



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

October 26, 2012

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

**SUBJECT: CATAWBA NUCLEAR STATION - NRC INTEGRATED INSPECTION REPORT  
05000413/2012004, 05000414/2012004**

Dear Mr. Henderson:

On September 30, 2012, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Catawba Nuclear Station Units 1 and 2. The enclosed inspection report documents the inspection results which were discussed on October 11, 2012, with you and other members of your staff.

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

Two NRC-identified findings of very low safety significance (Green) which were determined to involve violations of NRC requirements were identified during this inspection. Further, a licensee-identified violation, which was determined to be of very low safety significance (Green), is listed in this report. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2 of the Enforcement Policy. If you contest the violations or the severity of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington DC 20555-001; with copies to the Regional Administrator Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; 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 Regional Administrator, Region II, and the NRC Resident Inspector at Catawba.

K. Henderson

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In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

***/RA/***

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

Docket Nos.: 50-413, 50-414, 72-45  
License Nos.: NPF-35, NPF-52

Enclosure: Integrated Inspection Report 05000413/2012004, 05000414/2012004  
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

K. Henderson

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K. Henderson

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Letter to K. Henderson from Jonathan H. Bartley dated October 26, 2012

SUBJECT: CATAWBA NUCLEAR STATION - NRC INTEGRATED INSPECTION REPORT  
05000413/2012004, 05000414/2012004

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**U. S. NUCLEAR REGULATORY COMMISSION**

**REGION II**

Docket Nos.: 50-413, 50-414

License Nos.: NPF-35, NPF-52

Report Nos.: 05000413/2012004, 05000414/2012004

Licensee: Duke Energy Carolinas, LLC

Facility: Catawba Nuclear Station, Units 1 and 2

Location: York, SC 29745

Dates: July 1, 2012, through September 30, 2012

Inspectors: A. Hutto, Senior Resident Inspector  
R. Cureton, Resident Inspector  
B. Caballero, Senior Operations Engineer (Section 1R11)  
D. Bacon, Operations Engineer (Section 1R11)

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

Enclosure

## SUMMARY OF FINDINGS

IR 05000413/2012-004, 05000414/2012-004; 7/1/2012 – 9/30/2012; Catawba Nuclear Station, Units 1 and 2; Mitigating Systems

The report covered a three-month period of inspection by the resident inspectors and two Region-based reactor inspectors. Two Green non-cited violations (NCVs) were identified. The significance of inspection findings are indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP) dated June 2, 2011. Cross-cutting aspects are determined using IMC 0310, "Components Within the Cross-Cutting Areas dated October 28, 2011." All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated June 12, 2012. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process" revision 4.

### Cornerstone: Mitigating Systems

- Green: An NRC-identified Green non-cited violation (NCV) of the Unit 1 and 2 Facility Operating Licenses, Condition 2.C.5, Fire Protection Program, was identified for failure to implement and maintain all provisions of the approved fire protection program. The inspectors identified gaps in the emergency switchgear room (ESR) hatch covers separating two fire areas containing redundant safe shutdown equipment which were not evaluated. The licensee placed the issue into the corrective action program and implemented fire watches and prohibited storage of transient combustibles in the area.

The inspectors determined the gaps in the ESR hatch covers was a performance deficiency (PD). The inspectors determined that the PD was more than minor because it was associated with the Mitigating System Cornerstone attribute of Protection against External Factors (fire) and adversely affected the cornerstone objective in that there was no reasonable assurance the gaps in the hatch covers would prevent fire propagation across the 3-hour fire rated barrier. The inspectors determined the finding was of very low safety significance (Green). The cause of this finding was related to the cross cutting-aspect to thoroughly evaluate problems such that the resolutions address causes and extent of condition as described in the corrective action program component of the Problem Identification and Resolution cross-cutting area. [P.1(c)] (Section 1R05)

- Green: An NRC-identified non-cited violation (NCV) of 10 CFR 55.49, Integrity of examinations and tests, was identified for the licensee's failure to adhere to examination procedure standards that allow no more than 50 percent scenario overlap between examinations. The licensee subsequently revised the 2012 annual operating examination to preclude the scenario overlap issue that would have occurred and entered the issue in their corrective action program as PIP C-12-06949 and PIP C-12-06950.

