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

February 10, 2016

Mr. Eric W. Olson, Site Vice President
Entergy Operations, Inc.
River Bend Station
5485 U.S. Highway 61N
St. Francisville, LA 70775

SUBJECT: RIVER BEND STATION – NRC INTEGRATED INSPECTION REPORT 05000458/2015004

Dear Mr. Olson:

On December 31, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your River Bend Station, Unit 1. On January 7, 2016, the NRC inspectors discussed the results of this inspection with you 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. All of these findings involved violations of NRC requirements. One of these violations was determined to be Severity Level IV under the traditional enforcement process. 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 consistent with Section 2.3.2.a of the NRC Enforcement Policy.

If you contest the violations or significance of these non-cited violations, 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 River Bend Station.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region IV; and the NRC resident inspector at the River Bend Station.

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 G. Warnick, Branch Chief
Project Branch C
Division of Reactor Projects

Docket No. 50-458
License No. NPF-47

Enclosure:
Inspection Report 05000458/2015004
w/ Attachments: 1) Supplemental Information
2) Request for Information

from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

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cc w/ encl: Electronic Distribution for River Bend Station

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Letter to Eric W. Olson from Gregory G. Warnick, dated February 10, 2016

SUBJECT: RIVER BEND STATION – NRC INTEGRATED INSPECTION REPORT 05000458/2015004

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Resident Inspector (Brian.Parks@nrc.gov)
RBS Administrative Assistant (Lisa.Day@nrc.gov)
Branch Chief, DRP/C (Greg.Warnick@nrc.gov)
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Team Leader, DRS/TSS (Thomas.Hipschman@nrc.gov)
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REGION IV

Docket:	05000458
License:	NPF-47
Report:	05000458/2015004
Licensee:	Entergy Operations, Inc.
Facility:	River Bend Station, Unit 1
Location:	5485 U.S. Highway 61N St. Francisville, LA 70775
Dates:	October 1 through December 31, 2015
Inspectors:	J. Sowa, Senior Resident Inspector B. Parks, Acting Resident Inspector L. Brandt, Project Engineer M. Stafford, Project Engineer M. Hayes, Operations Engineer L. Carson II, Senior Health Physicist N. Greene, PhD, Health Physicist P. Hernandez, Health Physicist M. Phalen, Senior Health Physicist
Approved By:	G. Warnick, Branch Chief Project Branch C Division of Reactor Projects

SUMMARY

IR 05000458/2015004; 10/01/2015 – 12/31/2015; River Bend Station; Refueling and Other Outage Activities, Surveillance Testing, Radiation Monitoring Instrumentation, Radiological Environmental Monitoring Program, and Problem Identification and Resolution

The inspection activities described in this report were performed between October 1 and December 31, 2015, by the resident inspectors at River Bend Station and inspectors from the NRC's Region IV office. Six findings of very low safety significance (Green) are documented in this report. All of these findings involved violations of NRC requirements. One of these violations was determined to be Severity Level IV under the traditional enforcement process. Additionally, NRC inspectors documented in this report 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 NRC Inspection Manual Chapter 0609, "Significance Determination Process." Their cross-cutting aspects are determined using NRC Inspection Manual Chapter 0310, "Aspects 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 26, "Fitness for Duty Programs," for the licensee's failure to ensure that the calculated hours for individuals subject to work hour controls included all time performing duties for the licensee. Specifically, from November 1, 2015, to December 15, 2015, the licensee's failure to accurately calculate work hours resulted in an individual exceeding work hour limits. The licensee entered this condition into their corrective action program as Condition Report CR-RBS-2015-09152. The licensee restored compliance when the affected individual received an adequate break time. Corrective actions included training operators on required work hours tracking as required by procedure EN-OM-123, "Fatigue Management Program," Revision 12.

  The performance deficiency was more than minor, and therefore a finding, 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 failure to schedule and control work hours for individuals subject to work hour controls could reasonably result in human performance errors that could cause a plant event to occur or complicate the station's ability to respond appropriately to an event. The inspectors performed the initial significance determination using NRC Inspection Manual Chapter 0609, Appendix G, Attachment 1, "Shutdown Operations Significance Determination Process Phase 1 Initial Screening and Characterization of Findings." The inspectors determined that the finding was of very low safety significance (Green) because the finding did not cause any known effects to plant safety caused by worker fatigue. The finding had a cross-cutting aspect in the area of human performance associated with procedure adherence because the licensee failed to follow fatigue management program procedure EN-OM-123, "Fatigue Management Program," Revision 12, which required the licensee to track all work hours subject to the work hour limits [H.8]. (Section 1R20)

- Green. The inspectors reviewed a self-revealing, non-cited violation of Technical Specification 5.4, "Procedures," for the licensee's failure to correctly implement procedure STP-200-0605, "Remote Shutdown System Control Circuit Operability Test," Revision 307. The procedure was incorrectly performed leading to an unexpected configuration in which the reactor pressure vessel was aligned to the suppression pool, and approximately 360 gallons of reactor coolant were inadvertently transferred to the suppression pool. The licensee entered this issue into their corrective action program as Condition Report CR-RBS-2015-02354. The licensee restored compliance by restoring the system to a configuration that was consistent with plant operating procedures. Corrective actions included increased management oversight of remote shutdown system operation.

