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

May 8, 2019

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

SUBJECT: CATAWBA UNITS 1, 2 – NUCLEAR REGULATORY COMMISSION INTEGRATED INSPECTION REPORT 05000413/2019001 AND 05000414/2019001

Dear Mr. Simril:

On March 31, 2019, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Catawba Nuclear Station Units 1, 2. On April 22, 2019, 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. We are 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 or severity of the violation documented in this inspection report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, 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.

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 J. Ehrhardt, Chief
Reactor Projects Branch 1
Division of Reactor Projects

Docket Nos.: 05000413 and 05000414
License Nos.: NPF-35 and NPF-52

Enclosure:
Inspection Report 05000413/2019001
and 05000414/2019001

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SUBJECT: CATAWBA UNITS 1, 2 – NUCLEAR REGULATORY COMMISSION INTEGRATED INSPECTION REPORT 05000413/2019001 AND 05000414/2019001 May 8, 2019

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U.S. NUCLEAR REGULATORY COMMISSION

Inspection Report

Docket Number(s):	05000413 and 05000414
License Number(s):	NPF-35 and NPF-52
Report Number(s):	05000413/2019001 and 05000414/2019001
Enterprise Identifier:	I-2019-001-0014
Licensee:	Duke Energy Carolinas, LLC
Facility:	Catawba, Units 1 and 2
Location:	York, SC 29745
Inspection Dates:	January 01, 2019 to March 31, 2019
Inspectors:	J. Austin, Senior Resident Inspector C. Scott, Resident Inspector S. Downey, Senior Reactor Inspector S. Sanchez, Senior Emergency Preparedness Inspector J. Walker, Emergency Preparedness Inspector
Approved By:	Frank J. Ehrhardt, Chief Reactor Projects Branch 1 Division of Reactor Projects

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting a quarterly inspection at Catawba Units 1 and 2 in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to https://www.nrc.gov/reactors/operating/oversight.html for more information. Findings and violations being considered in the NRC's assessment are summarized in the table below.

List of Findings and Violations

Failure to Monitor and Control a Reactivity Change Results in Violation of Unit 1 License Condition			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000413/2019001-01 Open/Closed	[H.8] - Procedure Adherence	71111.11Q
The inspectors determined a self-revealing Green non-cited violation (NCV) of Catawba Unit 1 Facility Operating License (NPF–35), Condition 2.C. (1), "Maximum Power Level," occurred on February 12, 2019. Licensed reactor operators in the control room failed to appropriately monitor and control reactor power as described in written procedures following manual reactivity manipulations and allowed reactor power to exceed the licensed thermal power limit for approximately 14 minutes.			

PLANT STATUS

Unit 1 operated at or near 100 percent rated thermal power for the entire inspection period.
Unit 2 operated at or near 100 percent rated thermal power for the entire inspection period.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors performed plant status activities described in IMC 2515 Appendix D, "Plant Status" and conducted routine reviews using IP 71152, "Problem Identification and Resolution." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

REACTOR SAFETY

71111.04 - Equipment Alignment

Partial Walkdown (IP Section 02.01) (4 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

(1) 1B emergency diesel generator (EDG) with 1A out of service for maintenance on January 15, 2019
(2) Technical support center (TSC) ventilation on March 6, 2019
(3) Rod drive motor generator sets and reactor trip circuit breaker on March 7, 2019
(4) Alternate service water flow path to 1A and 1B EDG on March 22, 2019

71111.05A - Fire Protection (Annual)

Annual Inspection (IP Section 03.02) (1 Sample)

The inspectors evaluated fire brigade performance on March 22, 2019.

