UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 E LAMAR BLVD
ARLINGTON, TX 76011-4511

August 13, 2014

Mr. Jeremy Browning, Site Vice President
Arkansas Nuclear One
Entergy Operations, Inc.
1448 SR 333
Russellville, AR 72802-0967

SUBJECT: ARKANSAS NUCLEAR ONE – NRC INTEGRATED INSPECTION REPORT 05000313/2014003 AND 05000368/2014003

Dear Mr. Browning:

On June 30, 2014, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at the Arkansas Nuclear One facility, Units 1 and 2. The NRC inspectors discussed the results of this inspection with J. Browning, Site Vice President, and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

NRC inspectors documented six findings of very low safety significance (Green) in this report. Five of these findings involved violations of NRC requirements. Further, inspectors documented a licensee-identified violation which was determined to be of very low safety significance in this report. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2.a of the NRC Enforcement Policy.

If you contest the violations or significance of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC resident inspector at the Arkansas Nuclear One.

If you disagree with a cross-cutting aspect assignment or a finding not associated with a regulatory requirement 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 the Arkansas Nuclear One.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Gregory E. Werner, Chief
Project Branch E
Division of Reactor Projects

Docket Nos.: 50-313, 50-368
License Nos.: DRP-51; NPF-6

Enclosure:
Inspection Report 05000313/2014003 and
05000368/2014003 w/Attachments:
1. Supplemental Information
2. Temporary Instruction 2515-182 RFI, December 12, 2013
3. Occupational/Public Radiation Safety Inspection RFI, March 24-28, 2014
4. Inservice Inspection Activities RFI, May 12-16, 2014

cc w/Enclosure:
Electronic Distribution for Arkansas Nuclear One

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Letter to Jeremy Browning from Gregory E. Werner, dated August 13, 2014

SUBJECT: ARKANSAS NUCLEAR ONE – NRC INTEGRATED INSPECTION REPORT 05000313/2014003 AND 05000368/2014003

DISTRIBUTION:
Regional Administrator (Marc.Dapas@nrc.gov)
Deputy Regional Administrator (Kriss.Kennedy@nrc.gov)
Acting DRP Director (Troy.Pruett@nrc.gov)
Acting DRP Deputy Director (Michael.Hay@nrc.gov)
DRS Director (Anton.Vegel@nrc.gov)
DRS Deputy Director (Jeff.Clark@nrc.gov)
Senior Resident Inspector (Brian.Tindell@nrc.gov)
Resident Inspector (Matt.Young@nrc.gov)
Resident Inspector (Abin.Fairbanks@nrc.gov)
Branch Chief, DRP/E (Greg.Werner@nrc.gov)
Senior Project Engineer, DRP/E (Cale.Young@nrc.gov)
Project Engineer, DRP/E (Jim.Melfi@nrc.gov)
ANO Administrative Assistant (Gloria.Hatfield@nrc.gov)
Public Affairs Officer (Victor.Dricks@nrc.gov)
Public Affairs Officer (Lara.Uselding@nrc.gov)
Project Manager (Peter.Bamford@nrc.gov)
Branch Chief, DRS/TSB (Geoffrey.Miller@nrc.gov)
ACES (R4Enforcement.Resource@nrc.gov)
RITS Coordinator (Marisa.Herrera@nrc.gov)
Regional Counsel (Karla.Fuller@nrc.gov)
Technical Support Assistant (Loretta.Williams@nrc.gov)
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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	05000313; 05000368
License:	DPR-51; NPF-6
Report:	05000313/2014003; 05000368/2014003
Licensee:	Entergy Operations Inc.
Facility:	Arkansas Nuclear One, Units 1 and 2
Location:	Junction of Hwy. 64 West and Hwy. 333 South Russellville, Arkansas
Dates:	April 1 through June 30, 2014
Inspectors:	B. Tindell, Senior Resident Inspector A. Fairbanks, Resident Inspector M. Young, Resident Inspector B. Baca, Health Physicist L. Carson II, Senior Health Physicist N. Greene, PhD, Health Physicist P. Jayroe, Reactor Inspector R. Latta, Senior Reactor Inspector J. Melfi, Project Engineer J. O'Donnell, CHP, Health Physicist L. Ricketson, P.E., Senior Health Physicist
Approved By:	Gregory E. Werner Chief, Project Branch E Division of Reactor Projects

Enclosure

SUMMARY

IR 05000313/2014003; 05000368/2014003; 04/01/2014 - 06/30/2014; Arkansas Nuclear One, Units 1 and 2, Integrated Inspection Report; Post-Maintenance Testing, Radiological Environmental Monitoring Program; Inservice Inspection Activities.

The inspection activities described in this report were performed between April 1 and June 30, 2014, by the resident inspectors at Arkansas Nuclear One, inspectors from the Nuclear Regulatory Commission's (NRC) Region IV office, and other NRC offices. Six findings of very low safety significance (Green) are documented in this report. Five of these findings involved violations of NRC requirements. Additionally, NRC inspectors documented one licensee-identified violation of very low safety significance. The significance of inspection findings is indicated by their color (Green, White, Yellow, or Red), which is determined using Inspection Manual Chapter 0609, "Significance Determination Process." Their cross-cutting aspects are determined using Inspection Manual Chapter 0310, "Components Within the Cross-Cutting Areas." Violations of NRC requirements are dispositioned in accordance with the NRC Enforcement Policy. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process."

Cornerstone: Initiating Events

- Green. The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," with two examples. Criterion V, states, in part, "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings." Contrary to the above, the licensee failed to accomplish operability and functionality assessments in accordance with Procedure EN-OP-104, Revision 7, "Operability Determination Process."

  Example 1. In March of 2013, the licensee identified that the reactor coolant sample cooler E30 was leaking reactor coolant into the nuclear intermediate cooling water system. In the operability/functionality assessment, the licensee stated, in part, that the nuclear intermediate cooling water system was not safety-related and that the system was not part of the reactor coolant system pressure boundary; therefore, this was not within the scope of the operability determination process. No functionality assessment of the reactor coolant system sample system was performed.

  Example 2. Two through wall leaks in the reactor coolant system supply line to the reactor coolant sample cooler 2E30 were identified on February 3, 2014. After a visual inspection of the leaks in the reactor coolant sample system, the licensee documented the following information in the operability description of Condition Report CR ANO 2-2014-00268: "For the stated condition, the Reactor Coolant System (RCS) and the Unit 2 Containment Building are OPERABLE. No Degraded or Nonconforming Condition exists per Procedure EN-OP-104, Revision 7 Attachment 9.1, Table 1." The licensee did not perform a functionality assessment of the reactor coolant sample system as required by Procedure EN-OP-104. The sample system was the system

directly affected by the degraded condition. When this assessment was challenged by the NRC inspectors and the licensee's ability to meet the Technical Specification Surveillance Requirement 4.4.8.1 for dose equivalent xenon which is required once per seven days, as well as the acceptability of the system for continued service, the licensee recognized that the permanent repairs to the sample system would not be completed by the time the next sample was required.

For the Unit 1 sample system, the licensee performed a functionality assessment and the system remained functional with the current leak rate. For the Unit 2 sample system, the system was isolated and the flaws were repaired. This issue was documented in Condition Report CR-ANO-C-2014-1800.

The inspector determined that the failure to perform functional assessments of the Unit 1 and 2 reactor coolant sampling systems was a performance deficiency. The finding was more than minor because it was associated with the human performance attribute of the initiating events cornerstone and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the leakage could result in the inability to sample the reactor coolant for activity which would upset plant stability by causing an unplanned shutdown as required by technical specifications. Using Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," dated June 19, 2012, and Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 1, "Initiating Events Screening Questions," the inspectors determined that the finding was of very low safety significance (Green) because the finding did not result in a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of a trip to a stable shutdown condition.

The finding had a cross-cutting aspect in the area of human performance, training, because the licensee failed to provide training and ensure knowledge transfer to maintain a knowledgeable, technically competent work force and instill nuclear safety values. Specifically, the licensee failed to ensure that operators were adequately trained on the use of Procedure EN-OP-104 such that required functionality assessments for degraded and/or non-conforming non-technical specification systems were performed as required [H.9]. (Section 1R08)

- Green. The inspector identified a non-cited violation of 10 CFR 50.55a(g)(4) for the licensee's failure to evaluate the acceptability of the Unit 1 reactor coolant system sample cooler E30 for continued service. Specifically, when the licensee determined that the sample cooler E30 had developed leaks, the licensee failed to evaluate the acceptability of the component for continued service as required by the ASME code for a high energy system. The licensee determined that the structural integrity of the sample cooler was maintained and the sample cooler could be remotely isolated. This issue was documented in Condition Report CR-ANO-2014-1801.

The inspector concluded that the licensee's failure to evaluate the acceptability of the sample cooler E30 was a performance deficiency. The performance deficiency was more than minor because it was associated with the human performance attribute of the initiating events cornerstone and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the leakage could result in the inability to sample the reactor coolant for activity which would upset plant stability by causing an unplanned shutdown as required by technical specifications. Using Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," dated June 19, 2012, and Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 1, "Initiating Events Screening Questions," the inspectors determined that the finding was of very low safety significance (Green) because the finding did not result in a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of a trip to a stable shutdown condition.

The finding had a cross-cutting aspect in the area of human performance, resources, because the licensee failed to ensure personnel and procedures were adequate to support nuclear safety. Specifically, the licensee failed to ensure personnel and procedures were available and adequate to recognize the regulatory requirement to evaluate components in ASME Code systems that do not comply with Code requirements [H.1]. (Section 1R08)

Cornerstone: Mitigating Systems

- Green. The inspectors identified a non-cited violation of Unit 1 Technical Specification 5.4, "Procedures," for the licensee's failure to establish adequate instructions for filling and venting the emergency core cooling system. Specifically, an inadequate fill and vent could have allowed gas voids to enter the suction of an operable high pressure injection pump. As immediate corrective actions, the licensee revised the filling and venting instructions. The issue was documented in Condition Report CR-ANO-1-2014-00295.

  The failure to establish adequate fill and vent instructions for a drained high pressure injection pump was a performance deficiency. The performance deficiency was more than minor because it was associated with the procedure quality attribute of the mitigating systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and was therefore a finding. Specifically, the inadequate fill and vent instructions caused a high pressure injection pump to become inoperable for the standby emergency core cooling function. Using Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," dated June 19, 2012, and Appendix A, "The Significance Determination Process (SDP) for Findings at Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined this finding was of very low safety significance (Green) because the degraded condition was not a design or qualification deficiency; did not represent an actual loss of function or a system; did not represent an actual loss of function of a single train or two separate trains for greater than its technical specification allowed outage time; did not represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significant; and did not screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event.

The finding had a cross-cutting aspect in the area of problem identification and resolution for the licensee's failure to effectively evaluate and implement external operating experience. Specifically, the licensee failed to effectively evaluate and implement gas voiding operating experience when establishing Unit 1 fill and vent instructions [P.5]. (Section 1R19)

Cornerstone: Barrier Integrity

- Green. The inspectors identified a finding for failure to follow Procedure EN-LI-102, "Corrective Action Process," Revision 23. A through wall leak in the piping of the spent fuel pool cooling (SFP) system downstream of valve SFP 23 was identified in August 2009. The licensee failed to evaluate or correct the through wall flaw in the spent fuel pool piping in a timely manner. The section of piping containing the flaw was isolated and tagged out of service. This issue was documented in Condition Report CR-ANO-C-2014-1801.

  The inspector determined that the licensee's failure to evaluate or correct the leak in the Unit 1 spent fuel pool cooling system was a performance deficiency. The finding was more than minor in accordance with Inspection Manual Chapter 0612, Appendix B, "Issue Screening," because it was associated with the barrier integrity cornerstone attribute of design control and adversely affected the structural integrity of the spent fuel pooling cooling system. Specifically, from August 2009 to present, the licensee failed to appropriately evaluate or correct a through wall flaw in the piping in the spent fuel pool cooling system to ensure structural integrity of the piping. The inspectors evaluated the finding using Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 0609.04, "Initial Characterization of Findings," Tables 2 and 3, dated June 19, 2012, and Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 3, Part D, for the spent fuel pool, dated June 19, 2012. The inspector determined the finding to be of very low safety significance (Green) because the finding did not cause the pool temperature to exceed the maximum analyzed temperature limit; it did not cause mechanical damage to fuel clad and a detectible release of radionuclides; it did not result in a loss of spent fuel pool water inventory below the minimum analyzed level limit; and it did not affect the spent fuel pool neutron absorber, fuel bundle misplacement, or soluble boron concentration.

  The finding had a cross-cutting aspect in the area of human performance, conservative bias, because the licensee failed to use decision-making practices that emphasize prudent choices over those that are simply allowable. Specifically, the licensee failed to make conservative decisions regarding a through wall flaw in the spent fuel pool cooling system, an ASME Code Class 3 moderate energy component, to ensure that the resolution addressed the condition commensurate with its safety significance [H.14]. (Section 1R08)

- Green. The inspector identified a non-cited violation of 10 CFR 50.55a(g)(4) for the licensee's failure to evaluate an ASME code class piping leak in the Unit 1 spent fuel pool piping, or perform evaluation prior to returning the system to service. A through wall leak in the piping of the spent fuel pool cooling system downstream of valve SFP 23, spent fuel pool to the cask loading pit isolation valve, was identified in August 2009. The licensee closed Condition Report CR-ANO-1-2009-1521, and Work Order WO 03771, after completing clean-up of the boric acid cyrstals. As of May 23, 2014, the exact location, size, and geometry of the flaw were still unknown. The section of piping containing the flaw

was isolated and tagged out of service. This issue was documented in Condition Report CR-ANO-C-2014-1801.

The inspector determined that the licensee's failure to follow the ASME Code requirements for evaluating the leak in the Unit 1 spent fuel pool cooling system was a performance deficiency. The finding was more than minor in accordance with Inspection Manual Chapter 0612, Appendix B, "Issue Screening," because it was associated with the barrier integrity cornerstone attribute of design control and adversely affected the structural integrity of the spent fuel pooling cooling system. Specifically, the licensee failed to appropriately evaluate a through wall flaw in the piping in the spent fuel pool cooling system in accordance with the requirements of ASME Code, Section XI, to ensure structural integrity of the piping. The inspectors evaluated the finding using Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 0609.04, "Initial Characterization of Findings," Tables 2 and 3, dated June 19, 2012, and Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 3, Part D, for the spent fuel pool, dated June 19, 2012. The inspector determined the finding to be of very low safety significance (Green) because the finding did not cause the pool temperature to exceed the maximum analyzed temperature limit; it did not cause mechanical damage to fuel clad and a detectible release of radionuclides; it did not result in a loss of spent fuel pool water inventory below the minimum analyzed level limit; and it did not affect the spent fuel pool neutron absorber, fuel bundle misplacement or soluble boron concentration.

The finding had a cross-cutting aspect in the area of human performance, resources, because the licensee failed to ensure personnel and procedures were adequate to support nuclear safety. Specifically, the licensee failed to ensure personnel and procedures were available and adequate to recognize the regulatory requirement to evaluate components in ASME Code systems that do not comply with Code requirements [H.1]. (Section 1R08)

Cornerstone: Public Radiation Safety

- Green. The inspectors identified two examples of a non-cited violation of Unit 1, Technical Specification 5.5.1, "Offsite Dose Calculation Manual (ODCM)," and Unit 2, Technical Specification 6.5.1, "Offsite Dose Calculation Manual." When changes were made to the Offsite Dose Calculation Manual in 1999, the licensee failed to (1) perform analyses or evaluations to justify changes to airborne radionuclide and/or particulate sampling requirements related to particulate air sampling collection frequency and (2) establish an airborne sampling location for a community in the highest deposition factor wind sector for the site. As immediate corrective actions, the licensee evaluated their offsite dose calculation manual and developed a plan to meet the environmental sampling requirements. The issue was documented in Condition Report CR-ANO-C-2014-01380.

  The failure to follow the requirements of Unit 1 Technical Specification 5.5.1 and Unit 2 Technical Specification 6.5.1 was a performance deficiency. The performance deficiency was more than minor because it adversely affected the cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the environment and public domain. Specifically, the failure to maintain the Offsite Dose Calculation Manual with appropriate airborne radionuclide sampling requirements adversely impacts the licensee's ability to validate offsite radiation dose

assessments for members of the public under certain effluent release conditions. Using Inspection Manual Chapter 0609, Appendix D, dated February 12, 2008, “Public Radiation Safety Significance Determination Process,” the inspectors determined that the violation has very low safety significance because it involves the environmental monitoring program. The finding had a cross-cutting aspect in the area of human performance, associated with procedure adherence, because licensee personnel failed to follow procedures when they established the sampling frequency and locations for the updated Radiological Environmental Monitoring Program [H.8]. (Section 2RS7)

Licensee-Identified Violations

A violation of very low safety significance that was identified by the licensee has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and associated corrective action tracking number are listed in Section 4OA7 of this report.

PLANT STATUS

Unit 1 began the period at 100 percent power. On April 24, 2014, Unit 1 commenced a rapid plant downpower because of a system-wide grid emergency due to severe weather. The unit stabilized at 19 percent power and then increased to 72 percent power until the grid repairs were completed. On June 9, 2014, the grid repairs were completed and the unit increased power to 100 percent and remained at 100 percent power the rest of the inspection period.

Unit 2 began the period at 100 percent power. On April 3, 2014, the unit tripped due to a lightning strike which caused an undervoltage condition on the 6900V and 4160V busses. The reactor tripped due to the loss of two reactor coolant pumps. The unit was powered by startup transformer 2 and startup transformer 3. On April 5, 2014, Unit 2 commenced startup and reached 100 percent power on April 6, 2014. On April 24, 2014, Unit 2 commenced a rapid plant downpower because of a system-wide grid emergency due to severe weather. At 51 percent power, the unit tripped as a result of high axial shape index. Unit 2 remained shutdown until refueling outage 2R23, which began on May 11, 2014. On June 12, 2014, Unit 2 commenced reactor startup and reached 100 percent power on June 15, 2014. Unit 2 remained at 100 percent power the rest of the inspection period.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Summer Readiness for Offsite and Alternate AC Power Systems

a. Inspection Scope

On June 20, 2014, the inspectors completed an inspection of the station's off-site and alternate-ac power systems. The inspectors inspected the material condition of these systems, including transformers and other switchyard equipment to verify that plant features and procedures were appropriate for operation and continued availability of off-site and alternate-ac power systems. The inspectors reviewed outstanding work orders and open condition reports for these systems. The inspectors walked down the switchyard to observe the material condition of equipment providing off-site power sources.

The inspectors verified that the licensee's procedures included appropriate measures to monitor and maintain availability and reliability of the off-site and alternate-ac power systems.

These activities constituted one sample of summer readiness of off-site and alternate-ac power systems, as defined in Inspection Procedure 71111.01.

b. Findings

No findings were identified.

.2 Readiness for Impending Adverse Weather Conditions

a. Inspection Scope

On April 2, 2014, the inspectors completed an inspection of the station's readiness for impending adverse weather conditions. The inspectors reviewed plant design features, the licensee's procedures to respond to tornadoes and high winds, and the licensee's implementation of these procedures. The inspectors evaluated operator staffing and accessibility of controls and indications for those systems required to control the plant.

These activities constituted one sample of readiness for impending adverse weather conditions, as defined in Inspection Procedure 71111.01.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

Partial Walkdown

a. Inspection Scope

The inspectors performed partial system walk-downs of the following risk-significant systems:

- April 4, 2014, Unit 2, motor driven emergency feedwater pump after plant trip and prior to start-up
- May 16, 2014, Unit 2, shutdown cooling train B while shutdown cooling heat exchanger A was out of service

The inspectors reviewed the licensee's procedures and system design information to determine the correct lineup for the systems. They visually verified that critical portions of the systems were correctly aligned for the existing plant configuration.

These activities constituted two partial system walk-down samples as defined in Inspection Procedure 71111.04.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Quarterly Inspection

a. Inspection Scope

The inspectors evaluated the licensee's fire protection program for operational status and material condition. The inspectors focused their inspection on six plant areas important to safety:

- April 9, 2014, Unit 1, intake structure
- May 1, 2014, Unit 2, Fire Zone 2153-A, ventilation equipment room
- May 8, 2014, Unit 2, Fire Zone 2199-G, control room
- May 27, 2014, Unit 2, Switchgear Area 2A1 and 2A2
- June 17, 2014, Unit 1, Fire Zone 144-D, upper south electrical penetration room
- June 18, 2014, Unit 1, Fire Zone 149-E, upper north electrical penetration room, hot mechanic shop, and decontamination room

For each area, the inspectors evaluated the fire plan against defined hazards and defense-in-depth features in the licensee's fire protection program. The inspectors evaluated control of transient combustibles and ignition sources, fire detection and suppression systems, manual firefighting equipment and capability, passive fire protection features, and compensatory measures for degraded conditions.

