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

August 13, 2012

David J. Bannister, Vice President
and Chief Nuclear Officer
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 05000285/2012003

Dear Mr. Bannister:

On June 30, 2012, 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 July 2, 2012, with you and other members of your staff.

The inspection(s) 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.

One NRC identified finding of very low safety significance (Green) was identified during this inspection. The finding was determined to involve a violation of NRC requirements. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest this non-cited violation, 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 20555-0001; with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Fort Calhoun Station.

If you disagree with the 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 IV; and the NRC Resident Inspector at Fort Calhoun Station.

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 Agency-wide 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/

Jeffrey A. Clark, P.E.
Chief, Project Branch F
Division of Reactor Projects

Docket: 50-285
License: DPR-40

Enclosure:
NRC Inspection Report 05000285/2012003
w/Attachment: Supplemental Information

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DRS/TSB STA (Dale.Powers@nrc.gov)
MC 0350 Panel Member (Michael.Balazik@nrc.gov)
MC 0350 Panel Member (Michael.Markley@nrc.gov)

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

SRI:DRP/F	RI:DRP/F	SPE:DRP/F	C:DRS/EB1	C:DRS/EB2	C:DRS/OB
JCKirkland	JFWingebach	RWDeese	TRFarnholtz	GBMiller	MSHaire
/RDeese via E/	***/RDeese via E/***	***/RA/***	***/RA/***	***/RA/***	***/RA/***
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C:DRS/PSB1	C:DRS/PSB2	C:DRS/TSB	C:ORA/ACES	BC:DRP/F	
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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	05000285
License:	DPR-40
Report:	05000285/2012003
Licensee:	Omaha Public Power District
Facility:	Fort Calhoun Station
Location:	9610 Power Lane Blair, NE 68008
Dates:	April 1 through June 30, 2012
Inspectors:	J. Kirkland, Senior Resident Inspector J. Wingebach, Resident Inspector P. Elkmann, Senior Emergency Preparedness Inspector R. Deese, Senior Project Engineer
Approved By:	Jeffrey Clark, P.E., Chief, Project Branch F Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000285/2012003; 04/01/2012 – 06/30/2012; Fort Calhoun Station Integrated Resident Report; Problem Identification and Resolution; MC 0350.

The report covered a 3-month period of inspection by resident inspectors. One Green non-cited violation of significance was 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

Cornerstone: Mitigating Systems

- Green. The inspectors identified a noncited violation of Technical Specification 5.3.1, "Facility Staff Qualifications," for failure to ensure electrical group supervisors met the minimum qualification requirements specified in American National Standards Institute N18.1-1971, "American National Standard Selection and Training of Nuclear Power Plant Personnel." Fort Calhoun Station entered this performance deficiency into their corrective action program as CR 2012-04543.

  The failure to ensure that electrical supervisors met minimum standards required by technical specifications for activities affecting quality is a performance deficiency. It is more than minor and is therefore a finding because it adversely affects the human performance attribute of the Mitigating Systems Cornerstone and affects the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," a Phase 1 screening was performed and it was determined that this example was of very low safety significance (Green) because: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a cross-cutting aspect in the area of work practices because the licensee failed to ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported [H.4(c)](Section 4OA2).

B. Licensee-Identified Violations

None

REPORT DETAILS

Summary of Plant Status

The station remained in refueling shutdown conditions with the fuel in the reactor vessel for the entire inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Readiness to Cope with External Flooding

a. Inspection Scope

The inspectors evaluated the design, material condition, and procedures for coping with the design basis probable maximum flood. The evaluation included a review to check for deviations from the descriptions provided in the Updated Safety Analysis Report for features intended to mitigate the potential for flooding from external factors. As part of this evaluation, the inspectors checked for obstructions that could prevent draining, checked that the roofs did not contain obvious loose items that could clog drains in the event of heavy precipitation, and determined that barriers required to mitigate the flood were in place and operable. Additionally, the inspectors performed an inspection of the protected area to identify any modification to the site that would inhibit site drainage during a probable maximum precipitation event or allow water ingress past a barrier. The inspectors also reviewed the abnormal operating procedure for mitigating the design basis flood to ensure it could be implemented as written. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one external flooding sample as defined in Inspection Procedure 71111.01-05.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Complete Walkdown

a. Inspection Scope

On May 23, 2012, the inspectors performed a complete system alignment inspection of the shutdown cooling system while the plant was in mid-loop conditions to verify the functional capability of the system. The inspectors selected this system because it was considered both safety significant and risk significant in the licensee's probabilistic risk

assessment. The inspectors inspected the system to review mechanical and electrical equipment line-ups, electrical power availability, system pressure and temperature indications, as appropriate, component labeling, component lubrication, component and equipment cooling, hangers and supports, operability of support systems, and to ensure that ancillary equipment or debris did not interfere with equipment operation. The inspectors reviewed a sample of past and outstanding work orders to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the corrective action program database to ensure that system equipment-alignment problems were being identified and appropriately resolved. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one complete system walkdown sample as defined in Inspection Procedure 71111.04-05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Quarterly Fire Inspection Tours

a. Inspection Scope

The inspectors conducted fire protection walkdowns that were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- May 23, 2012, Fire Area 1, Safety Injection and Containment Spray Pump Area I, Room 21
- May 23, 2012, Fire Area 2, Safety Injection and Containment Spray Pump Area II, Room 22
- June 25, 2012, Fire Area 6.5, Shutdown Heat Exchanger Area I, Room 15
- June 25, 2012, Fire Area 6.6, Shutdown Heat Exchanger Area II, Room 14

The inspectors reviewed areas to assess if licensee personnel had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant; effectively maintained fire detection and suppression capability; maintained passive fire protection features in good material condition; and had implemented adequate compensatory measures for out of service, degraded or inoperable fire protection equipment, systems, or features, in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to affect equipment that could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. Using

the documents listed in the attachment, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's corrective action program. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of four quarterly fire-protection inspection samples as defined in Inspection Procedure 71111.05-05.

b. Findings

No findings were identified.