71111.05Q - Fire Protection

Quarterly Inspection (IP Section 03.01) (6 Samples)

The inspectors evaluated fire protection program implementation in the following selected areas:

(1) Fire area SRV, blackout switchgear service building area on January 14, 2019
(2) Fire area 14, 2 ETA switchgear room on January 14, 2019
(3) Fire areas 29 and 30, nuclear service water (RN) pump structure on January 16, 2019

(4) Fire area 18, auxiliary building general area and Unit 2 component cooling pump room elevation 577 on February 6, 2019
(5) Fire area 13, Unit 1 electrical pen room, elevation 577 on March 6, 2019
(6) Fire area 15, Unit 1 train electrical switchgear room, elevation 577 on March 6, 2019

71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01) (1 Sample)

The inspectors observed and evaluated licensed operator performance in the control room during PT/2/A/4200/009A, "Auxiliary Safeguards Test Cabinet Periodic Test," on January 27, 2019.

Licensed Operator Requalification Training/Examinations (IP Section 03.02) (1 Sample)

The inspectors observed licensed operator simulator training during emergency preparedness drill preparation exercise on February 5, 2019.

71111.12 - Maintenance Effectiveness

Routine Maintenance Effectiveness Inspection (IP Section 02.01) (3 Samples)

The inspectors evaluated the effectiveness of routine maintenance activities associated with the following equipment and/or safety significant functions:

(1) Condition report (CR) 2244194, Investigate and repair 1LXI-5C failed to close on engineered safety feature (ESF) test on January 29-31, 2019
(2) CR 2253813, 2B EDG high resistance found on fuses on January 30, 2019
(3) CR 2252518, Instrument air reduced margin on February 15, 2019

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (5 Samples)

The inspectors evaluated the risk assessments for the following planned and emergent work activities:

(1) Protected equipment plan for 1CF-60 steam generator feedwater containment isolation on February 2, 2019
(2) Protected equipment plan for 2A component cooling and 2A residual heat removal out of service on February 6, 2019
(3) Protected equipment plan for Unit 2 main generator ground detection on February 11, 2019
(4) Protected equipment plan for RN return alignment for piping inspections on March 3, 2019
(5) Protected equipment plan for 2ECD vital battery charger maintenance on March 26, 2019

71111.15 - Operability Determinations and Functionality Assessments

Operability Determinations and Functionality Assessments Sample (IP Section 02.01) (6 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

(1) CR 2251962, 2A EDG engine speed RPM reads 445 RPM when running on January 11, 2019
(2) CR 2253560, 2NV-294 causing charging flow changes on January 22, 2019
(3) CR 2256172, 2A EDG slow start trending on February 6, 2019
(4) CR 2256868, 2B cold leg accumulator 75 gallon input - missed technical specification (TS) 3.5.1 sample on February 15, 2019
(5) CR 2260348, Turbine auxiliary feedwater pump, sump pumps tagged out on March 1, 2019
(6) CR 2260417, Variance during abnormal procedure implementation on March 4, 2019

71111.19 - Post Maintenance Testing

Post Maintenance Test Sample (IP Section 03.01) (7 Samples)

The inspectors evaluated the following post maintenance tests:

(1) Work Order (WO) 20259388-03, Functional testing after train A vital swing inverter diode replacement on January 9-10, 2019
(2) WO 20270441, Post Maintenance Testing after preventive maintenance of 2RN-292B (PT/2/A/4200/013/C) on January 22, 2019
(3) WO 20301955, Functional testing following replacement of the potential transformer fuses on the 2B EDG on January 24, 2019
(4) Work Request (WR) 20132391, PT/2/A/4200/009A, “Auxiliary safeguards test,” following troubleshooting of slave relay K602 not energizing during testing on January 26, 2019
(5) WO 20312126, Functional testing following repair of 1B steam generator steam pressure channel failure on February 26, 2019
(6) WR 20136846, Functional testing following planned maintenance on the 1A MG set 1R relay on March 9, 2019
(7) WR 20136846, Functional testing following repair of a small leak found on the technical support center (TSC) auxiliary air handling access door on March 13, 2019

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

FLEX Testing (IP Section 03.02) (1 Sample)

(1) FLEX building equipment quarterly testing on February 29, 2019

In Service Testing (IST) (IP Section 03.01) (2 Samples)

