UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 EAST LAMAR BLVD
ARLINGTON, TEXAS 76011-4511

September 23, 2013

Louis P. Cortopassi, Site Vice President
Omaha Public Power District
Fort Calhoun Station FC-2-4
P.O. Box 550
Fort Calhoun, NE 68023-0550

Subject: FORT CALHOUN - NRC INTEGRATED INSPECTION REPORT NUMBER 05000285/2013014

Dear Mr. Cortopassi:

On August 10, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Fort Calhoun Station. The enclosed inspection report documents the inspection results which were discussed on September 5, 2013, with you and other members of your staff.

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

No NRC-identified or self-revealing findings were identified during this inspection.

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 Agencywide Document 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/

Michael C. Hay, Chief
Project Branch F
Division of Reactor Projects

Docket No.: 50-285
License No.: DPR-40

Enclosure: NRC Inspection Report 05000285/2013014
w/Attachment: Supplemental Information

cc w/ encl: Electronic Distribution

Electronic Distribution by RIV:
Acting Regional Administrator (Steven.Reynolds@nrc.gov)
Acting Deputy Regional Administrator (Thomas.Bergman@nrc.gov)
DRP Director (Kriss.Kennedy@nrc.gov)
DRP Deputy Director (Troy.Pruett@nrc.gov)
DRS Director (Tom.Blount@nrc.gov)
DRS Deputy Director (Jeff.Clark@nrc.gov)
Senior Resident Inspector (John.Kirkland@nrc.gov)
Resident Inspector (Jacob.Wingebach@nrc.gov)
Branch Chief, DRP/F (Michael.Hay@nrc.gov)
Special Assistant, DRP/F (Jamnes.Cameron@nrc.gov)
Project Engineer, DRP/F (Chris.Smith@nrc.gov)
FCS Administrative Assistant (Janise.Schwee@nrc.gov)
Public Affairs Officer (Victor.Dricks@nrc.gov)
Public Affairs Officer (Lara.Uselding@nrc.gov)
Branch Chief, DRS/TSB (Ray.Kellar@nrc.gov)
Project Manager (Lynnea.Wilkins@nrc.gov)
RITS Coordinator (Marisa.Herrera@nrc.gov)
ACES (R4Enforcement.Resource@nrc.gov)
Regional Counsel (Karla.Fuller@nrc.gov)
Technical Support Assistant (Loretta.Williams@nrc.gov)
Congressional Affairs Officer (Jenny.Weil@nrc.gov)
RIV/ETA: OEDO (Daniel.Rich@nrc.gov)
ROPreports

DOCUMENT NAME: R:_REACTORS_FCS\2013\FCS 2013-014 RP JCK
ADAMS ACCESSION NUMBER:

SUNSI Rev Compl.	☑Yes ☐ No	ADAMS	☑Yes ☐ No	Reviewer Initials	MCH
Publicly Avail.	☑Yes ☐ No	Sensitive	☐Yes ☑ No	Sens. Type Initials	MCH

RI:DRP/F	SRI:DRP/F	BC:DRP/F			
JWingebach	JKirkland	MHay			
/RA via Email/	/RA via Email/	/RA/			
9/18/13	9/20/13	9/23/13			

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	05000285
License:	DPR-40
Report:	05000285/2013014
Licensee:	Omaha Public Power District
Facility:	Fort Calhoun Station
Location:	9610 Power Lane Blair, NE 68008
Dates:	July 1 through August 10, 2013
Inspectors:	J. Kirkland, Senior Resident Inspector J. Wingebach, Resident Inspector J. Melfi, Project Engineer P. Elkmann, Senior Emergency Preparedness Inspector
Approved By:	Michael C. Hay, Chief Project Branch F Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000285/2013014; 07/01/2013 – 08/10/2013; Fort Calhoun Station, Integrated Resident and Regional Report; Emergency Preparedness Performance Indicators

The report covered a six-week period of inspection by resident inspectors and an announced baseline inspection by one region-based inspector. No violations of significance were identified. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609, "Significance Determination Process." The cross-cutting aspect is determined using Inspection Manual Chapter 0310, "Components Within the Cross-Cutting Areas." Findings for which the significance determination process does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified Findings and Self-Revealing Findings

None

B. Licensee-Identified Violations

None

REPORT DETAILS

Summary of Plant Status

The station began the inspection period in Mode 5 with the fuel in the spent fuel pool. On July 29, 2013, core fuel loading was completed.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