These activities constituted six quarterly inspection samples, as defined in Inspection Procedure 71111.05.

b. Findings

No findings were identified.

.2 Annual Inspection

a. Inspection Scope

On June 27, 2014, the inspectors completed their annual evaluation of the licensee's fire brigade performance. This evaluation included observation of a Unit 1 unannounced fire drill for the south emergency diesel generator room on June 26, 2014. During this drill, the inspectors evaluated the capability of the fire brigade members, the leadership ability of the brigade leader, the brigade's use of turnout gear and fire-fighting equipment, and the effectiveness of the fire brigade's team operation. The inspectors also reviewed whether the licensee's fire brigade met NRC requirements for training, dedicated size and membership, and equipment.

These activities constituted one annual inspection sample, as defined in Inspection Procedure 71111.05.

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

On April 1, 2014, the inspectors completed an inspection of underground bunkers susceptible to flooding. The inspectors selected three underground vaults that contained risk-significant or multiple-train cables whose failure could disable risk-significant equipment:

- Manhole 02
- Manhole 08
- Manhole 13

The inspectors observed the material condition of the cables and splices contained in the vaults and looked for evidence of cable degradation due to water intrusion. The inspectors verified that the cables and vaults met design requirements.

These activities constitute completion of one bunker/manhole sample, as defined in Inspection Procedure 71111.06.

b. Findings

No findings were identified.

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

On April 3, 2014, the inspectors completed an inspection of the readiness and availability of risk-significant heat exchangers. The inspectors reviewed the data from a performance test for auxiliary building electrical rooms emergency chiller VCH-4A. Additionally, the inspectors walked down the chiller to observe its material condition and verified that the chiller was correctly categorized under the Maintenance Rule and was receiving the required maintenance.

These activities constitute completion of one heat sink performance annual review sample, as defined in Inspection Procedure 71111.07.

b. Findings

No findings were identified.

1R08 Inservice Inspection Activities (71111.08)

The activities described in subsections 1 through 4 below constitute completion of one inservice inspection sample, as defined in Inspection Procedure 71111.08.

.1 Non-destructive Examination (NDE) Activities and Welding Activities

a. Inspection Scope

The inspectors directly observed the following non-destructive examinations:

SYSTEM	WELD IDENTIFICATION	EXAMINATION TYPE
Reactor Coolant	Support Skirt To Bottom Head Weld	Magnetic Particle
Reactor Coolant	PZR FW 05-120	Ultrasonic
Reactor Coolant	Weld 08-14 Elbow to CASS Safe End	Encoded Phased Array Ultrasonic
Safety Injection	One-Way Restraint 2CCA-23-H13	Visual

The inspectors reviewed records for the following non-destructive examinations:

SYSTEM	WELD IDENTIFICATION	EXAMINATION TYPE
Main Steam	2ECB-5-3/4 FW-5C1	Penetrant
Main Steam	2ECB-5-3/4 FW-6C1	Penetrant
Main Steam	2ECB-5-1 FW-4C1	Penetrant
Main Steam	2ECB-5-1 FW-7C1	Penetrant
Reactor Coolant	Support Skirt To Bottom Head Weld	Magnetic Particle
Main Feedwater	Integrally Welded Attachment 2D88-1-H4	Penetrant

SYSTEM	WELD IDENTIFICATION	EXAMINATION TYPE
Safety Injection	2DCD-3-1 Pipe	Ultrasonic
Charging and Volume Control	CVCS FW-235	Radiography
Charging and Volume Control	CVCS FW-236	Radiography
Charging and Volume Control	CVCS FW-237	Radiography

During the review and observation of each examination, the inspectors observed whether activities were performed in accordance with the American Society of Mechanical Engineers (ASME) Code requirements and applicable procedures. The inspectors also reviewed the qualifications of all non-destructive examination technicians performing the inspections to determine whether they were current.

The inspectors directly observed a portion of the following welding activities:

SYSTEM	WELD IDENTIFICATION	WELD TYPE
Charging	2CV-5093-FW-11C3	Gas Tungsten Arc Welding
Main Steam	2ECB-5-FW7C1	Gas Tungsten Arc Welding
Main Steam	2MS1030C-FW4C1	Gas Tungsten Arc Welding

The inspectors reviewed whether the welding procedure specifications and the welders had been properly qualified in accordance with ASME Code, Section IX, requirements. The inspectors also determined whether that essential variables were identified, recorded in the procedure qualification record, and formed the bases for qualification of the welding procedure specifications.

b. Findings

No findings were identified.

.2 Vessel Upper Head Penetration Inspection Activities

a. Inspection Scope

The inspectors reviewed the results of the licensee's bare metal visual inspection of the reactor vessel upper head penetrations to determine whether the licensee identified any evidence of boric acid challenging the structural integrity of the reactor head components and attachments. During the performance of the bare metal visual examination of the Unit 2 reactor vessel upper head penetrations, residual boric acid traces, and some rust stains were observed. These conditions were identified in previous examinations and documented in Conditions Reports CR-ANO-2-2011-00838 and CR-ANO-2-2012-02283. There was no evidence of damage to the Unit 2 reactor vessel upper head penetrations, nor was there evidence of active leakage. The inspectors also verified that the required inspection coverage was achieved and limitations were properly recorded. The inspectors reviewed certifications for the personnel performing the inspection.

b. Findings

No findings were identified.

.3 Boric Acid Corrosion Control (BACC) Inspection Activities

a. Inspection Scope

The inspectors reviewed the licensee's implementation of its boric acid corrosion control program for monitoring degradation of those systems that could be adversely affected by boric acid corrosion. The inspectors reviewed the documentation associated with the licensee's boric acid corrosion control walk-down as specified in Procedure EN-DC-319, "Boric Acid Corrosion Control Program," Revision 10. The inspectors reviewed whether the visual inspections emphasized locations where boric acid leaks could cause degradation of safety-significant components, and whether engineering evaluation used corrosion rates applicable to the affected components and properly assessed the effects of corrosion-induced wastage on structural or pressure boundary integrity. The inspectors observed whether corrective actions taken were consistent with the ASME Code and 10 CFR 50, Appendix B, requirements.

b. Findings

No findings were identified.

.4 Steam Generator Tube Inspection Activities

a. Inspection Scope

The inspectors reviewed the steam generator tube eddy current test examination scope and expansion criteria to determine whether these criteria met technical specification requirements, Electrical Power Research Institute (EPRI) guidelines, and commitments made to the NRC. The inspectors also reviewed whether the eddy current test inspection scope included areas of degradations that were known to represent potential

eddy current test challenges such as the top of tube sheet, tube support plates, and U-bends. The inspectors confirmed that no repairs were required at the time of the inspection. The scope of the licensee's eddy current test examinations included:

- 100 percent full length bobbin testing
- 100 percent +Point inspection of bobbin flaw-like signals at tube support structures
- Special interest +Point testing of non-resolved free span bobbin signals
- 20 percent +Point inspection of hot leg and cold leg top of tube sheet
- Tube sheet periphery and tube lane foreign object search and retrieval

The following tube degradation mechanisms were identified:

- Tube support plate wear
- Anti-vibration bar wear
- Foreign object wear

The inspectors observed portions of the eddy current testing being performed to determine whether: (1) the appropriate probes were used for identifying the expected types of degradation, (2) calibration requirements were followed, and (3) probe travel speed was in accordance with procedural requirements. The inspectors performed a review of the site-specific qualifications for the techniques being used and reviewed whether eddy current test data analyses were adequately performed per EPRI and site-specific guidelines. The inspectors selected a number of degraded tubes and compared them to the previous outage operational assessment to assess the licensee's prediction capabilities.

Finally, the inspectors reviewed selected eddy current test data to verify that the analytical techniques used were adequate.

b. Findings

No findings were identified.

.5 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed 50 condition reports which dealt with inservice inspection activities and concluded that non-destructive examination and inservice inspection-related issues and operating experience were entered into the corrective action program at low levels to ensure conditions and problems are identified; however, appropriate actions and evaluations were not always taken to correct identified degraded conditions. Specific documents reviewed during this inspection are listed in Attachment 1.

b. Findings

(1) Failure to Evaluate Spent Fuel Pool Piping Flaw

Introduction. The inspector identified a Green non-cited violation of 10 CFR 50.55a(g)(4) because the licensee failed to either repair an ASME Code class pressure boundary leak in the Unit 1 spent fuel pool piping or perform an evaluation prior to returning the system to service.

Description. A through wall leak in the piping of the Unit 1 spent fuel pool cooling system downstream of valve SFP-23, "SFP to the Cask Loading Pit isolation" valve, was identified in August 2009. The system was declared nonfunctional and removed from service.

The licensee cleaned the boric acid residue resulting from the leak, cleared all tags, and restored the system to service. The licensee closed Condition Report CR-ANO-1-2009-1521 and Work Order WO 03771 after completing the clean-up activities. The flaw was not evaluated per the applicable ASME Code requirements to ensure structural integrity of the system prior to return to service.

The SFP cooling system piping is an ASME Code Class 3, moderate energy, component. The following paragraph of Section XI of the ASME code is applicable:

- Article IWA-3100, "Evaluation," paragraph (a) states, in part, "Evaluation shall be made of flaws detected during an inservice examination as required by IWB-3000 for Class 1 pressure retaining components, IWC-3000 for Class 2 pressure retaining components, and IWD-3000 for Class 3 pressure retaining components."

On November 11, 2009, the licensee initiated Condition Report CR-ANO-1-2009-02048, which stated, in part, "Due to miscommunication, both the original work order and CR initiated to track exact location, extent of condition and final repair have been closed without repair or proper evaluation."

The inspectors determined that as of May 23, 2014, the exact location, size, and geometry of the flaw were still unknown. Additionally, there had been no evaluation of the flaw as required by ASME Code.

Analysis. The inspectors determined that the licensee's failure to follow the ASME Code requirements for evaluating the leak in the Unit 1 spent fuel pool cooling system was a performance deficiency. The finding was more than minor because it was associated with the design control attribute of the barrier integrity cornerstone, and adversely affected the structural integrity of the spent fuel pooling cooling system. Specifically, the licensee failed to evaluate a through wall flaw in the piping in the spent fuel pool cooling system in accordance with the requirements of ASME Code Section XI to ensure structural integrity of the piping. The inspectors evaluated the finding using Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," Tables 2 and 3,

dated June 19, 2012, and Appendix A, "The Significance Determination Process (SDP) for Findings At-Power,"dated June 19, 2012, Exhibit 3, Part D, for the spent fuel pool. The inspectors determined the finding to be of very low safety significance (Green) because the finding did not cause the pool temperature to exceed the maximum analyzed temperature limit; it did not cause mechanical damage to fuel clad and a detectible release of radionuclides; it did not result in a loss of spent fuel pool water inventory below the minimum analyzed level limit; and it did not affect the spent fuel pool neutron absorber, fuel bundle misplacement or soluble boron concentration. The finding had a cross-cutting aspect in the area of human performance, associated with resources, because the licensee failed to ensure personnel and procedures were adequate to support nuclear safety. Specifically, the licensee failed to ensure personnel and procedures were available and adequate to recognize the requirement to evaluate components in ASME Code class systems that do not comply with ASME Code requirements [H.1].

Enforcement. Title 10 CFR 50.55a(g)(4) states that, "Throughout the service life of a boiling or pressurized water-cooled nuclear power facility, components (including supports) which are classified as ASME Code Class 1, Class 2, and Class 3 must meet the requirements, except design and access provision and preservice examination requirements, set forth in Section XI of editions of the ASME Boiler and Pressure Vessel Code and Addenda that become effective subsequent to editions specified in paragraphs (g)(2) and (g)(3) of this section and are incorporated by reference in paragraph (b) of this section, to the extent practical within the limitations of design, geometry, and materials of construction of the components." Contrary to the above, between August 11, 2009, and May 23, 2014, the licensee failed to ensure that the spent fuel pool cooling system pipe, an ASME Code Class 3 component, met the requirements set forth in Section XI of the applicable edition of ASME Boiler and Pressure Vessel Code and Addenda to the extent practical within the limitations of design, geometry, and materials of construction of the components. Specifically, the licensee failed to evaluate the acceptability of the spent fuel pool cooling pipe, an ASME Code medium energy component, for continued service, as specified in ASME Section XI, Articles IWA-3100 and IWD-3000.

The section of piping containing the flaw was isolated and tagged out of service. Because this finding is of very low safety significance and have been entered into the corrective action program as Condition Report CR-ANO-C-2014-1801, this violation is being treated as a non-cited violation, consistent with Section 2.3.2.a of the Enforcement Policy: NCV 05000313/2014003-01, "Failure to Evaluate a Spent Fuel Pool Piping Flaw."

(2) Failure to Evaluate Reactor Coolant Sample System Piping Flaws

Introduction. The inspector identified a Green non-cited violation of 10 CFR 50.55a(g)(4) for the licensee's failure to evaluate the acceptability of the Unit 1 reactor coolant sample cooler E30 for continued service. Specifically, when the licensee determined that sample cooler E30 developed leaks, the licensee failed to evaluate the acceptability of the component for continued service as required by ASME Code for a Class 2 (high energy) ASME Code system.

Description. In March 2013, the licensee identified a leak from the Unit 1 reactor coolant system cooler into the intermediate cooling water (ICW) System. Sample cooler E30 is used to cool samples obtained from the reactor coolant system. These samples are used to verify the reactor coolant system meets technical specifications.

Sample cooler E30 is within the ISI Class 2 boundary (ASME Section XI, paragraph IWC). It is exempted by IWC-1222(a) from the volumetric and surface (inspection) requirements of IWC-2500 due to its size and the system which it is installed, and it is exempted by IWC-5222(b) from pressure testing requirements of ASME Code.

The following paragraphs of Section XI of the ASME code are applicable:

- Article IWA-3100, "Evaluation," paragraph (a) states, in part, "Evaluation shall be made of flaws detected during an inservice examination as required by IWB-3000 for Class 1 pressure retaining components, IWC-3000 for Class 2 pressure retaining components, and IWD-3000 for Class 3 pressure retaining components."

- Article IWC-3000, "Acceptance Standards," states, in part, "The acceptance standards referenced in Table IWC-3410-1 shall be applied to determine acceptability for service."

The inspectors determined that sample cooler E30 was not evaluated per requirements of the ASME Code until December 2013.

Analysis. The inspectors concluded that the licensee's failure to evaluate the acceptability of the sample cooler E30 for continued service was a performance deficiency. The performance deficiency was more than minor because it was associated with the human performance attribute of the initiating events cornerstone and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the leakage could result in the inability to sample the reactor coolant for activity which would upset plant stability by causing an unplanned shutdown as required by technical specifications. Using Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," dated June 19, 2012, and Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 1, "Initiating Events Screening Questions," dated June 19, 2012, the inspectors determined that the finding was of very low safety significance (Green) because the finding did not result in a reactor trip or the loss of mitigation equipment relied upon to transition the plant from the onset of a trip to a stable shutdown condition. The finding had a cross-cutting aspect in the area of human performance, associated with resources, because the licensee failed to ensure personnel and procedures were adequate to support nuclear safety. Specifically, the licensee failed to ensure personnel and procedures were available and adequate to recognize the requirement to evaluate components in ASME Code class systems that do not comply with ASME Code requirements [H.1].

Enforcement. Title 10 CFR 50.55a(g)(4) requires, in part, that "Throughout the service life of a boiling or pressurized water-cooled nuclear power facility, components (including supports) which are classified as ASME Code Class 1, Class 2, and Class 3 must meet the requirements, except design and access provision and preservice examination requirements, set forth in Section XI of editions of the ASME Boiler and Pressure Vessel Code and Addenda that become effective subsequent to editions specified in paragraphs (g)(2) and (g)(3) of this section and are incorporated by reference in paragraph (b) of this section, to the extent practical within the limitations of design, geometry, and materials of construction of the components." Contrary to the above, between March 2013 and December 2013, the licensee failed to ensure that the Unit 1 sample cooler E30, an ASME Code Class 2 component, met the requirements set forth in Section XI of the applicable edition of ASME Boiler and Pressure Vessel Code and Addenda to the extent practical within the limitations of design, geometry, and materials of construction of the components as required by this regulation. Specifically, the licensee failed to evaluate the acceptability of the sample cooler E30, an ASME Code high energy component, for continued service, as specified in ASME Section XI, Articles IWA-3100 and IWC-3000.

For the Unit 1 sample system, the licensee determined that the structural integrity of the sample cooler was maintained and the sample cooler could be remotely isolated. Because this finding is of very low safety significance and has been entered into the corrective action program as Condition Report CR-ANO-C-2014-1801, this violation is being treated as a non-cited violation, consistent with Section 2.3.2.a of the Enforcement Policy: NCV 05000313/2014003-02, "Failure to Evaluate Reactor Coolant Sample System Piping Flaws."

(3) Failure to Follow Procedures for Through Wall Leaks

Introduction. The inspectors identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," with two examples. Specifically, the licensee failed to perform operability and functionality assessments in accordance with Procedure EN-OP-104, "Operability Determination Process," Revision 7, after identifying through wall leaks in the Unit 1 and Unit 2 reactor coolant sampling systems.

Description. Sample coolers E30 and 2E30 are used to cool samples obtained from the reactor coolant system from Units 1 and 2, respectively. These samples are used to verify the reactor coolant system meets technical specifications.

Example 1: Beginning in 2005, the licensee noted measureable activity levels in the Unit 1 intermediate cooling water system. This trend was documented in a number of Condition Reports, including CR-ANO-1-2005-442, CR-ANO-1-2006-399, CR-ANO-1-2012-391, CR-ANO-1-2012-774, CR-ANO-1-2013-530, CR-ANO-1-2013-3138, and CR-ANO-1-2013-3219. In March 2013, the licensee determined the sample cooler was the source of the activity.

The licensee performed an operability/functionality assessment, documented in Condition Report CR-ANO-1-2013-00530, and determined that sample cooler E30 was not required per technical specifications, was a non-safety-related SSC and that, although it was a Regulatory Guide 1.26 compliant component, it did not specifically require a functionality assessment per Procedure EN-OP-104, Section 5.1. Therefore, the licensee concluded that E30 was not within the scope of the operability determination process (EN-OP-104). The licensee further concluded that sample cooler E30 was not considered part of the reactor coolant system pressure boundary and was normally isolated from the reactor coolant system when a sample is not being collected; therefore, the reactor coolant system was not affected by this condition and remained OPERABLE with respect to this condition. The licensee finally concluded that no degraded or nonconforming condition existed per Procedure EN-OP-104, Revision 7, Attachment 9.1, Table 1.

However, the inspectors noted that Procedure EN-OP-104, Section 5.2, states, in part, "The scope of SSCs subject to Functionality Assessment in this procedure consists of SSCs not described in TS, but which warrant programmatic controls to ensure that SSC availability and reliability are maintained. In general, these SSCs and the related controls are included in programs related to Appendix B to 10 CFR Part 50, "Quality Standards and Records," and the maintenance rule (10 CFR 50.65). Additionally, SSCs warrant functionality assessments within the processes used to address degraded and nonconforming conditions because they perform specified functions described in the Updated Final Safety Analysis Report (UFSAR), technical requirements manual, emergency plan, fire protection plan, regulatory commitments, or other elements of the current licensing basis (CLB)."

Based on this information, the inspectors concluded a functionality assessment should have been performed in accordance with Procedure EN-OP-104. The licensee subsequently performed a functionality assessment of the reactor coolant sample system and determined that the system was functional, but did not comply with ASME Code requirements.

Example 2: On February 3, 2014, two through wall leaks in the supply line to the reactor coolant sample cooler 2E30 were identified. The licensee performed a visual inspection of the leaks in the reactor coolant sample system and initiated Condition Report CR-ANO-2-2014-268 to document the condition. The operability description in the condition report concluded that the reactor coolant system and the Unit 2 containment building were operable, and further concluded that no degraded or nonconforming condition existed as defined by Procedure EN-OP-104, Attachment 9.1, Table 1. The condition report did not indicate that the licensee had performed a functionality assessment of the reactor coolant sample system as required by Procedure EN-OP-104 even though the sample system was the system directly affected by the degraded condition.

The inspectors questioned the licensee on their ability to meet the Technical Specification Surveillance Requirement 4.4.8.1 for dose equivalent xenon, which is required once per seven days, as well as the acceptability of the system for continued service. The licensee determined that the late date for the dose equivalent xenon

surveillance was February 7, 2014, (including the +25 percent allowed by technical specifications) and that permanent repairs to the sample system would not be completed by that time. Based on the inability of the licensee to obtain a sample with the existing degraded condition of the sample system, the inspectors concluded the sample system should have been declared nonfunctional in accordance with Procedure EN-OP-104, Attachment 9.1, Table 1, or Section 5.9. The licensee subsequently removed the system from service and completed permanent repairs in accordance with applicable ASME Code requirements.