  The performance deficiency was more than minor, and therefore a finding, because it was associated with the Initiating Events Cornerstone attribute of configuration control, 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, a loss of reactor pressure vessel inventory occurred due to the establishment of an unintended system configuration caused by the inadvertent repositioning of the reactor pressure vessel suction valve. The inspectors initially screened the finding in accordance with NRC Inspection Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process." Using Exhibit 2 of NRC Inspection Manual Chapter 0609, Appendix G, Attachment 1, "Phase 1 Initial Screening and Characterization of Findings," the inspectors determined that the finding required a Phase 2 evaluation because the loss of inventory resulted in leakage to the suppression pool that if undetected or unmitigated in 24 hours or less would cause shutdown cooling to isolate. A Region IV senior reactor analyst performed a Phase 2 evaluation of this issue and determined the issue was of very low safety significance (Green) and represented a change to the core damage frequency of 3.8E-8/year. The event sequence was an actual loss of inventory which occurred after core refueling in the shutdown. Risk was mitigated by prompt operator recovery action to stop the loss of inventory along with the operating plant configuration, which had two residual heat removal pumps aligned for automatic injection, one control rod drive pump in operation at the time of the event, and all manual injection paths fully available to mitigate the event. This finding has a cross-cutting aspect in the area of human performance associated with avoid complacency because the licensee failed to ensure that individuals recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes [H.12]. (Section 4OA2.2)

Cornerstone: Barrier Integrity

- Green. The inspectors identified a non-cited violation of Technical Specification 3.6.1.9, "Main Steam-Positive Leakage Control System," for the licensee's failure to take required actions for an inoperable subsystem of the main steam positive leakage control system. Specifically, after rendering Division II of the main steam positive leakage control system inoperable for a period of time in excess of the 30-day allowed outage time, the licensee failed to place the unit in Mode 3 within 12 hours. The licensee entered this issue into their corrective action program as Condition Report CR-RBS-2015-03622. The licensee restored compliance by restoring Division II of main steam positive leakage control system to operable status. Corrective actions included modifying surveillance procedures for main steam positive leakage control system to ensure that they are carried out correctly.

The performance deficiency was more than minor, and therefore a finding, because it was associated with the barrier performance attribute of the Barrier Integrity Cornerstone and adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the plant was operated at power for an extended period of time with one subsystem of a system designed to prevent radioactive leakage across the main steam isolation valves inoperable. The inspectors performed the initial significance determination using NRC Inspection Manual Chapter 0609, Appendix A, Exhibit 3, "Barrier Integrity Screening Questions." The inspectors determined that the finding was of very low safety significance (Green) because (1) the finding did not represent an actual open pathway in the physical integrity of reactor containment (valves, airlocks, etc.), containment isolation systems (logic and instrumentation), or heat removal components and (2) the finding did not involve an actual reduction in function of hydrogen igniters in the reactor containment. This finding had a cross-cutting aspect in the area of human performance associated with change management because leaders failed to use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority [H.3]. (Section 1R22).

- Green. The inspectors reviewed a self-revealing, non-cited violation of Technical Specification 3.0.4, "Limiting Condition for Operation Applicability," for the licensee's failure to restore safety-related equipment to operable status prior to changing modes. Specifically, the licensee failed to restore Division II of the main steam positive leakage control system to operable status prior to entering a mode of applicability for Technical Specification 3.6.1.9. The licensee entered this issue into their corrective action program as Condition Report CR-RBS-2015-03581. The licensee restored compliance by restoring Division II of main steam positive leakage control system to an operable status by restoring service water to the Division II penetration valve leakage control system (LSV) compressor. Corrective actions included training for operations personnel on plant status control and implementation of a physical method of identifying equipment that has been administratively repositioned.

  The performance deficiency was more than minor, and therefore a finding, because it was associated with the barrier performance attribute of the Barrier Integrity Cornerstone and adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the reactor was taken to Mode 2 with Division II of the main steam positive leakage control system inoperable. The inspectors performed the initial significance determination using NRC Inspection Manual Chapter 0609, Appendix A, Exhibit 3, "Barrier Integrity Screening Questions." The inspectors determined that the finding was of very low safety significance (Green) because (1) the finding did not represent an actual open pathway in the physical integrity of reactor containment (valves, airlocks, etc.), containment isolation systems (logic and instrumentation), or heat removal components and (2) the finding did not involve an actual reduction in function of hydrogen igniters in the reactor containment. This finding had a cross-cutting aspect in the area of human performance associated with procedure adherence because the licensee failed to ensure that individuals follow processes, procedures, and work instructions [H.8]. (Section 4OA2.3)

Cornerstone: Public Radiation Safety

- Green. The inspectors identified a non-cited violation of 10 CFR 20.1406(c) because the licensee failed to conduct operations to minimize the introduction of residual radioactivity into the site. Specifically, the licensee failed to implement procedural requirements to identify and evaluate the environmental risk and control work practices to prevent spills and leaks with a credible mechanism to reach groundwater between the annual periods of 2013 through 2015. This resulted in several spill/leak events which resulted in contaminated areas and radioactivity reaching the environment and groundwater. The licensee documented this finding in their corrective action program as CR-RBS-2015-08831.

  The failure to conduct operations and control work practices to prevent spills and leaks with a credible mechanism to reach groundwater and minimize residual radioactivity into the site was a performance deficiency. The performance deficiency was more than minor, and thus a finding, because it is associated with the program and process attribute of the Public Radiation Safety Cornerstone, and adversely affected the cornerstone objective to ensure the licensee's ability to prevent inadvertent release and/or loss of control of licenses material to an unrestricted area. In accordance with Inspection Manual Chapter (IMC) 0609, Appendix D, "Public Radiation Safety Significance Determination Process," the finding was determined to be of very low safety significance (Green) because the issue involved radioactive material control, but did not involve: (1) transportation or (2) public exposure in excess of 0.005 rem. The finding had a Work Management cross-cutting aspect in the area of Human Performance because the licensee failed to implement a process of planning, controlling, and executing work activities such that nuclear or environmental safety was the overriding priority in which the work process includes the identification and management of risk commensurate to the work and the need for coordination with different groups or job activities [H.5]. (Section 2RS7)

- SL-IV. The inspectors identified a Severity Level (SL) IV non-cited violation of 10 CFR 50.72(b)(2)(xi) because the licensee failed to notify the NRC Operations Center within four hours of a reportable event. The event was related to the health and safety of the public and protection of the environment for which notification to other government agencies was made. Specifically, the licensee informally communicated information related to an August 1, 2015, spill of 60,000 gallons of radioactive condensate water in the turbine building with a credible mechanism to reach groundwater to the NRC resident inspector, other NRC regional staff, the Louisiana Department of Environmental Quality, and West Feliciana Parish (of Louisiana) government authorities. However, the licensee failed to notify the NRC Operations Center as required. The event was documented in the licensee's corrective action program as Condition Reports CR-RBS-2015-05530 and CR-RBS-2015-05541. The licensee documented this violation in their corrective action program as Condition Report CR-RBS-2015-08838.