(1) PT/1/A/4200/026, NS valve in service test on January 17, 2019
(2) PT/1/A/4200/013C, RN valve in service test on March 2, 2019

Surveillance Testing (IP Section 03.01) (2 Samples)

(1) PT/2/A/4200/04C, Containment spray (NS) 2B test on January 24, 2019
(2) PT/1/A/4600/003A, Monthly surveillance items on March 22, 2019

71114.02 - Alert and Notification System Testing

Inspection Review (IP Section 02.01-02.04) (1 Sample)

The inspectors evaluated the maintenance and testing of the alert and notification system during the week of March 11, 2019.

71114.03 - Emergency Response Organization Staffing and Augmentation System

Inspection Review (IP Section 02.01-02.02) (1 Sample)

The inspectors evaluated the readiness of the Emergency Response Organization during the week of March 11, 2019.

71114.04 - Emergency Action Level and Emergency Plan Changes

Inspection Review (IP Section 02.01-02.03) (1 Sample)

The inspectors evaluated submitted emergency action level, emergency plan, and emergency plan implementing procedure changes during the week of March 11, 2019. This evaluation does not constitute NRC approval.

71114.05 - Maintenance of Emergency Preparedness

Inspection Review (IP Section 02.01 - 02.11) (1 Sample)

The inspectors evaluated the maintenance of the emergency preparedness program during the week of March 11, 2019.

71114.06 - Drill Evaluation

Drill and/or Simulator-Based Licensed Operator Requalification Training (IP Section 02.01) (1 Sample)

The inspectors evaluated a drill scenario which simulated a failure of the 1A reactor coolant pump, loss of coolant, automatic reactor trip and safety injection on January 8, 2019.

Emergency Preparedness (EP) Drill (IP Section 02.01) (1 Sample)

The inspectors evaluated a training evolution scenario which simulated a turbine trip, manual reactor trip, 1C steam generator tube rupture and failure of the 1C SG PORV block valve, on February 5, 2019.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicator submittals listed below:

IE04: Unplanned Scrams with Complications (USwC) Sample (IP Section 02.03) (2 Samples)

(1) Unit 1 submittals listed for the period from January 2018 through December 2018.
(2) Unit 2 submittals listed for the period from January 2018 through December 2018.

MS10: Cooling Water Support Systems (IP Section 02.09) (2 Samples)

(1) Unit 1 submittals listed for the period from January 2018 through December 2018.
(2) Unit 2 submittals listed for the period from January 2018 through December 2018.

BI01: Reactor Coolant System (RCS) Specific Activity Sample (IP Section 02.10) (2 Samples)

(1) Unit 1 submittals listed for the period from January 2018 through December 2018.
(2) Unit 2 submittals listed for the period from January 2018 through December 2018.

EP01: Drill/Exercise Performance (IP Section 0.2.12) (1 Sample)

For the period April 1, 2018, through December 31, 2018.

EP02: ERO Drill Participation (IP Section 02.13) (1 Sample)

For the period April 1, 2018, through December 31, 2018.

EP03: Alert & Notification System Reliability (IP Section 02.14) (1 Sample)

For the period April 1, 2018, through December 31, 2018.

71152 - Problem Identification and Resolution

Annual Follow-up of Selected Issues (IP Section 02.03) (2 Samples)

The inspectors reviewed the licensee's implementation of its corrective action program related to the following issues:

(1) Operating Experience Smart Sample (OpESS) 2018/01, 10 CFR Part 21 notification of the potential existence of defects related to control rod drive mechanism (CRDM) thermal sleeves (CRs 02209001, 020193730, 02244894)

(2) CR 22522009, 2A residual heat removal/containment spray sump pump not pumping on January 17, 2019