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

.1 Quarterly Review of Licensed Operator Requalification Program

a. Inspection Scope

On May 9, 2012, the inspectors observed a crew of licensed operators in the plant's simulator during requalification training. The inspectors assessed the following areas:

- Licensed operator performance
- The quality of the training provided
- The modeling and performance of the control room simulator
- The quality of post-scenario critiques
- Follow-up actions taken by the licensee for identified discrepancies

These activities constitute completion of one quarterly licensed operator requalification program sample as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

.2 Quarterly Observation of Licensed Operator Performance

a. Inspection Scope

The inspectors observed the performance of on-shift licensed operators in the plant's main control room. The inspectors observed the operators' performance of the following activities:

- April 2, 2012, heightened risk due to off-normal electrical bus alignment

- June 28, 2012, heightened risk due to Inverter #2 bypass transformer being out of service

In addition, the inspectors assessed the operators' adherence to plant procedures, including conduct of operations procedure and other operations department policies.

These activities constitute completion of one quarterly licensed-operator performance sample as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the Updated Safety Analysis Report, procedure requirements, and technical specifications to ensure that the surveillance activities listed below demonstrated that the systems, structures, and/or components tested were capable of performing their intended safety functions. The inspectors either witnessed or reviewed test data to verify that the significant surveillance test attributes were adequate to address the following:

- Preconditioning
- Evaluation of testing impact on the plant
- Acceptance criteria
- Test equipment
- Procedures
- Jumper/lifted lead controls
- Test data
- Testing frequency and method demonstrated technical specification operability
- Test equipment removal
- Restoration of plant systems
- Fulfillment of ASME Code requirements
- Updating of performance indicator data

- Engineering evaluations, root causes, and bases for returning tested systems, structures, and components not meeting the test acceptance criteria were correct
- Reference setting data
- Annunciators and alarms setpoints

The inspectors also verified that licensee personnel identified and implemented any needed corrective actions associated with the surveillance testing.

- May 21, 2012, AC-3A Component Cooling Water Pump In-service Test, OP-ST-CCW-3002

Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one surveillance testing inspection sample as defined in Inspection Procedure 71111.22-05.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Physical Protection

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, previous occurrences reviews; and the classification, prioritization, focus, and timeliness of corrective actions.

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.

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's corrective action program and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors focused their review on repetitive equipment issues, but also considered the results of daily corrective action item screening discussed in Section 4OA2.2, licensee trending efforts, and licensee human performance results. The inspectors nominally considered the 6-month period of October 2011 through March 2012, although some examples expanded beyond those dates where the scope of the trend warranted.

The inspectors also included issues documented outside the normal corrective action program in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self-assessment reports, and Maintenance Rule assessments. The inspectors compared and contrasted their results with the results contained in the licensee's corrective action program trending reports. Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

These activities constitute completion of one single semi-annual trend inspection sample as defined in Inspection Procedure 71152-05.

b. Findings

Introduction. The inspectors identified a Green non-cited violation of Technical Specification 5.3.1, "Facility Staff Qualifications," for failure to ensure electrical group supervisors met the minimum qualification requirements specified in American National Standards Institute (ANSI) N18.1-1971, "American National Standard Selection and Training of Nuclear Power Plant Personnel." Fort Calhoun Station entered this performance deficiency into their corrective action program as CR 2012-04543.

Description. While reviewing condition reports related to employee qualifications, the inspectors reviewed the requirements of ANSI N18.1-1971, "American National Standard Selection and Training of Nuclear Power Plant Personnel." The standard describes the minimum educational and experience requirements for certain specified positions within the organization. Technical Specification 5.3.1 states, "Each member of the plant staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions."

Included in the specified positions are supervisors, which are defined to be "persons principally responsible for directing the actions of operators, technicians, or repairmen." Subcategories of these supervisors are "supervisors not requiring AEC [Atomic Energy Commission] licenses. Supervisors in this category shall have a high school diploma or equivalent and a minimum of four years of experience in the craft or discipline he supervises."

Fort Calhoun Station utilizes a long-term contractor to support several maintenance functions. Commonly, the contractor provides craft as well as supervisory personnel. All contract personnel who fill positions described in ANSI N18.1-1971 are subject to the educational and experience requirements described in the standard.

One contract electrical supervisor was found not having the minimum educational requirements required of supervisors. Specifically, he did not have a high school diploma or an equivalent general equivalency development (GED) certificate. This individual was employed at Fort Calhoun as an electrical supervisor from August 26, 2011, until March 23, 2012.