Analysis. The inspector determined that the failure to perform functional assessments of the Unit 1 and 2 reactor coolant sampling systems as specified by Procedure EN-OP-104, "Operability Determination Process," was a performance deficiency. The finding was more than minor because it was associated with the human performance attribute of the initiating events cornerstone and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the leakage could result in the inability to sample the reactor coolant for activity which would upset plant stability by causing an unplanned shutdown as required by technical specifications. Using Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," dated June 19, 2012, and Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 1, "Initiating Events Screening Questions," the inspectors determined that the finding was of very low safety significance (Green) because the finding did not result in a reactor trip or the loss of mitigation equipment relied upon to transition the plant from the onset of a trip to a stable shutdown condition. This finding had a cross-cutting aspect in the area of human performance, associated with training, because the licensee failed provide training and ensure knowledge transfer to maintain a knowledgeable, technically competent workforce and instill nuclear safety values. Specifically, the licensee failed to ensure that operators were adequately trained on the use of EN-OP-104, "Operability Determination Process," Revision 7, such that required functionality assessments for degraded and/or non-conforming non-technical specification systems were performed as required [H.9].

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings." Contrary to the above, for Unit 1 from March 2013 to February 2014 and for Unit 2 on February 3, 2014, the licensee failed to accomplish activities affecting quality in accordance with procedures appropriate to the circumstances. Specifically, the licensee failed to perform functionality assessments of the Unit 1 reactor coolant sample system and the Unit 2 reactor coolant sample system in accordance with Procedure EN-OP-104, "Operability Determination Process," Revision 7. For the Unit 1 sample system, the licensee performed a functionality assessment and the system remained functional with the current leak rate. For the Unit 2 sample system, the system was isolated and the flaws were repaired. Because this finding is of very low safety significance and have been entered into the corrective

action program as Condition Report CR-ANO-C-2014-1800, this violation is being treated as a non-cited violation, consistent with Section 2.3.2.a of the Enforcement Policy: NCV 05000313; 368/2014003-03, "Failure to Follow Procedures for Through Wall Leaks."

(4) Failure to Repair a Through Wall Flaw in Spent Fuel Pool Piping

Introduction. The inspectors identified a Green finding for failure to follow Procedure EN LI-102, "Corrective Action Process," Revision 23. The licensee failed to evaluate or correct a through wall flaw in the spent fuel pool piping in a timely manner.

Description. A through wall leak in the piping of the Unit 1 spent fuel pool cooling system downstream of valve SFP-23, "SFP to the Cask Loading Pit isolation" valve, was identified in August 2009. The system was declared nonfunctional and removed from service. The boric acid residue resulting from the through wall flaw was cleaned up and Condition Report CR-ANO-1-2009-1521 and its associated Work Order WO 03771, were closed.

On November 11, 2009, the licensee initiated Condition Report CR-ANO-1-2009-02048, which stated in part, "Due to miscommunication, both the original work order and condition report initiated to track exact location, extent of condition, and final repair have been closed without repair or proper evaluation."

On May 23, 2014, the inspectors determined that the exact location, size, and geometry of the flaw were still unknown. There had been no evaluation of the flaw as required by ASME Code, and the danger tags originally placed on system were cleared.

Procedure EN-LI-102, "Corrective Action Process," defines a degraded condition as a condition in which the qualification of a structure, system or component or its functional capability is reduced. Examples of degraded conditions are failures, malfunctions, deficiencies, deviations, and defective material and equipment. Examples of conditions that can reduce the capability of a system are aging, erosion, corrosion, improper operation, and maintenance. Section 5.9, item c, requires in part, that "Any Operable-DNC [degraded or nonconforming] or Operable-Comp Measures conditions not resolved prior to the completion of the next outage of sufficient duration shall be evaluated for continued operability into the next cycle of operation. This evaluation is reviewed and approved by the Onsite Safety Review Committee (OSRC) prior to startup from the outage.." In addition, Section 5.9, item e (4), states in part, that "The specific restriction preventing the timely completion of the item, resulting in the need to use the Long Term CA [corrective action] classification, must be documented in the CA or as otherwise referenced in the CA. Long Term CA classifications are normally assigned at time of CA initiation (vice changing to Long Term at the due date)."

Subsequent to identifying the through wall leak, the licensee completed two refueling outages and several extended forced outages, but failed to repair the adverse condition, evaluate the acceptability of the adverse condition, or justify a longer completion schedule.

Analysis. The inspectors determined that the licensee's failure to repair the leak in the Unit 1 spent fuel pool cooling system was a performance deficiency. The finding was more than minor in accordance with Inspection Manual Chapter 0612, Appendix B, "Issue Screening," because it was associated with the barrier integrity cornerstone attribute of design control and adversely affected the structural integrity of the spent fuel pooling cooling system. Specifically, from August 2009 to present, the licensee failed to appropriately evaluate or correct a through wall flaw in the piping in the spent fuel pool cooling system to ensure structural integrity of the piping. The inspectors evaluated the finding using Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," Tables 2 and 3, dated June 19, 2012, and Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 3, Part D, for the spent fuel pool, dated June 19, 2012. The inspectors determined the finding to be of very low safety significance (Green) because the finding did not cause the pool temperature to exceed the maximum analyzed temperature limit; it did not cause mechanical damage to fuel clad and a detectible release of radionuclides; it did not result in a loss of spent fuel pool water inventory below the minimum analyzed level limit; and it did not affect the spent fuel pool neutron absorber, fuel bundle misplacement or soluble boron concentration. This finding had a cross-cutting aspect in the area of human performance, associated with conservative bias, because the licensee failed to use decision-making practices that emphasize prudent choices over those that are simply allowable. Specifically, the licensee failed to make conservative decisions regarding a through wall flaw in the spent fuel pool cooling system, an ASME Code Class 3 moderate energy component, to ensure that the resolution addressed the condition commensurate with its safety significance [H.14].

Enforcement. This finding does not involve enforcement action because no violation of a regulatory requirement was identified. The portion of the system containing the flaw has been tagged out and isolated. The issue was documented in Condition Report CR-ANO-C-2014-1801. Because this finding does not involve a violation and has very low safety significance, it is identified as FIN05000368/2014003-XX, "Failure to Correct Through Wall Flaw in Spent Fuel Pool Piping."

(5) Unresolved Item. Proper ASME Code Classification of Reactor Coolant System Sample System.

Introduction. The inspectors identified an unresolved item pertaining to characterization of a potential performance deficiency for design control for the reactor coolant sampling system. The original specifications for the system specified stainless steel components, but carbon steel components were used in the system.

Description. Two through wall leaks in the supply line to the Unit 2 reactor coolant sample cooler E30 were identified on February 3, 2014. The two flaws were in the weld metal or heat affected zone of the weld and were approximately 1/8 inch apart. One flaw was a pinhole near the center of the fillet weld and the second flaw was linear in nature, starting at the toe of the fillet weld and continuing transverse across the weld. The proper classification of the system needs to be determined to correctly characterize the use of the carbon steel components in the system.

Regulatory Guide 1.26, “Quality Group Classifications And Standards For Water-, Steam-, and Radioactive-Waste-Containing Components Of Nuclear Power Plants” Section C.2.c, “Regulatory Position,” states, in part, “The Group C quality standards given in Table 1 of this guide should be applied to water-, steam-, and radioactive-waste-containing pressure vessels, heat exchangers (other than turbines and condensers), storage tanks, piping, pumps, and valves not part of the reactor coolant pressure boundary or included in quality Group B, but part of: systems or portions of systems that are connected to the reactor coolant pressure boundary and are capable of being isolated from that boundary during all modes of normal reactor operation by two valves, each of which is either normally closed or capable of automatic closure. (Note 6)" Note 6 states, “Components in influent lines may be classified as Group D provided they are capable of being isolated from the reactor coolant pressure boundary by an additional valve which has high leak tight integrity.” The quality standards given in Table 1 for piping are ASME Code, Section III, Class 3.

The reactor coolant sampling system meets the description of Group C quality standards. There is confusion as to the current classification of the system, some documents indicate it is ASME Code, Section III, Class 3, others indicate that it is B31.1 piping which would be the quality standards for Group D piping. At the time of the inspection, the licensee could not provide documentation demonstrating that the system was capable of being isolated from the reactor coolant pressure boundary by an additional valve which has high leak tight integrity. The licensee was researching microfilm documents to locate the necessary information. This issue is being tracked as URI 05000368/2014003-05.

(6) Unresolved Item. Inservice Testing of the Diesel Fuel Oil Transfer Piping

Introduction. The inspectors identified an unresolved item pertaining to the Unit 2 diesel fuel oil transfer piping being designated as safety-related, but was not in the inservice testing program.

Description. The diesel fuel oil transfer piping from the vaults to the day tanks is safety-related, but is not included in the inservice testing program. Regulatory Guide 1.137, “Fuel-Oil Systems For Standby Diesel Generators,” Part C.e., states, in part, “Section 7.3 of ANSI N195-1976 states that the arrangement of the fuel-oil system ‘shall provide for inservice inspection and testing in accordance with ASME Boiler and Pressure Vessel Code, Section XI, 'Rules for Inservice Inspection of Nuclear Power Plant Components.’ ” For those portions of the fuel-oil systems for standby diesel generators that are designed to Section III, Subsection ND of the Code, an acceptable method of meeting the requirements of Section 7.3 is to ensure that the system arrangement would allow:

(1) Pressure testing of the fuel-oil system to a pressure 1.10 times the system design pressure at 10-year intervals. In the case of storage tanks, recommendations of the tank vendor should be taken into account when establishing the test pressure.

(2) A visual examination to be conducted during the pressure test for evidence of component leakages, structural distress, or corrosion. In the case of buried components, a loss of system pressure during the test constitutes evidence of component leakage."

The licensee has not entered the fuel transfer piping into the inservice testing program. The licensee is not fully committed to Regulatory Guide 1.137, but at the time of the inspection was unable to provide documentation to demonstrate an alternate method of meeting the ANSI N195-1976 requirements. The licensee was searching microfilm records for additional documentation and the inspectors have contacted NRR for additional guidance. This issue is being tracked as URI 05000368/2014003-06.

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

.1 Review of Licensed Operator Requalification

a. Inspection Scope

On April 10, 2014, the inspectors observed simulator training for an operating crew on Unit 1. On April 18, 2014, the inspectors observed simulator training for an operating crew on Unit 2. The inspectors assessed the performance of the operators and the evaluators' critique of their performance.

These activities constitute completion of two quarterly licensed operator requalification program samples, as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

.2 Review 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 11, 2014, Unit 1, low pressure injection/decay heat removal pump train A quarterly surveillance
- May 14, 2014, Unit 2, reactor coolant system draindown to vessel flange

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

These activities constitute completion of two quarterly licensed operator performance samples, as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors reviewed two instances of degraded performance or condition of safety-related structures, systems, and components (SSCs):

- April 29, 2014, Unit 2, condensate storage system suction valves to emergency feedwater system
- June 27, 2014, Unit 2, safety injection tanks 2T-2C and 2T-2D vent valves

The inspectors reviewed the extent of condition of possible common cause SSC failures and evaluated the adequacy of the licensee's corrective actions. The inspectors reviewed the licensee's work practices to evaluate whether these may have played a role in the degradation of the SSCs. The inspectors assessed the licensee's characterization of the degradation in accordance with 10 CFR 50.65 (the Maintenance Rule), and verified that the licensee was appropriately tracking degraded performance and conditions in accordance with the Maintenance Rule.

These activities constituted completion of two maintenance effectiveness samples, as defined in Inspection Procedure 71111.12.

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope

The inspectors reviewed four risk assessments performed by the licensee prior to changes in plant configuration and the risk management actions taken by the licensee in response to elevated risk:

- April 9, 2014, Unit 1, service water pump P-4A shaft sleeve replacement
- May 14, 2014, Unit 2, reactor coolant system draindown to vessel flange

- May 20, 2014, Unit 1, heavy equipment in the switchyard and inoperability of startup transformer 1 due to replacement of the autotransformer phase A

- June 24, 2014, Unit 2, alternate ac diesel generator planned outage

The inspectors verified that these risk assessments were performed timely and in accordance with the requirements of 10 CFR 50.65 (the Maintenance Rule) and plant procedures. The inspectors reviewed the accuracy and completeness of the licensee's risk assessments and verified that the licensee implemented appropriate risk management actions based on the result of the assessments.

These activities constitute completion of four maintenance risk assessments and emergent work control inspection samples, as defined in Inspection Procedure 71111.13.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed six operability determinations that the licensee performed for degraded or nonconforming SSC:

- April 3, 2014, Unit 2, startup transformer 3 cable mechanical protection damaged due to raccoons

- April 17, 2014, Unit 2, control room emergency chiller train B after trip during surveillance testing

- May 2, 2014, Unit 2, modification of door DR-447 to maintain battery operability during cold weather

- May 5, 2014, Unit 2, main steam isolation valve train A, due to main steam isolation valve accumulator 2T-91 leakage

- May 27, 2014, Unit 1, service water train A valve misposition

- May 27, 2014, Units 1 and 2, startup transformer 2 buswork below design flood level

The inspectors reviewed the timeliness and technical adequacy of the licensee's evaluations. Where the licensee determined the degraded SSC to be operable, the inspectors verified that the licensee's compensatory measures were appropriate to provide reasonable assurance of operability. The inspectors verified that the licensee had considered the effect of other degraded conditions on the operability of the degraded SSC.

These activities constitute completion of six operability and functionality review samples, as defined in Inspection Procedure 71111.15.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

a. Inspection Scope

On May 19, 2014, the inspectors reviewed a temporary modification to the Unit 2 temporary containment penetration during refueling outage. The inspectors verified that the licensee had installed and removed this temporary modification in accordance with technically adequate design documents. The inspectors verified that this modification did not adversely impact the operability or availability of affected SSCs. The inspectors reviewed design documentation and plant procedures affected by the modification to verify the licensee maintained configuration control.

These activities constitute completion of one sample of temporary modifications, as defined in Inspection Procedure 71111.18.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed four post-maintenance testing activities that affected risk-significant SSCs:

- May 22, 2014, Unit 2, feedwater block valve train A after circuit breaker replacement
- May 30, 2014, Unit 2, low pressure safety injection train A discharge stop-check valve 2SI-3A after valve replacement
- June 2, 2014, Unit 2, emergency feedwater train A isolation motor operated valve 2CV-1039-1 after motor maintenance
- June 25, 2014, Unit 2, turbine driven emergency feedwater pump after outage maintenance

The inspectors reviewed licensing- and design-basis documents for the SSCs and the maintenance and post-maintenance test procedures. The inspectors observed the performance of the post-maintenance tests to verify that the licensee performed the tests in accordance with approved procedures, satisfied the established acceptance criteria, and restored the operability of the affected SSCs.

These activities constitute completion of four post-maintenance testing inspection samples, as defined in Inspection Procedure 71111.19.

b. Findings

Introduction. Inspectors identified a Green non-cited violation of Unit 1 Technical Specification 5.4, "Procedures," for the licensee's failure to establish adequate instructions for filling and venting the emergency core cooling system. Specifically, an inadequate fill and vent could have allowed gas voids to enter the suction of an operable high pressure injection pump.

Description. The inspectors reviewed Procedure OP-1104.002, "Makeup and Purification System Operation," Section 25.0, "Makeup Pump Venting," Change 081, to verify that the restoration instructions would adequately fill and vent the high pressure injection system, also called a makeup pump, prior to restoring a drained pump.

The inspectors noted that the procedure directed venting the pump casing after the suction valve was opened. While the swing high pressure injection pump was aligned, the drained and swing pump shared a common suction line. The common suction line was horizontal, so a void from the drained pump would be able to enter the operable pump's suction after the suction valve was opened, which may interfere with the emergency core cooling function of the high pressure injection system in an emergency. Therefore, the inspectors concluded that the fill and vent instructions were inadequate. The licensee documented the inspectors' concerns in Condition Report CR-ANO-1-2014-00295.

The licensee calculated that the potential void of 0.232 cubic feet was above the operability limit of 0.07 cubic feet established by the licensee in Calculation CALC-12-E-0012-01, "Determination of Allowable Gas Volumes in GL 2008-01 Systems on Both Units," Revision 0. The licensee had used the inadequate fill and vent instructions for high pressure injection pump C on October 10, 2013. The drained pump was restored and started, sweeping any voids away from the standby pump's suction. The standby pump was inadvertently inoperable for less that the technical specification allowed outage time.

Additionally, the inspectors noted that the fill and vent procedure included instructions for dynamic venting of the pumps, following static filling and venting, through their minimum flow line. The inspectors determined that the pumps' minimum flow would pass through the seal return heat exchanger and that the licensee had not analyzed the potential impact of the gas on the heat exchanger. The licensee subsequently determined that there was sufficient flow through the heat exchanger tubes to flush any voids.

Condition Report CR-ANO-1-2011-02922, which documented a small void in the discharge of the high pressure injection system, initiated a procedure change for makeup pump venting. Section 25.0, "Makeup Pump Venting," of procedure OP-1104.002 was established in Change 075, on January 29, 2013. However, the condition report and the procedure change failed to effectively evaluate and implement gas voiding operating experience. Specifically, the licensee failed to implement their response to NRC Generic Letter 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems." The licensee had intended to inspect the drained pumps' suction and discharge lines with ultrasonic test equipment prior to returning the pump to service. While the licensee had implemented this test for other systems, the 2011 high pressure injection procedure change failed to include the test in addition to the issues discussed above.

Analysis. Inspectors concluded that the failure to establish adequate filling and venting instructions for a drained high pressure injection pump was a performance deficiency. The performance deficiency was more than minor because it was associated with the procedure quality attribute of the mitigating systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and was therefore a finding. Specifically, the inadequate fill and vent instructions caused a high pressure injection pump to become inoperable for the standby emergency core cooling function. Using Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," dated June 19, 2012, and Appendix A, "The Significance Determination Process (SDP) for Findings at Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined this finding was of very low safety significance (Green) because the degraded condition was not a design or qualification deficiency; did not represent an actual loss of function or a system; did not represent an actual loss of function of a single train or two separate trains for greater than its technical specification allowed outage time; did not represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significant; and did not screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event.

The finding had a cross-cutting aspect in the area of problem identification and resolution for the licensee's failure to effectively evaluate and implement external operating experience. Specifically, the licensee failed to effectively evaluate and implement gas voiding operating experience when establishing fill and vent instructions for the high pressure injection procedure [P.5].

Enforcement. Technical Specification 5.4.1.a requires, in part, that the licensee establish the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A. Item 3.d of Appendix A, requires, in part, instructions for filling and venting the emergency core cooling system. Contrary to the above, as of February 14, 2014, the licensee failed to establish instructions for filling and venting the Unit 1 emergency core cooling system. Specifically, the licensee's instructions for filling and venting a drained high pressure injection pump could have allowed a gas void to enter the suction of an operable high pressure injection pump and failed to include ultrasonic testing prior to returning the pump to service. The licensee corrected the condition by revising the

instructions. Because this finding is of very low safety significance and has been entered into the corrective action program as Condition Report CR-ANO-1-2014-00295, this violation is being treated as a non-cited violation consistent with Section 2.3.2.a of the NRC Enforcement Policy: NCV 05000313/2014003-07, "Inadequate Filling and Venting of High Pressure Injection Pump."

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

During the station's Unit 2 refueling outage that concluded on June 12, 2014, the inspectors evaluated the licensee's outage activities. The inspectors verified that the licensee considered risk in developing and implementing the outage plan, appropriately managed personnel fatigue, and developed mitigation strategies for losses of key safety functions. This verification included the following:

- Review of the licensee's outage plan prior to the outage
- Monitoring of shut-down and cool-down activities
- Verification that the licensee maintained defense-in-depth during outage activities
- Observation and review of reduced-inventory activities
- Review of fuel handling activities
- Monitoring of heat-up and startup activities

During the station's Unit 2 forced outages on April 3, 2014, and April 27, 2014, the inspectors evaluated the licensee's outage activities. The inspectors verified that the licensee considered risk in developing and implementing the outage plan, appropriately managed personnel fatigue, and developed mitigation strategies for losses of key safety functions. This verification included the following:

- Monitoring of shut-down and cool-down activities
- Verification that the licensee maintained defense-in-depth during outage activities
- Monitoring of heat-up and startup activities

These activities constitute completion of one refueling outage sample and two outage activities samples, as defined in Inspection Procedure 71111.20.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed seven risk-significant surveillance tests and reviewed test results to verify that these tests adequately demonstrated that the SSCs were capable of performing their safety functions:

In-service test:

- April 11, 2014, Unit 1, low pressure injection/decay heat removal pump train A

Containment isolation valve surveillance test:

- June 5, 2014, Unit 2, containment purge valve 2CV-8283-1, local leak rate test

Other surveillance tests:

- May 7, 2014, Unit 1, emergency diesel generator train A, quarterly surveillance test
- May 15, 2014, Unit 2, train A low pressure safety injection integrity test and leak rate determination
- June 3, 2014, Unit 2, train A and train B high pressure safety injection system full flow surveillance test
- June 11, 2014, Unit 1, reactor coolant system chemistry sampling
- June 12, 2014, Unit 1, reactor coolant system leak rate determination

The inspectors verified that these tests met technical specification requirements, that the licensee performed the tests in accordance with their procedures, and that the results of the test satisfied appropriate acceptance criteria. The inspectors verified that the licensee restored the operability of the affected SSCs following testing.