  The failure to notify the NRC about a notification to another government agency as required by 10 CFR 50.72 was a performance deficiency. The performance deficiency was evaluated using traditional enforcement because the failure to notify the NRC had the potential to impact the NRC's ability to perform its regulatory function. The performance deficiency was evaluated using the criteria contained Section 6.9(d)(9) of the NRC's Enforcement Policy and determined to meet the criteria for disposition as a Severity Level IV violation.

The licensee took immediate corrective action following identification of the issue by making the notification to the NRC Operations Center (EN 51599) on December 10, 2015. Cross-cutting aspects are not assigned to traditional enforcement violations. (Section 2RS7)

PLANT STATUS

River Bend Station began the inspection period at 100 percent reactor thermal power. It departed from full power as follows:

- On November 13, 2015, the station reduced power to 65 percent in order to conduct suppression testing. The station returned the unit to 100 percent power on November 23, 2015.

- On November 27, 2015, a reactor scram from 100 percent occurred due to a fault in the high voltage switchyard. A reactor startup was performed on December 2, 2015, following a forced maintenance outage. Full power was attained on December 12, 2015.

Power remained at or near 100 percent for the remainder of the inspection period.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

On December 10, 2015, the inspectors completed an inspection of the station's readiness for seasonal extreme weather conditions. The inspectors reviewed the licensee's adverse weather procedures for seasonal extreme low temperatures and evaluated the licensee's implementation of these procedures. The inspectors verified that prior to the onset of seasonal extreme cold weather, the licensee had corrected weather-related equipment deficiencies identified during the previous seasonal extreme cold weather season.

The inspectors selected two risk-significant systems that were required to be protected from cold weather:

- Emergency diesel generators
- Control building heating, ventilation, and air conditioning

The inspectors reviewed the licensee's procedures and design information to ensure the systems would remain functional when challenged by adverse weather. The inspectors verified that operator actions described in the licensee's procedures were adequate to maintain readiness of these systems. The inspectors walked down portions of these systems to verify the physical condition of the adverse weather protection features.

These activities constitute one sample of readiness for seasonal adverse weather, 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 walkdowns of the following risk-significant systems:

- October 6, 2015, standby gas treatment B while standby gas treatment A was out of service for maintenance
- October 16, 2015, high pressure core spray while the reactor core isolation cooling system was out of service for maintenance
- November 9, 2015, Division I control building chilled water

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 constitute three partial system walkdown samples, as defined in Inspection Procedure 71111.04.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

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 four plant areas important to safety:

- September 4, 2015, high pressure core spray piping area, fire area AB-2
- November 6, 2015, control building 116' elevation, fire area C-17
- December 9, 2015, standby gas treatment system filter room A, fire area AB-14
- December 9, 2015, standby gas treatment system filter room B, fire area AB-13

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 constitute four quarterly inspection samples, as defined in Inspection Procedure 71111.05.

b. Findings

No findings were identified.

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

.1 Review of Licensed Operator Requalification

a. Inspection Scope

On October 15, 2015, the inspectors observed a portion of an annual requalification test for licensed operators. The inspectors assessed the performance of the operators and the evaluators' critique of their performance. The inspectors also assessed the modeling and performance of the simulator during the requalification activities.

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

b. Findings

No findings were identified.

.2 Review of Licensed Operator Performance

a. Inspection Scope

On November 27, 2015, the inspectors observed the performance of on-shift licensed operators in the plant's main control room. At the time of the observations, the plant was in a period of heightened activity due to implementing recovery actions following a reactor scram concurrent with a loss of Division I offsite power. The inspectors observed the operators' performance of the following activities:

- Abnormal operating procedure implementation
- Recovery of Division I plant equipment
- Operator control of reactor vessel level following reactor scram
- Analysis of electrical switchyard following a faulted breaker and subsequent loss of Division I off-site power bus

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 one quarterly licensed operator performance sample, as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

.3 Annual Review of Requalification Examination Results

a. Inspection Scope

The inspector conducted an in-office review of the annual requalification training program to determine the results of this program.

On December 8, 2015, the licensee informed the inspector of the following River Bend Station operating test results:

- 5 of 6 crews passed the simulator portion of the operating test
- 38 of 42 licensed operators passed the simulator portion of the operating test
- 42 of 42 licensed operators passed the job performance measure portion of the operating test

The individuals that failed the simulator scenario and job performance measures portions of the operating test were remediated, retested, and passed their retake tests.

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

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed three 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:

- October 5, 2015, yellow risk condition while residual heat removal A was out of service for maintenance concurrent with standby gas treatment A out of service
- November 19, 2015, green risk condition while control building chillers C and D were out of service concurrent with residual heat removal C out of service
- December 7, 2015, yellow risk condition while conducting high voltage switchyard breaker testing

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 three 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 one operability determination that the licensee performed for degraded or nonconforming structures, systems, and components (SSCs):

- November 12, 2015, operability determination of B residual heat removal heat exchanger shell side bypass valve MOVF048B degraded stroke time (CR-RBS-2015-07747)

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 one operability review sample, as defined in Inspection Procedure 71111.15.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

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

- October 20, 2015, work order (WO) 52525609, "Battery Charger 1B Load Test," following replacement of electrolytic capacitors

- October 29, 2015, WO 00428781, "Division III ECCS Test," following maintenance on power supply E22-PS2

- November 19, 2015, WO 00430919-01, “Fill and Vent of RHR-C Flow Transmitters,” following 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 three post-maintenance testing inspection samples, as defined in Inspection Procedure 71111.19.