Analysis. The failure to ensure that electrical supervisors met minimum standards required by technical specifications for activities affecting quality is a performance deficiency. It is more than minor and is, therefore, a finding because it adversely affects the human performance attribute of the Mitigating Systems Cornerstone and affects the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," a Phase 1 screening was performed and it was determined that this example was of very low safety significance (Green) because: (1) is not a design or qualification

issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of non-technical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a cross-cutting aspect in the area of work practices because the licensee failed to ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported [H.4(c)].

Enforcement. Fort Calhoun Technical Specification 5.3.1 states, in part, that each member of the plant staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions. This standard requires a high school diploma or equivalent for supervisors not requiring an Atomic Energy Commission license. Contrary to the above, on August 26, 2011, the licensee failed to ensure that each member of the plant staff met the minimum qualifications of ANSI N18.1-1971 for comparable positions. Specifically, Fort Calhoun Station failed to verify that an electrical supervisor had a high school diploma or equivalent prior to beginning work. Because this failure is of very low safety significance and has been entered into the licensee's corrective action system (Condition Report 2012-04543), this violation is being treated as a non-cited violation consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV 05000285/2012003-01, "Failure to ensure personnel meet minimum educational requirements."

4OA5 Other Activities

On August 30, 2011, Fort Calhoun Station issued Revision 1 to the "Fort Calhoun Station Post-Flooding Recovery Action Plan," (FRAP) that provided for extensive reviews of plant systems, structures, and components to assess the impact of the floodwaters. On September 2, 2011, the NRC issued Confirmatory Action Letter (CAL) 4-11-003, listing 235 items described in the Fort Calhoun Station Post-Flooding Recovery Action Plan that the licensee committed to complete. These 235 items were broken down into three sections: items to complete prior to exceeding 210 degrees Fahrenheit in the reactor coolant system, items to complete prior to reactor criticality; and items to complete following restart of the plant. On June 11, 2012, the NRC issued CAL 4-12-002. This CAL incorporates all the actions required by CAL 4-11-003.

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

.1 CAL Action Item 1.2.3.42

a. Inspection Scope

The purpose of Action Item 1.2.3.42, was to sample the site ground water monitoring wells to determine the effect of the floodwaters on groundwater contamination levels. The concern is groundwater tritium levels being negatively affected by flood induced

ground water level variances, alluvial changes and vertical and directional flow variances. This item was required to be completed following plant startup.

The licensee sampled monitoring wells at 17 of the 19 regular monitored wells on September 15 and 16, 2011. Monitoring Wells MW-12A & 12B, located in the northwest corner of the site were not sampled because of inaccessibility due to receding river floodwaters. These wells were sampled on December 16, 2011.

The inspectors reviewed the sampling procedure and the results from the samples obtained on September 15 and 16, and October 12, 2011, and verified that all wells sampled below the minimum detectable concentration of 300 picocuries per liter. The inspectors also compared the results to well sample results obtained in March 2011, to compare groundwater samples before and after the Missouri River Flooding, and determined that the samples obtained in September and December 2011, were consistent in concentration as those obtained in March 2011.

This activity constitutes completion of action item 1.2.3.42 as described in Confirmatory Action Letter 4-12-002.

b. Findings

No findings were identified.

.2 CAL Action Item 1.4.1.2

a. Inspection Scope

The purpose of Action Item 1.4.1.2 was to inspect 13.8kV underground pad mount transmission and distribution switch SW1062. This item was required to be completed prior to exceeding 210 degrees Fahrenheit in the reactor coolant system.

Switch SW1062 is a pad mounted switch located in the switchyard that transmits 13.8 kV power to transformer T1B-3C-1, which is located adjacent to the auxiliary building. The licensee deferred inspection of this switch in lieu of a complete replacement of the switch. Revision 3 of the FRAP created Action Item 1.4.1.8, “Replace Transmission & Distribution Switch SW1062.”

The inspectors determined that the replacement of switch SW1062 was acceptable in lieu of inspecting and testing the switch. The inspectors will consider action item 1.4.1.2 closed upon submission of the closure package for action item 1.4.1.8, and satisfactory review by the inspectors.

b. Findings

No findings were identified.

.3 CAL Action Item 1.4.1.3

a. Inspection Scope

The purpose of Action Item 1.4.1.3 was to inspect and/or test Transmission and Distribution 13.8kV transformer T1B-3C-1. This item was required to be completed prior to exceeding 210 degrees Fahrenheit in the reactor coolant system.

Transformer T1B-3C-1 is a 13.8 kV to 480 V pad mounted, step-down transformer, which is used to provide emergency 13.8 kV power to bus 1B3C. The licensee deferred inspection of this transformer in lieu of a complete replacement of the transformer. Revision 3 of the FRAP created Action Item 1.4.1.9, "Replace Transformer T1B-3C-1."

The inspectors determined that the replacement of switch transformer, T1B-3C-1, was acceptable in lieu of inspecting and testing the transformer. The inspectors will consider action item 1.4.1.3 closed upon submission of the closure package for action item 1.4.1.9, and satisfactory review by the inspectors.

b. Findings

No findings were identified.

