant System Leakage Detection

- PT/2/A/4150/001 D, NC System Leakage Calculation

b. Findings

No findings were identified.

4. OTHER ACTIVITIES4OA1 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: Initiating Events

- unplanned scrams per 7000 critical hours

Cornerstone: Mitigating Systems

- safety system functional failures

Cornerstone: Barrier Integrity

- reactor coolant system leak rate

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.

b. Findings and Observations

No findings were identified.

.3 Annual Followup of Selected Issues

a. Inspection Scope

The inspectors conducted a detailed review of CR 2064856, "Entry into AP/30 (Plant Flooding) for Both Units During a Heavy Rain Event."

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

b. Findings and Observations

No findings were identified.

4OA3 Follow-up of Events

.1 (Closed) Licensee Event Report (LER) 05000413/2014-002-02, Unanalyzed Condition Due to Deviations from Fire Protection Current Licensing Basis Identified During NFPA 805 Transition

a. Inspection Scope

On June 2, 2014, the licensee submitted an LER documenting the discovery of a condition of non-compliance with the site's fire protection program. These conditions could prevent operators from achieving and maintaining safe shutdown of the plant, in the case of a postulated fire.

The inspectors performed a detailed review of the information related to this LER and these actions were documented in the 3rd quarter Catawba inspection report in 2016, IR 05000413/2016003 and 05000414/2016003, (ML16307A004). Revision 2 of the LER was reviewed as part of IR 05000413/2016003 and 05000414/2016003. LER 05000413/2014-002-02 is closed.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On January 24, 2017, the resident inspectors presented the inspection results to Mr. Tom Simril 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

C. Abernathy, Manager, Nuclear Site Services
S. Andrews, Sr. Engineer Regulatory Affairs
T. Arlow, Emergency Planning Manager
C. Bigham, Director Nuclear Organizational Effectiveness
M. Carwile, Chemistry Manager
B. Cauthen, Lead Engineer
C. Curry, Plant Manager
C. Fletcher, Regulatory Affairs Manager
N. Flippin, Work Management Manager
B. Foster, Operations Manager
T. Jenkins, Maintenance Manager
L. Keller, General Manager Nuclear Engineering
B. Leonard, Training Manager
T. Simril, Site Vice-President
J. Smith, Radiation Protection Manager
S. West, Director, Nuclear Plant Security
C. Wilson, Sr. Engineer Regulatory Affairs

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Open and Closed

05000413, 414/2016004-01 NCV Failure to Follow Lockout Relay Testing
Procedure (Section 1R20)

Closed

05000413/2014-002-02 LER Unanalyzed Condition Due to Deviations from Fire
Protection Current Licensing Basis Identified During
NFPA 805 Transition (Section 4OA3)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather

AD-WC-ALL-0230, Seasonal Readiness, Rev. 0
Cold Weather Action Register (Winter 2016) on 12/5/2016
PT/0/B/4700/038, Cold Weather Protection, Rev. 40
OP/0/B//6700/015, Weather Related Activities, Rev. 002

Section 1R04: Equipment Alignment

OP/1/A/6350/002, D/G Valve and Breaker Checklist
PT/2/A/4250/006 CA Valve Verification, Rev. 15

Section 1R05: Fire Protection

Fire Brigade Response Strategies for Safety-Related Areas, Rev. 39
Fire Strategy Plan, Fire Area 19: Unit 2 Switchgear Room, 594 level
Fire Strategy Plan, Fire Area RB-2: Unit 2 Reactor Building
Fire Strategy Plan, Fire Area RB-3: Unit 2 Reactor Building
Fire Strategy Plan, Fire Strategy AW: Safe Shutdown Facility, Building #7748
AD-TQ-ALL-0086, Fire Brigade Training, Rev. 0
Scenario No. 2014-04
Scenario No.2014-06
AD-OP-ALL-0207, Fire Brigade and Hazmat Team Administrative Controls, Rev. 0
AD-TQ-ALL-0500, Evaluation, Rev. 2
AD-OP-ALL-0207, Fire Brigade and Hazmat Team Administrative Controls, Rev. 0
NCR 2083503, A Shift Fire Drill 12-2-16

Section 1R11: Licensed Operator Requalification

CR 02076991, Entry into Loss of KC Unit 1 AP/1A/5000/021

Section 1R19: Post Maintenance Test

IP/0/A/3850/001, Fabrication and Installation of Electrical Enclosures, Rev. 39
IP/0/A/3680/007, Calibration Procedure for the D/G Power Driven Potentiometer and Static Voltage Regulator, Rev. 13

Section 1R20: Refueling and Other Outage Activities

OP/2/A/6100/001, Controlling Procedure for Unit Startup, Rev. 166
AD-SY-A11-0460, Managing Fatigue and Work Hour Limits

Section 40A1: Performance Indicator Verification

Procedures and Guidance Documents

AD-PI-ALL-0100, Corrective Action Program, Rev. 006
AD-LS-ALL-004, NRC Performance Indicators and Monthly Operating Report, Rev. 1

Records and Data Reviewed

Monthly PI Reports, October 2015 – September 2016