INSPECTION RESULTS

Failure to Monitor and Control a Reactivity Change Results in Violation of Unit 1 License Condition			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000413/2019001-01 Open/Closed	[H.8] - Procedure Adherence	71111.11Q
The inspectors determined a self-revealing Green NCV of Catawba Unit 1 Facility Operating License (NPF–35), Condition 2.C. (1), "Maximum Power Level," occurred on February 12, 2019. Licensed reactor operators in the control room failed to appropriately monitor and control reactor power as described in written procedures following manual reactivity manipulations and allowed reactor power to exceed the licensed thermal power limit for approximately 14 minutes.			
Description: On February 12, 2019, Catawba Unit 1 control room operators determined that a blended makeup to the Unit 1 volume control tank (VCT) was required during the shift, due to a normal decrease in VCT level. At 2322 with Unit 1 reactor power at 99.86 percent, operators performed a 200-gallon blended makeup to the VCT as directed by OP/1/A/6150/009, "Boron Concentration Control." Due to a human performance error, operators added 17 gallons instead of the required 38 gallons of boric acid to achieve a net zero reactivity manipulation. The makeup was completed at 2332 when the boric acid transfer pump was secured. Following the makeup, the operator at the controls (OATC) noticed that the Unit 1 reactor power 15-minute average was at 99.98 percent and rising. The crew performed a diagnosis of the plant conditions and at 2347 the control room supervisor directed insertion of control rods two steps to 213 steps withdrawn on control bank D. The crew inserted control rods four more steps to 209 steps withdrawn and then reduced targeted turbine load by four megawatts. During this event, Unit 1 15-minute average thermal power increased from 99.86 to 100.09 percent and thermal power peaked at 100.25 percent as indicated on the plant computer. Unit 1 operated in excess of the licensed thermal power limit from 2336 to 2343 and 2345 to 2352. After reactor power was restored below the license thermal limit, the licensee performed a cause investigation for the event and documented the results in CR 2257482. The inspectors reviewed the licensee's cause investigation and concluded that licensed reactor operators' monitoring and control of reactor power following the planned reactivity manipulation was inadequate. The inspectors noted that AD-OP-ALL-0203, "Reactivity Management," clearly defines the roles and responsibilities for the monitoring and control of reactivity to ensure safe and reliable operations. Specifically, Step 5.3.1.7 states, in part, that "the OATC will continuously monitor redundant indications associated with the manipulation until the plant response has been verified." In addition, Section 4.4.5 states that the reactivity manager (senior reactor operator (SRO) in this case) "provides dedicated oversight during reactivity manipulations to ensure that the expected reactor response is obtained…" The reactivity manager also "ensures that core parameters are maintained within prescribed limits." Inspectors also noted that the licensed operators' decision to first insert control rods rather than reduce turbine load to lower reactor power was not in accordance with			

procedures. Operations Management Procedure 1-7, “Emergency/ Abnormal Procedure Implementation Guidelines,” instructs operators to “immediately reduce turbine load up to 10 megawatts electric (MWe) and then reduce as needed to maintain reactor power less than the pre-transient condition. The inspectors determined this operation in excess of 3469 megawatts thermal (MWTH) for a total of 14 minutes was a violation of the Catawba Plant operating license. Based on the cause of the event and the duration of the transient, the inspectors concluded the power excursion above the licensed thermal power limit was not due to normal fluctuations of plant parameters while operating under steady state conditions at or near the licensed thermal power limit.

Corrective Action(s): Operators restored reactor power below the licensed thermal limit.

Corrective Action Reference(s): CR 2257482

Performance Assessment:

Performance Deficiency: The inspectors determined that the failure to monitor and control reactor power as described in written procedures following manual reactivity manipulations which resulted in reactor power exceeding the licensed thermal power limit in accordance with Catawba Unit 1 Facility Operating License (NPF–35), Condition 2.C. (1) was a performance deficiency (PD).

Screening: The inspectors determined the PD was more than minor because if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, operation above the licensed power limit reduced the analyzed margins to fuel cladding failure and could result in unanalyzed consequences during an initiating event.