Cornerstone: Emergency Preparedness

1EP8 Exercise Evaluation – Scenario Review (71114.08)

a. Inspection Scope

The inspector reviewed the preliminary exercise scenario submitted to the NRC on June 7, 2013, in accordance with the requirements of Appendix E to 10 CFR Part 50, IV(F)(2)(b). The inspector reviewed the scenario to ensure the proposed [simulated] events would adequately exercise the major elements of the licensee's emergency plan and provide opportunities for the emergency response organization to demonstrate key skills.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.13 Drill/Exercise Performance (EP01)

a. Inspection Scope

The inspectors sampled licensee submittals for the Drill and Exercise Performance, performance indicator for the period October 2012 through June 2013. The definitions and guidance of Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, was used to determine the accuracy of licensee performance indicator data reported to the NRC. The inspectors reviewed drill and exercise records to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the Nuclear Energy Institute guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the performance indicator; assessments of performance indicator opportunities during predesignated control room simulator training sessions, and other drills and exercises. The specific documents reviewed are described in the attachment to this report.

These activities constitute completion of the drill/exercise performance sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.14 Emergency Response Organization Drill Participation (EP02)

a. Inspection Scope

The inspectors sampled licensee submittals for the Emergency Response Organization Drill Participation performance indicator for the period October 2012 through June 2013. The definitions and guidance of Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, was used to determine the accuracy of licensee performance indicator data reported to the NRC. The inspectors reviewed the licensee's records associated with the performance indicator to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the Nuclear Energy Institute guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the performance indicator, rosters of personnel assigned to key emergency response organization positions, and exercise participation records. The specific documents reviewed are described in the attachment to this report.

These activities constitute completion of the emergency response organization drill participation sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.15 Alert and Notification System (EP03)

a. Inspection Scope

The inspectors sampled licensee submittals for the Alert and Notification System performance indicator for the period October 2012 through June 2013. The definitions and guidance of Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, was used to determine the accuracy of licensee performance indicator data reported to the NRC. The inspectors reviewed the licensee's records associated with the performance indicator to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the Nuclear Energy Institute guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the performance indicator and the results of periodic alert notification system operability tests. The specific documents reviewed are described in the attachment to this report.

These activities constitute completion of the alert and notification system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152)

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that they were being entered into the licensee's corrective action program at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. The inspectors reviewed attributes that included the complete and accurate identification of the problem; the timely correction, commensurate with the safety significance; the evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent of condition reviews, and previous occurrences reviews; and the classification, prioritization, focus, and timeliness of corrective actions. Minor issues entered into the licensee's corrective action program because of the inspectors' observations are included in the attached list of documents reviewed.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure, they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program. The inspectors accomplished this through review of the station's daily corrective action documents.

The inspectors performed these daily reviews as part of their daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings were identified.

4OA3 Followup of Events and Notices of Enforcement Discretion (71153)

.1 (Closed) Licensee Event Report 05000285/2012-002-00: Inadequate Qualifications for Containment Penetrations Renders Containment Inoperable

"During a review of environmental qualification records for reactor containment building electrical penetrations, six penetrations were identified that may not provide an adequate seal during worst case (Design Basis Accident (DBA)) conditions as required. These penetrations are through wall from the containment into the auxiliary building.

"A cause analysis is in progress and the results will be included in a supplement to this LER."

"The station is currently in a refueling mode. Corrective actions to address the causes of this condition will be documented in the supplement to this LER."

"The subject penetrations will be restored to full environmental qualifications prior to plant startup."

The licensee event report is closed. Revision 1 of this licensee event report was submitted on July 2, 2013.

.2 (Opened) Licensee Event Report 05000285/2012-002-01: Inadequate Qualifications for Containment Penetrations Renders Containment Inoperable

"On May 1, 2012, with Fort Calhoun Station (FCS) defueled, Event Notification (EN) 47884 initially reported that during a review of environmental qualification records for containment building electrical penetration feed-through subassemblies, Omaha Public Power District (OPPD) identified six that may not provide an adequate seal during worst-case design-basis accident conditions as required due to failure of the Teflon in the connectors. OPPD updated the EN June 26, 2012, to include the inboard and outboard seals of the penetration, which contain Teflon and updated it again July 17, 2012, to include the containment sump outlet valve submarine hull enclosures and the containment personnel airlock. The initial LER submittal, dated May 1 2012 did not contain this updated information.