This performance deficiency was more than minor because it was associated with the Human Performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective in that the failure to adhere to examination overlap standards adversely affected the quality of the administration of the operating exams. Using the Licensed Operator Requalification Significance Determination Process, this

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finding was determined to be of very low safety significance (Green) because no actual compromise of the examinations occurred. The cause of the finding was related to the cross-cutting aspect of procedures of the resources component of the cross-cutting area of Human Performance. [H.2(c)] (Section 1R11)

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

## REPORT DETAILS

### Summary of 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.

### 1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

#### 1R04 Equipment Alignment

##### a. Inspection Scope

Partial Walkdowns: The inspectors performed three partial system walkdowns during the activities listed below to assess the operability of redundant or diverse trains and components when safety-related equipment was inoperable. The inspectors performed walkdowns to identify any discrepancies that could impact the function of the system and, therefore, potentially increased risk. The inspectors reviewed applicable operating procedures and walked down system components, selected breakers, valves, and support equipment to determine if they were in the correct position to support system operation. The inspectors reviewed protected equipment sheets, maintenance plans, and system drawings to determine if the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program. Documents reviewed are listed in the Attachment.

- B train of control room ventilation while the A train was out of service for routine maintenance
- 2B Diesel Generator while the A train was out of service for emergent extent of condition inspection
- 1A and 2A nuclear service water (RN) pumps while the 2B RN pump was out of service for strainer PMs

##### b. Findings

No findings were identified.

#### 1R05 Fire Protection

##### a. Inspection Scope

Fire Protection Walkdowns: The inspectors walked down accessible portions of the four plant areas listed below to assess the licensee's control of transient combustible material and ignition sources, fire detection and suppression capabilities, fire barriers, and any

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related compensatory measures. The inspectors observed the fire protection suppression and detection equipment to determine whether any conditions or deficiencies existed which could impair the operability of that equipment. The inspectors selected the areas based on a review of the licensee's safe shutdown analysis probabilistic risk assessment and sensitivity studies for fire-related core damage accident sequences. Documents reviewed are listed in the Attachment.

- Unit 2 Electrical Penetration Room 594' Elevation
- Unit 1 'A' Essential Switchgear Room 577' Elevation
- Unit 2 Electrical Penetration Room 560' Elevation
- Unit 1 and 2 Control Room

b. Findings

Introduction: An NRC-identified Green non-cited violation (NCV) of the Unit 1 and 2 Facility Operating Licenses, Condition 2.C.5, Fire Protection Program, was identified for failure to implement and maintain all provisions of the approved fire protection program. The inspectors identified gaps in the emergency switchgear room (ESR) hatch covers separating two fire areas containing redundant safe shutdown equipment which were not evaluated.

Description: During fire protection walkdowns in the Unit 1 and 2 'A' train essential switchgear rooms (ESRs) on the 577' elevation, the inspectors identified gaps in hatch covers used to maintain the 3-hour rated barrier between the 'A' and 'B' ESRs. The hatch covers were not 3-hour fire rated, however, the licensee received an exemption in Safety Evaluation Report (SER) Supplement 3 on the basis that hatch covers would fit tightly and prevent vertical fire propagation across the barrier. The gaps that were identified, totaling approximately one square inch, would allow hot gasses to pass from the 'B' ESR into the 'A' ESR. Because the licensee had not evaluated these gaps there was no reasonable assurance that the hatch covers would prevent vertical fire propagation across the 3-hour fire barrier. The licensee initially identified this condition in 2007 and initiated PIP C-07-0872. However, the licensee failed to evaluate the gaps and closed the PIP based on the hatch cover exemption in the SER. Immediate corrective actions included placing signage on the covers prohibiting storage of transient combustibles in the area and establishing a twice a shift fire watch to be conducted by operators on rounds.

Analysis: The inspectors determined the gaps in the ESR hatch covers was a PD. The inspectors determined that the PD was more than minor because it was associated with the Mitigating System Cornerstone attribute of Protection against External Factors (fire), and adversely affected the cornerstone objective in that there was no reasonable assurance the gaps in the hatch covers would prevent fire propagation across the 3-hour fire rated barrier. Using IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 3b, the inspectors determined the finding degraded the fire protection defense-in-depth strategies. The inspectors reviewed IMC 0609, Appendix F and determined that the finding impacted the Fire Confinement Finding Category. Based on review of IMC 0609,

