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

January 23, 2014

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 05000413/2013005, 05000414/2013005 AND EMERGENCY PREPARDNESS INSPECTION REPORT 05000413/2013502, 05000414/2013502

Dear Mr. Henderson:

On December 31, 2013, 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 January 6, 2014, with you and other members of your staff.

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 the 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 20555-001; with copies to the Regional Administrator Region II; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at Catawba Nuclear Station.

As a result of the Safety Culture Common Language Initiative, the terminology and coding of cross-cutting aspects were revised beginning in calendar year (CY) 2014. New cross-cutting aspects identified in CY 2014 will be coded under the latest revision to IMC 0310. Cross-cutting aspects identified in the last six months of 2013 using the previous terminology will be converted to the latest revision in accordance with the cross-reference in IMC 0310. The revised cross-cutting aspects will be evaluated for cross-cutting themes and potential substantive cross-cutting issues in accordance with IMC 0305 starting with the CY 2014 mid-cycle assessment review.

In accordance with Title 10 of the Code of Federal Regulations 2.390, “Public Inspections, Exemptions, Requests for Withholding,” 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 Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Gerald J. McCoy, 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 05000413/2013005, 05000414/2013005 And Emergency Prepardness Inspection Report 05000413/2013502, 05000414/2013502 w/Attachment: Supplemental Information

cc w/encl via Listserv

In accordance with Title 10 of the Code of Federal Regulations 2.390, “Public Inspections, Exemptions, Requests for Withholding,” 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 Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

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ADAMS: X Yes ACCESSION NUMBER:_____ X SUNSI REVIEW COMPLETE □ FORM 665 ATTACHED

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Letter to K. Henderson from Gerald McCoy dated January 23, 2014

SUBJECT: CATAWBA NUCLEAR STATION - NRC INTEGRATED INSPECTION REPORT 05000413/2013005, 05000414/2013005 AND EMERGENCY PREPARDNESS INSPECTION REPORT 05000413/2013502, 05000414/2013502

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.:	50-413, 50-414, 72-45
License Nos.:	NPF-35, NPF-52
Report Nos.:	05000413/2013005, 05000414/2013005 05000413/2013502, 05000414/2013502
Licensee:	Duke Energy Carolinas, LLC
Facility:	Catawba Nuclear Station, Units 1 and 2
Location:	York, SC 29745
Dates:	October 1, 2013 through December 31, 2013
Inspectors:	A. Hutto, Senior Resident Inspector R. Cureton, Resident Inspector M. Meeks, Senior Operations Engineer (Section 1R11) J. Laughlin, Emergency Preparedness Inspector (Section 1EP4)
Approved by:	Gerald McCoy, Chief Reactor Projects Branch 1 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000413/2013-005, 05000414/2013-005, 5000413/2013-502, 05000414/2013-502; 10/1/2013 – 12/31/2013; Catawba Nuclear Station, Units 1 and 2; Mitigating Systems

The report covered a three-month period of inspection by the resident inspectors and one senior operations inspector. 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: Initiating Events

- Green: An NRC-identified NCV of the Fire Protection Program (FPP) required by 10 CFR 50.48 and License Condition 2.C.5, was identified for failing to adequately implement transient combustible controls. Transient combustible material stored adjacent to the B rod control motor generator (MG) set and in front of a manual hose station was not in an established housekeeping area, and was not evaluated for acceptability by the site fire protection engineer (FPE) as required by the FPP specified procedure, Nuclear System Directive NSD-313, Control of Combustible and Flammable Material.

  The failure to control transient combustibles in the Unit 2 electrical penetration room in accordance with NSD-313 was a performance deficiency. The performance deficiency was more than minor because if left uncorrected it could lead to a more significant safety concern in that an electrical fault in the adjacent MG set panel could ignite the combustibles which could lead to a potential plant transient. The finding was determined to be of very low safety significance (Green) as the combustibles did not meet the criteria requiring a phase 2 or 3 analysis as described in IMC 0609, Appendix G, Attachment 1, Checklist 2. This finding had a cross cutting aspect in the Resources component of the area of Human Performance because the personnel involved were not adequately trained in the procedural requirements of NSD-313 (H.2(b)). (Section 1R05)

REPORT DETAILS

Summary of Plant Status

Unit 1 operated at or near 100 percent Rated Thermal Power (RTP) for the entire inspection period.