"OPPD performed causal analyses to determine why Teflon was used at Fort Calhoun as a containment integrity seal and insulation on power and control cabling to environmentally qualified components. These analyses determined that a lack of managerial and technical oversight allowed Teflon and Teflon like materials to be used in containment penetration applications.

"The Fundamental Performance Deficiencies are addressing the managerial and technical oversight causes. OPPD is replacing all containment penetrations where Teflon

is used as sealant or conductor insulation and is capping unused penetrations prior to core reload."

.3 (Opened) Licensee Event Report 05000285/2013-005-01: Control Room HVAC Modification Not Properly Evaluated

"On February 27, 2013, while reviewing a response to an NRC question, an issue was identified where the modification which moved the control room air conditioners condensers from inside the auxiliary building to the auxiliary building roof should have obtained prior NRC approval. The condensers are located in close proximity to one another and are protected by a grating that is not rated to withstand a tornado missile. Therefore, it is possible that both the A and B trains could be struck and rendered inoperable by the same missile. The review determined that prior NRC approval had not been obtained for the modification and the condition was entered in to the station's corrective action program. At the time of discovery, the unit was shutdown with fuel removed.

.4 (Opened) Licensee Event Report 05000285/2013-010-00: HPSI Pump Flow Imbalance

On March 03, 2013, at approximately 1759 CST, it was identified that the high pressure injection pump discharge to the reactor coolant system is not balanced in accordance with the Fort Calhoun Station (FCS) Updated Safety Analysis Report Section 14.15.5.2. At time discovery the plant was shutdown with fuel removed from the vessel.

4OA4 IMC 0350 Inspection Activities (92702)

Inspectors continued implementing IMC 0350 oversight activities, which include follow-up on the restart checklist items contained in the Confirmatory Action Letter (CAL) issued February 26, 2013 (EA-13-020, ML 13057A287). The purpose of these inspection activities is to assess the licensee's performance and progress in addressing its implementation and effectiveness of FCS's Integrated Performance Improvement Plan (IPIP), significant performance issues, weaknesses in programs and processes, and flood restoration activities.

Inspectors used the criteria described in baseline and supplemental inspection procedures, various programmatic NRC inspection procedures, and IMC 0350 to assess the licensee's performance and progress in implementing its performance improvement initiatives. Inspectors performed on-site and in-office activities, which are described in more detail in the following sections of this report. Specific documents reviewed during this inspection are listed in the attachment.

The following inspection scope, assessments, observations, and findings are documented by CAL restart checklist item number.

.2 Flood Restoration and Adequacy of Structures, Systems, and Components

Section 2 of the Restart Checklist contains those items necessary to ensure that important structures, systems, and components potentially affected by the flood of 2011 are in adequate condition to support safe restart and continued safe plant operation. Section 2 reviews also include an assessment of how the licensee addressed the NRC Inspection Procedure 95003 key attributes as described in Section 6.

.a Flood Recovery Plan Actions Associated With Facility and System Restoration

Item 2.a is the NRC's independent evaluation of FCS's Flood Recovery Plan. An overall flood recovery plan is important to ensure the station takes a comprehensive approach to restoring the facility structures, systems, and components to pre-flood conditions.

The areas to be inspected are identified in the CAL. Inspection items are considered complete when the licensee has completed all required actions and submitted a closure package that has been satisfactorily reviewed by the inspectors.

(1) CAL Action Item 2.3.1.7

i. Inspection Scope

The purpose of Action Item 2.3.1.7 was to static test the circulating water pump motors if the bearings were in good condition. This item was required to be completed prior to exceeding 210 degrees Fahrenheit in the Reactor Coolant System.

Action Item 2.3.1.4 was completed to determine whether circulating water pump motors were to be refurbished or if they were adequate for use. It was determined that the A and C Circulating Water Pumps were to be refurbished. This action item was inspected and addressed in inspection report 05000285/2012-005 (ML13164A359). The B Circulating Water Pump was determined to not need refurbishment, thus the motor was static tested.

The licensee performed offline Baker testing on the B Circulating Water Pump motor on June 22, 2013. The inspectors witnessed portions of the testing, and independently reviewed the results and verified that the results were within specification as required by the surveillance test.