Significance: The inspectors assessed the significance of the finding using IMC 0609, Attachment 4, “Initial Characterization of Findings,” dated October 7, 2016, and IMC 0609, Appendix A, “The Significance Determination Process (SDP) for Findings At-Power,” dated June 19, 2012. The inspectors determined this finding would require evaluation using IMC 0609, Appendix M, “Significance Determination Process Using Qualitative Criteria,” dated January 10, 2019, because the finding was the result of a mismanagement of reactivity by licensed reactor operators (e.g., reactor power exceeding the licensed power limit, inability to anticipate and control changes in reactivity during operations). A bounding detailed risk evaluation was performed by a regional senior risk analyst in accordance with NRC IMC 0609 Appendix A using the NRC Catawba SPAR model. The finding was assessed both as a potential reactor trip initiator as the PD caused reactor power to be closer to the trip setpoint, and as a condition assessment. The reactor trip initiating event assessment yielded a conditional core damage probability of less than 1E-6. The major analysis assumptions of the condition assessment were a 12 hour exposure interval and an order of magnitude increase in all the operator action human error probabilities. The condition assessment result showed the increase in core damage frequency due to the PD was less than 1E-6/year. Both methods of estimating the risk increase due to the PD produced results which characterized the PD as a Green finding of very low safety significance.

Cross-cutting Aspect: H.8 - Procedure Adherence: Individuals follow processes, procedures, and work instructions. The inspectors determined the finding had a cross-cutting aspect of procedure adherence in the area of human performance because the licensee failed to ensure individuals follow processes, procedures, and work instructions. Specifically, the licensee did not effectively communicate expectations of procedural compliance in that

licensed reactor operators did not appropriately monitor and control reactor power following a manual reactivity manipulation.
Enforcement: Violation: Catawba Unit 1 Facility Operating License (NPF–35), Condition 2.C. (1), "Maximum Power Level," specifies, in part, the licensee is authorized to operate the facility at reactor core power levels of 3469 MWTH (100 percent power). Contrary to the above, on February 12, 2019, from 2336 to 2343 and 2345 to 2352, the licensee operated Catawba Unit 1 in excess of the licensed thermal power limit for approximately 14 minutes. Enforcement Action: This violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy.

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

- On April 22, 2019, the inspector presented the quarterly resident inspector inspection results to Tom Simril and other members of the licensee staff.

LIST OF DOCUMENTS REVIEWED

71111.04 - Equipment Alignment
OP/1/A/6350/002, Diesel Generator Operation

71111.05AQ - Fire Protection Annual/Quarterly
CSD-CNS-PFP-AB-0522-001, Auxiliary Building Elev 522 Pre-Fire Plan
CSD-CNS-PFP-AB-0577-001, Auxiliary Building Elevation 574 and 577

71111.11 - Licensed Operator Requalification Program and Licensed Operator Performance
AD-OP-ALL-1000, Conduct of Operations
PIRT 2257482, Why was the improper blend calculated and implemented
AD-OP-ALL-0203, Reactivity Management
Operations Management Procedure 1-7, Emergency /Abnormal Procedure Implementation Guidelines
Standing Instructions 19-004, Operations Interim Actions for Reactivity Management Activities

71111.12 - Maintenance Effectiveness
2239004, EDG Rectifier Assembly Assessment
WO 20307055-01 EPC FZ ETA19/DG Inspect PT Fuses
1929689, ASEA Brown Boveri Part 21

71111.15 – Operability Determinations
OP/2/A/6100/010J, Annunciator Response for Panel 2AD-9
WR 20130905, Engine speed RPM gauge reads 445 RPM when running Low
WO 20150132, 2NV-294: Investigate valve not controlling

71111.19 - Post Maintenance Testing
WO 20259388, 2EPG BI EIE: Replace Diodes D2, D3, D4

71111.22 - Surveillance Testing
2241386-02, Performance Analysis Topic: Application of Licensing Basis Change Exemption
Catawba Nuclear Station Quarterly PM Inspection/ Maintenance Checklist