These activities constitute completion of seven surveillance testing inspection samples, as defined in Inspection Procedure 71111.22.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstones: Public Radiation Safety and Occupational Radiation Safety

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

a. Inspection Scope

The inspectors assessed the licensee's performance in assessing the radiological hazards in the workplace associated with licensed activities. The inspectors assessed the licensee's implementation of appropriate radiation monitoring and exposure control measures for both individual and collective exposures. The inspectors walked down various portions of the plant and performed independent radiation dose rate

measurements. The inspectors interviewed the radiation protection manager, radiation protection supervisors, and radiation workers. The inspectors reviewed licensee performance in the following areas:

- The hazard assessment program, including a review of the licensee's evaluations of changes in plant operations and radiological surveys to detect dose rates, airborne radioactivity, and surface contamination levels

- Instructions and notices to workers, including labeling or marking containers of radioactive material, radiation work permits, actions for electronic dosimeter alarms, and changes to radiological conditions

- Programs and processes for control of sealed sources and release of potentially contaminated material from the radiologically controlled area, including survey performance, instrument sensitivity, release criteria, procedural guidance, and sealed source accountability

- Radiological hazards control and work coverage, including the adequacy of surveys, radiation protection job coverage and contamination controls, the use of electronic dosimeters in high noise areas, dosimetry placement, airborne radioactivity monitoring, controls for highly activated or contaminated materials (non-fuel) stored within spent fuel and other storage pools, and posting and physical controls for high radiation areas and very high radiation areas

- Radiation worker and radiation protection technician performance with respect to radiation protection work requirements

- Audits, self-assessments, and corrective action documents related to radiological hazard assessment and exposure controls since the last inspection

These activities constitute completion of one sample of radiological hazard assessment and exposure controls as defined in Inspection Procedure 71124.01.

b. Findings

No findings were identified.

2RS3 In-Plant Airborne Radioactivity Control and Mitigation (71124.03)

a. Inspection Scope

The inspectors evaluated whether the licensee controlled in-plant airborne radioactivity concentrations consistent with as low as reasonably possible (ALARA) principles and that the use of respiratory protection devices did not pose an undue risk to the wearer. During the inspection, the inspectors interviewed licensee personnel, walked down various portions of the plant, and reviewed licensee performance in the following areas:

- The licensee's use, when applicable, of ventilation systems as part of its engineering controls

- The licensee's respiratory protection program for use, storage, maintenance, and quality assurance of National Institute for Occupational Safety and Health (U.S. Public Health Service) (NIOSH) certified equipment and user performance

- The licensee's capability for refilling and transporting self-contained breathing apparatus (SCBA) air bottles to and from the control room and operations support center during emergency conditions, status of SCBA staged and ready for use in the plant

b. Findings

No findings were identified.

2RS5 Radiation Monitoring Instrumentation (71124.05)

a. Inspection Scope

The inspectors evaluated the accuracy and operability of the radiation monitoring equipment used by the licensee (1) to monitor areas, materials, and workers to ensure a radiologically safe work environment and (2) to detect and quantify radioactive process streams and effluent releases. The inspectors interviewed licensee personnel, walked down various portions of the plant, and reviewed licensee performance in the following areas:

- Selected plant configurations and alignments of process, postaccident, and effluent monitors with descriptions in the Final Safety Analysis Report and the offsite dose calculation manual

- Selected instrumentation, including effluent monitoring instrument, portable survey instruments, area radiation monitors, continuous air monitors, personnel contamination monitors, portal monitors, and small article monitors to examine their configurations and source checks

- Calibration and testing of process and effluent monitors, laboratory instrumentation, whole body counters, postaccident monitoring instrumentation, portal monitors, personnel contamination monitors, small article monitors, portable survey instruments, area radiation monitors, electronic dosimetry, air samplers, and continuous air monitors

- Audits, self-assessments, and corrective action documents related to radiation monitoring instrumentation since the last inspection

These activities constitute completion of one sample of radiation monitoring instrumentation as defined in Inspection Procedure 71124.05.

b. Findings

No findings were identified.

2RS6 Radioactive Gaseous and Liquid Effluent Treatment (71124.06)

a. Inspection Scope

The inspectors evaluated whether the licensee maintained gaseous and liquid effluent processing systems and properly mitigated, monitored, and evaluated radiological discharges with respect to public exposure. The inspectors verified that abnormal radioactive gaseous or liquid discharges and conditions, when effluent radiation monitors were out-of-service, were controlled in accordance with the applicable regulatory requirements and licensee procedures. The inspectors verified that the licensee's quality control program ensured radioactive effluent sampling and analysis adequately quantified and evaluated discharges of radioactive materials. The inspectors verified the adequacy of public dose projections resulting from radioactive effluent discharges. The inspectors interviewed licensee personnel and reviewed or observed the following items:

- Radiological effluent release reports since the previous inspection and reports related to the effluent program issued since the previous inspection
- Effluent program implementing procedures, including sampling, monitor setpoint determinations, and dose calculations
- Equipment configuration and flow paths of selected gaseous and liquid discharge system components, filtered ventilation system material condition, and significant changes to their effluent release points, if any, and associated 10 CFR 50.59 reviews
- Selected portions of the routine processing and discharge of radioactive gaseous and liquid effluents (including sample collection and analysis)
- Controls used to ensure representative sampling and appropriate compensatory sampling
- Results of the inter-laboratory comparison program
- Effluent stack flow rates
- Surveillance test results of technical specification-required ventilation effluent discharge systems since the previous inspection
- Significant changes in reported dose values
- A selection of radioactive liquid and gaseous waste discharge permits

- Part 61 analyses and methods used to determine which isotopes were included in the source term
- Offsite dose calculation manual changes
- Meteorological dispersion and deposition factors
- Latest land use census
- Records of abnormal gaseous or liquid tank discharges
- Groundwater monitoring results
- Changes to the licensee's written program for identifying and controlling contaminated spills/leaks to groundwater
- Identified leakage or spill events and entries made into 10 CFR 50.75 (g) records, if any, and associated evaluations of the extent of the contamination and the radiological source term
- Offsite notifications and reports of events associated with spills, leaks, and groundwater monitoring results
- Audits, self-assessments, reports, and corrective action documents related to radioactive gaseous and liquid effluent treatment since the last inspection

These activities constitute completion of one sample of radioactive gaseous and liquid effluent treatment, as defined in Inspection Procedure 71124.06.

b. Findings

No findings were identified.

2RS7 Radiological Environmental Monitoring Program (71124.07)

a. Inspection Scope

The inspectors verified that the licensee's radiological environmental monitoring program quantified the impact of radioactive effluent releases to the environment and sufficiently validated the integrity of the radioactive gaseous and liquid effluent release program. The inspectors verified that the radiological environmental monitoring program was implemented consistent with the licensee's technical specifications and offsite dose calculation manual, and that the radioactive effluent release program met the design objective in Appendix I to 10 CFR Part 50. The inspectors verified that the licensee's radiological environmental monitoring program monitored non-effluent exposure pathways, was based on sound principles and assumptions, and validated that doses to

members of the public were within regulatory dose limits. The inspectors reviewed or observed the following items:

- Annual environmental monitoring reports and offsite dose calculation manual
- Selected air sampling and dosimeter monitoring stations
- Collection and preparation of environmental samples
- Operability, calibration, and maintenance of meteorological instruments
- Selected events documented in the annual environmental monitoring report which involved a missed sample, inoperable sampler, lost dosimeter, or anomalous measurement
- Selected structures, systems, or components that may contain licensed material and have a credible mechanism for licensed material to reach ground water
- Records required by 10 CFR 50.75(g)
- Significant changes made by the licensee to the offsite dose calculation manual as the result of changes to the land census or sampler station modifications since the last inspection
- Calibration and maintenance records for selected air sample equipment and environmental sample radiation measurement instrumentation
- Inter-laboratory comparison program results
- Audits, self-assessments, reports, and corrective action documents related to the radiological environmental monitoring program since the last inspection

These activities constitute completion of one sample of radiological environmental monitoring program as defined in Inspection Procedure 71124.07.

b. Findings

Introduction. The inspectors identified two examples of a Green non-cited violation of Unit 1 Technical Specification (TS) 5.5.1, “Offsite Dose Calculation Manual,” (ODCM) and Unit 2 Technical Specification 6.5.1, “Offsite Dose Calculation Manual,” for the failure to establish, implement, and maintain appropriate changes to the ODCM relative to the airborne radionuclide and particulate sampling requirements. Specifically, changes made to the ODCM failed to maintain an appropriate particulate air sampling collection frequency and failed to establish an airborne sampling location in a community of the highest deposition factor (D/Q) wind sector for the site.

Description. In 1999, the licensee made changes to their Radiological Environmental Monitoring Program (REMP). The licensee stated these changes were justified. However, the NRC inspectors did not find a proper justification for the changes made to the REMP via their ODCM.

In the first example, the licensee changed the ODCM air sample collection frequency from weekly to biweekly without appropriate justification. The ODCM originally required the licensee to collect particulate and radioiodine air samples on a weekly basis, as recommended in the NRC Branch Technical Position, Revision 1, dated November 1979, for Regulatory Guide 4.8, "Environmental Technical Specifications for Nuclear Power Plants." At the licensee's request, the charcoal filter supplier performed an analysis of the charcoal filter cartridges used for radioiodine sampling, comparing the efficiency of the media for weekly sampling to biweekly sampling frequencies. The supplier determined that the sampling results were within ± 2 percent of the cumulative efficiency data for all batches tested, thus demonstrating that the collection efficiency for iodine remained well within the allowed error. The supplier concluded that the weekly sampling frequency specified in the ODCM could be relaxed to biweekly. The licensee used this analysis to reduce the collection frequency for all airborne sampling, both radioiodine and particulate. However, no analysis or evaluation was performed to justify a reduced sampling collection frequency for particulate sampling, such as an evaluation of the effect of the additional filter loading. Thus, changes made to the ODCM reducing the collection frequency from weekly to biweekly for the airborne particulate samples were not justified.

In the second example, the ODCM required the licensee to establish an airborne sampling location in a community of the highest D/Q (deposition factor) wind sector for the site. The highest deposition factor typically correlates with the sector to which the wind blows most frequently. When the licensee revised the ODCM in 1999, they established Station 6 (in the east-southeast direction) as the airborne sampling location in the community with the highest D/Q. However, the two airborne sampling sectors with the highest D/Q close to the site were determined to be Sector 12 (in the west-southwest direction) and Sector 13 (in the west direction). The 2008-2012 meteorological analysis performed for the site, and used to complete the land use census, again determined the highest D/Q sector to be Sector 12, in the west-southwest direction, for all cases examined.

While reviewing this information, the inspectors identified that airborne sampling Station 6 was located approximately 7 miles downwind in the Russellville community of Sector 6, which is in the east-southeast direction, rather than in Sector 12 (in the west-southwest direction) as required. The licensee had no plausible explanation as to why this Sector 6 sampling station requirement had been established and maintained since 1999, despite an opportunity to identify the issue during the 2012 meteorological study performed. The inspectors also determined there were no downwind airborne sampling stations established in the west-southwest or west direction for any community, contrary to the ODCM requirement.

Discussions with the licensee revealed that the underlying cause of this issue was the licensee's failure to follow procedures. Section B.2.5.2 of Procedure 075, Revision 24, "Offsite Dose Calculation Manual," states that surveys performed during the land use census are to ensure changes in the use of unrestricted areas are identified and subsequently included in the Radiological Environmental Monitoring Program. Additionally, Section L.2.5.1 of this procedure states, in part, that an environmental sampling location from the vicinity of a community having the highest calculated annual average ground-level D/Q shall be designated and maintained. Thus, the licensee failed to use the data identified in the land use census and meteorological assessment performed (i.e., WSW sector has the highest D/Q for all cases). Consequently, the licensee did not appropriately modify the environmental sample locations to ensure an airborne sampling station in the vicinity of a community having the highest calculated D/Q was established and maintained.

Regarding the revised biweekly sampling requirement for the particulates, the licensee stated that the changes were made in compliance with the NRC Branch Technical Position, Revision 1, for Regulatory Guide (RG) 4.8. Regulatory Guide 4.8 states that the radioiodine and particulates sampling collection frequency is continuous with sample collection weekly or as required by dust loading, whichever is more frequent. In Form 1000.131C, Revision 3, "10 CFR 50.59 Review Continuation Page," the licensee states that the sampling frequency was justified and supported by historical radiological environmental sampling data and a charcoal efficiency study. However, the licensee failed to demonstrate that the change in sampling frequency for particulates was acceptable and appropriate for dust loading.

Analysis. The failure to follow the requirements of Unit 1 TS 5.5.1 and Unit 2 TS 6.5.1 was a performance deficiency. The performance deficiency was determined to be more than minor because it was associated with the program and process attribute of the public radiation safety cornerstone. It adversely affects the cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the environment and public domain. Specifically, the failure to maintain the ODCM with appropriate sampling requirements adversely impacts the licensee's ability to validate offsite radiation dose calculations for members of the public under certain effluent release conditions. Using Inspection Manual Chapter 0609, Attachment D, dated February 12, 2008, "Public Radiation Safety Significance Determination Process," the inspectors determined that the violation has very low safety significance (Green) because it involves the environmental monitoring program. The inspectors determined the violation had a cross-cutting aspect in the area of human performance, associated with procedure adherence, because the licensee personnel failed to follow procedures when they established the sampling locations for the REMP [H.8].

Enforcement. Unit 1 TS 5.5.1 and Unit 2 TS 6.5.1 require the licensee to establish, implement, and maintain the ODCM. Unit 1, TS 5.5.1(a), and Unit 2, TS 6.5.1(a), specifically require that licensee-initiated changes to the ODCM be documented with sufficient information to support the changes together with the appropriate analyses or evaluations justifying the changes. Contrary to the above, in September 1999, the licensee failed to establish, implement, and maintain the ODCM by making changes to

the ODCM without appropriate analyses or evaluations performed to justify the changes. Specifically, the licensee changed the airborne sampling frequency for radioactive particulates without performing an evaluation to justify the change. They also failed to establish an appropriate airborne sampling location in a community with the highest D/Q as determined by the results of a recent land use census performed.

As immediate corrective actions, the licensee evaluated their ODCM and developed a plan to meet the environmental sampling requirements. Because this violation was of very low safety significance and was entered into the licensee's corrective action program as Condition Report CR-ANO-C-2014-01380, this violation is being treated as a non-cited violation, consistent with Section 2.3.2.a of the Enforcement Policy: NCV 05000313; 368/2014003-08, "Failure to Establish, Implement, and Maintain Appropriate Changes to the Offsite Dose Calculation Manual For Airborne Sampling."

2RS8 Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation (71124.08)

a. Inspection Scope

The inspectors evaluated the effectiveness of the licensee's programs for processing, handling, storage, and transportation of radioactive material. The inspectors interviewed licensee personnel and reviewed the following items:

- The solid radioactive waste system description, process control program, and the scope of the licensee's audit program
- Control of radioactive waste storage areas including container labeling/marking and monitoring containers for deformation or signs of waste decomposition
- Changes to the liquid and solid waste processing system configuration including a review of waste processing equipment that is not operational or abandoned in place
- Radio-chemical sample analysis results for radioactive waste streams and use of scaling factors and calculations to account for difficult-to-measure radionuclides
- Processes for waste classification including use of scaling factors and 10 CFR Part 61 analysis
- Shipment packaging, surveying, labeling, marking, placarding, vehicle checking, driver instructing, and preparation of the disposal manifest
- Audits, self-assessments, reports, and corrective action reports related to radioactive solid waste processing and radioactive material handling, storage, and transportation performed since the last inspection

These activities constitute completion of one sample of radioactive solid waste processing, and radioactive material handling, storage, and transportation as defined in Inspection Procedure 71124.08.

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 Security

4OA1 Performance Indicator Verification (71151)

.1 Unplanned Scrams with Complications (IE04)

a. Inspection Scope

The inspectors reviewed the licensee's basis for including or excluding in this performance indicator each scram that occurred between January 1, 2013, and December 31, 2013. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the data reported.

These activities constituted verification of the unplanned scrams with complications performance indicator for Units 1 and 2, as defined in Inspection Procedure 71151.

b. Findings

Introduction. The inspectors identified an unresolved item associated with not reporting two events in the unplanned scrams with complication performance indicator for Unit 2.

Description. On March 31, 2013, and December 9, 2013, Unit 2 experienced a loss of condenser vacuum due to the transfer of electrical busses to startup transformer 2. By design, the lockout of the preferred offsite power source startup transformer 3 in these events resulted in the loss of non-vital circulating water pumps and the subsequent loss of condenser vacuum. The loss of condenser vacuum ultimately resulted in the loss of main feedwater pump capability. Both main feedwater pumps are steam driven at Unit 2. Neither of these concerns were reported under this performance indicator.

Unit 2 has a non-vital electric-driven feedwater pump, 2P-75, which remained available and capable of supplying sufficient feedwater flow to remove decay heat up through about 4 percent reactor power. The non-vital 2P-75 pump, which can be supplied directly from the condensate storage tanks, does not rely on condenser vacuum or portions of the main feedwater system, and supplies feedwater for plant cooldown, heatup, hot standby conditions, and startup.

The NRC stated that the intent of the guidance in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guidance," for unplanned scrams with complications was to have the main feedwater available or recoverable within 30 minutes after a trip or scram assuming a loss of emergency feedwater to ensure safe shutdown of the plant.

The licensee submitted a frequently asked question to the Nuclear Energy Institute working group because the licensee considered the trip to be uncomplicated because at least one or more electric-driven feedwater pumps remained available as backup to the emergency feedwater system. The Nuclear Energy Institute guidance refers to an "electric-driven main feedwater" source; however, the intent was to provide backup feedwater capability should emergency feedwater be lost, which would be met by the 2P-75 pump. The frequently asked question is currently under review by NRC headquarters and the Nuclear Energy Institute working group to decide whether or not the above events should be captured as unplanned scrams with complications.

The inspectors concluded that an additional inspection was required to assess whether or not the events should have been included in the unplanned scrams with complications performance indicator for Unit 2. This issue was identified as an Unresolved Item URI 05000368/2014003-09, "Reporting of Unit 2 Events as Unplanned Scrams with Complications."

.2 Safety System Functional Failures (MS05)

a. Inspection Scope

For the period of April 1, 2013, through March 31, 2014, the inspectors reviewed licensee event reports (LERs), maintenance rule evaluations, and other records that could indicate whether safety system functional failures had occurred. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, and NUREG-1022, "Event Reporting Guidelines: 10 CFR 50.72 and 50.73," Revision 3, to determine the accuracy of the data reported.

These activities constituted verification of the safety system functional failures performance indicator for Units 1 and 2, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.3 Reactor Coolant System Specific Activity (BI01)

a. Inspection Scope

The inspectors reviewed the licensee's reactor coolant system chemistry sample analyses for the period of April 1, 2013, through March 31, 2014, to verify the accuracy and completeness of the reported data. The inspectors observed a chemistry technician

obtain and analyze a reactor coolant system sample on June 11, 2014. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data.

These activities constituted verification of the reactor coolant system specific activity performance indicator for Units 1 and 2, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.4 Reactor Coolant System Total Leakage (BI02)

a. Inspection Scope

The inspectors reviewed the licensee's records of reactor coolant system total leakage for the period of April 1, 2013, through March 31, 2014, to verify the accuracy and completeness of the reported data. The inspectors observed the performance of reactor coolant system leak rate surveillance procedure on June 12, 2014. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data.

These activities constituted verification of the reactor coolant system leakage performance indicator Units 1 and 2, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.5 Occupational Exposure Control Effectiveness (OR01)

a. Inspection Scope

The inspectors verified that there were no unplanned exposures or losses of radiological control over locked high radiation areas and very high radiation areas during the period of October 1, 2013, to March 31, 2014. The inspectors reviewed corrective action program records and a sample of radiologically controlled area exit transactions showing exposures greater than 100 mrem. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data.

These activities constituted verification of the occupational exposure control effectiveness performance indicator as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.6 Radiological Effluent Technical Specifications (RETS)/Offsite Dose Calculation Manual (ODCM) Radiological Effluent Occurrences (PR01)

a. Inspection Scope

The inspectors reviewed corrective action program records for liquid or gaseous effluent releases that occurred between October 1, 2013, and March 31, 2014, and were reported to the NRC to verify the performance indicator data. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data.