Unit 2 began the inspection period in a refueling outage. The unit was placed online on October 17, 2013, and achieved 100 percent RTP on October 24, 2013, where it remained for the rest of inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope

Readiness for Seasonal Extreme Weather Conditions: The inspectors reviewed the licensee's preparations for adverse weather associated with cold ambient temperatures. This included field walkdowns to assess the material condition and operation of freeze protection equipment (e.g., heat tracing, instrument box heaters, area space heaters, etc.), as well as other preparations made to protect plant equipment from freeze conditions. Safety and/or Risk significant systems reviewed included the standby shutdown facility, nuclear service water pump house, auxiliary building and the refueling water storage tanks. In addition, the inspectors conducted discussions with operations, engineering, and maintenance personnel responsible for implementing the licensee's cold weather protection program to assess the licensee's ability to identify and resolve deficient conditions associated with cold weather protection equipment prior to cold weather events. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

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.

- Unit 2 motor driven auxiliary feedwater pumps while the turbine driven auxiliary feedwater pump was out of service for preventive maintenance
- 1A diesel generator (DG) while the 1B DG was out of service for scheduled maintenance
- Unit 2 B train of component cooling water (KC) system while the 2A1 KC pump was out of service for PMs

Complete System Walkdown: The inspectors conducted one detailed walkdown/review of the 2A diesel generator. The inspectors used licensee procedures and licensing and design documents to verify that the system (i.e., pump, valve, and electrical) alignment was correct; valves and pumps for diesel support systems did not exhibit leakage that would impact their function; major portions of the system and components were correctly labeled; hangers and supports were correctly installed and functional; and essential support systems were operational. In addition, pending design and equipment issues were reviewed to determine if the identified deficiencies significantly impacted the system's functions. Items included in this review were: the operator workaround list; the temporary modification list; and outstanding maintenance work requests/work orders. A review of open Problem Investigation Program reports (PIPs) was also performed to verify that the licensee had appropriately characterized and prioritized safety-related equipment problems for resolution in the corrective action program. Documents reviewed are listed in the Attachment.

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 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 2 594 foot level electrical penetration room
- Fire Area 10, Unit 1 Battery Room area
- Fire Area 9, Unit 2 Battery Room area

- Fire Area 28, 2A Emergency Diesel Generator room

b. Findings

Introduction: An NRC-identified Green NCV of the Fire Protection Program (FPP) required by 10 CFR 50.48 and License Condition 2.C.5, was identified for failing to adequately implement transient combustible controls. Transient combustible material stored adjacent to the B rod control motor generator (MG) set and in front of a manual hose station, was not in an established housekeeping area, and was not evaluated for acceptability by the site fire protection engineer (FPE) as required by the FPP specified procedure, Nuclear System Directive NSD-313, Control of Combustible and Flammable Material.

Description: During a walkdown of the Unit 2, 594 foot level electrical penetration room, the inspectors observed more than 15 pounds of ordinary combustibles adjacent to the B rod control MG set and blocked access to a fire protection manual hose station. A housekeeping area had not been established for this material. The MG set was operating at the time to support control rod testing while the unit was in Mode 5 prior to startup. The combustibles consisted of a pallet of multiple coils of rubber hoses and a large plastic bag full of cloth rags, cloth and rubber gloves, and plastic bags. Procedure NSD-313, Control of Combustible and Flammable Material, required that transient combustible material stored in designated areas, which included the electrical penetration rooms, must be contained in an established housekeeping area and that combustible materials exceeding 15 pounds must be approved by the site FPE. The inspectors estimated the amount of material in the area exceeded 15 pounds and noted that this review had not been performed as required. Furthermore, the FPE would not have approved the request based on the location. Additionally, NSD-313 requires that transient fire loads must not obstruct access to firefighting equipment. The inspectors notified operations personnel of the observation and the combustible material was removed from the area.