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

Following a reactor scram on November 27, 2015, the station placed shutdown cooling in service and cooled the plant down to Mode 4. During the station's forced maintenance outage that concluded on December 2, 2015, 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
- Review and verification of the licensee's fatigue management activities
- Monitoring of heat-up and start-up activities

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

b. Findings

Introduction. The inspectors identified a Green non-cited violation of 10 CFR Part 26, “Fitness for Duty Programs,” for the licensee’s failure to ensure that the calculated hours for individuals subject to work hour controls included all time performing duties for the licensee. Specifically, from November 1, 2015, to December 15, 2015, the licensee’s failure to accurately calculate work hours resulted in an individual exceeding work hour limits.

Description. The inspectors reviewed plant access badge records and Personnel Qualification and Scheduling (PQ&S) software records of licensed operators for time periods covering July 1, 2015, to August 31, 2015, and November 1, 2015, to December 15, 2015. PQ&S is a software program used by the licensee to track individual hours worked. Entergy Procedure EN-OM-123, “Fatigue Management Program,” Revision 12, Step 5.4.4, states, “the work hour history recorded in PQ&S

needs to reflect all work hours that are subject to the work hour limits, including periods of incidental time which exceed the 30 minute limit, time periods associated with call-ins, and time periods or durations allocated for travel." For the two time periods reviewed, the inspectors identified 32 instances where licensed operators performed work in excess of 30 minutes which were not reflected in PQ&S. One of these instances occurred on November 18, 2015, when a licensed operator attended an operations department alignment meeting that lasted in excess of 30 minutes. This time was not recorded in PQ&S, and as a result, an individual's total work hours were in excess of 72 hours worked in a 7-day period on November 24, 2015.

Analysis. The failure to ensure that the calculated hours for individuals subject to work hour controls included all time performing duties for the licensee was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, 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 failure to schedule and control work hours for individuals subject to work hour controls could reasonably result in human performance errors that could cause a plant event to occur or complicate the station's ability to respond appropriately to an event. The inspectors performed the initial significance determination using NRC Inspection Manual Chapter 0609, Appendix G, Attachment 1, "Shutdown Operations Significance Determination Process Phase 1 Initial Screening and Characterization of Findings." The inspectors determined that the finding was of very low safety significance (Green) because the finding did not cause any known effects to plant safety caused by worker fatigue. The finding had a cross-cutting aspect in the area of human performance, procedure adherence because the licensee failed to follow fatigue management program procedure EN-OM-123, which required the licensee to track all work hours subject to the work hour limits [H.8].

Enforcement. Title 10 of the *Code of Federal Regulations* (10 CFR) 26.205(d) requires, in part, that licensees shall ensure that individuals subject to work hour controls do not exceed 72 work hours in any 7-day period. Contrary to the above, on November 24, 2015, the licensee did not ensure an individual subject to work hour controls did not exceed 72 work hours in a 7-day period. Specifically, a licensed operator worked in excess of 72 work hours during the 7-day period from November 18 to November 24, 2015. The licensee entered this condition into their corrective action program as Condition Report CR-RBS-2015-09152. The licensee restored compliance when the affected individual received an adequate break time. Because this violation was of very low safety significance and was entered into the licensee's corrective action program, it is being treated as a non-cited violation, consistent with Section 2.3.2.a of the NRC Enforcement Policy: NCV 05000458/2015004-01, "Failure to Ensure Work Hours are Within Work Hour Limits."

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

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

Other surveillance tests:

- November 13, 2015, STP-000-0201, "Monthly Operating Logs," performed on March 25, 2015

The inspectors verified that these tests met technical specification (TS) requirements, that the licensee performed the tests in accordance with their procedures, and that the results of the test satisfied appropriate acceptance criteria.

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

b. Findings

Introduction. The inspectors identified a Green non-cited violation of TS 3.6.1.9, "Main Steam-Positive Leakage Control System (MS-PLCS)," for the licensee's failure to take required actions for an inoperable subsystem of MS-PLCS. Specifically, after inadvertently rendering Division II of MS-PLCS inoperable for a period of time in excess of the 30-day allowed outage time, the licensee failed to place the unit in Mode 3 within 12 hours. The licensee entered this issue into their corrective action program as Condition Report CR-RBS-2015-3622.

Description. The penetration valve leakage control system (LSV) compressor is a necessary supporting component for the MS-PLCS, which is required to be operable in Modes 1, 2, and 3 per TS 3.6.1.9. In a postulated accident scenario, the LSV compressor provides pressurized air to the MS-PLCS, which injects the air into portions of the main steam line so as to prevent radioactive leakage across the main steam isolation valves.

On March 25, 2015, prior to entering Mode 2 from Mode 4, the licensee attempted to conduct a surveillance test on the Division II LSV compressor using procedure STP-000-0201, "Monthly Operating Logs," Revision 309. This procedure, which is used to satisfy TS Surveillance Requirement (SR) 3.6.1.9.2, instructs operators to run the compressor loaded for at least 15 minutes. The Division II LSV compressor was incorrectly aligned during the run, with its service water supply inadvertently isolated. After approximately 5 minutes of run time, the compressor shut down on high temperature. Operators failed to notice that the compressor had shut down before the required 15-minute run time had elapsed, and incorrectly credited the surveillance test as having been successfully completed. The licensee entered Mode 2 on March 26, 2015.

On April 14, 2015, the licensee again ran the Division II LSV compressor to satisfy the requirements of TS SR 3.6.1.9.2, using procedure STP-000-0201. As before, the compressor tripped off after approximately 5 minutes of run time. Operators again failed to notice the trip, and incorrectly credited the surveillance as having been completed.

On May 4, 2015, the licensee conducted a surveillance run of the Division II LSV compressor. This run was different from the previously mentioned runs in that it entailed the collection of vibration data. As before, the compressor tripped off after approximately 5 minutes of run time. This time, however, operators noticed the trip. The licensee proceeded to declare the compressor inoperable, and entered TS 3.6.1.9, Condition A.

On May 14, 2015, while hanging tags to troubleshoot the Division II LSV compressor, operators found valve SWP-V912, a valve that aligns service water to the compressor, in the shut position. The licensee restored the valve to the correct position and conducted a valve lineup on the system. After successful surveillance testing, the licensee restored the system to operable status.