71114.02: Alert and Notification System Evaluation
Procedures
Catawba Nuclear Station (CNS) Emergency Plan, Section E – Notification Methodology, Rev. 149
EPFAM 3.3, “Alert and Notification System (Siren Program),” Rev. 17
Federal Signal Corp. 2001 Siren Installation and Operating Instructions, Rev. M1 700

Records and Data
CNS 2018 and 2018-2019 Emergency Preparedness Information Calendars
CNS-ANS-05171984, “CNS Alert and Notification System (ANS) Design Report for Catawba Nuclear Station,” Dated 5/17/84, Report to FEMA, Rev. No. 000, dated 8/1/12
Selected documentation of:

- Annual RTU and Battery Preventive Maintenance Checklist, Attachment 3.3.14.9, EPFAM 3.3, “Alert & Notification System (Siren Program),” Rev. No. 16, 6/11/18, 11/07/18, 1/10/19
- Annual Siren Preventive Maintenance Checklist, Attachment 3.3.14.7, EPFAM 3.3, “Alert

and Notification System (Siren Program)," Rev. No. 16 - 6/05/18, 6/19/18, 6/20/18
Silent Test Report for Catawba Toddville COMM, 3/19/2019

Corrective Action Documents (Nuclear Condition Reports)
NCR 02100261, Correct Water Intrusion Concerns on All 89 Sirens
NCR 02130881, Siren #16 Failed Scheduled Silent Test
NCR 02168189, Siren #82 Battery Replacement

71114.03: Emergency Response Organization Staffing and Augmentation System

Procedures
AD-EP-ALL-0100, Emergency Response Organization, Rev. 3
AD-EP-ALL-0301, "Activation of the Emergency Response Organization Notification System (ERONS)," Rev. 2
AD-EP-ALL-0501, "Emergency Preparedness Staff Training and Qualifications," Rev. 2
AD-PI-ALL-0100, "Corrective Action Program," Rev. 20
Catawba Nuclear Station, Emergency Plan, Section E – "Notification Methodology," Rev. 148
PD-EP-ALL-0800, "Drills and Exercises Program," Rev. 5

Records and Data
AD-EP-ALL-0501, "Emergency Preparedness Staff Training and Qualifications," Rev. 0, Duke Energy, Nuclear Generation Department, Emergency Preparedness Staff Training Plan, Position Specific Guide, Attachment 1, 3/25/15, 4/22/15, 1/11/16
CNS ERO Communication Test, 3/14/2019 Report
CNS July 15, 2017 and October 18, 2018, Emergency Response Organization (ERO) Augmentation Drill Reports
ERO Member Contact Information, Catawba Nuclear Station, Report Executed 3/12/19
CNS On-Shift Staffing Analysis (OSSA), dated 12/21/12

Corrective Action Documents
NCR 02091207, 5 ERO Members with Expired Qualifications
NCR 02137708, Augmentation Drill 2017 Radiation Protection Staffing
NCR 02137939, CNS ERO Augmentation Drill Duty Team Response
NCR 02222823, ERO Members Using the Wrong Position Books During Drills

71114.04: Emergency Action Level and Emergency Plan Changes

Procedures
AD-EP-ALL-0109, Offsite Protective Action Recommendations, Rev. 2, 3, & 4
AD-EP-ALL-0202, Emergency Response Offsite Dose Assessment, Rev. 6 & 7
AD-EP-ALL-0502, Emergency Preparedness 10 CFR 50.54(q) Training Requirements, Rev. 1
AD-EP-ALL-0602, Emergency Plan Change Screening and Effectiveness Evaluations 10 CFR 50.54(Q), Rev. 5
Catawba Nuclear Station Emergency Plan, Section B, Rev. 165 & 166