This activity constitutes completion of Action Item 2.3.1.7 as described in Confirmatory Action Letter EA-13-020. Action item 2.3.1.8 will document the initial run of the B Circulating Water Pump, and will include vibration testing of the motor.

ii. Findings

No findings were identified.

(2) CAL Action Item 3.2.2.2

ii. Inspection Scope

The purpose of Action Item 3.2.2.2 was to inspect manholes and vaults for damage and integrity of water seals at penetrations. This item was required to be completed prior to the reactor achieving criticality.

The inspectors performed numerous inspections of the electrical manholes 1, 4, 5, and 31. Manholes 1 and 4 primarily carry 13.8 kV power from the switchyard to the auxiliary building, and manholes 5 and 31 primarily carry cables from the auxiliary building to the intake structure.

There was no noted structural damage in any of the manholes. Almost all of the issues associated with the manholes dealt with Manhole 31. The two main issues associated with Manhole 31 were seismic support, and conduit seals.

The inspectors reviewed the engineering change package associated with removing the foam monolith structure in Manhole 31 and replacing it with a seismic conduit support structure and upgrading the conduit seals. The inspectors witnessed work in progress and independently verified that the installation was per the work orders.

At the conclusion of the work in Manhole 31, the inspectors determined that the conduits in the manhole would be adequately protected from a flood, as well as protect the intake structure from water intrusion through the manhole.

This activity constitutes completion of Action Item 3.2.2.2 as described in Confirmatory Action Letter EA-13-020.

ii. Findings

No findings were identified.

.b System Readiness for Restart Following Extended Plant Shutdown

Systems that have been shut down for prolonged periods may be subject to different environments than those experienced during power operations. The NRC will evaluate the effects of the extended shutdown, and ensure that the structures, systems, and components are ready for plant restart and they conform to the appropriate licensing and design basis requirements.

.i System Health Reviews

The purpose of this item is to validate structures, systems, and components conform to the licensing and design basis. The NRC will evaluate the system health reviews conducted by Fort Calhoun Station. These include comprehensive system walkdowns and reviews of key information regarding system health such as,

commitments, open and closed condition reports, open and closed work orders, preventative maintenance activities, modifications, operating experience, previous violations of NRC requirements, and open operational concerns.

(1) Inspection Scope

The inspectors assessed the startup readiness of the below listed systems. These assessments consisted of reviews of open work orders, condition reports, temporary modifications and operator challenges, and a review of the maintenance rule status of those components scoped in the maintenance rule. The review of open work orders and condition reports did not include those items that were related to equipment service life (ESL), which is being evaluated in section 3.d.2 of the Restart Checklist Basis Document. The inspectors also conducted a system walkdown using the guidance contained in Inspection Procedure 71111.04, Equipment Alignment.

For the system walkdown, the inspectors reviewed plant procedures, including abnormal and emergency, drawings, USAR and vendor manuals to determine the correct lineup. The inspectors visually inspected the system to verify the adequacy of mechanical and electrical equipment line ups, electrical power availability, system pressure and temperature indications, component labeling, component lubrication, component and equipment cooling, and equipment supports. Additionally, the inspectors verified the operability of support systems to ensure that ancillary equipment or debris did not interfere with equipment operation.

(a) Spent Fuel Pool System (Restart Checklist Basis Document Item 2.b.1.3)

The inspectors noted no open work orders that require completion prior to reactor startup.

The inspectors performed a review of all open condition reports for the Spent Fuel Pool System and identified none that were required to be closed prior to restart. There were three open condition reports regarding equipment service life, which are being reviewed in Section 6 of the Restart Checklist Basis Document.

The inspectors reviewed the maintenance rule aspects of the Spent Fuel Pool System. The inspectors noted that no components were being monitored in 10CFR50.65(a)(1). The inspectors also verified that there are no open operator challenges associated with this system.

The Spent Fuel Pool System is in constant operation, regardless of the operational mode of the reactor. During the extended plant shutdown, the system has been in operation, and the inspectors have routinely monitored the system for proper operation. The inspectors have concluded that this system is ready for plant startup.

(b) Sampling System (Restart Checklist Basis Document Item 2.b.1.4)

The inspectors noted nine open work orders that require completion prior to reactor startup. The inspectors verified that all nine open work orders are scheduled to be completed and are included on the outage schedule. The inspectors will continue to track these work orders to completion.