The licensee initially concluded that the period of inoperability extended back to the prior surveillance test in April, and that the 30-day TS allowed outage time for Division II MS-PLCS had not been exceeded. The NRC resident inspectors questioned the conclusion that the system was operable at that time. Maintenance had been performed on the system during the outage prior to the March 25 testing, but no work had been performed on the system in the period since the last surveillance test on April 14. The inspectors reasoned that if the valve was in the correct position during the last surveillance test, and if no authorized maintenance or testing had been conducted on the system since that test, then the valve should have been in the correct position when operators went to hang tags, which it was not. Upon further investigation, the licensee determined that the valve had been out of position since March 5, that the compressor had prematurely tripped off on high temperature during the subsequent surveillance tests, and that operators had failed to notice the premature trips.

The licensee identified two reasons why operators had failed to notice the premature trips. First, the compressor trouble annunciator, which is designed to provide audible indication of a compressor trip, was modified in 2011 in a way that caused it to alarm during the compressor's starting sequence and to remain in an alarmed condition for the duration of the run. With the annunciator already in an alarmed condition, actual trips of the compressor were masked. Second, the surveillance procedure instructed operators to insert a signal to stop the compressor and to verify that the compressor indicating lights indicated that the compressor has stopped. The indicating lights are in a different location in the main control room from the location where operators insert the signal. Given the different locations, operators were not able to observe the indicating lights while inserting the signal, and therefore could not easily recognize that the compressor had already stopped for reasons unrelated to the signal.

Proper surveillance testing of the Division II LSV compressor would have led to an earlier recognition that service water to the compressor was isolated and that Division II of MS-PLCS was inoperable. Because the licensee failed to conduct proper surveillance testing, the inoperability of Division II MS-PLCS went unrecognized for 49 days. The required action for a subsystem of MS-PLCS inoperable greater than 30 days is to place the unit in Mode 3 within 12 hours. The licensee was not aware that the subsystem was inoperable, and therefore did not take this required action. There were short periods during the Division II MS-PLCS inoperability in which Division I of MS-PLCS was made inoperable for planned maintenance and testing. During those periods, both trains of MS-PLCS were inoperable. The 7-day TS allowed outage time for two inoperable MS-PLCS trains, however, was not exceeded.

Analysis. The failure to be in Mode 3 within 12 hours of failing to restore Division II of MS-PLCS to operable status within 30 days was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it was associated with the barrier performance attribute of the Barrier Integrity Cornerstone and adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by

accidents or events. Specifically, the plant was operated at power for an extended period of time with one subsystem of a system designed to prevent radioactive leakage across the main steam isolation valves inoperable. The inspectors performed the initial significance determination using NRC Inspection Manual Chapter 0609, Appendix A, Exhibit 3, "Barrier Integrity Screening Questions." The inspectors determined that the finding was of very low safety significance (Green) because (1) the finding did not represent an actual open pathway in the physical integrity of reactor containment (valves, airlocks, etc.), containment isolation systems (logic and instrumentation), or heat removal components and (2) the finding did not involve an actual reduction in function of hydrogen igniters in the reactor containment. This finding had a cross-cutting aspect in the area of human performance associated with change management because leaders failed to use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority [H.3].

Enforcement. Technical Specification 3.6.1.9 requires, in part, that while the plant is in Modes 1, 2 or 3, two MS-PLCS subsystems shall be operable. For the condition of one MS-PLCS subsystem inoperable, the required action is to restore the MS-PLCS subsystem to operable status within 30 days, or be in Mode 3 within 12 hours. Contrary to the above, from April 25, 2015, through May 14, 2015, with the plant in Mode 1, for the condition of one MS-PLCS subsystem inoperable, the licensee did not restore the MS-PLCS subsystem to operable status within 30 days and was not in Mode 3 within 12 hours. Specifically, on March 25, 2015, the licensee entered a mode of applicability when Division II of MS-PLCS was inoperable due to an unknown valve configuration error. On April 25, 2015, after a period of 30 days, the licensee did not restore the MS-PLCS subsystem to service and did not enter Mode 3 within 12 hours. On May 14, 2015, the licensee corrected the valve configuration error and restored the system to operable status. The licensee entered this condition into their corrective action program as Condition Report CR-RBS-2015-03622. Because this violation was of very low safety significance and was entered into the licensee's corrective action program, it is being treated as a non-cited violation, consistent with Section 2.3.2.a of the NRC Enforcement Policy: NCV 05000458/2015004-02, "Failure to Properly Implement Surveillance Testing of Penetration Valve Leakage Control System Leads to Inoperability in Excess of Technical Specification Allowed Outage Time."

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06)

Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors observed an emergency preparedness drill on November 10, 2015, to verify the adequacy and capability of the licensee's assessment of drill performance. The inspectors reviewed the drill scenario, observed the drill from the TSC and Simulator, and attended the post-drill critique. The inspectors verified that the licensee's emergency classifications, off-site notifications, and protective action recommendations were appropriate and timely. The inspectors verified that any emergency preparedness weaknesses were appropriately identified by the licensee in the post-drill critique and entered into the corrective action program for resolution.

These activities constitute completion of one emergency preparedness drill observation sample, as defined in Inspection Procedure 71114.06.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstones: Public Radiation Safety and Occupational Radiation Safety

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, post-accident, 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, post-accident 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 are 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
- 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 are included in the source term
- Offsite dose calculation manual changes
- Records of abnormal gaseous or liquid tank discharges
- 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, and components that may contain licensed material and has 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 samplers, composite water samplers, and environmental sample radiation measurement instrumentation
- Inter-laboratory comparison program results
- Groundwater monitoring results

- Changes to the licensee's written program for identifying and controlling contaminated leaks/spills 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 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

.1 Failure to Conduct Operations and Control Work Practices to Minimize Residual Radioactivity into the Site, including the Subsurface.