Analysis: The failure to control transient combustibles in the Unit 2 electrical penetration room in accordance with NSD-313 was a performance deficiency. The performance deficiency was more than minor because if left uncorrected, it could lead to a more significant safety concern in that an electrical fault in the adjacent MG set panel could ignite the combustibles which could lead to additional damage to rod control wiring and a potential plant transient. The finding was screened using Inspection Manual Chapter (IMC) 0609 Appendix G, Shutdown Operations Significance Determination Process (SDP), issued February 28, 2005. The finding was determined to be of very low safety significance (Green) as the combustibles did not meet the criteria requiring a phase 2 or 3 analysis as described in IMC 0609, Appendix G, Attachment 1, Checklist 2, issued May 25, 2004. This finding had a cross cutting aspect in the Resources component of the area of Human Performance because the personnel involved were not adequately trained in the procedural requirements of NSD-313 (H.2(b)).

Enforcement: 10 CFR 50.48 stated that each operating nuclear power plant must have a FPP that satisfies Criterion 3 of Appendix A of this part. Catawba License Condition

2.C.5, for Unit 2, stated that the licensee shall implement and maintain in effect all provisions of the approved FPP as described in the Updated Final Safety Analysis Report, as amended, for the facility and as approved in the NRC Staff's Catawba Safety Evaluation Report through supplement 5. Catawba UFSAR section 9.5.1.2 stated in part that administrative controls are included in NSDs to manage control of flammable and combustible materials. NSD-313 required that ordinary combustibles stored in housekeeping areas in quantities of greater than 15 pounds or adjacent to an ignition source must have prior review and approval by the site fire protection engineer. Contrary to the above, on October 11, 2013, the licensee did not adequately implement the FPP as required by NSD-313 in that review and approval from the site fire protection was not obtained prior to storing ordinary combustibles greater than 15 pounds and adjacent to an ignition source in the Unit 2 594' electrical penetration room. Because this failure to adequately control transient combustibles is of very low safety significance and was entered into the licensee's corrective action program as PIP C-13-9733, this violation is being treated as an NCV, consistent with the NRC Enforcement Policy and is identified as NCV 05000414/2013005-01: Failure to Adequately Control Transient Combustible Materials in Accordance with the Fire Protection Program.

1R06 Flood Protection Measures

a. Inspection Scope

Internal Flooding Review: The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR), Individual Plant Examination, and flood analysis documentation associated with internal plant areas to determine the effect of flooding. The inspectors reviewed the licensee's internal flood protection features for the flood walls constructed in the 568 foot elevation in the Unit 1 and Unit 2 Turbine Buildings to protect electrical switchgear and transformers against flooding caused by the rupture of piping or components associated with the circulating water system. The internal areas were selected and walked down based on the flood analysis calculations. Through observation and design review, the inspectors reviewed sealing of doors, holes in penetrations, potential flooding sources, and water intrusion detection instrumentation. The inspectors reviewed corrective action program documents to verify that the licensee was identifying issues and resolving them. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

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

a. Inspection Scope

LOR Activity Review: The inspectors observed simulator exam ASE-27 to assess the performance of licensed operators during a license operator requalification simulator training session. The exercise included a a secondary steam leak, loss of power to an essential bus, loss of feedwater and an ATWS. 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.

Licensed Operator Performance Review: The inspectors observed operators in the main control room and assessed their performance during Unit 2 approach to criticality and unit startup following refueling outage 2EOC19. Documents reviewed are listed in the Attachment.

Annual Review of Licensee Requalification Examination Results: On August 24, 2013, the licensee completed the annual requalification operating examinations required to be administered to all licensed operators in accordance with 10 CFR 55.59(a)(2). 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 Inspection Manual Chapter (IMC) 0609, “Significance Determination Process,” Appendix I, “Operator Requalification Human Performance Significance Determination Process.”

b. Findings

No findings were identified.

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-13-8710, 2RF-392 failed as-left type-c leak rate test
- PIP C-13-9220, Breaker 2GTB failed to close

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. 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.