These activities constituted verification of the RETS/ODCM radiological effluent occurrences performance indicator as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152)

.1 Routine Review

a. Inspection Scope

Throughout the inspection period, the inspectors performed daily reviews of items entered into the licensee's corrective action program and periodically attended the licensee's condition report screening meetings. The inspectors verified that licensee personnel were identifying problems at an appropriate threshold and entering these problems into the corrective action program for resolution. The inspectors verified that the licensee developed and implemented corrective actions commensurate with the significance of the problems identified. The inspectors also reviewed the licensee's problem identification and resolution activities during the performance of the other inspection activities documented in this report.

b. Findings

No findings were identified.

.2 Semiannual Trend Review

a. Inspection Scope

The inspectors reviewed the licensee's corrective action program, performance indicators, system health reports, and other documentation to identify trends that might

indicate the existence of a more significant safety issue. The inspectors verified that the licensee was taking corrective actions to address identified adverse trends.

These activities constitute completion of one semiannual trend review sample, as defined in Inspection Procedure 71152.

b. Findings

No findings were identified.

.3 Annual Follow-up of Selected Issues

a. Inspection Scope

On May 9, 2014, inspectors selected and reviewed the September 2013 failure of Unit 2 high pressure safety injection valve 2CV-5056-2 to close for an in-depth follow-up. The inspectors assessed the licensee's problem identification threshold, cause analyses, extent of condition reviews and compensatory actions. The inspectors verified that the licensee appropriately prioritized the planned corrective actions and that these actions were adequate to correct the condition.

These activities constitute completion of one annual follow-up sample, as defined in Inspection Procedure 71152.

b. Findings

No findings were identified.

4OA3 Follow-up of Events and Notices of Enforcement Discretion (71153)

.1 Unit 2 Reactor Trip Due to Lightning Strike

a. Inspection Scope

On April 8, 2014, Unit 2 tripped due to a lightning strike on the 161 kV Russellville East Line. This caused the input and output voltage to startup transformer 3 to be lowered. Because startup transformer 3 was powering the 6.9 kV and 4.16 kV (vital and non-vital) busses, due to the December 2013 unit auxiliary transformer explosion, the undervoltage condition caused the reactor to trip. Power was lost to the B and C reactor coolant pumps. The B emergency diesel generator automatically started on an undervoltage condition but did not load because train B emergency equipment was powered by the startup 3 transformer. Train A emergency equipment was powered by the startup 2 transformer.

Inspectors observed implementation of emergency and abnormal operating procedures, verified emergency action levels, verified the status of safety equipment and barriers, assessed radiological impacts, and observed command and control functions.

Unit 2 remained in hot shutdown conditions until the plant was restarted on April 4, 2014.

These activities constitute completion of one event follow-up sample, as defined in Inspection Procedure 71153.

b. Findings

No findings were identified.

.2 Unit 2 Trip During Rapid Downpower

a. Inspection Scope

On April 27, 2014, the system operations center dispatcher informed the licensee of a system-wide grid emergency due to severe weather and ordered both Units 1 and 2 to be taken offline as soon as possible; both units commenced a rapid plant shutdown. At about 51 percent power, Unit 2 automatically tripped as a result of high axial shape index. Both vital and non-vital 4.16 kV and 6.9 kV busses were powered by startup transformer 3 before and after the trip due to the December 2013 unit auxiliary transformer explosion. Because the severe weather damaged the 500 kV Mabelvale line, Unit 2 remained shutdown until refueling outage 2R23, which began on May 11, 2014.

After the Unit 2 reactor tripped, Unit 1 stopped the power reduction and stabilized the plant at approximately 19 percent power. Unit 1 was subsequently limited to a total power output of about 72 percent until repairs could be made to the Mabelvale line.

Inspectors observed implementation of emergency and abnormal operating procedures, verified emergency action levels, verified the status of safety equipment and barriers, assessed radiological impacts, and observed command and control functions.

These activities constitute completion of one event follow-up sample, as defined in Inspection Procedure 71153.

b. Findings

No findings were identified.

.3 (Closed) Licensee Event Report 05000313/2013-001-00, Collapse of a Main Generator Stator Lift Assembly Results in a Fatality, Multiple Injuries, a Plant Scram, a Notification of Unusual Event, and Dual Unit Structural Damage

On March 31, 2013, during lifting and removal of the Arkansas Nuclear One, Unit 1, original main generator stator, the temporary lift assembly collapsed due to failure of one of the structural columns, resulting in the stator falling onto the turbine deck and rolling down into the Unit 1 train bay adjacent to Unit 2. The event resulted in one fatality, multiple injuries, structural damage to the Unit 1 and 2 turbine buildings, and damage to non-vital systems and electrical equipment. Subsequently, Unit 1 lost offsite power and both emergency diesel generators automatically started to supply safety loads.

Unit 2 automatically tripped off-line due to the vibration from the dropped stator which tripped a reactor coolant pump motor breaker. After the reactor trip, emergency feedwater was manually initiated by Unit 2 control room operators. As debris fell into the train bay, an 8-inch firewater pipe was ruptured and the alternate ac diesel generator electrical tie to Unit 1 was severed. A few hours later, water intrusion from the ruptured firewater piping into a 4160 volt breaker resulted in a Unit 2 startup transformer lockout, de-energizing a safety bus. An emergency diesel generator automatically started and supplied the affected safety bus. A Unit 2 notification of unusual event was declared at 10:33 a.m. due to fire or explosion from an electrical fault in the 4160 volt switchgear with indications of bus damage. After damage assessment and repairs, Unit 2 returned to power operation on April 28, 2013, and Unit 1 returned to power operation on August 7, 2013.

See NRC Augmented Inspection Team Follow-up Inspection Report 05000313/2013012 and 05000368/2013012 (ADAMS Accession No. ML14083A409) for enforcement aspects related to this event. The inspectors did not identify any additional findings.

4OA5 Other Activities

.1 Follow-up on Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, Confirmatory Orders, and Alternative Dispute Resolution Confirmatory Orders (IP 92702)

a. Background

On August 24, 2011, the NRC issued a Confirmatory Order (EA-11-096) to Entergy Operations Inc., and Entergy Nuclear Operations, Inc. (collectively referred to as Entergy). The Confirmatory Order actions were agreed upon by Entergy and the NRC during an alternative dispute resolution session held on July 18, 2011, to resolve NRC concerns regarding an apparent violation of employee protection requirements at the River Bend Station. The actions focused on reorganizing the Quality Control reporting relationships, ensuring adequate training of 10 CFR 50.7, “Employee Protection,” and performing an effectiveness review of the Employee Concerns Program procedures at all Entergy facilities.

By letter, dated August 23, 2012, Entergy notified the NRC of the actions that had been taken in response to the requirements imposed by the Confirmatory Order. Accordingly, during the week of April 29, 2013, NRC staff from the Office of Enforcement and Region IV performed an inspection at the River Bend Station to assess the specific actions identified in Entergy’s response letter. NRC staff also verified implementation of the remaining actions required to satisfy the conditions set forth in the Confirmatory Order, for all Entergy sites. Subsequent to this inspection, NRC staff continued to interact with Entergy regarding the adequacy of the corrective and preventive actions related to the underlying discriminatory issue.

b. Findings and Observations

No findings were identified.

During the follow-up inspection, the NRC staff reviewed Entergy's Employee Concerns Program supervisory training and general employee training documents, the relevant "lessons learned" from the facts of this matter and the fleet-wide written communication reinforcing Entergy's commitment to maintaining a safety-conscious work environment.

The NRC staff also reviewed the General Employee Training and Supervisory Training modules. Based on these reviews, it was determined that these training modules adequately addressed employee protection and included insights from the underlying discriminatory matter. The NRC staff determined that the supervisory training module appeared complete and included case studies as well as the specific elements from the underlying § 50.7, "Employee Protection," violation. However, it was noted that although employees receive General Employee Training on an annual basis, Entergy does not require supervisors to take employee protection refresher training on a recurring basis as a means to reinforce these standards.

Additionally, NRC staff evaluated the results of Entergy's effectiveness review of Employee Concerns Program (ECP) enhancements and the associated training that arose from the corrective actions taken to address this matter. Based on the results of this evaluation, it was determined that Entergy had performed the requisite reviews at each station, including examination of selected ECP Case Files, Records Retention, Concerned Individual follow-up, and ECP Coordinator training. Within the areas examined, no findings were identified and in general it was determined that Entergy had adequately performed the effectiveness review of ECP procedural enhancements and the ECP training related to this matter.

During the follow-up review of the Quality Control/Quality Assurance reporting relationship, it was determined that Entergy's response did not ensure that persons performing the quality assurance function of receipt inspection reported to a management level sufficient to maintain organizational freedom and independence from cost and schedule were maintained. Subsequent to the identification of this performance issue, which affected the implementation of the QA program at all nine Entergy sites, the condition was entered into the licensee's corrective action program as Condition Report CR-HQN-2013-00466.

Following the identification of this issue, additional discussions were held between NRC and Entergy to clarify the intent of the settlement agreement and subsequent Confirmatory Order stemming from the earlier alternate dispute resolution mediation. As a result of these discussions, Entergy's Corporate Licensing organization developed a fleet reconciliation plan to modify Entergy's Quality Assurance Program Manual to require that individuals performing inspections in accordance with Quality Assurance Program Manual, Section B.12, "Inspection," functionally report to the associated manager responsible for Quality Assurance. As described in the corrective actions associated with Condition Report CR-HQN-2013-00466, the affected individuals were those requiring certification in accordance with Quality Assurance Program Manual, Table 1, Regulatory Commitments, Section G, Regulatory Guide 1.58, Revision 1, "Qualification of Nuclear Power Plant Inspection, Examination, and Testing Personnel", dated September 1980. In addition to revising the applicable provisions in the Quality Assurance Program Manual, corrective actions were initiated to revise implementing

procedures to reflect the change in reporting relationship during the performance of required inspections as well as providing training to the affected individuals. The NRC staff confirmed that the remaining conditions of the Confirmatory Order were adequately addressed.

Based on the above reviews, the NRC determined that Entergy properly implemented the conditions specified in the Confirmatory Order and that the associated actions were adequately implemented.

.2 (Closed) Temporary Instructions 2515/182, Review of the Industry Initiative to Control Degradation of Underground Piping and Tanks

a. Inspection Scope

Leakage from buried and underground pipes has resulted in groundwater contamination incidents with associated heightened NRC and public interest. The Nuclear Energy Institute (NEI) issued a guidance document, NEI 09-14, "Guideline for the Management of Buried Piping Integrity," (ADAMS Accession No. ML1030901420) to describe the goals and required actions (commitments made by the licensee) resulting from this underground piping and tank initiative. On December 31, 2010, the Nuclear Energy Institute issued Revision 1 to NEI 09-14, "Guidance for the Management of Underground Piping and Tank Integrity," (ADAMS Accession No. ML110700122) with an expanded scope of components which included underground piping that was not in direct contact with the soil and underground tanks. On November 17, 2011, the NRC issued TI-2515/182, "Review of the Industry Initiative to Control Degradation of Underground Piping and Tanks," to gather information related to the industry's implementation of this initiative.

b. Findings and Observations

No findings were identified.

The licensee's buried piping and underground piping and tanks program was inspected in accordance with paragraph 03.02.a of the temporary instruction and it was confirmed that activities which correspond to completion dates specified in the program which have passed since the Phase 1 inspection was conducted have been completed. Additionally, the licensee's buried piping and underground piping and tanks program was inspected in accordance with paragraph 03.02.b of the temporary instruction and responses to specific questions were submitted to the NRC headquarters staff. Based upon the scope of the review described above, Phase II of TI-2515/182 was completed.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On April 3, 2014, the inspectors conducted an exit meeting with Mr. J. McCoy, Engineering Director, and other members of the licensee's staff. The licensee acknowledged the issues presented.

On May 16, 2014, the inspectors presented the radiation safety inspection results to Mr. J. Browning, Site Vice President, and other members of the licensee staff. The licensee acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

On May 23, 2014, the inspectors presented the inspection results to Mr. J. Browning, Site Vice President, and other members of the licensee staff. The licensee acknowledged the issues presented.

On June 30, 2014, the inspectors presented the inspection results to Mr. J. Browning, Site Vice President, and other members of the licensee staff. The licensee acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

4OA7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of the NRC Enforcement Policy for being dispositioned as a non-cited violation.

> Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings." Contrary to the above, on May 20, 2014, a welder failed to follow procedures/instructions and used the shielded metal arc welding (SMAW) process to weld the steam generator secondary side internal access hatch instead of the specified gas tungsten arc welding (GTAW) process that was specified in Work Order WO-ANO-00366662.
>
> The individuals involved failed to follow the instructions and requirements of multiple procedures and documents. Procedures and instructions not followed included Procedures CEP-WP-004, "Control and Documentation of Welding Activities," and CEP-WP-005, "Control and Issue of Weld Material," and Work Orders WO-ANO-0366661 and WO-ANO-0366662. In addition, although the material issue control document specified that filler material ER70S-2, which is for GTAW be used, the welder requested and was issued filler material E7018, which is for use in SMAW.
>
> Procedure EN-HU-102, "Human Performance Traps & Tools," Revision 13, Attachment 9.5, requires both the briefer and the individual tasked to perform the work to verify that the individual assigned to complete the task is qualified to perform the task and has current qualifications. However, the welder assigned to perform the welding on the steam generator secondary side internal access hatch was not qualified in GTAW; although, he was qualified in SMAW.
>
> Per ASME Code, SMAW is an acceptable process for welding of the steam generator secondary side internal access hatch, even though not specified by the procedure. The inspectors determined that the weld process used was acceptable per ASME Code, was

performed by a welder qualified in the process that was used, and the final weld passed the required non-destructive examination acceptance criteria.

The finding is more than minor because if left uncorrected the finding could have become more significant, in that assigning unqualified personnel to perform quality controlled evolutions could be a precursor to a significant event if undetected performance deficiencies develop. Using NRC Manual Chapter 0609, Significance Determination Process, “Phase 1 worksheets, the inspectors determined the non-cited violation had very low safety significance. The licensee entered this issue into their corrective action program as Condition Report CR-ANO-2-2014-01424.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

T. Arnold, Training Manager
D. Bice, Senior Licensing Specialist
E. Birge, Specialist, Chemistry
M. Briley, Corporate NDE Level III
J. Browning, Site Vice President
T. Chernivec, Performance Improvement Manager
R. Cope, Senior Chemistry Specialist, Chemistry
B. Doehring, Superintendent, Instrumentation and Controls
G. Doran, Specialist, Radiation Protection
D. Edgell, Systems Engineering Manager
P. Ellison, Support Instrumentation Technician, Radiation Protection
T. Evans, General Manager, Plant Operations Units 1 and 2
B. Ford, Senior Manager, Nuclear Safety and Licensing
R. Gordon, Senior Manager, Maintenance and Projects
W. Greeson, Engineering Supervisor
R. Harris, Emergency Preparedness Manager
T. Higby, Supervisor, FIN Team Electrical
D. James, Director, Regulatory Affairs
N. Jones, Ventilation System Engineer
R. Jones, Snubber Program Owner
J. Luther, Unit 2 Outage Manager
B. Lynch, Superintendent, Radiation Protection
D. Marvel, Manager, Radiation Protection
J. McCoy, Engineering Director
M. McCullah, Specialist, Radiation Protection
D. McGaha, Inservice Inspection Program Owner
S. Morris, Supervisor, Chemistry
N. Mosher, Licensing Specialist
K. New, Supervisor, Instrumentation and Controls
K. Panther, Nondestructive Examination Lead
J. Philpot, FIN Team Technician, Instrumentation and Controls
S. Pyle, Regulatory Assurance Manager
A. Remer, Senior Licensing Specialist
K. Russell, Supervisor, Instrumentation and Controls
L. Schwartz, Design Engineering Civil/Structural Supervisor
R. Sebring, Radiation Protection Supervisor
H. Spillers, Technician, Chemistry
K. Talbert, Acting Maintenance Manager
J. Tobin, Security Manager
B. Ward, Technician, Instrumentation and Controls Maintenance
P. Williams, Operations Manager

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000368/2014003-05	URI	Proper ASME Code Classification of RCS Sample System (Section 1R08.5.b)
05000368/2014003-06	URI	Inservice Testing of the Diesel Fuel Oil Transfer Piping (Section 1R08.5.b)
05000368/2014003-09	URI	Reporting of Unit 2 Events as Unplanned Scrams with Complications (Section 4OA1.1)

Opened and Closed

05000313/2014003-01	NCV	Failure to Evaluate a Spent Fuel Pool Piping Flaw (Section 1R08.5)
05000313/2014003-02	NCV	Failure to Evaluate Reactor Cooler Sample System Piping Flaws (Section 1R08.5)
05000313; 368/ 2014003-03	NCV	Failure to Follow Procedures for Through Wall Leaks (Section 1R08.5)
05000313/2014003-04	FIN	Failure to Repair a Through Wall Flaw in Spent Fuel Pool Piping (Section 1R08.5)
05000313/2014003-07	NCV	Inadequate Filling and Venting of High Pressure Injection Pump (Section 1R19)
05000313; 368/ 2014003-08	NCV	Failure to Establish, Implement, and Maintain Appropriate Changes to the Offsite Dose Calculation Manual For Airborne Sampling (Section 2RS7)

Closed

05000313/2013-001-00	LER	Collapse of a Main Generator Stator Lift Assembly Results in a Fatality, Multiple Injuries, a Plant Scram, a Notification of Unusual Event, and Dual Unit Structural Damage (Section 4OA3.3)
05000313/2515-182 05000368/2515-182	TI	Temporary Instructions 2515/182, Review of the Industry Initiative to Control Degradation of Underground Piping and Tanks (Section 4OA5)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

Number	Title	Revision
OP-1203.025	Natural Emergencies	047
EN-FAP-EP-010	Severe Weather Response	1
OP-1015.044	Summer Reliability Operations	009
ENS-DC-201	ENS Transmission Grid Monitoring	6
ENS-DC-199	Off Site Power Supply Design Requirements Nuclear Plant Interface Requirements	8
ENS-PL-159	Summer Reliability Plan	0
ENS-PL-158	Switchyard and Transmission Interface Requirements	36

Condition Report (CR)

CR-ANO-C-2014-0892

Section 1R04: Equipment Alignment

Procedures

Number	Title	Revision
OP-2106.006	Emergency Feedwater System Operations	84
OP-1015.008	Unit 2 SDC Control	46

Drawings

Number	Title	Revision
M-2204	Piping & Instrument Diagram Emergency Feedwater	67
M-2236	Piping & Instrument Diagram Containment Spray System	95
M-2232	Piping & Instrument Diagram Safety Injection System	119

Section 1R05: Fire Protection

Procedures

Number	Title	Revision
1b-add-unit1 intake.doc	Unit 1 Prefire Plan for Intake Structure El. 354 to El. 366	15
EN-DC-161	Control of Combustibles	10
2A-386-2199-G	Unit 2 Prefire Plan for Control Room	3
EN-TQ-125	Fire Brigade Dills	2
1a-372-87-h.doc	Unit 1 Prefire Plan for South Diesel Generator Room	2
1a-386-149-e.doc	Unit 1 Prefire Plan for Upper North Electrical Penetration, Hot Tool, & Decon Rom	2
1a-386-144-d.doc	Unit 1 Prefire Plan for Upper South Electrical Penetration Room	2

Calculations

Number	Title	Revision
CALC-85-E-0053-26	Fire Area N Combustible Loading	005
CALC-85-E-0053-51	Fire Area B-2 Combustible Loading Evaluation	001

Drawings

Number	Title	Revision
FZ-1030	Fire Zone Detail Intake Structure	2
FZ-1061	Fire Zone Detail Intake Structure	2
FZ-1062	Fire Zone Detail Intake Structure	2
FZ-2002	Fire Zone Detail Control Room	2
FZ-1032	Fire Zone Detail NO. & SO. Diesel Gener. Room Elec. Pene. Room & Uncont. Access	2
FZ-1039	Fire Zone Detail Fuel Handling Area, & Upper So. Electrical Penetration Rm., Sheet 1	2

Drawings

Number	Title	Revision
FZ-1041	Fire Zone Detail Fuel Handling Area, No and So Emer. Diesel Gene Exh Fan Tank & Pump Rm., Stair No 1, Respir. Clean. Rm, Upper No Elec. Penet. Rm., Hot Tool Rm., Decon Rm. Sheet 1	2

Miscellaneous

Number	Title	Revision Date
FHA	Unit 1 and Unit 2 Fire Hazards Analysis	16
	P-4A Shaft Sleeve Replacement Transient Combustible Review	April 8, 2014
TD T076.0240	Operation and Service Manual for Technology Inc. Statalarm Annunciator	0
ASOTH-FP-FBDRLS	Instructor's Guide for Fire Brigade Drills	7