Introduction. The inspectors identified a non-cited violation of 10 CFR 20.1406(c) of very low safety significance (Green) because the licensee failed to conduct operations to minimize the introduction of residual radioactivity into the site, including the subsurface. Specifically, the licensee failed to implement procedural requirements to identify work activities with the potential to adversely affect groundwater and/or the environment and identify and implement actions to mitigate the risk of spills and leaks with a credible mechanism to reach groundwater and/or the environment. This resulted in several spill/leak events which resulted in contaminated areas and radioactivity reaching the environment and groundwater.

Description. The inspectors reviewed several spill or leak events that occurred onsite between 2013 and 2015 associated with errors in work practices. The licensee determined that the primary human performance error for all the leak/spill events reviewed involved a failure to understand and properly identify and evaluate the environmental risk of the work activities. For example, on August 1, 2015, the licensee documented a failure to properly tag out a valve as an apparent cause of a 60,000 gallon spill of contaminated condensate water; the licensee credited the failure to identify and evaluate the environmental risk of the job as a contributing cause. Other events reviewed included the following:

- February 25, 2013: A 5 gallon per minute leak accumulated in a ditch near the site's sewage treatment pond. The licensee assumed the liquid was clean waste water from the sewage plant. When the liquid was sampled in March 2013, the water was found to be radioactively contaminated. Investigation determined that a stuck open check valve allowed circulating water blowdown system water to flow backward into an effluent line towards the wastewater treatment plant, thus contaminating an uncontaminated system.

- August 28, 2013: Maintenance activities resulted in a 1-inch ball valve on a temporary blowdown line dripping into an outside valve pit (CWS-MOV-104 pit), resulting in elevated tritium levels with a potential for environmental risk. The work package did not provide instructions on how to control the potentially contaminated water that could not be drained out of the valve pit. Thus, the workers thought it was acceptable to drain water into the pit.

- January 9, 2014: The bonnet on a temporary blowdown line gate valve (RWS-0339-V8) ruptured due to extended sub-freezing conditions. The ruptured valve caused a circulating water/radwaste discharge mixture of approximately 1200 gallons to leak onto the ground. The gate valve was located outside of the berm without active monitoring of the temperature conditions. The environmental risk of potentially contaminated liquid containing components, such as valves, not located within berms during sub-freezing conditions was not evaluated and no mitigating actions were taken.

The common theme in each of these events was a failure to identify and evaluate work activities that had the potential to adversely affect groundwater and to implement actions to mitigate the associated environmental risk. These failures led to numerous spill and leak events between 2013 and 2015. Relatively, the licensee has identified ongoing elevated Tritium peaks in their groundwater program with unidentified sources throughout this period.

These practices are not in accordance with the licensee's procedural requirements and their commitment to NEI 07-07, "Industry Ground Water Protection Initiative – Final Guidance Document." Specifically, Objective 1.2.2, "Site Risk Assessment," of NEI 07-07 instructs the licensee to evaluate work practices that involve licensed material and for which there is a credible mechanism for the licensed material to reach groundwater. Steps 5.4[1](a) and (b) of procedure EN-CY-111, "Radiological Groundwater Monitoring Program," Revision 6, which implements the NEI 07-07 guidance and controls operations involving environmental risk, states the licensee shall (a) "Continually evaluate work practices that involve licensed material and for which there is a credible mechanism for the licensed material to reach groundwater" and (b) "Identify each work practice that involves or could reasonably be expected to involve licensed material and for which there is a credible mechanism for the licensed material to reach groundwater." In essence, this requires the licensee to identify and evaluate the environmental risk associated with their operations and work practices. Procedure EN-CY-111 also requires the licensee to identify work activities that have a potential to adversely affect groundwater and to identify and implement actions to mitigate that risk. The licensee failed to incorporate these procedural steps into the planning and execution of work activities, leading to ineffective or nonexistent mitigation strategies. The numerous spill and leak events attributable to poor work practices and actions to mitigate the risk, as required by procedure, demonstrated the licensee's failure to conduct operations to minimize residual radioactivity being introduced to the site.

The licensee is actively evaluating these events and their associated work practices to enhance their ability to properly evaluate the environmental risk associated with work activities. The licensee documented this finding in their corrective action program as condition report CR-RBS-2015-08831.

Analysis. The failure to conduct operations and control work practices to prevent spills and leaks with a credible mechanism to reach groundwater and minimize residual radioactivity into the site was a performance deficiency. The performance deficiency was more than minor, and thus a finding, because it is associated with the program and process attribute of the Public Radiation Safety Cornerstone, and adversely affected the cornerstone objective to ensure the licensee's ability to prevent inadvertent release and/or loss of control of licenses material to an unrestricted area. In accordance with Inspection Manual Chapter (IMC) 0609, Appendix D, "Public Radiation Safety Significance Determination Process," the finding was determined to be of very low safety significance (Green) because the issue involved radioactive material control, but did not involve: (1) transportation or (2) public exposure in excess of 0.005 rem. The finding had a Work Management cross-cutting aspect in the area of Human Performance because the licensee failed to implement a process of planning, controlling, and executing work activities such that nuclear or environmental safety was the overriding priority in which the work process includes the identification and management of risk commensurate to the work and the need for coordination with different groups or job activities. Specifically, the licensee's work planning process failed to identify and mitigate the environmental radiological risk for several job activities [H.5].

Enforcement. Title 10 CFR 20.1406(c) requires, in part, that licensees shall, to the extent practical, conduct operations to minimize the introduction of residual radioactivity into the site, including the subsurface. Contrary to the above, between February 2013 and August 2015, the licensee failed to conduct operations to minimize the introduction of residual radioactivity into the site, including the subsurface. Specifically, the licensee failed to identify and evaluate work activities that had the potential to adversely affect groundwater and to implement actions to mitigate the associated environmental radiological risk, which resulted in several spills and leaks with credible mechanisms to reach groundwater. Because the violation is of very low safety significance (Green) and the licensee has entered the issue into their corrective action program as Condition Report CR-RBS-2015-08831, this violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the NRC Enforcement Policy:
NCV 05000458/2015004-03, "Failure to Conduct Operations and Control Work Practices to Minimize Residual Radioactivity into the Site, including the Subsurface."