The inspectors performed a review of all open condition reports for the Sampling System, and identified four condition reports which are required to be closed prior to restart. Three of the condition reports dealt with equipment service life, which is being reviewed in Section 6 of the Restart Checklist Basis Document. The other condition report involved Valve IA-HCV-2507B-FR, which is the instrument air supply filter regulator for the B Steam Generator Blowdown Isolation Valve. This valve needs replacement. The inspectors verified that a work order had been prepared for this valve replacement, and that the work was scheduled prior to restart.

The inspectors reviewed the maintenance rule aspects of the Sampling System. The inspectors noted that no components were being monitored in 10CFR50.65(a)(1). The inspectors also verified that there are no open operator challenges associated with this system.

The inspectors have concluded that Sampling System is ready for plant startup, pending resolution of the equipment service life issues, completion of those open work order required prior to restart, and successful resolution of those condition reports required prior to restart.

(c) Hoisting Equipment System (Restart Checklist Basis Document Item 2.b.1.7)

The inspectors noted three open work orders that require completion prior to reactor startup. The inspectors verified that all three open work orders are scheduled to be completed and are included on the outage schedule. The inspectors will continue to track these work orders to completion.

The inspectors performed a review of all open condition reports for the Hoisting Equipment System, and identified no condition reports which are required to be closed prior to restart.

The inspectors reviewed the maintenance rule aspects of the Hoisting Equipment System. The inspectors noted that no components were being monitored in 10CFR50.65(a)(1). The inspectors also verified that there are no open operator challenges associated with this system.

The inspectors have concluded that Hoisting Equipment System is ready for plant startup, pending completion of those open work order required prior to restart.

(d) Waste Disposal System (Restart Checklist Basis Document Item 2.b.1.8)

The inspectors noted five open work orders that require completion prior to reactor startup. The inspectors verified that all nine open work orders are scheduled to be completed and are included on the outage schedule. The inspectors will continue to track these work orders to completion.

The inspectors performed a review of all open condition reports for the Waste Disposal System, and identified eight condition reports which are required to be closed prior to restart. Four of the condition reports dealt with equipment service life, which is being reviewed in Section 6 of the Restart Checklist Basis Document. The inspectors verified that work orders have been prepared for the other four condition reports, and that the work is scheduled for completion prior to restart.

The inspectors reviewed the maintenance rule aspects of the Sampling System, and noted that no components were being monitored in 10CFR50.65(a)(1).

The inspectors reviewed one Tier 3 operator challenge (involving manual pumping of sumps in rooms 21, 22 and 23) and two Tier 4 operator challenges (both involving ventilation dampers in the Waste Holdup Tank room) and concluded that neither operator challenge required resolution prior to start-up.

The inspectors have concluded that Waste Disposal System is ready for plant startup, pending resolution of the equipment service life issues, completion of those open work order required prior to restart, and successful resolution of those condition reports required prior to restart.

(e) Reactor Coolant System (Restart Checklist Basis Document Item 2.b.1.8)

The inspectors noted 66 open work orders that require completion prior to reactor startup. The inspectors verified that all 66 open work orders are scheduled to be complete and are included on the outage schedule. The inspectors will continue to track these work orders to completion.

The inspectors performed a review of all open condition reports for the Reactor Coolant System, and identified 46 condition reports which are required to be closed prior to restart. Twenty-One of the condition reports dealt with equipment service life, which is being reviewed in Section 6 of the Restart Checklist Basis Document. The inspectors verified that work orders

have been prepared for the other 25 condition reports, and that the work is scheduled prior to restart.

The inspectors reviewed the maintenance rule aspects of the Sampling System, and noted that the system was being monitored in 10CFR50.65(a)(1). There are two distinct items that are being looked at in the 10CFR50.65(a)(1) review. First, the system was put into (a)(1) status since the system has been idle for more than two years, and surveillance tests and preventive maintenance tasks have not been performed per established frequency. Second, the failure of pressurizer heater 26 was determined to be a boundary leak, and therefore a functional failure.

The inspectors reviewed one Tier 4 operator challenge involving sporadic alarms on Reactor Coolant Pump RC-3D seal leakage, and concluded that the operator challenge did not require resolution prior to start-up.

The inspectors have concluded that Reactor Coolant System is ready for plant startup, pending resolution of the equipment service life issues, completion of those open work order required prior to restart, and successful resolution of those condition reports required prior to restart.