Appendix F, Attachment 2, "Degradation Rating Guidance Specific to Various Fire Protection Program Elements," the inspectors determined that the degradation rating was low based on the size of the gap. As a result, this finding was determined to be of very low safety significance (Green) based on the guidance in IMC 0609, Appendix F, Attachment 1. The cause of this finding was related to the cross cutting-aspect to thoroughly evaluate problems such that the resolutions address causes and extent of condition as described in the corrective action program component of the Problem Identification and Resolution cross-cutting area because this issue was previously identified however corrective action was not taken for resolution. [P.1(c)]

Enforcement: Unit 1 and 2 Facility Operating Licenses, Condition 2.C.5, required that the licensee shall implement and maintain in effect all provisions of the approved fire protection program as described in Section 9.5.1 of the Updated Final Safety Analysis Report (UFSAR) as amended and approved in the SER through Supplement 5. SER section 9.5.1.5, "Building Design" and SER section 9.5.1.7, "Switchgear Room", stated in part, that floor/ceiling assemblies shall have a 3-hour fire rating and that the switchgear rooms are separated from each other and the remainder of the plant by a 3-hour fire barrier. Contrary to the above, from initial plant construction until September 2012, all provisions of the approved fire protection program as described in Section 9.5.1 of the Updated Final Safety Analysis Report (UFSAR) as amended and approved in the SER through Supplement 5 were not maintained in effect. Gaps between hatch covers separating the Unit 1 and 2 'A' and 'B' ESRs, which had not been evaluated, represented a degradation of the 3-hour fire barrier separation requirements. Since the finding was of very low safety significance and has been entered into the licensee's corrective action program as PIP C-12-5834, this violation was treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy, and is identified as NCV 05000413/414/2012004-01, Inadequate 3 hour fire barrier between essential switchgear rooms.

1R06 Flood Protection Measures

a. Inspection Scope

The inspectors entered two conduit manholes: Conduit CMH-8B and CMH-9B to verify that the cables were not submerged, that the cables were not damaged or degraded, and that the sump pumps were functioning properly. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

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

.1 Quarterly Resident Inspector LOR Activity Review

a. Inspection Scope

The inspectors observed Simulator Exercise S-71 to assess the performance of licensed operators during a license operator requalification simulator training session. The exercise included a feed water pump tripping causing a turbine runback as well as a rod ejection requiring a reactor trip and manual safety injection. The inspectors assessed overall crew performance, clarity and formality of communications, use of procedures, alarm response, control board manipulations, group dynamics and supervisory oversight. The inspectors observed the post-exercise critique to determine whether the licensee identified deficiencies and discrepancies that occurred during the simulator training. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2 Quarterly Resident Inspector Licensed Operator Performance Review

a. Inspection Scope

The inspectors observed operators in the main control room and assessed their performance during Unit 1 moderator temperature coefficient measurements, a Unit 1 dilution, and preparations for a unit shutdown per TS 3.0.3. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.3 Biennial Review by Regional Specialist

a. Inspection Scope

The inspectors reviewed documentation, interviewed licensee personnel, and observed the administration of operating tests associated with the licensee's operator requalification program to assess the effectiveness of the facility licensee in implementing requalification requirements identified in 10 CFR Part 55, Operators' Licenses. Evaluations were also performed to determine if the licensee effectively implemented operator requalification guidelines established in NUREG-1021, Operator Licensing Examination Standards for Power Reactors, and Inspection Procedure (IP) 71111.11, Licensed Operator Requalification Program. The inspectors also evaluated the licensee's simulation facility for adequacy for use in operator licensing examinations using ANSI/ANS-3.5-1998, American National Standard for Nuclear Power Plant Simulators for use in Operator Training and Examination. The inspectors observed four

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crews during the performance of the operating tests. Documentation reviewed included written examinations, Job Performance Measures (JPMs), simulator scenarios, licensee procedures, on-shift records, simulator modification request records, simulator performance test records, operator feedback records, licensed operator qualification records, remediation plans, watchstanding records, and medical records. The records were inspected using the criteria listed in IP 71111.11. Documents reviewed listed in the Attachment.

b. Findings

Introduction: A Green NRC-identified NCV of 10 CFR 55.49, Integrity of examinations and tests, was identified for the licensee's failure to conduct activities related to the preparation, administration, and grading of the tests and examinations required by this part. Operations Training Management Procedure 3.4 (OTMP 3.4 ASEDEV), Active Simulator Exam Development Guide, Revision 08, allowed no more than 50 percent scenario overlap between examinations.