Condition Report

CR-ANO-2-2014-0095

Section 1R06: Flood Protection Measures

Procedure

Number	Title	Revision
EN-IS-123	Electrical Safety	10

Condition Reports (CRs)

CR-ANO-1-2014-0604 CR-ANO-C-2014-0874 CR-ANO-C-2014-0951

Work Orders

52481720-01 52481636-01 52481759-01

Section 1R07: Heat Sink Performance

Procedures

Number	Title	Revision
OP-1104.027	Battery and Switchgear Emergency Cooling System	046
EN-LI-108	Event Notification and Reporting	9

Condition Reports (CRs)

CR-ANO-1-2014-00565 CR-ANO-1-2013-00134

Work Orders

00035831-01 52485559-01 00348949-01

Section 1R08: Inservice Inspection Activities

Procedures

Number	Title	Revision
EN-DC-319	Boric Acid Corrosion Control Program	10
CEP-BAC-001	Boric Acid Corrosion Control Program Plan	1
EN-MA-133	Control of Scaffolding	10
CEP-WP-002 WPS-SS-8/8-B	Manual Gas Tungsten Arc Welding of P No. 8 Stainless Steel	0
CEP-NDE-0423	Manual Ultrasonic Examination of Austenitic Piping Welds	6
CEP-NDE-0404	Manual Ultrasonic Examination of Ferritic Piping Welds (ASME XI)	5
CEP-NDE-0641	Liquid Penetrant Examination (PT) for ASME Section XI	7
CEP-NDE-0731	Magnetic Particle Examination (MT) for ASME Section XI	3
CEP-NDE-0901	VT-1 Examination	4
CEP-NDE-0902	VT-2 Examination	7
CEP-NDE-0903	VT-3 Examination	5
EN-DC-136	Temporary Modifications	10
EN-OP-104	Operability Determination Process	7
CEP-WP-004	Control and Documentation of Welding Activities	3
CEP-WP-005	Control and Issuance of Welding Material	1

Procedures

Number	Title	Revision
EN-IS-124	Job Safety Hazards Analysis	4
EN-DC-153	Preventive Maintenance Component Classification	9
EN-DC-167	Classification of Structures, Systems, and Components	6
EN-DC-308	Safety and Quality Classification of Replacement Parts	3
EN-DC-115	Engineering Change Process	16
EN-MA-118	Foreign Material Exclusion	9
CEP-NDE-0485	Manual Ultrasonic Examination of Vessel Nozzle Inside Radius	10
CEP-NDE-0497	Manual Ultrasonic Examination of Welds in Vessels	5
OP-1000.034	Control Of Temporary Services And Equipment	4
EN-LI-102	Corrective Action Process	13/23
EN-HU-102	Human Performance Traps &Tools	13

Condition Reports (CRs)

CR-ANO-1-1993-00029	CR-ANO-1-2001-00649	CR-ANO-1-2014-00586
CR-ANO-2-2012-02063	CR-ANO-2-2012-02123	CR-ANO-2-2013-01913
CR-ANO-2-2012-02124	CR-ANO-2-2012-02241	CR-ANO-2-2012-02428
CR-ANO-2-2012-02450	CR-ANO-2-2012-02455	CR-ANO-2-2012-02515
CR-ANO-2-2012-02609	CR-ANO-2-2012-02687	CR-ANO-2-2013-00856
CR-ANO-2-2013-00880	CR-ANO-2-2013-00906	CR-ANO-2-2013-01978
CR-ANO-2-2014-00390	CR-ANO-2-2014-01157	CR-ANO-2-2012-02021
CR-ANO-2-2014-01039	CR-ANO-2-2014-01045	CR-ANO-2-2014-01424
CR-ANO-2-2014-01188	CR-ANO-2-2014-01441	CR-ANO-2-2014-01442
CR-ANO-2-2014-01250	CR-ANO-2-2014-01248	CR-ANO-2-2014-01283
CR-ANO-2-2014-00268	CR-ANO-2-2014-00277	CR-ANO-2-2014-00293
CR-ANO-2-2014-00309	CR-ANO-2-2014-00311	CR-ANO-2-2014-00312
CR-ANO-2-2014-00314	CR-ANO-2-2014-01296	CR-ANO-C-2014-01188
CR-ANO-C-2014-01044	CR-ANO-C-2014-01355	CR-ANO-1-2004-02403

Miscellaneous Documents

Number	Title	Revision Date
LO-ALO-2010-00056	Welding Program Assessment	August 2011
SEP- BAC-ANO-001	Boric Acid Corrosion Control Program Inspection and Identification of Boric Acid Leaks for ANO-1 and ANO-2	2
LO-HQNLO-2011-0059	MRP/A600 Snapshot Assessment Report	September 22, 2011
	Inservice Inspection (ISI) and Pressure Test Program Focused Self-Assessment	November 15, 2012
51 - 9215758	ANO Unit 2 Degradation Assessment for 2R23 – Spring 2014	January 30, 2014
M-2001-C4-22 Sheet 1	ANO-2 Head Insulation General Layout	0
M-2001-C4-23 Sheet 1	Head Insulation Support Frame	1
M-2001-C2-023	ANO-2 Closure Head Nozzle Details - CEDM Nozzles	4
M-2001-C2-107	ANO-2 Closure Head Nozzle Requirements	3
95-R-0024-01	CALC-95-R-0024-01	10

Section 1R11: Licensed Operator Requalification Program and Licensed Operator Performance

Procedures

Number	Title	Revision
OP-1202.007	Degraded Power	012
OP-1202.012	Repetitive Tasks	012
OP-1015.001	Conduct of Operations	101
OP-2103.011	Draining the Reactor Coolant System	052

Training Courses

Number	Title	Revision
A1LPLORDEGP1404	Degraded Power	0
A1SPGLOR140405	Degraded Power	0
A2SPGLOR140404	Main Feedwater Pump and Turbine Generator Startup	0

Miscellaneous

Number	Title	Revision
EC0000048226	Suitability of Turbine Building Siding and Interim Repairs	0

Section 1R12: Maintenance Effectiveness

Procedures

Number	Title	Revision
OP-2106.006	Emergency Feedwater System Operations	084
OP-2202.005	Excess Steam Demand	014
OP-2202.008	DG Operations Station Backout	012
OP-2203.013	Natural Circulation Operations	015
OP-2202.006	Loss of Feedwater	011
OP-2202.003	Isolated LOCA Loss of Coolant Accident	014
OP-2202.004	Steam Generator Tube Rupture	014
OP-2203.014	Alternate Shutdown Cooldown Alternate Shutdown	028

Miscellaneous

Number	Title	Revision
SEP-ANO-2-IST-1	ANO Unit 2 IST Bases Document	3
SEP-ANO-2-IST-2	ANO Unit 2 Inservice Testing Plan	2
TDT020 0040	High Temperature, High Pressure Solenoid Operated Valve PN 1032110-4	10

Condition Reports (CRs)

CR-ANO-C-2014-00855	CR-ANO-2-2014-00756	CR-ANO-2-2014-00997
CR-ANO-2-2014-00999	CR-ANO-2-2014-01941	

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures

Number	Title	Revision
COPD-024	Risk Assessment Guidelines	48
OP-2103.011	Draining the Reactor Coolant System	052
OP-1107.001A	Unit 1 XFMER Outage Checklist	102
EN-IS-123	Electrical Safety	11
OP-1015.033	ANO Switchyard and Transformer Yard Controls	025
OP-2104.037	Alternate AC Diesel Generator Operations	027

Work Orders

353224 304745

Section 1R15: Operability Determinations and Functionality Assessments

Procedures

Number	Title	Revision
OP-2106.032	Unit Two Freeze Protection Guide	023
EN-DC-115	Engineering Change Process	16
EN-LI-102	Corrective Action Process	23
OP-1015.047	Condition Reporting Immediate Reportability Determinations	005
EN-LI-108	Event Notification and Reporting	9

Drawings

Number	Title	Revision
M-2263	Piping and Instrument Diagram Air Flow Diagram HVAC Aux. Bldg.-Misc. Rooms	13
M-2206, Sh. 1	Steam Generator Secondary System	151

Engineering Request

Number	Title	Revision
ER-ANO-2002-0006-000	Operation of ABHV Supply Fans (2VSF-7A/B) with Plenum Doors Open	0

Miscellaneous

Number	Title	Revision
OP-1015.045	Unit 1 Safety Function Determination Program, Attachment 2 Worksheet – Loop I Service Water	000-02-0

Condition Reports (CRs)

CR-ANO-2-2014-00345	CR-ANO-2-2013-02460	CR-ANO-C-2013-03171
CR-ANO-2-2014-00125	CR-ANO-2-2013-02516	CR-ANO-1-2013-2671
CR-ANO-C-2014-00857	CR-ANO-2-2009-3563	CR-ANO-C-2014-00951
CR-ANO-1-2014-00604		

Work Orders

370633	00220255	375466

Section 1R18: Plant Modifications

Procedures

Number	Title	Revision
OP-1015.008	Unit 2 SDC Control	46
OP-2504.038	Hawke Seal Maintenance	4

Section 1R19: Post-Maintenance Testing

Procedures

Number	Title	Revision
OP-1403.179	Molded Case Circuit Breaker Testing	022
OP-1416.042	K-Line Circuit Breaker PM	011
OP-1416.043	K-Line Circuit Breaker Overhaul	018
OP-1412.057	480V Load Center Switchgear Cleaning and Inspection	009
OP-2104.040	LPSI System Operations	066
OP-1412.001	Preventative Maintenance of Limitorque SB/SMB Motor Operators	045
OP-5120.010	Unit 1 & Unit 2 MOV Testing	019
OP-2106.006	Emergency Feedwater System Operations	085

Procedures

Number	Title	Revision
OP-2305.005	Valve Stroke and Position Verification	035

Work Orders

00286837-01 00351903-22 52447081-01 00333472-02 52447091-01
00354359-01, 4, 6

Section 1R20: Refueling and Other Outage Activities

Procedures

Number	Title	Revision
EN-OM-123	Fatigue Management Program	8
EN-NS-102	Fitness for Duty Program	12

Condition Report (CR)
CR-AN-2-2014-01561

Section 1R22: Surveillance Testing

Procedures

Number	Title	Revision
OP-1104.004	Decay Heat Removal Operating Procedure	114
OP-1104.036	Emergency Diesel Generator Operation	068
OP-2104.040	LPSI System Operations	064
OP-2104.039	HPSI System Operations	075
OP-2305.017	Local Leak Rate Testing	031
OP-5120.403	Unit 2 Primary Containment Leak Rate Running Total	009
OP-1607.001	Reactor Coolant System Sampling	19
OP-1103.013	RCS Leak Detection	40

Drawings

Number	Title	Revision
M-232	Decay Heat Removal System	105

Drawings

Number	Title	Revision
M-2232, Sh. 1	Safety Injection System	120
M-2232, Sh. 2	High Pressure Injection System	1
M-2217, Sh. 1	Emergency Diesel Generator Fuel Oil System	64
M-2217, Sh. 2	Emergency Diesel Generator Starting Air System	34
M-2217, Sh. 3	Emergency Diesel Generator Auxiliary Systems	18
M-2261, Sh. 1	Heating, Ventilation & Air Cond. Containment Building	91

Work Orders

52465357-01	52488623-01	52431159-01	52456833-01	00337525-01
52464714	52473586-01			

Condition Reports (CRs)

CR-ANO-2-2014-00511 CR-ANO-2-2014-01224

Section 2RS1: Radiological Hazard Assessment and Exposure Controls

Procedures

Number	Title	Revision
EN-RP-100	Radiation Worker Expectations	8
EN-RP-101	Access Control for Radiologically Controlled Areas	9
EN-RP-106-1	Radiological Survey Guidelines	1
EN-RP-108	Radiation Protection Posting	13
EN-RP-121	Radioactive Material Control	7
EN-RP-143	Source Control	9

Condition Reports (CRs)

CR-ANO-C-2013-03035	CR-ANO-C-2013-03064	CR-ANO-C-2014-00262
CR-ANO-C-2014-00897	CR-ANO-1-2013-03044	CR-ANO-1-2013-03193
CR-ANO-2-2014-01189		

Radiation Work Permits

Number	Title
20142412	Locked High Radiation Area Activities
20142430	Refueling Path Activities
20142442	Steam Generator Primary Side Eddy Current Inspection and Repair Activities

Surveys	Title	Date
1209-0497	Unit 2 Reactor Building Refueling Cavity	September 16, 2012
1209-1329	Unit 2 Reactor Building 405‘ General Area	September 28, 2012
1210-0122	Unit 2 Reactor Building 426’ North Side	October 3, 2012
1210-0130	Unit 2 Reactor Building 405’ General Area	October 3, 2012
1210-0129	Unit 2 Reactor Building 354’ Equipment Hatch	October 3, 2012

Air Samples

Number	Title	Date
AS-ANO-2014-00384	Reactor Building (During reactor head movement)	May 14, 2014
AS-ANO-2014-00385	Reactor Building Refueling Cavity	May 14, 2014
AS-ANO-2014-00386	Reactor Building Outside Shield Wall	May 14, 2014

Radioactive Source Leak Tests

Number	Title	Date
48	Plutonium-Berylium (4.71 Ci)	February 24, 2014
171	Americium-Berylium (0.72 Ci)	February 24, 2014
917	Cesium-137 (120 mCi)	February 24, 2014
1468	Curium-244 (160 mCi)	February 24, 2014

Section 2RS3: In-Plant Airborne Radioactivity Control and Mitigation

Procedures

Number	Title	Revision
EN-RP-310	Operation and Initial Setup of the Eberline AMS-4 Continuous Air Monitor	4
EN-RP-404	Operation and Maintenance of HEPA Vacuum Cleaners and HEPA Ventilation Units	6

Procedures

Number	Title	Revision
EN-RP-501	Respiratory Protection Program	5
EN-RP-502	Inspection and Maintenance of Respiratory Protection Equipment	9
EN-RP-503	Selection, Issue, and Use of Respiratory Protection Equipment	5

Condition Reports (CRs)

CR-ANO-C-2013-01198 CR-ANO C-2013-01009

Section 2RS5: Radiation Monitoring Instrumentation

Procedures

Number	Title	Revision
EN-RP-301	Radiation Protection Instrument Control	6
EN-RP-303	Source Checking of Radiation Protection Instrumentation	3
1304.027	Effluent Process Rad Monitor Calibration	022
1304.200	Unit 1 Channel 1 High Range Containment Rad Monitor Cal	004
1304.201	Unit 1 Channel 2 High Range Containment Rad Monitor Cal	004
2304.006	Gaseous Process Rad Monitor Sys Cal	022
2304.027	Liquid Process Rad Monitor Sys Cal	035
2304.133	Containment High Range Rad Monitor Cal	014
1052.003	Nuclear Chemistry Quality Control Program	029
2015.016	Radiation Monitoring and Evacuation System	029

Audits and Self-Assessments

Number	Title	Date
LO-ALO-2013-00109	Pre-NRC Inspection Self-Assessment – Radiation Protection	March 19, 2014
QA-14/15-2013-ANO-1	Quality Assurance Audit Report – Radiation Protection and Radwaste	December 5, 2013

Audits and Self-Assessments

Number	Title	Date
QA-2-6-2013-ANO-1	Standardized Audit Template – Radioactive Effluent Control Program	November 12, 2013

Condition Reports (CRs)

CR-ANO-1-2012-00732	CR-ANO-1-2012-01444	CR-ANO-1-2013-02913
CR-ANO-2-2012-00989	CR-ANO-2-2012-01341	CR-ANO-2-2012-03244
CR-ANO-2-2013-01292	CR-ANO-2-2014-01161	CR-ANO-2-2014-01201
CR-ANO-C-2012-02216	CR-ANO-C-2013-01378	CR-ANO-C-2013-01571
CR-ANO-C-2014-00133	CR-ANO-C-2014-00633	CR-ANO-C-2014-00978

Radiation Protection Instrumentation Calibration Records

Number	Title	Date
	Calibration of the Canberra FastScan WBC System	May 1, 2014
11347	SAC-4	April 8, 2014
11398	ASP-1 (NRD)	November 12, 2013
ARGOS-004	Beta Personnel Contamination Monitor	December 14, 2013
CHP-ARM154	AMP-100	February 20, 2014
CHP-CR-139	LM-177	April 8, 2014
CHP-DR-068	RSO-50E	December 3, 2013
CHP-DR-343	9-3	January 7, 2014
CHP-MF-086	ASP-1 (NRD)	April 11, 2014
CHP-TEL018	WR Telepole	April 8, 2014
EPM-001	Personnel Gamma Monitor	July 1, 2013
EPM-003	Gamma Portal Monitor	March 3, 2013
GEM-005	Gamma Personnel Monitor	February 26, 2014
GSAM-006	SAM Articles Monitor	January 28, 2014
PCM-011	Personnel Contamination Monitor	July 10, 2013

Radiation Monitoring System Calibration Records

Number	Title	Date
WO-ANO-52379272	18 Month Radwaste Effluent Instrumentation Calibration	March 21, 2013

Radiation Monitoring System Calibration Records

Number	Title	Date
WO-ANO-52422230	18 Month, Calibration of 2RX-9830 Fuel Handling	October 21, 2013
WO-ANO-52386940	18 Month Calibration of The Liquid Process Radiation	April 9, 2013
WO-ANO-52367438	18 Month Channel Calibration of SPING 3, RX-9830	January 10, 2013
WO-ANO-00215469	18 Month/Refueling, Containment High Range Radiation Monitor Calibration	March 5, 2011
WO-ANO-52465648	18 Month/Refueling, Containment High Range Radiation Monitor Calibration	May 13, 2014
WO-ANO-52355914	18 Month/Refueling, Containment High Range Radiation Monitor Calibration	September 28, 2012
WO-ANO-52429852	18 Month Process Radiation Monitor System Calibration	December 12, 2012
WO-ANO-52332999	18 Month, Gaseous Process Radiation Monitoring System	August 13, 2012

Miscellaneous Documents

System Health Report – Unit 2 (Q4-2013)

Section 2RS6: Radioactive Gaseous and Liquid Effluent Treatment

Procedures

Number	Title	Revision
1052.003	Nuclear Chemistry Quality Control Program	029
1052.022	Radiological Effluents and Environmental Monitoring Program	004
1203.012l	Annunciator K10 Corrective Action (page 15)	052
1203.039	Excess Leakage Rate (pages 3-6)	013
1604.003	Tritium Sample Preparation	012
1604.018	Liquid Scintillation Counting for Gross Beta and Tritium Measurement	018
1604.014	Reactor Building Purge Analysis	024

Procedures

Number	Title	Revision
1604.015	Analysis of Unit Vents	022
1604.016	Analysis of Gaseous Waste Decay Tanks	015
1604.017	Analysis of Liquid Waste	028
1607.007	Sampling of the Laundry Drain Tanks (T19A/B and T-109 A/B)	008-04-0
1607.009	Sampling the Treated Waste Monitor Tanks (T-16 A/B)	013
1607.010	Sampling of the ANO Unit 1 Vents	025
1607.014	Reactor Building Air Sampling	010
1607.018	Sampling the Unit 1 Waste Gas Decay Tanks and Surge Tank	008
1607.028	Sampling Unit 1 Turbine Building Sump	004-01-0
1618.011	Sampling the Unit 1 Neutralizing Tank (T-50)	005-02-0
2607.018	Waste Gas Sampling and Analyzer Operation	013
2607.028	Sampling the Unit 2 Turbine Building Sump	004
2607.010	Sampling the Unit 2 Vents	022
2607.014	Reactor Building Purge Sampling Procedure	010
2618.028	Sampling the Regenerative Waste Tanks (2T-92 A, B, or C)	004-03-0
5120.415	In-Place Testing of the Unit 1 Control Room Filtration System	012
5120.417	In-Place Testing of the Penetration Room Filtration System	008
5120.425	In-Place Testing of the Unit 2 Control Room Filtration System	013
5120.427	In-Place Testing of the Unit 2 Penetration Room Filtration System	005
EN-RP-113	Response to Contaminated Spills/Leaks	008
HES-06	Ventilation/Filtration Testing Program	008

Audits and Self-Assessments

Number	Title	Date
	2012 Radiochemistry Cross Check Program Analysis and Results	December 11, 2012
	2013 Radiochemistry Cross Check Program Analysis and Results	October 2, 2013
LO-ALO-2013-00109	Pre-NRC Inspection Assessment	March 19, 2014
QA-2-6-2013-AN0-01	Quality Assurance Report for Combined Chemistry, Effluents and Environmental Monitoring	November 12, 2013

Condition Reports (CRs)