.4 CAL Action Items 1.4.1.4 and 1.4.1.5

a. Inspection Scope

The purpose of Action Item 1.4.1.4 was to inspect manholes MH1 through MH4 associated with circuit 231 (Transmission and Distribution 122) between switch SW1062 and transformer T1B-3C-1. The purpose of Action Item 1.4.1.5 was to inspect ducts associated with manholes MH1 through MH4 between switch SW1062 and transformer T1B-3C-1 and repair as necessary. Both items were required to be completed prior to exceeding 210 degrees Fahrenheit in the reactor coolant system.

Due to the similar nature of the two action items, Revision 3 of the FRAP combined Action Items 1.4.1.4 and 1.4.1.5. The inspectors determined the combination of the two action items was acceptable, provided the deliverables were sufficient to satisfy each action item.

The licensee performed a physical inspection of MH-1, MH-2, MH-3 and MH-4 and the associated ducts to provide assurance that the existing raceway could support the installation of a new cable circuit.

The inspectors performed an independent assessment of the physical characteristics of MH-1 through MH-4. The inspectors reviewed the photographs of the manholes taken by the licensee, and determined the raceways appeared to be capable of supporting installation of a new cable circuit.

This activity constitutes completion of action items 1.4.1.4 and 1.4.1.5 as described in Confirmatory Action Letter 4-12-002.

b. Findings

No findings were identified.

.5 CAL Action Item 1.4.1.6

a. Inspection Scope

The purpose of Action Item 1.4.1.6 was to inspect and/or test Circuit 231 from switch SW1062 to transformer T1B-3C-1 and repair as necessary. This item was required to be completed prior to exceeding 210 degrees Fahrenheit in the reactor coolant system.

The original intent of Action Item 1.4.1.6 was to inspect and test the existing circuit between switch SW1062 and transformer T1B-3C-1. However, with the decision to replace the switch and the transformer, the licensee created Action Item 1.4.1.7 in Revision 3 of the FRAP to replace the cable between switch SW1062 and transformer T1B-3C-1. As a result, the licensee closed Action Item 1.4.1.6 to the creation of six new action items: the aforementioned 1.4.1.7; items 1.4.1.8 and 1.4.1.9 which are described above; item 1.4.1.10 to perform cable testing into switch SW1062; item 1.4.1.11 to perform cable testing between switch SW1062 and transformer T1B-3C-1; and 1.4.1.12 to complete surveillance test EM-ST-ESF-0002.

The inspectors determined that the closure of the action item to the newly created action items is an acceptable method to ensure the entire circuit is functioning properly. The inspectors will consider action item 1.4.1.6 closed upon submission of the closure package for action items 1.4.1.7 through 1.4.1.12, and satisfactory review by the inspectors.

b. Findings

No findings were identified.

.6 FRAP Action Item 1.4.1.7

a. Inspection Scope

The purpose of Action Item 1.4.1.7 was to replace cable from Transmission and Distribution switch SW1062 to transformer T1B-3C-1 line side. This is a newly created action item to satisfy completion, in part, of Action Item 1.4.1.6 in the Confirmatory Action Letter.

The licensee replaced the existing American Wire Gage (AWG) 2 aluminum cable with an AWG 1/0 copper cable, and terminated the cables at the switch and the transformer. Testing of the cable was performed under Action Item 1.4.1.11 in the Confirmatory Action Letter.

The inspectors observed installation of the new cable and the terminations. The inspectors also reviewed the characteristics of AWG #2 aluminum cable and 1/0 copper cable and determined that the copper cable is an acceptable replacement.

b. Findings

No findings were identified.

.7 FRAP Action Item 1.4.1.8

a. Inspection Scope

The purpose of Action Item 1.4.1.8 was to replace Transmission and Distribution switch SW1062. This is a newly created action item to satisfy completion of Action Item 1.4.1.2 in the CAL, and in part, of Action Item 1.4.1.6 in the Confirmatory Action Letter.

The licensee replaced switch SW1062 with a new S&C Electric pad mounted manual switch. The original and replacement switches were both model PMH-11 switches. Cable terminations were performed with Action Item 1.4.1.7.

The inspectors observed installation of the new switch and observed cable terminations, which were performed with Action Item 1.4.1.7. The inspectors also reviewed the specifications of the switch.

This activity constitutes completion of action item 1.4.1.2 as described in Confirmatory Action Letter 4-12-002.

b. Findings

No findings were identified.

.8 FRAP Action Item 1.4.1.9

a. Inspection Scope

The purpose of Action Item 1.4.1.9 was to replace Transformer T1B-3C-1. This is a newly created action item to satisfy completion of Action Item 1.4.1.3 in the CAL, and in part, of Action Item 1.4.1.6 in the Confirmatory Action Letter.

The licensee replaced transformer T1B-3C-1 with a new 13.8 kV / 480 V step-down transformer. Cable terminations were performed with Action Item 1.4.1.7.

The inspectors observed installation of the new transformer and observed cable terminations, which were performed with Action Item 1.4.1.7. The inspectors also reviewed the specifications of the switch.

This activity constitutes completion of action item 1.4.1.3 as described in Confirmatory Action Letter 4-12-002.

b. Findings

No findings were identified.

.9 FRAP Action Item 1.4.1.10

a. Inspection Scope

The purpose of Action Item 1.4.1.10 was to perform cable testing on existing 1000 MCM cable from 161kV switchyard breaker 122 to Transmission & Distribution switch SW1062. This is a newly created action item to satisfy completion, in part, of Action Item 1.4.1.6 in the Confirmatory Action Letter.