(f) Steam Generator Blowdown and Turbine Plant Cooling Water Systems (Restart Checklist Basis Document Item 2.b.1.18)

The inspectors noted no open work orders that require completion prior to reactor startup.

The inspectors performed a review of all open condition reports for the Spent Fuel Pool System, and identified eight condition reports which are required to be closed prior to restart. There are three open condition reports regarding equipment service life, which is being reviewed in Section 6 of the Restart Checklist Basis Document.

The inspectors reviewed the maintenance rule aspects of the Steam Generator Blowdown and Turbine Plant Cooling Water Systems. The inspectors noted that no components were being monitored in 10CFR50.65(a)(1). The inspectors also verified that there are no open operator challenges associated with this system.

The inspectors have concluded that Steam Generator Blowdown and Turbine Plant Cooling Water Systems are ready for plant startup, pending resolution of the equipment service life issues, and successful resolution of those condition reports required prior to restart.

(g) Instrument Air System (Restart Checklist Basis Document Item 2.b.1.19)

The inspectors noted no open work orders that require completion prior to reactor startup.

The inspectors performed a review of all open condition reports for the Instrument Air System, and identified no condition reports which are required to be closed prior to restart. There are no open condition reports regarding equipment service life.

The inspectors reviewed the maintenance rule aspects of the Spent Fuel Pool System. The inspectors noted that no components were being monitored in 10CFR50.65(a)(1). The inspectors also verified that there are no open operator challenges associated with this system.

The Compressed Air System, which includes the Instrument Air System, is in constant operation, regardless of the operational mode of the reactor. During the extended plant shutdown, the system has been in operation, and the inspectors have routinely monitored the system for proper operation. The inspectors have concluded that this system is ready for plant startup.

(h) Turbine Generator and Support Systems (Restart Checklist Basis Document Item 2.b.1.20)

The inspectors noted eight open work orders that require completion prior to reactor startup. The inspectors verified that six of the open work orders are scheduled to be completed and are included on the outage schedule and the other two work orders are in the planning stage. The inspectors will continue to track these work orders to completion.

The inspectors performed a review of all open condition reports for the Turbine Generator and Support Systems and identified five condition reports which are required to be closed prior to restart. Additionally, sixteen of the condition reports dealt with equipment service life, which is being reviewed in Section 6 of the Restart Checklist Basis Document. The inspectors verified that work orders have been prepared for the five condition reports, and that the work is scheduled prior to restart.

The inspectors reviewed the maintenance rule aspects of the Turbine Generator and Support Systems. The inspectors noted that the turbine control valves were being monitored in 10CFR50.65(a)(1). This was due to the failure of circuit board cards prior to the 2011 refueling outage. These circuit board cards have been replaced, and the valves will be monitored after the plant has started up.

The inspectors reviewed one Tier 4 operator challenge involving sporadic indications on the hydrogen purity monitor, YI-2651, and concluded that the operator challenge did not require resolution prior to start-up.

The inspectors have concluded that Turbine Generator and Support Systems are ready for plant startup, pending resolution of the equipment service life

issues, completion of those open work order required prior to restart, and successful resolution of those condition reports required prior to restart.

(i) Auxiliary Instrumentation System (Restart Checklist Basis Document Item 2.b.1.21)

The inspectors noted sixteen open work orders that require completion prior to reactor startup. The inspectors verified that all of the open work orders are scheduled to be completed and are included on the outage schedule. The inspectors will continue to track these work orders to completion.

The inspectors performed a review of all open condition reports for the Auxiliary Instrumentation System and identified seven condition reports which are required to be closed prior to restart. Additionally, twenty-five of the condition reports dealt with equipment service life, which is being reviewed in Section 6 of the Restart Checklist Basis Document. The inspectors verified that work orders have been prepared for the five condition reports and the work is scheduled prior to restart.

The inspectors reviewed the maintenance rule aspects of the Auxiliary Instrumentation System. The inspectors noted that no components were being monitored in 10CFR50.65(a)(1).

The inspectors reviewed four Tier 4 operator challenges involving control room annunciators and concluded that none of the operator challenges require resolution prior to start-up.

The inspectors have concluded that Auxiliary Instrumentation System is ready for plant startup, pending resolution of the equipment service life issues, completion of those open work order required prior to restart, and successful resolution of those condition reports required prior to restart.