Change Packages
10 CFR 50.54(q) Screening Evaluation Form for AD-EP-ALL-0202, Rev. 7, Emergency Response Offsite Dose Assessment, dated 11/5/18
10 CFR 50.54(q) Screening Evaluation Form for AD-EP-ALL-0109, Rev. 3, Offsite Protective Action Recommendations, dated 8/2/18

10 CFR 50.54(q) Screening Evaluation Form for AD-EP-ALL-0109, Rev. 4, Offsite Protective Action Recommendations, dated 10/23/18
10 CFR 50.54(q) Effectiveness Evaluation Form for AD-EP-ALL-0109, Rev. 4, Offsite Protective Action Recommendations, dated 10/23/18
10 CFR 50.54(q) Screening Evaluation Form for Catawba Emergency Plan, Section B Rev. 164, dated 11/15/17
10 CFR 50.54(q) Effectiveness Evaluation Form for Catawba Emergency Plan, Section B Rev. 164, dated 11/15/17
10 CFR 50.54(q) Screening Evaluation Form for Catawba Emergency Plan, Section B Rev. 166 dated 3/10/19
10 CFR 50.54(q) Screening Evaluation Form for Catawba Emergency Plan, Section E Rev. 149, Section G Rev. 162, Section N Rev. 150, & Section P Rev. 148, dated 2/19/19
10 CFR 50.54(q) Screening Evaluation Form for Catawba Emergency Plan, Section B, Rev. 166, dated 1/24/19
10 CFR 50.54(q) Effectiveness Evaluation Form for Catawba Emergency Plan, Section B, Rev. 166, dated 1/24/19
10 CFR 50.54(q) Screening Evaluation Form for Catawba Emergency Plan, Section P Rev. 149, dated 3/10/19

Corrective Action Program Documents
NCR 02122799, CNS EPIP Manual deleted w/o notification to manual holders
NCR 02130395, CNS E-Plan in Fusion Revision Discrepancy
NCR 02155506, Review Emergency Plan changes
NCR 02161894, Discrepancy between E-plan Table B-1b and Paragraph I.7/I.8
NCR 02162398, CNS E-Plan outdated in TSC and OSC

71114.05: Maintenance of Emergency Preparedness

Procedures
AD-EP-ALL-0002, NRC Regulatory Assessment Performance Indicator Guideline Emergency Preparedness Cornerstone, Rev. 5
AD-EP-ALL-0100, Emergency Response Organization, (ERO), Rev. 2
AD-EP-ALL-0101, Emergency Classification, Rev. 1
AD-EP-ALL-0103, Activation & Operation of the Emergency Operations Facility, Rev. 3
AD-EP-ALL-0104, ERO Common Guidelines & forms, Rev. 2
AD-EP-ALL-0105, Activation and Operation of the Technical Support Center, Rev. 2
AD-EP-ALL-0106, Activation and Operation of the Operations Support Center, Rev. 3
AD-EP-ALL-0108 Joint Information System Support, Rev. 1
AD-EP-ALL-0109 Offsite Protective Action Recommendations, Rev. 4
AD-EP-ALL-0110, Recovery, Rev. 1
AD-EP-ALL-0202. Emergency Response Offsite Dose Assessment, Rev. 7
AD-EP-ALL-0203, Field Monitoring During Declared Emergency, Rev. 3
AD-EP-ALL-0204 Distribution of Potassium Iodide Tablets In the Event of a Radioiodine Release, Rev. 2
AD-EP-ALL-0205 Emergency Exposure Controls, Rev. 1
AD-EP-ALL-0301 Activation of the Emergency Response Organization Notification System (ERONS), Rev. 2
AD-EP-ALL-0304, State and County Notifications, Rev. 1
AD-EP-ALL-0406, Duke Emergency Management Network (DEMNET)
AD-EP-ALL-0500, Emergency Response Training, Rev. 2
AD-EP-ALL-0501, Emergency Preparedness Staff Training and Qualifications, Rev. 2