The licensee performed low frequency dielectric spectroscopy testing (tan-delta), ac high potential testing, and partial dissipation testing on the switchyard cable that runs between breaker 122 and switch SW1062.

The inspectors observed the tan-delta and high potential testing on the 1000 MCM cable, and reviewed the results. The tan-delta testing indicates that cables lie in the “no further action required” range, thus do not exhibit any adverse effects due to moisture ingress. The cables also passed the high potential and partial discharge tests.

b. Findings

No findings were identified.

.10 FRAP Action Item 1.4.1.11

a. Inspection Scope

The purpose of Action Item 1.4.1.11 was to perform cable testing on new 1/0 cable from switch SW1062 to the line side of transformer T1B-3C-1. This is a newly created action item to satisfy completion, in part, of Action Item 1.4.1.6 in the Confirmatory Action Letter.

The licensee performed low frequency dielectric spectroscopy testing (tan-delta), ac high potential testing, and partial dissipation testing on the cable that runs between switch SW1062 and transformer T1B-3C-1.

The inspectors observed the tan-delta and high potential testing on the new 1/0 cable, and reviewed the results. The tan-delta testing indicates that cables lie in the “no further action required” range, which is expected since the cables are new. The cables also passed the high potential and partial discharge tests.

b. Findings

No findings were identified.

.11 FRAP Action Item 1.4.1.12

a. Inspection Scope

The purpose of Action Item 1.4.1.12 was to test circuit 231 from switch SW1062 through transformer T1B-3C-1 to 480 V bus 1B3C. This is a newly created action item to satisfy completion, in part, of Action Item 1.4.1.6 in the Confirmatory Action Letter.

The licensee performed surveillance test EM-ST-ESF-0002, “Emergency Power Periodic Test.” This surveillance test is a required test, and verifies the operability of the emergency power circuit from switch SW1062 through transformer T1B-3C-1, to bus 1B3C.

The inspectors observed the performance of the surveillance test, and reviewed the results. The test results indicate that the emergency power circuit meets the surveillance requirements of Technical Specification 3.7(4).

This activity, in conjunction with completion of Action Items 1.4.1.8 through 1.4.1.12, constitutes completion of action item 1.4.1.6 as described in the Confirmatory Action Letter 4-12-002.

b. Findings

No findings were identified.

.12 CAL Action Item 2.1.1.4

a. Inspection Scope

The purpose of Action Item 2.1.1.4, was to inspect and document any flood impacted fire barriers or penetrations. This item was required to be completed prior to exceeding 210 degrees Fahrenheit in the reactor coolant system.

The licensee completed surveillance test SE-ST-FP-0005, “Fire Barrier and Penetration Seals 18 Month Inspection.” The scope of the inspection was limited to the intake structure, which experienced flooding through barriers due to water coming out of manhole #31 into the intake structure and into the pyrocrete enclosure.

The licensee noted three discrepancies during their inspection: the bottom section of the pyrocrete fire barrier located at the bottom of the south intake structure stairwell in the overhead was missing; missing fasteners in the pyrocrete covers on penetration S-16-1, and missing fasteners in the pyrocrete covers on penetration S-16-7. The licensee

wrote a condition report to document their findings, and opened new long-term action items 2.1.3.9 and 2.1.3.11 to repair the items.

The inspectors reviewed the results of the licensee's surveillance test, and performed independent walkdowns of areas to ensure that no other fire barriers were impacted by the flood. The inspectors also reviewed the results of the prior completion of SE-ST-FP-0005 to compare the results before and after the flooding. Action items 2.1.3.9 and 2.1.3.11 were added to the list of items for inspector closeout.

This activity constitutes completion of action item 2.1.1.4 as described in Confirmatory Action Letter 4-12-002.

b. Findings

No findings were identified.

.13 CAL Action Item 2.1.1.10

a. Inspection Scope

The purpose of Action Item 2.1.1.10 was to remove rubber plugs that were installed in the drain lines in the cable tray trenched adjacent to the transformer pits. This item was required to be completed prior to exceeding 210 degrees Fahrenheit in the reactor coolant system.

The cable tray trenches are open to the atmosphere, and lie below grade. There are drainage holes in the bottom of the trenches to allow water collected in the trenches to drain. During the Missouri River flooding, plugs were installed in the drainage holes to prevent ground water from entering the trenches. The licensee removed the plugs, by the same system engineer who installed them during the flood.

The inspectors reviewed the work request document that tracked removal of the plugs, and performed an independent walkdown to verify the plugs were removed.

This activity constitutes completion of action item 2.1.1.10 as described in Confirmatory Action Letter 4-12-002.

b. Findings

No findings were identified.

.14 FRAP Action Item 2.1.3.9

a. Inspection Scope

The purpose of Action Item 2.1.3.9, was to repair penetrations S-16-1 and S-16-7 in the Intake Structure. This item was not included in Confirmatory Action Letter 4-12-002; however, the inspectors determined it to be an extension of Action Item 2.1.1.4, which

was required to be complete prior to exceeding 210 degrees Fahrenheit in the reactor coolant system.

Penetrations S-16-1 and S-16-7 are electrical boxes that are encased in Pyrocrete. The enclosure includes a cover that can be removed to allow access to the electrical box inside. Action Item 2.1.1.4 identified that the covers at both enclosures were missing fasteners. The licensee replaced the missing fasteners and tightened all existing fasteners.