- Emergent Yellow risk condition due to SSF diesel generator coolant leak
- Unit 2 outage defense in depth review
- Risk Evaluation for 2B component cooling water inoperability
- Complex Plan for the 1B Diesel being out of service for planned maintinance
- 1B safety injection (SI) pump protection plan while the 1A SI pump was out of service for maintenance

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments

a. 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-13-8702, RCS boundary valve leak rate test does not account for head loss in NI test header
- PIP C-13-8179, No flow discharging from long leg discharge of either A or B header when RN system aligned to Standby Nuclear Service Water Pond
- PIP C-13-9455, Emergency diesel generator air start system drains are not accounted for in air start calculation
- PIP C-13-10910, Found 1CFIV0421 closed
- PIP C-13-11163, Post accident radiation dose calculations did not account for 2 percent reactor power uncertainty
- PIP C-13-12200, Wrong bolting material used on 2RN-351

b. Findings

No findings were identified.

1R18 Plant Modifications

a. Inspection Scope

The inspectors reviewed temporary plant modification WO 02069754-05 Disconnect 1FW HETR0049, Unit 1 FWST heater bank #49, to verify the adequacy of the modification package, and to evaluate the modification for adverse affects on system availability, reliability and functional capability. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

The inspectors reviewed the six 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 engineered safety features actuation test following solid state protection system relay replacements
- Unit 2 zero power physics testing following refueling

- 1B Diesel Generator operability following a modification to correct a design deficiency associated with the pre-position circuit
- 1A safety injection pump performance test following breaker PMs
- SSF Diesel Generator operability test following voltage regulator replacement
- 2A safety injection functional test following motor PMs

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities

a. Inspection Scope

The inspectors conducted reviews and observations for selected Unit 2 outage activities to ensure that: 1) the licensee considered risk in developing the outage plan; 2) the licensee adhered to the outage plan to control plant configuration based on risk; 3) that mitigation strategies were in place for losses of key safety functions; and 4) the licensee adhered to operating license and TS requirements. Between October 1, 2013, and October 17, 2013, the following activities related to the refueling outage were reviewed for conformance to applicable procedures and selected activities associated with each evaluation were witnessed:

- Outage risk management
- Shutdown decay heat removal and inventory control
- Containment closure
- Refueling activities
- Plant heatup
- mode changes from No Mode to Mode 1
- Core physics testing
- Power Escalation

b. Findings

No findings were identified.

1R22 Surveillance Testing

a. Inspection Scope

For the six 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/1/A/4350/002 B, Diesel Generator 1B Operability Test
- OP/2/A/6200/011, Primary Sampling System, Enclosure 4.3, Reactor Coolant Loops A and C (reactor coolant sytem specific activity)

In-Service Tests
- PT/1/A/4200/007 A, Centrifugal Charging Pump 1A Test
- PT/2/A/4400/003 B, Component Cooling (KC) Train B Performance Test

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

Containment Isolation Valve
- PT/2/A/4200/001 C, As Left Containment Isolation Valve Leak Rate Test, Penetration M-236

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP4 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

The NSIR headquarters staff performed an in-office review of the latest revisions of various Emergency Plan Implementing Procedures (EPIPs) and the Emergency Plan located under ADAMS accession numbers ML13074A024, ML123630337, ML13252A290, and ML13316A008 as listed in the Attachment.

The licensee determined that in accordance with 10 CFR 50.54(q), the changes made in the revisions resulted in no reduction in the effectiveness of the Plan, and that the revised Plan continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The NRC review was not documented in a safety evaluation report and did not constitute approval of licensee-generated changes; therefore, these revisions are subject to future inspection. The specific documents reviewed during this inspection are listed in the Attachment. This inspection activity satisfied one inspection sample for the emergency action level and emergency plan changes on an annual basis.

b. Findings

No findings were identified.

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors observed and evaluated the licensee's emergency planning performance during a drill conducted on November 21, 2013. 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) Verification

a. Inspection Scope

The inspectors sampled licensee data to confirm the accuracy of reported PI data for the six 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. 6. Documents reviewed are listed in the Attachment.