AD-EP-ALL-0502, Emergency Preparedness 10 CFR 50.54(Q) Training Requirements, Rev. 1
AD-EP-ALL-0602, Emergency Plan Change Screening and Effectiveness Evaluations 10 CFR 50.54(Q), Rev. 5
AD-EP-ALL-0801, Design and Development of Drills and Exercises, Rev. 4
AD-EP-CNS-0105, CNS Site Specific TSC Support, Rev. 002
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Catawba Nuclear Station Emergency Plan Section C - Emergency Response Support and Resources, Rev. 16-1
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Catawba Nuclear Station Emergency Plan Section H - Emergency Facilities and Equipment, Rev. 149
Catawba Nuclear Station Emergency Plan Section N - Exercises and Drills, Rev. 150
Catawba Nuclear Station Emergency Plan Section O - Radiological Emergency Response Training, Rev. 144

Records and Data
2017-CNS-EMP-01, Audit Record Package
2018-CNS-EMP-PR-01 EP Performance Review Closeout Package
ERO Augmentation Drill Report, July 15, 2019
Critique Report CNS ERO Drill 17-03/17-04
Catawba Nuclear Station Exercise Rehearsal 18-01 Critique Report
Catawba Nuclear Station Biennial Evaluated Exercise 18-02 Critique Report
CNS Drill 18-03 Critique Report
CNS Drill 18-04 Critique Report
CNS Drill 18-05 Critique Report
CNS Drill 18-06 Critique Report
Drill Objective Spreadsheet, dated 3/11/19
Letters of Agreement
NOS Audit, Catawba Emergency Preparedness 2017-CNS-EMP-01
Performance Review Package, 2018-CNS-EMP-PR-01

Corrective Action Documents
NCR 02091207, 5 ERO Members with Expired Qualifications
NCR 02112937, Emergency Plan LOA12 & LOA20 not current revision
NCR 02193192, QHSA 2174092-05 ERO facility walk-down
NCR 02195969, SAST #2174092 AFI #8.4 update ORO MOUs/LOAs
NCR 02204031, Required positions did not attend ERO Muster Meeting
NCR 02211311, CNS Exercise 18-2 Objective B.7 Graded Unsatisfactory
NCR 02250939, CAS ERONS laptop inoperable
NCR 02256435, SA 02243083 AFI #1 CNS EP Agreement letter 4 and 18 expired.
NCR 02262808, TSC VH AHU-0001 gasket replacement
NCR 02262828, Self-assessment for actions taken for TSC ventilation checks (NRC-identified)
NCR 02263059, 2019 NRC EP Inspection: evaluate the need for a VH DBD (NRC-identified)

71151: Performance Indicator Verification Procedures

AD-EP-ALL-0002, NRC Regulatory Assessment Performance Indicator Guideline Emergency Preparedness Cornerstone, Rev. 5
AD-PI-ALL-0100, "Corrective Action Program," Rev. 20

Records and Data

DEP opportUnities documentation for 2nd, 3rd, & 4th quarters 2018
Siren test data for 2nd, 3rd, & 4th quarters 2018
Drill and exercise participation records of ERO personnel for 2nd, 3rd, & 4th quarters 2018

Corrective Action Documents

NCR 02148581, ERO Team 5 EAL classification practice exercise
NCR 02223679, DEP KPI

71152: Problem Identification and Resolution

LTR-RIDA-18-323, Evaluation of Thermal Sleeve Flange Wear Condition and Recommendations for Penetration 18 for Catawba Unit 1 Fall 2018 Inspection, Rev. 0
LTR-RIDA-18-100, Evaluation of Catawba Unit 2 Thermal Sleeve Flange Wear Inspection Results, Rev. 0
PT/2/A/4700/020, WL/WN Sump Pumps and Check Valves Inservice Test, Rev 15
PT/2/A/4700/020, WL Sump Pump Check Valve Inservice Test, Rev. 13
CR 2259739, Testing activity for 2WLPUBTS not completed in its entirety
CR PT/2/A/4700/020 unable to be performed