The inspectors reviewed the work order documents that replaced the missing fasteners, and performed an independent walkdown to verify the fasteners were installed.

This activity constitutes completion of action item 2.1.3.9, which is a follow-up to action item 2.1.1.4, described in Confirmatory Action Letter 4-12-002.

b. Findings

No findings were identified.

.15 CAL Action Items 2.3.1.9, 2.3.1.10, 2.3.1.11, and 2.3.1.12

a. Inspection Scope

The purpose of Action Item 2.3.1.9, 2.3.1.10, 2.3.1.11, and 2.3.1.12 was to remove, refurbish, install, and perform postmaintenance testing on pump motors DW-69-M and DW-70-M (Reverse Osmosis Unit Water Storage Tank Inlet and Outlet Pump Motors). This item was required to be completed prior to exceeding 210 degrees Fahrenheit in the reactor coolant system.

The licensee did not perform these actions. Instead, the licensee replaced both pump motors, and the installation and testing of the pump motors was accomplished in CAL Action Items 2.3.1.13 through 2.3.1.16.

The inspectors determined that the closure of these action items was appropriate since the pump motors would be replaced and not repaired, and adequate action items exist to ensure the new motors are properly installed and tested.

This activity constitutes completion of Action Items .3.1.9, 2.3.1.10, 2.3.1.11, and 2.3.1.12 as described in Confirmatory Action Letter 4-12-002.

b. Findings

No findings were identified.

.16 CAL Action Item 5.1.2.4

a. Inspection Scope

The purpose of Action Item 5.1.2.4 was to verify the status of sirens and/or infrastructure, and to work with FEMA, state and local governments for exemptions, if necessary. This item was required to be completed prior to reactor criticality.

The inspectors performed an in-office review of the closure verification checklist and supporting documentation for Recovery Action Item 5.1.2.4. The inspectors reviewed the Federal Emergency Management Agency, Region VII, Disaster-Initiated Review Memorandum, dated November 9, 2011; the Federal Emergency Management Agency's approval of long-term post-flood activities (email, dated November 14, 2011); and Federal Emergency Management Agency Statement of Reasonable Assurance, dated November 22, 2011. The inspectors also observed the physical condition of three sirens located in the Missouri River flood plain on March 28, 2012. The in-office review was also supported by an onsite inspection conducted October 20-21, 2011.

The action item closure basis was compared to the action item deliverable action(s), to the supporting documentation and to the requirements of 10 CFR 50.47(b) and Appendix E to Part 50, to verify that the deliverable action was completed in an acceptable manner.

This activity constitutes completion of action item 5.1.2.4 as described in Confirmatory Action Letter 4-12-002.

b. Findings

No findings were identified.

.17 CAL Action Item 5.2.1.1

a. Inspection Scope

The purpose of Action Item 5.2.1.1 was to develop a sampling plan and have it peer reviewed by Emergency Response Organizations (ERO) protective measures personnel. The item was required to be completed prior to exceeding 210 degrees Fahrenheit in the reactor coolant system.

The inspectors performed an in-office review of the closure verification checklist and supporting documentation for Recovery Action Item 5.2.1.1. The inspectors reviewed the licensee's "Plan for Monitoring Field Team Sampling Points in Flooded Areas," dated July 13, 2011, and Procedure EPIP-RR-72, "Field Team Specialist Actions," Revision 19. The inspectors observed implementation of EPIP-RR-72, Revision 19, during an emergency preparedness exercise conducted March 27, 2012. The in-office review was also supported by onsite inspection conducted October 20-21, 2011.

The action item closure basis was compared to the action item deliverable action(s), to the supporting documentation and to the requirements of 10 CFR 50.47(b) and Appendix E to Part 50, to determine whether the deliverable action was completed in an acceptable manner.

This activity constitutes completion of action item 5.2.1.1 as described in Confirmatory Action Letter 4-12-002.

b. Findings

No findings were identified.

.18 CAL Action Item 5.2.2.1

a. Inspection Scope

The purposes of the protective measures tabletop were to validate the Field Monitoring and Environmental Sampling Plan, identify impediments to the implementation of environmental surveys in flood-affected areas, and coordinate the environmental survey activities of licensee and offsite agency survey teams. The item was required to be completed prior to reactor criticality.

The inspector performed an in-office review of the closure verification checklist and supporting documentation for Recovery Action Item 5.2.2.1. The inspector reviewed the Tabletop Instructions, Narrative Summary, and the Critique Summary for the protective measures tabletop drill conducted August 16, 2011.

This activity constitutes completion of action item 5.2.2.1 as described in Confirmatory Action Letter 4-12-002.

b. Findings

No findings were identified.

.19 CAL Action Item 5.3.2.1

a. Inspection Scope

The purpose of Action Item 5.3.2.1 was to ensure the Emergency Response Data System (ERDS) was not damaged due to floodwaters. The item was required to be completed prior to reactor criticality.

The inspectors performed an in-office review of the closure verification checklist and supporting documentation for Recovery Action Item 5.3.2.1. The inspectors reviewed quarterly surveillances EPT-21, “ERDS Testing,” dated July 29, 2011 and October 25, 2011. The in-office review was also supported by an onsite inspection conducted October 20-21, 2011. The action item closure basis was compared to the action item deliverable action(s), to the supporting documentation and to the requirements of 10 CFR 50.47(b) and Appendix E to Part 50, to verify that the deliverable action was completed in an acceptable manner.