Cornerstone: Initiating Events
- Unplanned Scrams, Unit 1 & 2

Cornerstone: Mitigating Systems
- Safety System Functional Failures, Unit 1 & 2

Cornerstone: Barrier Integrity
- Reactor Coolant System Leakage, 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 October 1, 2012, through September 30, 2013. 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 2012-2013. 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.

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

The inspectors performed an in-depth review of the following issue within the mitigating systems cornerstone entered into the licensee's corrective action program.

- PIP C-13-7102, RR 13-2185 did not include proper isolation for VI compressor E work

The inspectors reviewed the actions taken to determine if the licensee had adequately addressed the following attributes:

- Complete, accurate and timely identification of the problem
- Evaluation and disposition of operability and reportability issues
- Consideration of previous failures, extent of condition, generic or common cause implications
- Prioritization and resolution of the issue commensurate with safety significance
- Identification of the root cause and contributing causes of the problem
- Identification and implementation of corrective actions commensurate with the safety significance of the issue

Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.3 Semiannual Trend Review

a. Inspection Scope

As required by IP 71152, Problem Identification and Resolution, the inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors review was focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screenings discussed in Section 4OA2.1 above, licensee trending efforts, and licensee human performance results. The inspectors' review nominally considered the six month period of July 2013 through December 2013, although some examples expanded beyond those dates when the scope of the trend warranted. The review also included issues documented outside the normal CAP in major equipment problem lists, plant health team vulnerability lists, focus area reports, system health reports, self-assessment reports, maintenance rule reports, and Safety Review Group Monthly Reports. The inspectors compared and contrasted their results with the results contained in the licensee's latest quarterly trend reports. Corrective actions associated with a sample of the issues identified in the licensee's trend report were reviewed for adequacy.

b. Findings

No findings of significance were identified. In general, the licensee has identified trends and has appropriately addressed the trends with their CAP. However, the inspectors identified a negative trend associated with equipment mispositions which tracked by the licensee's plant status control index. There have been approximately 20 entries that have primarily consisted of non-consequential mispositonings on non-safety related equipment. The licensee had previously implemented corrective actions to address these mispositions. However, since May 2013 the licensee documented the following four consequential or regulatory significant mispositionings which indicates the previous corrective actions were not fully effective.

- PIP C-13-4115, Sliding link associated with the 2B diesel generator found open preventing the damper from operating properly. This resulted in a minor violation as ambient temperatures did not fall below diesel operability limits.
- PIP C-13-4430, An automatic swap of the nuclear service water pumps to the safety related pond occurred due to placement of jumpers on the wrong terminals during maintenance requiring operator to enter their loss of service water abnormal procedure. This resulted in a minor violation as service water flow remained above operable limits.

- PIP C-13-5905, The Unit 1 standby makeup pump was inadvertently started during a training evolution by the operator erroneously depressing the start button for the pump. This resulted in a green finding.
- PIP C-12-10910, The nitrogen reservoir for the 1B steam generator feedwater isolation valve was left closed following outage activities resulting the valve being inoperable for greater than the TS allowed outage time.

The licensee initiated PIP C-13-11261 to document the identified trend. The licensee has concluded that the plant status issues stem from personnel not validating assumptions or stopping when unsure of correct actions based on completed a common cause evaluation that. The inspectors will continue to monitor this area and assess the effectiveness of additional planned and in-progress corrective actions. The documents reviewed are listed in the Attachment.

4OA3 Followup of Events and Notices of Enforcement Discretion (NOED)

(Closed) Licensee Event Report (LER) 05000413/2012-03-00: Technical Specification (TS) Limiting Conditions for Operation (LCOs) 3.0.4 and 3.7.5 were Violated Due to Unit 1 Entering Mode 3 with Turbine Driven Auxiliary Feedwater Pump Unknowingly Inoperable.