.2 Failure to Make a Notification to NRC Operations Center Regarding a Radioactive Spill Reported to Another Government Agency.

Introduction. The inspectors identified a Severity Level (SL)-IV non-cited violation of 10 CFR 50.72(b)(2)(xi) because the licensee failed to notify the NRC Operations Center within four hours of a reportable event.

Description. On August 1, 2015, a 60,000 gallon spill of radioactive condensate water occurred on the 67-foot elevation of the turbine building with a credible mechanism to reach groundwater via degraded floor sealant and floor joints. Two operators performing emergent tag-out activities on condensate demineralizer 1K incorrectly tagged the wrong valves. This human performance error resulted in a component mispositioning event and resulted in a condenser hotwell level transient. The level transient resulted in the spill of radioactively contaminated condensate water onto the turbine building floor.

The licensee determined that the event resulted in standing water that covered nearly 16,000 square feet of the turbine floor to a depth of two inches. The turbine floor sealant

had diminished significantly over time and numerous floor joints had degraded, which provided a direct pathway to backfill beneath the turbine flooring. This backfill, in turn, provided a pathway to the environment and groundwater. The licensee stated the measured radioactivity in this spill was 1.32E-02 microcuries per milliliter (µCi/ml) for tritium (H-3) and 2.3E-06 µCi/ml for gamma and noble gases.

The licensee informally communicated this event to the NRC resident inspector, other NRC regional staff, the Louisiana Department of Environmental Quality, and West Feliciana Parish (of Louisiana) government authorities. However, the licensee failed make the required communication to NRC Operations Center. The inspectors noted that NUREG-2022, "Event Reporting Guidelines: 10 CFR 50.72 and 50.73," Revision 3, states in part that "minor non-radioactive, onsite chemical spills" or "routine reports of effluent releases to other agencies" do not require NRC Operations Center notifications. However, the inspectors determined that the spill was not minor (i.e., 60,000 gallons), was non-routine (i.e., unanticipated release and/or spill), and was characterized as radioactive (positive indications of tritium and gamma radioactivity) and was therefore reportable to the NRC.

Following discussions with the inspectors, the licensee took immediate corrective actions and made the notification to the NRC Operations Center (EN 51599) on December 11, 2015. The licensee also planned to review the current language in their procedures to ensure their alignment with NRC requirements. The event was documented in the licensee's corrective action program as Condition Reports CR-RBS-2015-05530 and CR-RBS-2015-05541. The licensee documented this violation in their corrective action program as Condition Report CR-RBS-2015-08838.

Analysis. The failure to notify the NRC about a notification to another government agency as required by 10 CFR 50.72 was a performance deficiency. The performance deficiency was evaluated using traditional enforcement because the failure to notify the NRC had the potential to impact the NRC's ability to perform its regulatory function. The performance deficiency was determined to be a SL-IV violation using Section 6.9(d)(9) of the NRC Enforcement Policy. Cross-cutting aspects are not assigned to traditional enforcement violations.

Enforcement. Title 10 CFR 50.72(b)(2)(xi) states, in part, that the licensee shall notify the NRC [Operations Center] as soon as practical and in all cases within four hours of the occurrence of an event or situation related to the health and safety of the public or protection of the environment for which a notification to other government agencies has been or will be made. Contrary to the above, on August 1, 2015, the licensee failed to make a notification to the NRC [Operations Center] within four hours of an event related to the health and safety of the public or protection of the environment for which notification to other government agencies had been made. Specifically, the licensee notified the Louisiana Department of Environmental Quality and West Feliciana Parish (of Louisiana) government authorities of a 60,000 gallon spill of radioactively contaminated condensate water onto the turbine floor with a credible mechanism to reach the environment and groundwater but failed to notify the NRC Operations Center as required. Because the licensee has entered this issue into its corrective action program as Condition Report CR-RBS-2015-08838, the Severity Level IV violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV 05000458/2015004-04, "Failure to Make a Notification to

NRC Operations Center Regarding a Radioactive Spill Reported to Another Government Agency."

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 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 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 October 2014 through September 2015 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 November 10, 2015. 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 constitute verification of the reactor coolant system specific activity performance indicator as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.2 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 October 2014 through September 2015 to verify the accuracy and completeness of the reported data. The inspectors observed the performance of the RCS leakage surveillance procedure on November 12, 2015. 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 constitute verification of the reactor coolant system leakage 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. Observations and Assessments

The inspectors' review produced the following observations and assessments:

- The inspectors reviewed a negative trend regarding Operator Aggregate Index (CR-RBS-2015-03367). The inspectors reviewed the corrective actions associated with this trend which included Operations Department management identifying a recovery plan and implementing specific actions to recover the Index. Specifically, the station focused on improving this Index by addressing longstanding deficiencies in the areas of Operator Burdens, Control Room Alarms, and Control Room Deficiencies. This plan was implemented and resulted in improving the Index while addressing the underlying causes for the downward trend. Based on interviews with operators and control room walkdowns and observations, the inspectors concluded that the licensee had assigned an appropriate evaluation and had developed appropriate corrective actions.

- The inspectors identified a negative trend in the area of Operator Fundamentals. Specifically, five instances of operator errors were observed in the six-month

period of March 2015 to October 2015. These occurrences contributed to the inspectors' assessment of a negative trend in the procedural adherence and human performance aspects of operator fundamentals:

- March 5, 2015: A valve in the MS-PLCS was not positioned correctly in accordance with the system operating procedure. This resulted in the inoperability of MS-PLCS (CR-RBS-2015-03581).

- March 25, 2015: A licensed operator positioned an incorrect switch during performance of a surveillance test of the remote shutdown panel and inadvertently drained approximately 360 gallons from the reactor pressure vessel to the suppression pool while in a refueling outage (CR-RBS-2015-02354).

- August 02, 2015: While implementing a tagout procedure, operators incorrectly overrode solenoid valves instead of air operated valves on the condensate system. This resulted a condensate drain opening and allowed water to overflow turbine building sumps and spill onto the floor of the turbine building (CR-RBS-2015-05530).