This activity constitutes completion of action item 5.3.2.1 as described in Confirmatory Action Letter 4-12-002.

b. Findings

No findings were identified.

.20 CAL Action Item 5.3.2.7

a. Inspection Scope

The purpose of Action Item 5.3.2.7 was to meet with federal, state, and local organizations to discuss the process for obtaining a statement of reasonable assurance from FEMA following the flooding at Fort Calhoun Station. The item was required to be completed prior to reactor criticality.

The inspectors performed an in-office review of the closure verification checklist and supporting documentation for Recovery Action Item 5.3.2.7. The inspectors reviewed an attendance roster for the meeting between the licensee and offsite officials conducted July 27, 2011, and procedure EPDM-20, "Assessment of Offsite Emergency Response following a Natural Disaster," Revision 0, dated July 26, 2011. The in-office review was also supported by onsite inspection conducted October 20-21, 2011. The action item closure basis was compared to the action item deliverable action(s), to the supporting documentation and to the requirements of 10 CFR 50.47(b) and Appendix E to Part 50, to verify that the deliverable action was completed in an acceptable manner.

This activity constitutes completion of action item 5.3.2.7 as described in Confirmatory Action Letter 4-12-002.

b. Findings

No findings were identified.

.21 CAL Action Item 5.4.2.3

a. Inspection Scope

The purpose of Action Item 5.4.2.3, was to re-establish a site secondary evacuation route, which was covered with floodwater and was not passable.

The inspectors performed an in-office review of the closure verification checklist and supporting documentation for Recovery Action Item 5.4.2.3. The inspectors reviewed photographs of the restored south (secondary) site evacuation route taken November 11, 2011. The inspectors also drove the south site evacuation route on March 28, 2012. The action item closure basis was compared to the action item deliverable action(s), to the supporting documentation and to the requirements of

10 CFR 50.47(b) and Appendix E to Part 50, to verify that the deliverable action was completed in an acceptable manner.

This activity constitutes completion of action item 5.4.2.3 as described in Confirmatory Action Letter 4-12-002.

b. Findings

No findings were identified.

.22 Onsite Review of Emergency Preparedness Flood Recovery Plan Activities

a. Inspection Scope

The inspectors performed a review of ongoing licensee activities for the Flood Recovery Plan.

- The inspectors toured offsite emergency warning sirens 75, 76, and 135, to evaluate Flood Recovery Plan Item 5.1.2.7, Siren System Inspection
- The inspectors toured off-site emergency warning signs for transient populations located in DeSoto Bend National Wildlife Refuge, to evaluate Flood Recovery Plan Item 5.1.3.1, “Verify Transient Population Signs”
- The inspectors toured the on-site meteorological tower and instrument building to evaluate Flood Recovery Plan Items 5.4.2.1 and 5.4.2.2, Restore Site Meteorological Tower and Meteorological Tower Building

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On July 2, 2012, the inspectors presented the quarterly inspection results to Mr. D. Banister, Site Vice President and Chief Nuclear Officer, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

R. Acker, Licensing Engineer
S. Baughn, Manager, Nuclear Licensing
B. Blome, Manager, Quality Assurance
C. Cameron, Supervisor Regulatory Compliance
K. Erdman, Supervisor, Programs
M. Ferm, Manager, SPII
M. Frans, Manager, Engineering Programs
J. Goodell, Division Manager, NPIS
W. Hansher, Supervisor, Nuclear Licensing
R. Haug, Manager, Training
J. Herman, Division Manager, Nuclear Engineering
K. Kingston, Manager, Chemistry
T. Maine, Manager, Radiation Protection
E. Matzke, Senior Licensing Engineer
S. Miller, Manager, Design Engineering
K. Naser, Manager, System Engineering
A. Pallas, Manager, Shift Operations
M. Prospero, Division Manager, Plant Operations
M. Smith, Manager, Operations
T. Uehling, Manager, Maintenance

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000285/2012003-01	NCV	Failure to Ensure Personnel Meet Minimum Educational Requirements (Section 40A2)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

CONDITION REPORTS

2010-5487	2011-0609	2011-0801	2011-10300	2011-10302
2011-10512	2011-1965	2011-2072	2011-2161	2011-2448
2011-2470	2011-5012	2011-5489	2011-5619	2011-5805

CONDITION REPORTS

2011-6062	2011-8547	2012-00307	2012-00600	2012-00871
2012-00875	2012-00882	2012-00899	2012-00901	2012-00906
2012-00929	2012-00945	2012-00949	2012-00965	2012-00967
2012-00980	2012-00986	2012-00996	2012-00998	201201003
2012-01010	2012-01012	2012-01021	2012-01021	2012-01330
2012-02142	2012-04150	2012-05006	2012-05007	2012-05008
2012-05009	2012-05011	2012-05013	2012-05043	2012-05061
2012-05071	2012-2387			