CR-ANO-1-2006-00399	CR-ANO-1-2010-03005	CR-ANO-1-2010-03005
CR-ANO-1-2012-00391	CR-ANO-1-2012-00774	CR-ANO-1-2012-01761
CR-ANO-1-2013-00530	CR-ANO-1-2013-02888	CR-ANO-1-2013-02913
CR-ANO-1-2014-00422	CR-ANO-2-2008-01902	CR-ANO-2-2008-01902
CR-ANO-2-2013-01173	CR-ANO-2-2013-01824	CR-ANO-2-2014-00505
CR-ANO-C-2011-02345	CR-ANO-C-2012-00739	CR-ANO-C-2012-03451
CR-ANO-C-2013-00833	CR-ANO-C-2013-02619	CR-ANO-C-2014-00178
CR-ANO-C-2014-00633	CR-HQN-2012-00368	

Release Permits

1GR2013-0026	1GR2013-0068	1GR2013-0085
1GR2014-0025	1LR2012-0058	1LR2013-0037
1LR2014-0017	2GR2012-0021	2GR2012-0022
2GR2012-0120	2GR2014-0016	2LR2012-0019
2LR2013-0012	2LR2014-0005-1	

In-Place Filter Testing Records

Unit	System	Test	Date
1	VSF-9	18 Month Test	August 13, 2013
2	2 VSF-9	18 Month Test	June 26, 2013
1	VEF-38A	18 Month Test	December 13, 2013
2	VEF-38B	18 Month Test	November 11, 2013

In-Place Filter Testing Records

Unit	System	Test	Date
1	VSF-9	Radioiodine Penetration/Efficiency Test Report	April 11, 2012
2	2 VSF-9	Radioiodine Penetration/Efficiency Test Report	February 29, 2012
1	VEF-38A	Radioiodine Penetration/Efficiency Test Report	May 15, 2012
2	VEF-38B	Radioiodine Penetration/Efficiency Test Report	February 10, 2012
1	VSF-9	Radioiodine Penetration/Efficiency Test Report	August 23, 2013
2	2 VSF-9	Radioiodine Penetration/Efficiency Test Report	July 2, 2013
1	VEF-38A	Radioiodine Penetration/Efficiency Test Report	January 7, 2014
2	VEF-38B	Radioiodine Penetration/Efficiency Test Report	November 15, 2013

Section 2RS7: Radiological Environmental Monitoring Program

Procedures

Number	Title	Revision
OP-1052.022	Radiological Effluents and Environmental Monitoring Program	004
OP-1304.062	Meteorological Monitoring System Calibration	016
OP-1608.005	Radiological Environmental Monitoring Program	040
OP-1608.008	Land Use Census	001
EN-CY-108	Monitoring of Nonradioactive Systems	006
EN-CY-111	Radiological Groundwater Monitoring Program	005
SOP 100/110/120	Standard Operating Procedures for Groundwater Monitoring and Investigations	002

Audits and Self-Assessments

Number	Title	Date
2012	GEL Annual Quality Assurance Report for REMP	February 26, 2013
	Environmental Dosimetry Annual Quality Assurance Status Report	December 2012
	Environmental Dosimetry Annual Quality Assurance Status Report	December 2013

Condition Reports (CRs)

CR-ANO-C-2012-00914	CR-ANO-C-2012-01030	CR-ANO-C-2012-01349
CR-ANO-C-2012-01393	CR-ANO-C-2012-01999	CR-ANO-C-2012-02267
CR-ANO-C-2013-00102	CR-ANO-C-2013-00119	CR-ANO-C-2013-00772
CR-ANO-C-2013-00801	CR-ANO-C-2013-02585	CR-ANO-C-2013-02650
CR-ANO-C-2013-02706	CR-ANO-C-2014-00248	CR-ANO-C-2014-00452
CR-ANO-C-2014-00983	CR-ANO-C-2014-01380	CR-HQN-2010-00207
CR-HQN-2013-00573		

Radiological Survey Records

Number	Title	Date
ANO-1402-0016	Unit 2 RAB – 354’ – Room 2058	February 2, 2014
ANO-1310-0278	Unit 1 RAB – 372’ – Instrument Air Compressor Room	October 15, 2013

Calibration and Maintenance Records

Number	Title	Date
WO 52489989-01	Perform the Semi-Annual Meteorological Monitoring Calibration	April 10, 2014
WO 52453167-01	Perform the Semi-Annual Meteorological Monitoring	November 19, 2013

Miscellaneous Documents

Number	Title	Date
0CAN051302	Annual Radiological Environmental Operating Report	May 14, 2013
0CAN041407	Annual Radiological Environmental Operating Report	April 30, 2014
0CAN041307	Annual Radioactive Effluent Release Report	August 26, 2013
0CAN041406	Annual Radioactive Effluent Release Report	April 28, 2014
EP-2013-0014	Entergy Operations ANO Meteorological Tower Annual Report for 2012	April 12, 2013
EP-2014-0006	Entergy Operations ANO Meteorological Tower Annual Report for 2013	February 26, 2014
ANO-2014-CHEM-0001	Land Use Census (2013)	January 3, 2014
	2008 – 2012 Meteorological Data Review and 5-Year X/Q Report	February 7, 2013

Section 2RS8: Radioactive Solid Waste Processing, and Radioactive Material Handling, Storage, and Transportation

Procedures

Number	Title	Revision
EN-RW-101	Radioactive Waste Management	3
EN-RW-102	Radioactive Waste Shipping Procedure	10
EN-RW-103	Radioactive Waste Tracking Procedure	4
EN-RW-104	Scaling Factor	9
EN-RW-105	Process Control Program	4
EN-RW-106	Integrated Transportation Security Plan	3
1601.505	Processing of Spent Radioactive Resin	12

Audits and Self-Assessments

Number	Title	Date
2012	GEL Annual Quality Assurance Report for REMP	February 26, 2013
QA 14/15-2013	Combined Radiation Protection/Radwaste Audit	November 25, 2013
LO-A-2013-0109	Pre-NRC Inspection	January 22, 2014
LO-A-2013-0022	Radiation Safety: Public & Occupational	February 8, 2013

Condition Reports (CRs)

CR-ANO-C-2012-000749	CR-ANO-2013-C-02845	CR-ANO-2014-C-00539
CR-ANO-C-2014-001356		

Radioactive Material Shipments

Number	Type	Title	Date
RSR 12-035	LSA	Waste Oil Shipment	March 17, 2012
RSR 12-037	Type B	Unit 2 Primary Resin	March 29, 2012
RSR 12-125	Type B	Filter Liner	November 29, 2012
RSR 13-059	LSA-I	DAW. Metal Trash. Sealand Containers	October 11, 2013
RSR 13-081	LSA	2 DAW. Sealand Containers	September 12, 2013
RSR 13-102	LSA	Waste Oil	February 23, 2012
RSR 13-105	SCO	Unit 2 RCP Seals	November 13, 2013

Miscellaneous Documents

Number	Title	Revision Date
	ANO Unit 1 and 2 Safety Analysis Reports – Chapters 11&12	23-25
324568006	10 CFR Part 61 Analysis for 2F-4B Filter	April 25, 2013
278919003	10 CFR Part 61 Analysis for Unit 2 Primary Resin	January 24, 2012
313129001	10 CFR Part 61 Analysis for Dry Active Waste	November 7, 2012
324568006	10 CFR Part 61 Analysis for Unit 2 Spent Fuel Pool Filters	April 20, 2013
296569003	10 CFR Part 61 Analysis for Unit 2 Primary Resin	March 5, 2012
324568001	10 CFR Part 61 Analysis for Dry Active Waste	May 21, 2013
295060005	10 CFR Part 61 Analysis for Waste Oil	February 28, 2012
296569003	10 CFR Part 61 Analysis for Oil	May 21, 2013
296569003	10 CFR Part 61 Analysis for Unit-1 Secondary Resin	February 20, 2012
324568006	10 CFR Part 61 Analysis for 2F-4B Filter	May 21, 2013
0CAN041307	Annual Radioactive Effluent Release Report	August 26, 2013
0CAN041406	Annual Radioactive Effluent Release Report	April 28, 2014

Section 4OA1: Performance Indicator Verification

Procedure

Number	Title	Revision
EN-LI-114	Performance Indicator Process	6

Miscellaneous

Number	Title	Revision
	Attachment 9.2 to EN-LI-114, Unit 1 RCS Leakrate Data	
	Attachment 9.2 to EN-LI-114, Unit 2 RCS Leakrate Data	
	Attachment 9.2 to EN-LI-114, Unit 1 RCS Activity	
	Attachment 9.2 to EN-LI-114, Unit 2 RCS Activity	

Section 4OA2: Problem Identification and Resolution

Procedures

Number	Title	Revision
OP-1412.001	Preventative Maintenance of Limitorque SB/SMB Motor Operators	037, 041
OP-5120.010	Unit 1 & Unit 2 MOV Testing	018

Condition Report (CR)

CR-ANO-2-2013-01729

Work Order

52319304

Section 4OA3: Follow-up of Events and Notices of Enforcement Discretion

Procedure

Number	Title	Revision
OP-1015.037	Post Transient Review	018

Section 4OA5: Other Activities

Safety Culture Assessment Documents

Title	Revision Date
Entergy Nuclear Lesson Plan FCBT-GET-PATSS	16
Synergy Nuclear Safety Culture Assessment, Entergy Nuclear, Attachment I, River Bend	August 1, 2012
Synergy Nuclear Safety Culture Assessment, Entergy Nuclear, Attachment J, River Bend	June 2009
Synergy Nuclear Safety Culture Assessment, Entergy Nuclear, Attachment J, River Bend	March 2006
Entergy Nuclear Safety Culture Assessment 2012 Survey	April 30, 2013
Nuclear Safety Culture Assessment , Entergy Nuclear, Attachment L, River Bend	February 2012
Nuclear Safety Culture Assessment , Entergy Nuclear, Attachment I, River Bend	August 1, 2012

Procedures

Number	Title	Revision
EN-MP-120	Material Receipt	7
EN-MP-121	Materials, Purchasing and Contracts Indoctrination & Training	5
EN-MP-138	Commercial Grade Dedication Lab Conduct of Operation	1
EN-QV-100	Conduct of Nuclear Oversight	9
EN-QV-111	Training and Certification of Inspection/Verification and Examination Personnel	13

Condition Reports (CRs)

CR-HQN-2013-00466 CR-HQN-2011-00979

Licensing Document

Title	Revision
Entergy Quality Assurance Program Manual	25

Temporary Instruction 2515-182

Procedures

Number	Title	Revision
EN-EP-S-002 MULTI	Underground Piping and Tanks Visual Inspection	3
SEP-UIP-ANO	Underground Components Inspection Plan Non-Rad and Rad Piping	2
CEP-NDE-0505	Ultrasonic Thickness Examination	4
EN-DC-343	Underground Piping and Tanks Inspection Monitoring Program	9
CEP-UPT-0100	Underground Piping and Tanks Inspection and Monitoring	2
2104.029	Service Water System Operations	96

Condition Reports (CRs)

CR-ANO-C-2013-0024	CR-ANO-C-2013-1187	CR-ANO-C-2012-785
CR-ANO-C-2012-784	CR-ANO-C-2014-861	CR-ANO-C-1993-293
CR-ANO-C-2001-649		

Work Orders

52364435	272241	288687-11	332460	275348-13
288687-02	275348	5156829-09	50237474-01	52448944-01
52383949-01				

Miscellaneous Documents

Number	Title	Revision Date
EC-21514	Minimum Wall Thickness for HBD-13 ECP Return Line	003
Report 1000089	Entergy Arkansas ANO APEC Survey	February 26, 2012
	Site Specific Risk Report: Arkansas Nuclear One Power Plant	0
	Buried Piping and Tank Program Health Report	Q4-2013
	Buried Piping and Tank Program Health Report	Q2-2013
	Buried Piping and Tank Program Health Report	Q4-2012
	Buried Piping and Tank Program Health Report	Q2-2012

Miscellaneous Documents

Number	Title	Revision Date
LO-ALO-2012-00025	Underground Piping & Tanks Inspection & Monitoring Program Self-Assessment	March 29, 2012
P104018_01_SR	Site Report on the Ultrasonic Inspection of the 18" Emergency Cooling Pond Lake Water Pipeline	April 2010
	Cathodic Protection System Health Report	Q4-2013
	Cathodic Protection System Health Report	Q4-2012
	Cathodic Protection System health Report	Q4-2011
340310277	Annual Survey of the Cathodic Protection Systems Installed at the Arkansas Nuclear One Power Station	December 2012

Temporary Instruction 2515-182 Request for Information

December 12, 2013

We have discussed the schedule for these inspection activities and understand that you will be our regulatory contact for this inspection. If there are any questions about this inspection or the material requested, please contact Peter Jayroe at 817-200-1174 or e-mail Peter.Jayroe@nrc.gov.

This email does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing information collection requirements were approved by the Office of Management and Budget, Control Number 3150 0011. The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid Office of Management and Budget control number.

Inspection Dates: March 24-28, 2014

Inspection Procedures: TI 2515-182, "Review of Implementation of the Industry Initiative to Control Degradation of Underground Piping and Tanks"

Inspector: Peter Jayroe (817) 200-1174
Peter.Jayroe@nrc.gov

The following information should be sent to the Region IV office in hard copy or electronic format (ims.certrec.com preferred), in care of Peter Jayroe, by January 31, 2014, to facilitate the preparation for the inspection. Please provide requested documentation electronically if possible. If requested documents are large and only hard copy formats are available, please inform the inspector(s), and provide subject documentation during the first day of the onsite inspection. If you have any questions regarding this information request, please call the inspector as soon as possible.

1. Organization list of site individuals responsible for the site's underground piping and tanks program.

2. Copy of Site Underground Piping and Tanks program.

3. Please review the attached "Questions" list and provide the response and/or document requests.

4. Schedule for the completion of the following NEI 09-14 Rev.1 attributes:

   Buried Piping

   - Procedures and Oversight
   - Risk Ranking
   - Inspection Plan
   - Plan Implementation
   - Asset Management Plan

   Underground Piping and Tanks

   - Procedures and Oversight
   - Prioritization
   - Condition Assessment Plan
   - Plan Implementation
   - Asset Management Plan

5. Location maps of buried & underground piping and tanks as requested by the inspector.

6. Self- or third party assessments of the Underground Piping and Tanks Program (if any have been performed).

7. For any of the NEI 09-14 Rev.1 attributes identified below which have been completed prior to the NRC's onsite inspection, provide written records that demonstrate that the program attribute is complete.

Buried Piping

- Procedures and Oversight
- Risk Ranking
- Inspection Plan
- Plan Implementation
- Asset Management Plan

Underground Piping and Tanks

- Procedures and Oversight
- Prioritization
- Condition Assessment Plan
- Plan Implementation
- Asset Management Plan

Questions	Response
Initiative Consistency	
Has the licensee taken any deviations to either of the initiatives?	Yes / No
If so, what deviations have been taken and what is (are) the basis for these deviations?	**Provide documentation of deviations and any associated corrective action reports.**
Does the licensee have an onsite buried piping program manager (owner) and, potentially, a staff?	Yes / No
How many buried piping program owners have there been since January 1, 2010?	**Provide documentation identifying individuals responsible for the site buried piping program since January 1, 2010.**
How many other site programs are assigned to the buried piping program owner?	**List all site programs that are under the direct responsibility of the site's buried piping program owner.**
Does the licensee have requirements to capture program performance, such as system health reports and performance indicators?	Yes / No **Provide copies of most recent systems health reports if applicable**
Are these requirements periodic or event driven?	Periodic / Event Driven / None
Are there examples where these requirements have been successfully used to upgrade piping systems or to avert piping or tank leaks?	Yes / No **Provide documentation related to examples if applicable**
Does the licensee have a program or procedure to confirm the as-built location of buried and underground piping and tanks at the plant?	Yes / No
Has the licensee used this program?	Yes / No
Was the program effective in identifying the location of buried pipe?	Yes / No
For a sample of buried pipe and underground piping and tanks (sample size at least 1 high and 1 low risk/priority pipe or tank), did the risk ranking and/or prioritization process utilized by the licensee produce results in accordance with the initiative guidelines, i.e., which emphasize the importance of components which have a high likelihood and consequence of failure and deemphasize the importance of components which have a low likelihood and consequence of	Yes / No Sample size examined _____ **Provide copy of site's risk ranking documents including documents pertaining to the actual risk rankings and methodology used.** **Provide documents/drawings and/or list which identifies the risk ranking for each pipe segment or tank in each system within the scope of these programs.**

failure?	**Provide the documents which record/describe how the risk methodology was applied to determine the risk of pipe segments or tanks as selected by the inspector during the preparation week.**
As part of its risk ranking process did the licensee estimate/determine the total length of buried/ underground piping included in the initiatives?	Yes / No
As part of its risk ranking process did the licensee estimate/determine the total length of high risk buried/underground piping included in the initiatives?	Yes / No
Preventive Actions / System Maintenance	
For buried steel, copper, or aluminum piping or tanks which are not cathodically protected, has the licensee developed a technical basis for concluding that structural (e.g. ASME Code minimum wall, if applicable) and leaktight integrity of buried piping can be maintained?	Yes / No / Not Applicable (no buried steel, copper, or aluminum piping which is not cathodically protected)
Is the technical basis provided as justification by the licensee consistent with the initiative (including its reference documents) or industry standards (e.g. NACE SP0169)	Yes / No **Provide documented technical basis including referencing documents.**
For uncoated steel piping, has the licensee developed a technical basis for concluding that structural (e.g. ASME Code minimum wall, if applicable) and leaktight integrity of buried piping can be maintained?	Yes / No / Not Applicable (no uncoated buried steel pipe)
Is the technical basis provided as justification by the licensee consistent with the initiative (including its reference documents) or industry standards (e.g. NACE SP0169)?	Yes / No **Provide documented technical basis including referencing documents.**

For licensees with cathodic protection systems, does the licensee have procedures for the maintenance, monitoring and surveys of this equipment?	Yes / No / Not Applicable (no cathodic protection systems)
Are the licensee procedures consistent with the initiative (including its reference documents) or industry standards (e.g. NACE SP0169)?	Yes / No **Provide copy of procedures if applicable**.
Is the cathodic protection system, including the evaluation of test data, being operated and maintained by personnel knowledgeable of, or trained in, such activities?	Yes / No **Provide documentation of training or qualification records of personnel.**
Is there a program to ensure chase and vault areas which contain piping or tanks subject to the underground piping and tanks initiative are monitored for, or protected against, accumulation of leakage from these pipes or tanks?	Yes / No / N/A (No piping in chases or vaults) **Provide copy of program.**
Inspection Activities / Corrective Actions	
Has the licensee prepared an inspection plan for its buried piping and underground piping and tanks?	Yes / No
Does the plan specify dates and locations where inspections are planned?	Yes / No **Provide copy of inspection plan and associated implementation procedures.**
Have inspections, for which the planned dates have passed, occurred as scheduled or have a substantial number of inspections been deferred?	Occurred as scheduled / Deferred
Has the licensee experienced leaks and/or significant degradation in safety-related piping or piping carrying licensed material since January 1, 2009?	Leaks Yes / No Degradation Yes / No
If leakage or significant degradation did occur, did the licensee determine the cause of the leakage or degradation?	Yes / No
Based on a review of a sample of root cause analyses for leaks from buried piping or underground piping and tanks which are safety-related or	Yes / No / N/A (no leaks) **Provide root cause analyses of identified leaks if applicable.**

contain licensed material, did the licensee's corrective action taken as a result of the incident include addressing the cause of the degradation?	
Did the corrective action include an evaluation of extent of condition of the piping or tanks and possible expansion of scope of inspections? (Preference should be given to high risk piping and "significant" leaks where more information is likely to be available).	Yes / No / N/A (no leaks) **Provide corrective action documents concerning leaks if applicable.**
Based on a review of a sample of NDE activities which were either directly observed or for which records were reviewed, were the inspections conducted using a predetermined set of licensee/contractor procedures?	Yes / No **Provide list of scheduled NDE activities scheduled during onsite week and list of NDE activities that have already been conducted.**
Were these procedures sufficiently described and recorded such that the inspection could be reproduced at a later date?	Yes / No **Provide copies of NDE procedures for the various NDE activities that have occurred or are scheduled to occur.**
Were the procedures appropriate to detect the targeted degradation mechanism?	Yes / No
For quantitative inspections, were the procedures used adequate to collect quantitative information?	Yes / No
Did the licensee disposition direct or indirect NDE results in accordance with their procedural requirements?	Yes / No **Provide sample of direct and/or indirect NDE results and the subsequent evaluations of these NDE results.**
Based on a sample of piping segments, is there evidence that licensees are substantially meeting the pressure testing requirements of ASME Section XI IWA-5244?	Yes / No **Provide the completed records for the last two required Section XI periodic pressure/flow test on safety-related buried pipe segments**

The following items are requested for the
Occupational/Public Radiation Safety Inspection
at Arkansas Nuclear One
May 12 – 16, 2014
Integrated Report 2014003

Inspection areas are listed in the attachments below.