Description: The licensee administered two simulator exam scenarios to each licensed operator as part of their annual operating examination. Procedure OTMP 3.4, Section 6.14, Simulator Exam (ASE) Selection, required one new ASE and one ASE from the previous week to ensure no more than 50% overlap occurs. While reviewing the 2012 licensed operator requalification exam schedule, the inspectors identified that two exam scenarios, scheduled to be administered during the fourth week of the 2012 requalification schedule, had already been administered during previous weeks of the 2012 requalification schedule. The inspectors notified the licensee of the scenario examination schedule overlap and the licensee revised the examination schedule. The inspectors also reviewed the 2011 annual operating exam administration schedule and identified two simulator exam scenarios administered during week five of the 2011 annual operating exams had been administered during previous weeks of the 2011 operating exam.

Analysis: The inspectors determined that the licensee's failure to adhere to OTMP 3.4 was a PD. The PD was determined to be more than minor because it was associated with the Human Performance attribute of the Mitigating Systems Cornerstone, and adversely affected the cornerstone objective in that the failure to adhere to examination overlap standards adversely affected the quality of the operating exams which test licensed operator performance. The significance determination was performed in accordance with Manual Chapter 0609, Significance Determination Process, Appendix I, Licensed Operator Requalification Significance Determination Process (SDP). Question 10 was answered as "YES" because the finding was related to excessive test item repetition between requalification examinations administered during different weeks of a training cycle. Question 11 was "NO" because there was no evidence that a licensed operator had actually gained an unfair advantage on an examination required by 10 CFR 55.59, Requalification. Therefore, this finding was characterized as having very low safety significance (Green). The finding was directly related to the cross-cutting aspect of complete, accurate, and up-to-date procedures for the resources component of the cross-cutting area of Human Performance because the methodology in OTMP 3.4 not

ensure that no more than 50 percent of scenario events were repeated and the scenario sequencing method was predictable. [H.2(c)]

Enforcement: 10 CFR 55.49 stated that applicants, licensees, and facility licensees shall not engage in any activity that compromises the integrity of any application, test, or examination required by this part. The integrity of a test or examination was considered compromised if any activity, regardless of intent, affected, or would have affected the equitable and consistent administration of the test or examination. This includes activities related to the preparation and certification of license applications and all activities related to the preparation, administration, and grading of the tests and examinations required by this part. Activities covered by this part include the requirements stated in 10 CFR 55.59, Requalification. The annual operating exam administered to all licensed operators was required by 10 CFR 55.59. Contrary to the above, during the 2011 and 2012 licensed operator requalification cycles, licensee personnel engaged in an activity that compromised the integrity of the annual operating examination, in that personnel failed to adhere to examination procedure standards for scenario overlap, and but for detection, this activity would have affected the equitable and consistent administration of the 2012 operating examination. Because this issue is of very low safety significance and has been entered into the licensee's corrective action program, PIPs C-12-06949 and C-12-06950, the violation is being treated as a NCV consistent with the NRC Enforcement Policy: NCV 50-413, 414/2012004-02, Failure to Maintain Requalification Examination Integrity.

#### 1R12 Maintenance Effectiveness

##### a. Inspection Scope

The inspectors reviewed the two activities listed below for items such as: (1) appropriate work practices; (2) identifying and addressing common cause failures; (3) scoping in accordance with 10 CFR 50.65(b) of the Maintenance Rule; (4) characterizing reliability issues for performance; (5) trending key parameters for condition monitoring; (6) charging unavailability for performance; (7) classification and reclassification in accordance with 10 CFR 50.65(a)(1) or (a)(2); and (8) appropriateness of performance criteria for structures, systems, and components (SSCs)/functions classified as (a)(2) and/or appropriateness and adequacy of goals and corrective actions for SSCs/functions classified as (a)(1). For each item selected, the inspectors performed a detailed review of the problem history and surrounding circumstances, evaluated the extent of condition reviews as required, and reviewed the generic implications of the equipment and/or work practice problem. Documents reviewed are listed in the Attachment.

- PIP C-12-4322, Standby Shutdown Facility maintenance rule SSC has reached 50% of its reliability performance criteria on Unit 1 for cycle 20
- PIP C-12-4196, with both units at power "F Dryer Trouble" annunciators was received. instrument air pressure was determined to be ~85 psi and stable

##### b. Findings

No findings were identified.