PROCEDURES

NUMBER	TITLE	REVISION
AOP-1	Acts of Nature	31
EPIP-TSC-2	Catastrophic Flooding Preparations	14
FCSG-64	External Flooding of Site	2
OI-CW-1	Circulating Water System Normal Operation	63
PE-RR-AE-1000	Flood Barrier Inspection and Repair	9
PE-RR-AE-1001	Flood Barrier and Sandbag Staging and Installation	16
PE-RR-AE-1002	Installation of Portable Steam Generator Makeup Pumps	5
SO-G-124	Flood Barrier Impairment	2

MISCELLANEOUS DOCUMENTS

NUMBER	TITLE	REVISION
EA12-004	Technical Evaluation and Qualification of Flood Barrier Penetrations at Ft Calhoun Station	0
FC08030	Intake Structure Cell Level Control Using the Intake Structure Sluice Gates	0

Section 1RO4: Equipment Alignment

PROCEDURES

NUMBER	TITLE	REVISION
OI-SC-1	Shutdown Cooling Initiation	59

PROCEDURES

NUMBER	TITLE	REVISION
OI-SC-2	Shutdown Cooling Operation and Termination	27

DRAWINGS

NUMBER	TITLE	REVISION
D-4768	Simplified Flow Path Diagram	6
E-23866-210-130-1	Safety Injection and Containment Spray	113
E-23866-210-130-2A	Safety Injection and Containment Spray	24
E-23866-210-130-3	Safety Injection and Containment Spray	29
E-23866-210-130-COV	Safety Injection and Containment Spray	72

MISCELLANEOUS DOCUMENTS

NUMBER	TITLE	REVISION
TDB, Figure II.7a	RCS Pressure and Temperature Limits	25
TDB, Figure II.7d	RCS Pressure and Temperature Limits	8
USAR 9.3	Shutdown Cooling	13

Section 1RO5: Fire Protection

PROCEDURES

NUMBER	TITLE	REVISION
SO-G-28	Standing Order, Station Fire Plan	82
SO-G-58	Standing Order, Control of Fire Protection System Impairments	37
SO-G-91	Standing Order, Control and Transportation of Combustible Materials	27
SO-G-102	Standing Order, Fire Protection Program Plan	12
SO-G-103	Standing Order, Fire Protection Operability Criteria and Surveillance Requirements	25

MISCELLANEOUS DOCUMENTS

NUMBER	TITLE	REVISION
EA-FC-97-001	Fire hazards Analysis Manual	16
FC05814	UFHA Combustible Loading Calculation	11
USAR 9.11	Updated Safety Analysis Report, Fire Protection Systems	23

Section 1R11: Licensed Operator Requalification Program

PROCEDURES

NUMBER	TITLE	REVISION
LOR TPMP	Licensed Operator Requal Training Program Master Plan	54
OPD-3-11	Licensed Activation and Watch station Maintenance	18
SO-G-26	Training and Qualification Programs Standing Orders	62

Section 1R22: Surveillance Testing

WORK ORDERS

425326

PROCEDURES

NUMBER	TITLE	REVISION
OP-ST-CCW-3002	AC-3A Component Cooling Water Pump In-service Test	24

Section 4OA2: Identification and Resolution of Problems

CONDITION REPORTS (CR)

2012-02233 2012-03952 2012-04060 2012-04543 2012-04552

MISCELLANEOUS DOCUMENTS

NUMBER	TITLE	DATE
ANSI N18.1	Selection and Training of Nuclear Power Plant Personnel	1971

Section 4OA5: Other Activities

CONDITION REPORTS (CR)

2011-5384 2011-8050 2011-8955 2011-8953

WORK ORDERS (WO)

423212 391842 426317 426318 412103

425377

WORK REQUESTS (WR)

168171

PROCEDURES

NUMBER	TITLE	REVISION
SE-ST-FP-0005	Fire Barrier and Penetration Seals Eighteen Month Inspection	15
EM-ST-ESF-0002	13.8 KV Emergency Power Periodic Test	4

DRAWINGS

NUMBER	TITLE	REVISION
D-4409	13.8 KV One-Line Diagram P & ID	26

MISCELLANEOUS DOCUMENTS

TITLE	DATE
Recovery Action Closure Verification Checklist, Action Item Number 1.4.1.4	May 7, 2012
Recovery Action Closure Verification Checklist, Action Item Number 1.4.1.7	May 7, 2012
Recovery Action Closure Verification Checklist, Action Item Number 1.4.1.8	May 7, 2012
Recovery Action Closure Verification Checklist, Action Item Number 1.4.1.9	April 16, 2012
Recovery Action Closure Verification Checklist, Action Item Number 1.4.1.10	May 7, 2012
Recovery Action Closure Verification Checklist, Action Item Number 1.4.1.11	May 7, 2012
Recovery Action Closure Verification Checklist, Action Item Number 1.4.1.10	May 7, 2012

MISCELLANEOUS DOCUMENTS

TITLE	DATE
Recovery Action Closure Verification Checklist, Action Item Number 2.1.1.4	March, 20, 2012
Recovery Action Closure Verification Checklist, Action Item Number 2.1.1.1	February 28, 2012
Recovery Action Closure Verification Checklist, Action Item Number 2.1.3.9	February 28, 2012
S&C Manual PMH Pad-Mounted Gear, Specification Bulletin 662A-31	December 18, 2011
Electrical Diagnostic Testing of Medium Voltage Cables, Fort Calhoun Nuclear Generating Station (OPPD), Kinetrics North America Inc, Report No.: K-503604-RA-0001-R00	February 7, 2012