Please provide the requested information on or before April 21, 2014.

Please submit this information using the same lettering system as below. For example, all contacts and phone numbers for Inspection Procedure 71124.0**1** should be in a file/folder, titled "**1**- A," applicable organization charts in file/folder "**1**- B," etc.

If information is placed on *ims.certrec.com*, please ensure the inspection exit date entered is at least 30 days later than the onsite inspection dates, so the inspectors will have access to the information while writing the report.

In addition to the corrective action document lists provided for each inspection procedure listed below, please provide updated lists of corrective action documents at the entrance meeting. The dates for these lists should range from the end dates of the original lists to the day of the entrance meeting.

If more than one inspection procedure is to be conducted and the information requests appear to be redundant, there is no need to provide duplicate copies. Enter a note explaining in which file the information can be found.

If you have any questions or comments, please contact Louis Carson II at (817) 200-1221 or Louis.Carson@nrc.gov.

PAPERWORK REDUCTION ACT STATEMENT

This letter does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing information collection requirements were approved by the Office of Management and Budget, control number 3150-0011.

1. Radiological Hazard Assessment and Exposure Controls (71124.01) and Performance Indicator Verification (71151)
Date of Last Inspection: March 19, 2012

A. List of contacts and telephone numbers for the radiation protection organization staff and technicians

B. Applicable organization charts

C. Audits, self-assessments, and licensee event reports (LERs) written since date of last inspection related to this inspection area

D. Procedure indexes for the radiation protection procedures

E. Please provide specific procedures related to the following areas noted below. Additional Specific Procedures may be requested by number after the inspector reviews the procedure indexes.
1. Radiation Protection Program Description
2. Radiation Protection Conduct of Operations
3. Personnel Dosimetry Program
4. Posting of Radiological Areas
5. High Radiation Area Controls
6. RCA Access Controls and Radworker Instructions
7. Conduct of Radiological Surveys
8. Radioactive Source Inventory and Control
9. Declared Pregnant Worker Program

F. List of corrective action documents (including corporate and subtiered systems) since date of last inspection
1. Initiated by the radiation protection organization
2. Assigned to the radiation protection organization

NOTE: The lists should indicate the significance level of each issue and the search criteria used. Please provide in document formats which are "searchable" so that the inspector can perform word searches.

If not covered above, a summary of corrective action documents since date of last inspection involving unmonitored releases, unplanned releases, or releases in which any dose limit or administrative dose limit was exceeded (for Public Radiation Safety Performance Indicator verification in accordance with IP 71151)

G. List of radiologically significant work activities scheduled to be conducted during the inspection period (If the inspection is scheduled during an outage, please also include a list of work activities greater than 1 rem, scheduled during the outage with the dose estimate for the work activity.)

H. List of active radiation work permits

I. Radioactive source inventory list
1. All radioactive sources that are required to be leak tested

2. All radioactive sources that meet the 10 CFR Part 20, Appendix E, Category 2, and above threshold. Please indicate the radioisotope, initial and current activity (w/assay date), and storage location for each applicable source.

J. The last two leak test results for the radioactive sources inventoried and required to be leak tested. If applicable, specifically provide a list of all radioactive source(s) that have failed its leak test within the last two years

K. A current listing of any non-fuel items stored within your pools and, if available, their appropriate dose rates (Contact / @ 30cm)

L. Computer printout of radiological controlled area entries greater than 100 millirems since the previous inspection to the current inspection entrance date. The printout should include the date of entry, some form of worker identification, the radiation work permit used by the worker, dose accrued by the worker, and the electronic dosimeter dose alarm setpoint used during the entry (for Occupational Radiation Safety Performance Indicator verification in accordance with IP 71151).

5. Radiation Monitoring Instrumentation (71124.05)
Date of Last Inspection: March 19, 2012

A. List of contacts and telephone numbers for the following areas:
1. Effluent monitor calibration
2. Radiation protection instrument calibration
3. Installed instrument calibrations
4. Count room and Laboratory instrument calibrations

B. Applicable organization charts

C. Copies of audits, self-assessments, vendor or NUPIC (Nuclear Procurement Issues Committee) audits for contractor support and LERs, written since date of last inspection, related to:
1. Area radiation monitors, continuous air monitors, criticality monitors, portable survey instruments, electronic dosimeters, teledosimetry, personnel contamination monitors, or whole body counters
2. Installed radiation monitors

D. Procedure index for:
1. Calibration, use and operation of continuous air monitors, criticality monitors, portable survey instruments, temporary area radiation monitors, electronic dosimeters, teledosimetry, personnel contamination monitors, and whole body counters.
2. Calibration of installed radiation monitors

E. Please provide specific procedures related to the following areas noted below. Additional Specific Procedures will be requested by number after the inspector reviews the procedure indexes.
1. Calibration of portable radiation detection instruments (for portable ion chambers)
2. Whole body counter calibration
3. Laboratory instrumentation quality control

F. A summary list of corrective action documents (including corporate and subtiered systems) written since date of last inspection, related to the following programs:
1. Area radiation monitors, continuous air monitors, criticality monitors, portable survey instruments, electronic dosimeters, teledosimetry, personnel contamination monitors, whole body counters
2. Installed radiation monitors
3. Effluent radiation monitors
4. Count room radiation instruments

NOTE: The lists should indicate the significance level of each issue and the search criteria used. Please provide in document formats which are “searchable” so that the inspector can perform word searches.

G. Offsite dose calculation manual, technical requirements manual, or licensee controlled specifications which lists the effluent monitors and calibration requirements.

H. Current calibration data for the whole body counters.

I. Primary to secondary source calibration correlation for effluent monitors.

J. A list of the point of discharge effluent monitors with the two most recent calibration dates and the work order numbers associated with the calibrations.

K. Radiation Monitoring System health report for the previous 12 months

6. Radioactive Gaseous And Liquid Effluent Treatment (71124.06)
Date of Last Inspection: March 19, 2012

A. List of contacts and telephone numbers for the following areas:
1. Radiological effluent control
2. Engineered safety feature air cleaning systems

B. Applicable organization charts

C. Audits, self-assessments, vendor or NUPIC audits of contractor support, and LERs written since date of last inspection, related to:
1. Radioactive effluents
2. Engineered Safety Feature Air cleaning systems

D. Procedure indexes for the following areas
1. Radioactive effluents
2. Engineered Safety Feature Air cleaning systems

E. Please provide specific procedures related to the following areas noted below. Additional Specific Procedures will be requested by number after the inspector reviews the procedure indexes.
1. Sampling of radioactive effluents
2. Sample analysis
3. Generating radioactive effluent release permits
4. Laboratory instrumentation quality control
5. In-place testing of high efficiency particulate air (HEPA) filters and charcoal adsorbers
6. New or applicable procedures for effluent programs (e.g., including ground water monitoring programs)

F. List of corrective action documents (including corporate and subtiered systems) written since date of last inspection, associated with:
1. Radioactive effluents
2. Effluent radiation monitors
3. Engineered Safety Feature Air cleaning systems

NOTE: The lists should indicate the significance level of each issue and the search criteria used. Please provide in document formats which are “searchable” so that the inspector can perform word searches.

G. 2012 and 2013 Annual Radioactive Effluent Release Report or the two most recent reports

H. Current Copy of the Offsite Dose Calculation Manual

I. Copy of the 2012 and 2013 inter-laboratory comparison results for laboratory quality control performance of effluent sample analysis or the two most recent results.

J. Effluent sampling schedule for the week of the inspection

K. New entries into 10 CFR 50.75(g) files since date of last inspection

L. Operations department (or other responsible department) log records for effluent monitors removed from service or out of service

M. Listing or log of liquid and gaseous release permits since date of last inspection

N. A list of the technical specification-required air cleaning systems with the two most recent surveillance test dates of in-place filter testing (of HEPA filters and charcoal adsorbers) and laboratory testing (of charcoal efficiency) and the work order numbers associated with the surveillances

O. System Health Report for radiation monitoring instrumentation. Also, please provide a specific list of all effluent radiation monitors that were considered inoperable for 7 days or more since November 2011. If applicable, please provide the relative Special Report and condition report(s).

P. A list of all radiation monitors that are considered §50.65/Maintenance Rule equipment.

Q. A list of all significant changes made to the Gaseous and Liquid Effluent Process Monitoring System since the last inspection. If applicable, please provide the corresponding updated final safety analysis report (UFSAR) section in which this change was documented.

R. A list of any occurrences in which a non-radioactive system was contaminated by a radioactive system. Please include any relative condition report(s).

7. Radiological Environmental Monitoring Program (71124.07)
Date of Last Inspection: March 19, 2012

A. List of contacts and telephone numbers for the following areas:
1. Radiological environmental monitoring
2. Meteorological monitoring

B. Applicable organization charts

C. Audits, self-assessments, vendor or NUPIC audits of contractor support, and LERs written since date of last inspection, related to:
1. Radiological environmental monitoring program (including contractor environmental laboratory audits, if used to perform environmental program functions)
2. Environmental TLD processing facility
3. Meteorological monitoring program

D. Procedure index for the following areas:
1. Radiological environmental monitoring program
2. Meteorological monitoring program

E. Please provide specific procedures related to the following areas noted below. Additional Specific Procedures will be requested by number after the inspector reviews the procedure indexes.
1. Environmental Program Description
2. Sampling, collection and preparation of environmental samples
3. Sample analysis (if applicable)
4. Laboratory instrumentation quality control
5. Procedures associated with the Offsite Dose Calculation Manual
6. Appropriate quality assurance (QA) audit and program procedures and/or sections of the station's QA manual (which pertain to the REMP)

F. A summary list of corrective action documents (including corporate and subtiered systems) written since date of last inspection, related to the following programs:
1. Radiological environmental monitoring
2. Meteorological monitoring

NOTE: The lists should indicate the significance level of each issue and the search criteria used. Please provide in document formats which are "searchable" so that the inspector can perform word searches.

G. Wind Rose data and evaluations used for establishing environmental sampling locations

H. Copies of the 2 most recent calibration packages for the meteorological tower instruments

I. Copy of the 2012 and 2013 Annual Radiological Environmental Operating Report and Land Use Census, and current revision of the Offsite Dose Calculation Manual, or the two most recent reports.

J. Copy of the environmental laboratory's inter-laboratory comparison program results for 2012 and 2013 or the two most recent results, if not included in the annual radiological environmental operating report

K. Data from the environmental laboratory documenting the analytical detection sensitivities for the various environmental sample media (i.e., air, water, soil, vegetation, and milk)

L. Quality Assurance audits (e.g., NUPIC) for contracted services

M. Current Nuclear Energy Institute (NEI) Groundwater Initiative Plan and status

N. Technical requirements manual or licensee controlled specifications which lists the meteorological instruments calibration requirements

O. A list of regulatory guides and/or NUREGs that you are currently committed to relative to the *Radiological Environmental Monitoring Program*. Please include the revision and/or date for the committed item and where this can be located in your current licensing basis/UFSAR.

P. If applicable, per NEI 07-07, provide any reports that document any spills/leaks to groundwater since the last inspection.

8. Radioactive Solid Waste Processing, and Radioactive Material Handling, Storage, and Transportation (71124.08)

Date of Last Inspection: March 19, 2012

A. List of contacts and telephone numbers for the following areas:
   1. Solid Radioactive waste processing
   2. Transportation of radioactive material/waste

B. Applicable organization charts (and list of personnel involved in solid radwaste processing, transferring, and transportation of radioactive waste/materials)

C. Copies of audits, department self-assessments, and LERs written since date of last inspection, related to:
   1. Solid radioactive waste management
   2. Radioactive material/waste transportation program

D. Procedure index for the following areas:
   1. Solid radioactive waste management
   2. Radioactive material/waste transportation

E. Please provide specific procedures related to the following areas noted below. Additional Specific Procedures will be requested by number after the inspector reviews the procedure indexes.
   1. Process control program
   2. Solid and liquid radioactive waste processing
   3. Radioactive material/waste shipping
   4. Methodology used for waste concentration averaging, if applicable
   5. Waste stream sampling and analysis

F. A summary list of corrective action documents (including corporate and subtiered systems) written since date of last inspection related to:
   1. Solid radioactive waste
   2. Transportation of radioactive material/waste

   NOTE: The lists should indicate the significance level of each issue and the search criteria used. Please provide in document formats which are “searchable” so that the inspector can perform word searches.

G. Copies of training lesson plans for 49 CFR 172, subpart H, for radwaste processing, packaging, and shipping

H. A summary of radioactive material and radioactive waste shipments made from date of last inspection to present

I. Waste stream sample analyses results and resulting scaling factors for 2012 and 2013 or the two most recent results

J. Waste classification reports if performed by vendors (such as for irradiated hardware)

K. A listing of all onsite radwaste storage facilities. Please include a summary *or* listing of the items stored in each facility, including the *total* amount of radioactivity and the *highest* general area dose rate.

Although it is not necessary to compile the following information, the inspector will also review:

L. Training, and qualifications records of personnel responsible for the conduct of radioactive waste processing, package preparation, and shipping

PAPERWORK REDUCTION ACT STATEMENT

This letter does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing information collection requirements were approved by the Office of Management and Budget, Control Number 3150-0011. The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid Office of Management and Budget control number.

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

Information Request

March 18, 2014

Notification of Inspection and Request for Information

Arkansas Nuclear One Unit 2

NRC Inspection Report 05000368/2014003

On May 19, 2014, reactor inspectors from the Nuclear Regulatory Commission's (NRC) Region IV office will perform the baseline inservice inspection at Arkansas Nuclear One, Unit 2, using NRC Inspection Procedure 71111.08, "Inservice Inspection Activities." Experience has shown that this inspection is a resource intensive inspection both for the NRC inspectors and for your staff. In order to minimize the impact to your onsite resources and to ensure a productive inspection, we have enclosed a request for documents needed for this inspection. These documents have been divided into two groups. The first group (Section A of the enclosure) identified information is to be provided prior to the inspection (NLT May 1, 2014) to ensure that the inspectors are adequately prepared. The second group (Section B of the enclosure) identifies the information the inspectors will need upon arrival at the site. It is important that all of these documents are up-to-date and complete in order to minimize the number of additional documents requested during the preparation and/or the onsite portions of the inspection.

We have discussed the schedule for these inspection activities with your staff and understand that our regulatory contact for this inspection will be Ms. Natalie Mosher of your licensing organization. The tentative inspection schedule is as follows:

Preparation week: May 5, 2014

Onsite weeks: May 19 through May 30, 2014

Our inspection dates are subject to change based on your updated schedule of outage activities. If there are any questions about this inspection or the material requested, please contact the lead inspector Jim Drake at (817) 200-1558 (James.Drake@nrc.gov).

A.1 ISI/Welding Programs and Schedule Information

a) A detailed schedule (including preliminary dates) of:

i. Nondestructive examinations planned for ASME Code Class Components performed as part of your ASME Section XI, risk informed (if applicable), and augmented inservice inspection programs during the upcoming outage.

ii. Examinations planned for Alloy 82/182/600 components that are not included in the Section XI scope (If applicable)

iii. Examinations planned as part of your boric acid corrosion control program (Mode 3 walkdowns, bolted connection walkdowns, etc.)

iv. Welding activities that are scheduled to be completed during the upcoming outage (ASME Class 1, 2, or 3 structures, systems, or components)

b) A copy of ASME Section XI Code Relief Requests and associated NRC safety evaluations applicable to the examinations identified above.

A list of ASME Code Cases currently being used to include the system and/or component the Code Case to which they are applied.

c) A list of non-destructive examination reports which have identified recordable or rejectable indications on any ASME Code Class components since the beginning of the last refueling outage. This should include the previous Section XI pressure test(s) conducted during start up and any evaluations associated with the results of the pressure tests.

d) A list including a brief description (e.g., system, code class, weld category, non-destructive examination performed) associated with the repair/replacement activities of any ASME Code Class component since the beginning of the last outage and/or planned this refueling outage.

e) If reactor vessel weld examinations required by the ASME Code are scheduled to occur during the upcoming outage, provide a detailed description of the welds to be examined and the extent of the planned examination. Please also provide reference numbers for applicable procedures that will be used to conduct these examinations.

f) Copy of any 10 CFR Part 21 reports applicable to structures, systems, or components within the scope of Section XI of the ASME Code that have been identified since the beginning of the last refueling outage.

g) A list of any temporary noncode repairs in service (e.g., pinhole leaks).

h) Please provide copies of the most recent self-assessments for the inservice inspection, welding, and Alloy 600 programs

A.2 Boric Acid Corrosion Control Program

a) Copy of the procedures that govern the scope, equipment and implementation of the inspections required to identify boric acid leakage and the procedures for boric acid leakage/corrosion evaluation.

b) Please provide a list of leaks (including code class of the components) that have been identified since the last refueling outage and associated corrective action documentation. If during the last cycle, the unit was shut down, please provide documentation of containment walkdown inspections performed as part of the boric acid corrosion control program.

A.3 Additional Information Related to all Inservice Inspection Activities

a) A list with a brief description of inservice inspection, and boric acid corrosion control program related issues (e.g., condition reports) entered into your corrective action program since the beginning of the last refueling outage. For example, a list based upon data base searches using key words related to piping, such as inservice inspection, ASME Code, Section XI, NDE, cracks, wear, thinning, leakage, rust, corrosion, boric acid, or errors in piping examinations.

b) Provide training (e.g., Scaffolding, Fall Protection, FME, Confined Space) if they are required for the activities described in A.1 through A.4. Please contact the lead inspector if training will be required.

c) Please provide names and phone numbers for the following program leads:

Inservice inspection (examination, planning)

Containment exams

Reactor pressure vessel head exams

Snubbers and supports

Repair and replacement program

Licensing

Site welding engineer

Boric acid corrosion control program

Steam generator inspection activities (site lead and vendor contact)

B. Information to be Provided Onsite to the Inspector(s) at the Entrance Meeting (May 19, 2014):

B.1 Inservice Inspection / Welding Programs and Schedule Information

a) Updated schedules for inservice inspection/non-destructive examination activities, including planned welding activities, and schedule showing contingency repair plans, if available.

b) For ASME Code Class welds selected by the inspector from the lists provided from section A of this enclosure, please provide copies of the following documentation for each subject weld:

i. Weld data sheet (traveler).

ii. Weld configuration and system location.

iii. Applicable Code Edition and Addenda for weldment.

iv. Applicable Code Edition and Addenda for welding procedures.

v. Applicable welding procedures used to fabricate the welds.

vi. Copies of procedure qualification records (PQRs) supporting the weld procedures from B.1.b.v.

vii. Copies of welder's performance qualification records (WPQ).

viii. Copies of the nonconformance reports for the selected welds (If applicable).

ix. Radiographs of the selected welds and access to equipment to allow viewing radiographs (if radiographic testing was performed).

x. Copies of the preservice examination records for the selected welds.

xi. Readily accessible copies of non-destructive examination personnel qualifications records for reviewing.

c) For the inservice inspection related corrective action issues selected by the inspectors from section A of this enclosure, provide a copy of the corrective actions and supporting documentation.

d) For the non-destructive examination reports with relevant conditions on ASME Code Class components selected by the inspectors from Section A above, provide a copy of the examination records, examiner qualification records, and associated corrective action documents.

e) A copy of (or ready access to) most current revision of the inservice inspection program manual and plan for the current interval.

f) For the non-destructive examinations selected by the inspectors from section A of this enclosure, provide a copy of the non-destructive examination procedures used to perform the examinations (including calibration and flaw characterization/sizing procedures). For ultrasonic examination procedures qualified in accordance with ASME Code, Section XI, Appendix VIII, provide documentation supporting the procedure qualification (e.g. the EPRI performance demonstration qualification summary sheets). Also, include qualification documentation of the specific equipment to be used (e.g., ultrasonic unit, cables, and transducers including serial numbers) and non-destructive examination personnel qualification records.

B.2 Boric Acid Corrosion Control Program

a) Please provide boric acid walk down inspection results, an updated list of boric acid leaks identified so far this outage, associated corrective action documentation, and overall status of planned boric acid inspections.

b) Please provide any engineering evaluations completed for boric acid leaks identified since the end of the last refueling outage. Please include a status of corrective actions to repair and/or clean these boric acid leaks. Please identify specifically which known leaks, if any, have remained in service or will remain in service as active leaks.

B.3 Codes and Standards

a) Ready access to (i.e., copies provided to the inspector(s) for use during the inspection at the onsite inspection location, or room number and location where available):

    i. Applicable Editions of the ASME Code (Sections V, IX, and XI) for the inservice inspection program and the repair/replacement program.

b) Copy of the performance demonstration initiative (PDI) generic procedures with the latest applicable revisions that support site qualified ultrasonic examinations of piping welds and components (e.g., PDI-UT-1, PDI-UT-2, PDI-UT-3, PDI-UT-10, etc.).

Boric Acid Corrosion Guidebook Revision 1 – EPRI Technical Report 1000975.