(j) Fuel Handling System (Restart Checklist Basis Document Item 2.b.1.25)

The inspectors noted twelve open work orders that require completion prior to reactor startup. The inspectors verified that all twelve open work orders are scheduled to be complete and are included on the outage schedule. The inspectors will continue to track these work orders to completion.

The inspectors performed a review of all open condition reports for the Fuel Handling System, and identified no condition reports which are required to be closed prior to restart.

The inspectors reviewed the maintenance rule aspects of the Fuel Handling System. The inspectors noted that no components were being monitored in 10CFR50.65(a)(1). The inspectors also verified that there are no open operator challenges associated with this system.

The inspectors have concluded that Fuel Handling System is ready for plant startup pending completion of those open work orders required prior to restart.

In summary these activities constitute completion of items 2.b.1.3, 2.b.1.4, 2.b.1.7, 2.b.1.8, 2.b.1.10, 2.b.1.18, 2.b.1.19, 2.b.1.20, 2.b.1.21 and 2.b.1.25 as described in Restart Checklist Basis Document. While these systems are not currently ready for restart, the inspectors determined that the licensee is adequately addressing, tracking, and correcting issues required for system readiness. In addition, the inspectors have one final opportunity to ensure the items described above are completed, in Section 7 b of the Restart Checklist Basis Document.

(2) Findings

No findings were identified.

.3 Adequacy of Significant Programs and Processes

Section 3 of the Restart Checklist addresses major programs and processes in place at FCS. Section 3 reviews include an assessment of how effectively the licensee addressed the NRC Inspection Procedure 95003 key attributes as described in Section 6.

a. CAL Action Item 4.6.1.1

i. Inspection Scope

The purpose of Action Item 4.6.1.1 was to address inadequacies with the documentation for the soldered joints on Reactor Coolant Pump Oil Collection System. This issue was related to a non-cited violation documented in Inspection Report 05000285/2011003. These items were required to be completed prior to RCS temperature >210°F.

The inspectors reviewed the documentation of the licensee's efforts. The licensee issued Engineering Change (EC) package 54316 and associated work orders to replace the affected piping system. The licensee did have qualified personnel to braze the affected joints of the RCP oil collection system. The licensee efforts showed that the system was qualified to meet 10 CFR 50, Appendix R, Criterion O. This activity constitutes completion of Action Item 4.6.1.1 as described in Confirmatory Action Letter EA-13-020. This activity also closes NCV 2011003-01 as listed in the Restart Checklist Basis Document.

ii. Findings

No findings were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On July 11, 2013, the inspectors discussed the preliminary exercise scenario with Mr. J. Bousum, Manager, Emergency Planning and Administration, and other members of the licensee's staff. The licensee acknowledged the information presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On August 8, 2013, the inspector presented the results of the onsite inspection of the licensee's performance indicator data to Mr. L. Cortopassi, Site Vice President, and other members of the licensee's staff. The licensee acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On September 5, 2013, the inspectors presented the inspection results to Mr. L. Cortopassi, Site Vice President, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

4OA7 Licensee-Identified Violations

None

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

D. Bakalar, Manager, Security
J. Bousum, Manager, Emergency Planning and Administration
C. Cameron, Supervisor Regulatory Compliance
L. Cortopassi, Site Vice President
K. Ihnen, Manager, Site Nuclear Oversight
T. Leeper, Manager, Human Resource Services
T. Lindsey, Director, Training
E. Matzke, Senior Licensing Engineer, Regulatory Assurance
B. Obermeyer, Manager, Corrective Action Program
T. Orth, Director, Site Work Management
E. Plautz, Supervisor, Emergency Planning
R. Short, Assistant Director, Engineering
T. Simpkin, Manager, Site Regulatory Assurance
S. Swanson, Manager, Operations
S. Svaleson, Vice President, Integration, Exelon

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000285-2012-002-1	LER	Inadequate Qualifications for Containment Penetrations Renders Containment Inoperable
05000285-2013-005-1	LER	Control Room HVAC Modification Not Properly Evaluated
05000285-2013-010-0	LER	HPSI Pump Flow Imbalance

Closed

05000285-2012-002-0	LER	Inadequate Qualifications for Containment Penetrations Renders Containment Inoperable