On December 22, 2012, Unit 1 entered Mode 3 following a refueling outage, during which the licensee performed planned maintenance on the turbine driven auxiliary feedwater pump. The post maintenance testing required the plant to be in Mode 3 when sufficient steam pressure existed to operate the pump. During the post maintenance testing to verify operability, the pump tripped on the mechanical overspeed trip. The pump was inspected, the test was re-performed and the pump again tripped on mechanical overspeed. The pump was declared inoperable, Unit 1 was returned to Mode 4 as required by TS, and the pump was repaired. The mode change from Mode 4 to Mode 3 with the turbine driven auxiliary feedwater pump inoperable was in violation of TS 3.0.4. Additionally, Unit 1 entered Mode 4 within the completion time allowed by TS 3.7.5, Condition C from time of discovery; however, this completion time was exceeded by 44 minutes when taken from the initial entry into Mode 3, and was also reported in the LER. The licensee entered this issue into their corrective action program as PIP C-12-11325. The LER and supporting documents were reviewed by the inspectors which included completed corrective actions to add details to the maintenance procedure for the coupling installation and to perform a complete procedure review for additional improvements. The inspectors determined the TS violations were minor as the post maintenance testing that required the mode change was considered work in progress, and all TS required actions were met from the time of discovery of the pump inoperability.

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

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

b. Findings

No findings were identified.

.2 Independent Spent Fuel Storage Installation Radiological Controls

a. Inspection Scope

The inspectors reviewed the licensee’s procedures and observed operations associated with storing spent fuel in the Independent Spend Fuel Storage Installation (ISFSI) in accordance with Inspection Procedure 60855.1. The inspectors observed the condition of ISFSI storage cask vents and temperature monitoring equipment to verify that the vents were free of obstructions and the the monitoring equipment were operating correctly. The inspectors also reviewed selected completed procedures for physical inspection and inventory of the ISFSI (PT/0/A/4550/015 A, Inventory of Fuel Special Nuclear Material, Enclosure 13.13, ISFSI Inventory) and completed CNEI-400s to verify that records have been established for all spent fuel in storage in the ISFSI, duplicate records are maintained by the licensee, and that an inventory has been conducted on all spent fuel stored in the ISFSI at least every 12 months. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On January 6, 2014, 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.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel
T. Arlow, Emergency Planning Manager
D. Cantrell, Chemistry Manager
T. Hamilton, Engineering Manager
R. Hart, Regulatory Compliance Manager
K. Henderson, Site Vice-President
T. Jenkins, Superintendent of Maintenance
C. Kamilaris, Organizational Effectiveness Manager
A. Orton, Nuclear Training Manager
K. Phillips, Work Control Manager
S. Putnam, Superintendent of Operations
P. Simbrat, Regulatory Compliance Engineer
T. Simril, Station Plant Manager
J. Smith, Radiation Protection Manager
W. Suslick, Design Support Services
S. West, Security Manager

LIST OF REPORT ITEMS

Opened and Closed		
05000414/2013005-01	NCV	Failure to Adequately Control Transient Combustible Materials in Accordance with the Fire Protection Program (Section 1R05)
Closed		
050000413/2012-03-00	LER	Technical Specification (TS) Limiting Conditions for Operation (LCOs) 3.0.4 and 3.7.5 were Violated Due to Unit 1 Entering Mode 3 with Turbine Driven Auxiliary Feedwater Pump Unknowingly Inoperable (Section 4OA3)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection
OP/0/B/6700/015, Weather Related Activities
PT/0/B/4700/038, Cold Weather Protection
IP/0/B/3560/009, Preventative Maintenance and Operational Check of Freeze Protection Heat Trace and Instrument Box Heaters Systems
Catawba Freeze Protection Action Register Summary

Section 1R04: Equipment Alignment
OP/1/A/6350/002, Diesel Generator Operation; Enclosure 4.6, D/G 1A Checklist for ES Actuation
CN-2592-1.0, Unit 2 Flow Diagram of Auxiliary Feedwater System

OP/2/A/6250/002, Auxiliary Feedwater System
CN-2573-01.00, Unit 2 Flow Diagram of Component Cooling System
OP/2/A/6350/002, Diesel Generator Operation; Enclosure 4.6, D/G 2A Checklist for ES Actuation
CNS EDG Supersystem Reliability Improvement Action Plan