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1R13 Maintenance Risk Assessments and Emergent Work Controla. Inspection Scope

The inspectors reviewed the following five activities to determine if the appropriate risk assessments were performed prior to removing equipment for work. When emergent work was performed, the inspectors reviewed the risk assessment to determine that the plant risk was promptly reassessed and managed. The inspectors reviewed the use of the licensee's risk assessment tool and risk categories in accordance with Nuclear System Directive (NSD) 415, Operational Risk Management (Modes 1-3), to verify there was appropriate guidance to comply with 10 CFR 50.65(a)(4). Documents reviewed are listed in the Attachment.

- PIP C-12-6601, standby shutdown facility (SSF) diesel watt meter failed high during performance test
- Unit 2 SSF protection plan during SSF makeup pump preventive maintenances (PMs)
- Protection plan during 1B diesel emergent work due to a failed 24 hr surveillance run
- Risk assessment during 1A residual heat removal pump maintenance.
- Protection plan for 1A RN pump motor PMs

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessmentsa. Inspection Scope

The inspectors evaluated the technical adequacy of the six operability evaluations or functionality assessments listed below to determine if Technical Specification (TS) operability was properly justified and the subject components and systems remained available such that no unrecognized increase in risk occurred. The inspectors reviewed the operability determinations to verify that they were made as specified by NSD 203, Operability. The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR) to determine that the systems and components remained available to perform their intended function. Documents reviewed are listed in the Attachment.

- PIP C-12-6271, 1A RN cable has 2 small slits in the jacket in CMH-6A
- PIP C-12-6493, 1B emergency diesel generator engine cooling water outlet temperature low
- PIP C-12-7122, Lock washer instead of flat washer on 1B diesel generator extensible linkage
- PIP C-12-7315, Water leaking from manway cover RN-B M-5-1 supply
- PIP C-12-7542, 1A Diesel Voltage fluctuations
- PIP C-12-8166, Jumper configurations for safety injection signal logic for low pressurizer pressure are not being tested during surveillance testing

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b. Findings

No findings were identified.

1R19 Post Maintenance Testinga. Inspection Scope

The inspectors reviewed the five post-maintenance tests listed below to determine if procedures and test activities ensured system operability and functional capability. The inspectors reviewed the licensee's test procedures to determine if the procedures adequately tested the safety function(s) that may have been affected by the maintenance activities, that the acceptance criteria in the procedures were consistent with information in the applicable licensing basis and/or design basis documents, and that the procedures had been properly reviewed and approved. The inspectors also witnessed the tests and/or reviewed the test data to determine if test results adequately demonstrated restoration of the affected safety function(s). Documents reviewed are listed in the Attachment.

- 2B diesel generator operability test following scheduled preventive maintenance
- Unit 2 turbine driven auxiliary feedwater pump performance test following preventive maintenance
- 2A safety injection pump following preventative maintenance
- 2A diesel generator operability test following governor maintenance and fuel rack position measurements
- 1A residual heat removal pump performance test following motor bearing oil leak repair

b. Findings

No findings were identified.

1R22 Surveillance Testinga. Inspection Scope

For the five tests listed below, the inspectors witnessed testing and/or reviewed the test data to determine if the SSCs involved in these tests satisfied the requirements described in the Technical Specifications, the UFSAR, and applicable licensee procedures, and that the tests demonstrated that the SSCs were capable of performing their intended safety functions.

Surveillance Tests

- PT/2/A/4350/002 A, Diesel Generator 2A Operability Test, Rev. 95
- PT/2/A/4450/005 A, Containment Air return Fan 2A and Hydrogen Skimmer Fan 2A Performance Test, Rev. 51
- IP/2/A/3200/001 B, Solid State Protection System Train B Periodic Testing, Rev. 18

In-Service Tests

- PT/1/A/4200/004 C, Containment Spray Pump 1B Performance Test, Rev. 68
- PT/1/A/4250/003 C, Turbine Driven Auxiliary Feedwater Pump #1 Performance Test, Rev. 101

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluationa. Inspection Scope

The inspectors observed and evaluated the licensee's emergency planning performance during drills conducted on August 23, 2012, and on September 13, 2012. The inspectors reviewed licensee activities that occurred in the simulator and the Technical Support Center during the simulated events. The inspectors' assessment focused on the timeliness and accuracy of the event classification, notification of offsite agencies, and the overall response of the personnel involved in the drills from an operations and emergency planning perspective. The performance of the Emergency Response Organization (ERO) was evaluated against applicable licensee procedures and regulatory requirements. The inspectors attended the post-exercise critique for the drills to evaluate the licensee's self-assessment process for identifying potential deficiencies relating to failures in classification and notification. The inspectors reviewed the completed licensee critique documenting the overall performance of the ERO.

b. Findings

No findings were identified.