LIST OF DOCUMENTS REVIEWED

Section 4OA1: Performance Indicator Verification

PROCEDURES

NUMBER	TITLE	REVISION
EOF-7	Protective Action Guidelines	24
EPDM-14	Emergency Preparedness Performance Indicator Program	14
EPT-1	Alert Notification System Silent Test	19
EPT-2	Alert Notification System Growl Test	24
EPT-3	Alert Notification Complete Cycle Test	17
EPT-36	Real Event Reports	2
EPT-68	Alert Notification System Monthly Battery Test	0
EPT-69	Alert Notification System Annual Inspection	0
OSC-1	Emergency Classification	46
OSC-2	Command and Control Position Actions/Notification	56

MISCELLANEOUS DOCUMENTS

NUMBER	TITLE	REVISION / DATE
	Fort Calhoun Radiological Emergency Response Plan	(by sections)

Section 4OA2: Problem Identification and Resolution (71152)

PROCEDURES

NUMBER	TITLE	REVISION
FCSG-24-1	Condition Report Initiation	5
FCSG-24-3	Condition Report Screening	7
FCSG-24-4	Condition Report and Cause Evaluation	7
FCSG-24-6	Corrective Action Implementation and Condition Report Closure	10
SO-R-2	Condition Reporting and Corrective Action	53b

Section 4OA4: Equipment Performance, Testing, and Maintenance

WORK ORDERS (WO)

397767	397769	397770	397771	397772
397773	397774	397775	426489	421703

WORK ORDERS (WO)

425667	430766	421702	444700	

PROCEDURES

NUMBER	TITLE	REVISION / DATE
EM-OM-EX-1001	4160 Volt Motor Inspection	26

DRAWINGS

NUMBER	TITLE	REVISION / DATE
1928-M-015	Assembly - Oil Collection System for RC Pump & Motor 3A	3
1928-M-016	Assembly – Oil Collection System for RC Pump& Motor Spare	4
1928-M-017	Assembly – Oil Collection System for RC Pump& Motor 3C	3
1928-M-018	Assembly – Oil Collection System for RC Pump& Motor 3D	3
1928-M-019	Oil Collection System View 1-1	2
1928-M-020	Oil Collection System View 2-2	2
1928-M-025	Exploded Isometric of Oil Collection System for Motors 3A & 3C	3
1928-SK-010	Oil Collection Drain Arrangement	1
E-4217, Sh. 1	RCP Motor Oil Drain Line Supports RC-3A, RC-3B, RC-3C, RC-3D	0

CONDITION REPORTS (CR)

2011-2472	2011-2667	2011-2946	2011-3101	2011-3414
2011-3837	2011-4014	2011-4134	2011-4170	2011-4309
2011-4646	2011-4771	2011-4830	2011-4871	2011-4902
2011-4982	2011-4996	2011-5012	2011-5027	2011-5114
2011-5173	2011-5215	2011-5254	2011-5377	2011-5508
2011-5531	2011-5700	2011-5749	2011-5750	2011-5782
2011-5805	2011-5810	2011-5819	2011-5932	2011-5944
2011-6003	2011-6085	2011-6218	2011-6235	2011-6268

2011-6298	2011-6308	2011-6478	2011-6546	2011-6557
2011-6605	2011-6614	2011-6623	2011-6670	2011-6671
2011-6712	2011-6968	2011-6997	2011-6999	2011-6999
2011-7181	2011-7199	2011-7223	2011-7319	2011-7371
2011-7377	2011-7404	2011-7512	2011-7571	2011-7634
2011-7669	2011-7985	2011-8123	2011-8169	2011-8254
2011-8963	2011-9420	2011-9684	2011-10028	2011-10383
2011-10468				

ENGINEERING CHANGE (EC)

NUMBER	TITLE	REVISION
54662	Manhole 31 Restoration	0
53835	Seal AE-13A& B with Dow Coming 3-6548 for Flood Qualification	0
53917	Seal Flood Penetrations with Dow Corning 3-6548 for Flood Qualification	0
53921	Modify/Repair Various Intake Structure/Auxiliary Building Penetrations with Grout	0
53923	Modify Penetration 19-S-60 to Protect Against Design Basis Flood	0
53924	Seal Penetration 19-S-E27 with Polywater Fst 250 Foam	0
53925	Cap Spare Penetrations in Pullboxes 127T, 128T & 129T	0
53931	Apply Thread Sealant to Existing Capped Penetrations for Flood Barrier Qualification	0
53932	Raw Water Pumps (AC-10A/B/C/D) Mounting Plate Gasket	0