Section 1R05: Fire Protection

Station Fire Impairment Log
NSD-313, Control of Combustible and Flammable Material
Fire Strategy Fire Area 19, Unit 2 594' level electrical penetration room
Fire Strategy Fire Area 10, Unit 1 Battery Room area
Fire Strategy Fire Area 9, Unit 2 Battery Room area
Fire Strategy Fire Area 28, 2A Emergency Diesel Generator 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

Section 1R11: Licensed Operator Requalification

Active Simulator Exam, ASE-27
EP/1/A/5000/E-0, Reactor Trip or Safety Injection
OP/2/A/6100/003, Controlling Procedure for Unit Operation
RP/0/A/5000/001, Classification of Emergency
PT/0/A/4150/001 J, Zero Power Physic Testing

Section 1R12: Maintenance Effectiveness

EDM 210, Engineering Responsibilities for the Maintenance Rule
PIP C-13-8710, 2RF-392 failed as-left type-c leak rate test
PIP C-13-9220, Breaker 2GTB failed to close
4160 Blackout Auxiliary System Power (ETB) Maintnence Rule Summary Report
Fire Protection – Interior (RF) Maintnence Rule Summary Report

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

NSD 213, Risk Management Process
SOMP 02-02 Operations Roles in Risk ManagementPIP C-13-9641, SSF diesel coolant leak upstream of 1AD29
WO 02124453, 2RN-351 Restore Valve Posiion Feedback Arm (Missing)
PIP C-13-10678, 2RN-351 not controlling in KC Temp mode

Section 1R15: Operability Evaluations

NSD 203, Operability/Functionality
NSD 122, Temporary Configuration Changes
CNC-1223.59-04-0006, VG Capability

Section 1R18: Plant Modifications

NSD 209, 10 CFR 50.59 Process
PIP C-12-10225, Unit 1 FWST Heater #49 has been found defective based on meggar testing

Section 1R19: Post-Maintenance Testing

PT/2/A/6100/009, Engineered Safety Features Actuation Periodic Test
Modification Test Plan for EC 110972
PT/0/A/4150/001 J, Zero Power Physic Testing
PT/1/A/4200/005 A, Safety Injection Pump 1A Performance Test
PT/0/A/4200/017 A, Standy Shutdown Facility Diesel Test
PT/0/A/4200/017 B, Standby Shutdown Facility Diesel Isochronus Test
OP/0B/6350/001, Standby Shutdown Facility Diesel Operations
OP/2/A/6200/006, Safety Injection System, Enclosure 4.5, NI Pump 2A Recirculation With the NI Pump Aligned for Stabdby Readiness

Section 1EP4: Emergency Action Level and Emergency Plan Changes

Change Packages
SR/0/A/2000/003, "Activation of the Emergency Operations Facility," Revision 0
Evacuation Time Estimate Study Update
Emergency Plan, Revision 13-1
RP/0/A/5000/006A, "Notification to States and Counties From the Control Room," Revision 27

Section 4OA1: Performance Indicator Verification

NSD 225, NRC Performance Indicators
NEI 99-02, Regulatory Assessment Performance Indicator Guideline
Catawba Master File CN: 854.03-2, Reactor Coolant System Identified Leakage

Section 4OA2: Problem Identification and Resolution

NSD 208, Problem Investigation Program
NSD 500, Red Tags/Configuration Control Tags
SOMP 02-01, Safety Tagging and Configuration Control
PIP C-13-4115, Sliding link associated with the 2B diesel generator found open
PIP C-13-4430, Automatic swap of the nuclear service water pumps to the SNSWP
PIP C-13-5905, The Unit 1 standby makeup pump was inadvertently started
PIP C-12-10910, 1CFIV0421 found closed

Section 4OA5: Other Activities

PT/0/A/4550/015 A, Inventory of Fuel Special Nuclear Material
CNEI-0400-257, Dry Storage Certification Load No: 2-11(25)
CNEI-0400-258, Dry Storage Certification Load No: 2-11(26)