## 4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verificationa. Inspection Scope

The inspectors sampled licensee data to confirm the accuracy of reported PI data for the four indicators during periods listed below. To determine the accuracy of the reported PI elements, the reviewed data was assessed against PI definitions and guidance contained in Nuclear Energy Institute 99-02, Regulatory Assessment Indicator Guideline, Rev. 5. Documents reviewed are listed in the Attachment.

Cornerstone: Initiating Events

- Unplanned Transients, Unit 1 & 2

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Cornerstone: Mitigating Systems

- Residual Heat Removal, Unit 1 & 2

The inspectors reviewed the licensee's procedures and methods for compiling and reporting the PIs including the Reactor Oversight Program Mitigating Systems Performance Indicator Basis Document for Catawba. The inspectors reviewed the raw data for the PIs listed above for the period of July 1, 2011, through June 30, 2012. The inspectors also independently screened TS Action Item Logs, selected control room logs, work orders and surveillance procedures, and maintenance rule failure determinations to determine if unavailability/unreliability hours were properly reported. The inspectors compared the licensee's raw data against the graphical representations and specific values contained on the NRC's public web page for 2011-2012. The inspectors also reviewed the past history of PIPs for systems affecting the Mitigating Systems Performance Indicators listed above for any that might have affected the reported values. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution

.1 Daily Review

As required by Inspection Procedure 71152, Problem Identification and Resolution, and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed screening of items entered into the licensee's corrective action program. This was accomplished by reviewing copies of PIPs, attending selected daily Site Direction and PIP screening meetings, and accessing the licensee's computerized database.

.2 Annual Follow-up of Selected Issues

a. Inspection Scope

Operator Workarounds: The inspectors reviewed the cumulative effects of deficiencies that constituted operator workarounds to determine if they could affect: the reliability, availability, and potential for misoperation of a mitigating system; multiple mitigating systems; or the ability of operators to respond in a correct and timely manner to plant transients and accidents. The inspectors also assessed if operator workarounds were being identified and entered into the licensee's corrective action program at an appropriate threshold.

b. Findings

No findings were identified.

4OA5 Other Activities.1 Quarterly Resident Inspector Observations of Security Personnel and Activitiesa. Inspection Scope

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

b. Findings

No findings were identified.

.2 (Discussed) NRC Temporary Instruction (TI) 2515/187, Inspection of Near-Term Task Force Recommendation 2.3 Flooding Walkdowns, and NRC TI 2515/188, Inspection of Near-Term Task Force Recommendation 2.3 Seismic Walkdownsa. Inspection Scope

Inspectors accompanied the licensee on a sampling basis, during their flooding and seismic walkdowns, to verify that the licensee's walkdown activities were conducted using the methodology endorsed by the NRC. These walkdowns are being performed at all sites in response to a letter from the NRC to licensees, entitled "Request for Information Pursuant to Title 10 of the *Code of Federal Regulations* 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated March 12, 2012 (ADAMS Accession No. ML12053A340).

Enclosure 3 of the March 12, 2012, letter requested licensees to perform seismic walkdowns using an NRC-endorsed walkdown methodology. Electric Power Research Institute (EPRI) document 1025286 titled, "Seismic Walkdown Guidance," (ADAMS Accession No. ML12188A031) provided the NRC-endorsed methodology for performing seismic walkdowns to verify that plant features, credited in the current licensing basis (CLB) for seismic events, are available, functional, and properly maintained.

Enclosure 4 of the letter requested licensees to perform external flooding walkdowns using an NRC-endorsed walkdown methodology (ADAMS Accession No. ML12056A050). Nuclear Energy Industry (NEI) document 12-07 titled, "Guidelines for Performing Verification Walkdowns of Plant Protection Features," (ADAMS Accession No. ML12173A215) provided the NRC-endorsed methodology for assessing external flood protection and mitigation capabilities to verify that plant features, credited in the CLB for protection and mitigation from external flood events, are available, functional, and properly maintained.

Enclosure

b. Findings

Findings or violations associated with the flooding and seismic walkdowns, if any, will be documented in future reports.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On October 11, 2012, the resident inspectors presented the inspection results to Mr. Kelvin Henderson and other members of licensee management. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

4OA7 Licensee-Identified Violations

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

- 10 CFR 55.3 stated, in part, that a person must be authorized by a license issued by the Commission to perform the function of an operator or a senior operator. 10 CFR 50.54(l) stated, in part, that the [facility] licensee shall designate individuals to be responsible for directing the licensed activities of licensed operators, and that these individuals shall be licensed as senior operators pursuant to part 55 of this chapter. Contrary to the above, on June 15, 2012, and June 18, 2012, the facility licensee allowed a person to perform the function of a senior operator who was not licensed by the Commission to perform those functions. The individual's senior operator license had been terminated by the Commission's regional office on June 12, 2012, at the licensee's request. The inspectors determined that the violation was not greater than very low safety significance (Green) due to the short time the individual performed the senior licensed operator function, and because the individual was in all other aspects fully qualified and proficient as a senior licensed operator. This issue was entered in the licensee's corrective action program as PIP-C-12-5489.

ATTACHMENT: SUPPLEMENTARY INFORMATION

## **SUPPLEMENTARY INFORMATION**

### **KEY POINTS OF CONTACT**

#### **Licensee Personnel**

T. Arlow, Emergency Planning Manager  
S. Batson, Station Manager  
B. Bryant, Fleet Operations Training Manager  
J. Caldwell, Work Control Manager  
D. Cantrell, Chemistry Manager  
J. Ferguson, Mechanical, Civil Engineering Manager  
T. Hamilton, Engineering Manager  
R. Hart, Regulatory Compliance Manager  
K. Henderson, Site Vice-President  
T. Jenkins, Superintendent of Maintenance  
A. Orton, Operations Training Manager  
K. Phillips, Training Manager  
S. Putnam, Safety Assurance Manager  
P. Simbrat, Regulatory Compliance Engineer  
R. Simril, Operations Superintendent  
J. Smith, Radiation Protection Manager  
W. Suslick, Modifications Engineering Manager  
S. West, Security Manager

### **LIST OF REPORT ITEMS**

#### **Opened and Closed**

050000413,414/2012004-01	NCV	Inadequate 3 hour fire barrier between essential switchgear rooms (Section 1R05)
050000413,414/2012004-02	NCV	Failure to Maintain Requalification Examination Integrity (Section 1R11)

## LIST OF DOCUMENTS REVIEWED

### **Section 1R04: Equipment Alignment**

CN-1578-1.0, Flow Diagram of Control Room Area Ventilation, Rev. 30  
CN-1578-2.0, Flow Diagram of Control Area Chilled Water System, Rev. 12  
OP/2/A/6350/002, Diesel Generator Operation; Enclosure 4.8, D/G 2B Checklist for ES Actuation, Rev. 132  
UFSAR Section 8.3.1.4.1, Diesel Generators  
CN-1574-1.0, Unit 1 & 2 Flow Diagram of Nuclear Service Water System, Rev. 52  
CN-1574-2.0.01, Unit 1 Flow Diagram of Nuclear Service Water System, Rev. 54

### **Section 1R05: Fire Protection**

Station Fire Impairment Log  
NSD-313, Control of Combustible and Flammable Material, Rev. 7  
SLC 16.9-4, Fire Hose Stations  
SLC 16.9-6, Fire Detection Instrumentation  
Fire Strategy Fire Area 19, Unit 2 Electrical Penetration Room 594' Elevation  
Fire Strategy Fire Area 15, Unit 1 Essential Switchgear Room 577' Elevation  
Fire Strategy Fire Area 5, Unit 2 Electrical Penetration Room 560' Elevation  
Fire Strategy Fire Area 21, Unit 1 and 2 Control Room

### **Section 1R06: Flood Protection Measures**

UFSAR Section 3.6.1, Postulated Piping Failures in Fluid Systems Inside and Outside Containment  
CNS-1465.00-00-0020, Design Basis Specification for Flooding from Internal Sources, Rev. 0  
Drawing CN-1938-06, Electrical Equipment Layout Outdoor Area, Rev. 1

### **Section 1R11: Licensed Operator Regualification**

#### Records

License Reactivation Packages (4)  
LORP Training Attendance records (16)  
Medical Files (9)  
Remedial Training Records (12)  
Remedial Training Examinations (4)

#### Written Examinations

LOR1213CR, 07/09/2012

#### Procedures

OTMP 3.1, JPM Development, Revision 2, 05/16/2011  
OTMP 3.2, Written Exam Development, Administration, & Grading, Revision 10, 03/15/2012  
OTMP 3.4, Active Simulator Exam Development Guide, Revision 8, 05/17/2011  
OTMP 4.2, Simulator Exam Administration, Revision 11, 05/31/2012  
OTMP 4.7, Operator Requal Exam Security Procedure, Revision 5, 10/20/2011  
Nuclear System Directive 512, Maintenance of RO/SRO NRC Licenses, Revision 5, 03/14/12

#### Simulator Core Physics and Normal Evolutions Test

Unit 1, Cycle 20, 6/16/11.

#### Simulator Transient Tests

Catawba Transient #2, Large Break LOCA with Loss of Offsite Power, 03/14/11  
Catawba Transient #9, Load Rejection 50% and 90%, 03/23/11

Simulator Scenario Based Tests

ASE-3, 07/19/2011  
 ASE-5, 08/08/2011  
 ASE-07, 06/07/2011

Simulator Problem Reports & Design Change Requests (10)Scenario Packages

ASE-7, Revision 22, 06/05/2012  
 ASE-25, Revision 23, 06/21/2010  
 ASE-42, Revision 5, 07/09/2012  
 ASE-46, Revision 5, 07/09/2012  
 ASE-47, Revision 2, 07/25/2012  
 ASE-49, Revision 5, 07/24/2012

JPM Packages

DG3-009, 1B DG Start Using AP-007, Revision 4, 06/06/2012.  
 EP5-009, Transfer MCC 2EMXS to Alternate Power Supply, Revision 7, 06/06/2012  
 NV-083, Re-establish Letdown after S/I Termination, Revision 13, 06/06/2012  
 1RX-015, Perform OATC Immediate Actions during an ATWS, Revision 17, 06/06/2012  
 CCM-001, Determine NC Subcooling on a Loss of OAC, Revision 2, 06/06/2012  
 CF-001, Ensure Proper Feedwater Isolation following a Reactor Trip, Revision 15, 06/06/2012  
 NV-121, Perform a Manual Makeup to the VCT, Revision 3, 06/06/2012  
 RSS-003, Transfer HVAC to LOCAL after Control Room Evacuation, Revision 15, 06/06/2012  
 SM-099, Controlling Tavg using Steam Generator PORVs in Manual, Revision 1, 06/06/2012  
 VX-025, Place 1B Hydrogen Recombiner in Service, Revision 6, 06/06/2012

Problem Identification Program (PIP) Reports

PIP # C-12-06508, NSD 512 Appendix C (Change to Medical Condition) not returned to Medical  
 PIP # C-12-055489, Operator with terminated license stood watch  
 PIP # C-11-04926, During swap of U1 CFPTs, SG level transient caused 2.55 % power swing  
 PIP # C-11-08992, INOS identified performance deficiency (Turbine load not being maintained)

**Section 1R12: Maintenance Effectiveness**

EDM 210, Engineering Responsibilities for the Maintenance Rule, Rev. 24  
 Instrument Air System Health Report Q2  
 SSF Maintenance Rule Summary Report  
 PIP C-12-4322, Standby Shutdown Facility maintenance rule SSC has reached 50% of its  
 reliability performance criteria on Unit 1 for cycle 20  
 PIP C-12-4196, with both units at power "F Dryer Trouble" annunciators was received,  
 instrument air pressure was determined to be ~85 psi and stable

**Section 1R13: Maintenance Risk Assessments and Emergent Work Control**

NSD 213, Risk Management Process, Rev. 8  
 SOMP 02-02 Operations Roles in Risk Management, Rev 007

**Section 1R15: Operability Evaluations**

NSD 203, Operability/Functionality, Rev. 19  
NSD 122, Temporary Configuration Changes, Rev. 00

**Section 1R19: Post-Maintenance Testing**

PT/2/A/4350/002 B, Diesel Generator 2B Operability Test, Rev. 96  
PT/2/A/4350/003 B, Turbine Driven Auxiliary Feedwater Pump #2 Performance Test, Rev. 83  
PT/2/A/4200/005 B, Safety Injection Pump 2B Performance Test, Rev. 43  
PT/2/A/4350/002 A, Diesel Generator 2A Operability Test, Rev. 95  
PT/1/A/4200/010 A, Residual Heat Removal Pump 1A Performance Test, Rev. 76

**Section 4OA1: Performance Indicator Verification**

NSD 225, NRC Performance Indicators, Rev. 4  
NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Rev. 5

**Section 4OA2: Problem Identification and Resolution**

NSD 208, Problem Investigation Program