- September 05, 2015: While performing system alignment of the reactor water cleanup system using the associated system operating procedure, operators incorrectly aligned the system when the backwash receiving tank drain pump A switch was incorrectly positioned to "on" with no suction or discharge available. This resulted in the station evaluating the pump for damage (CR-RBS-2015-06504).

- September 06, 2015: An operator manipulated the wrong switch while placing offgas dryer bed B in standby. The operator did not realize the wrong switch was manipulated, but supervisory oversight verified the wrong manipulation was made and directed the operator to place the equipment in the proper alignment. No adverse impacts to equipment were observed as a result of the mispositioned switch (CR-RBS-2015-06505).

c. Findings

Introduction. The inspectors reviewed a Green self-revealing, non-cited violation of TS 5.4, "Procedures," for the licensee's failure to correctly implement procedure STP-200-0605, "Remote Shutdown System Control Circuit Operability Test," Revision 307. The procedure was incorrectly performed leading to an unexpected configuration in which the reactor pressure vessel was aligned to the suppression pool, and approximately 360 gallons of reactor coolant were inadvertently transferred to the suppression pool.

Description. On March 25, 2015, with the plant shut down and in Mode 4, the licensee performed portions of procedure STP-200-0605, "Remote Shutdown System Control Circuit Operability Test," Revision 307. To perform the selected portion of the surveillance, the licensed operator entered the remote shutdown panel room and approached the Division I controls. At the time, Division I shutdown cooling was protected. The surveillance test procedure required operating the reactor core isolation

cooling (RCIC) steam supply inboard isolation valve (E51-MOVF063). The crew did not identify this valve as posing a risk to plant operations. During the surveillance test, the licensed operator correctly identified the RCIC steam supply inboard isolation valve. This switch was situated adjacent to the reactor pressure vessel (RPV) suction valve (E12-MOVF006B). The operator placed a finger on the switch for the RCIC steam supply inboard isolation valve. When the operator turned to retrieve a headset for the purpose of communication with the main control room, the operator's finger moved slightly and came to rest on the switch for the RPV suction valve. The operator turned back to face the panel, and without re-verifying the correct switch was selected, operated the switch for the RPV suction valve (E12-MOVF006B), which was inadvertently opened. With minimum flow valve E12-MOVF064B already opened per the normal system alignment, a direct flow path from the RPV to the suppression pool was established. The operator immediately realized the error and informed the control room. The main control room operators received alarm H13-P601-C03, "RPV Drain Path via E12-F006B and F064B Open." The main control room operators acknowledged the alarm and closed valve E12-MOVF064B to stop the draining. Plant data indicated that the RPV water level decreased by 1.8 inches (approximately 360 gallons were transferred to the suppression pool). Level was maintained within the normal level control band of 80 to 100 inches.

Analysis. The failure to correctly implement procedure STP-200-0605, "Remote Shutdown System Control Circuit Operability Test," Revision 307, was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it was associated with the Initiating Events Cornerstone attribute of configuration control, 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, a loss of RPV inventory occurred due to the establishment of an unintended system configuration caused by the inadvertent repositioning of the RPV suction valve. The inspectors initially screened the finding in accordance with NRC Inspection Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process." Using Exhibit 2 of NRC Inspection Manual Chapter 0609, Appendix G, Attachment 1, "Phase 1 Initial Screening and Characterization of Findings," the inspectors determined that the finding required a Phase 2 evaluation because the loss of inventory resulted in leakage to the suppression pool that if undetected or unmitigated in 24 hours or less would cause shutdown cooling to isolate. A Region IV senior reactor analyst performed a Phase 2 evaluation of this issue and determined the issue was of very low safety significance (Green) and represented a change to the core damage frequency of 3.8E-8/year. The event sequence was an actual loss of inventory which occurred after core refueling in the shutdown. Risk was mitigated by prompt operator recovery action to stop the loss of inventory along with the operating plant configuration, which had two residual heat removal pumps aligned for automatic injection, one control rod drive pump in operation at the time of the event, and all manual injection paths fully available to mitigate the event. This finding has a cross-cutting aspect in the area of human performance associated with avoid complacency because the licensee failed to ensure individuals recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes [H.12].

Enforcement. Technical Specification 5.4.1.a, requires, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2. Section 8.b of

Appendix A to Regulatory Guide 1.33, Revision 2, requires implementing procedures for each surveillance test listed in the TSs. The licensee established procedure STP-200-0605, "Remote Shutdown System Control Circuit Operability Test," Revision 307, to meet the Regulatory Guide 1.33 requirement. Step 7.1.27 of procedure STP-200-0605 requires, during performance of the remote shutdown system control circuit operability test, that station personnel operate valve E51-MOVF063 (RCIC steam supply inboard isolation valve). Contrary to the above, on March 25, 2015, during performance of the remote shutdown system control circuit operability test, the licensee did not operate valve E51-MOVF063. Specifically, the licensee erroneously opened valve E12-MOVF006B (RPV suction valve). As a result, approximately 360 gallons of reactor coolant were inadvertently drained to the suppression pool which resulted in a 1.8-inch decrease in RPV level. The licensee entered this condition into their corrective action program as Condition Report CR-RBS-2015-02354. The licensee restored compliance by restoring the system to a configuration that was consistent with plant operating procedures. Because this violation was of very low safety significance (Green) and was entered into the licensee's corrective action program, it is being treated as a non-cited violation, consistent with Section 2.3.2.a of the NRC Enforcement Policy: NCV 05000458/2015004-05, "Failure to Follow Procedure Results in Inadvertent Draindown of Reactor Pressure Vessel."

.3 Annual Follow-up of Selected Issues

a. Inspection Scope

The inspectors selected one issue for an in-depth follow-up:

> On March 26, 2015, the licensee entered Mode 2 with service water to the Division II LSV compressor isolated and the associated division of MS-PLCS inoperable, which was required to be operable by TS. 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

Introduction. The inspectors reviewed a Green self-revealing, non-cited violation of TS 3.0.4, "Limiting Condition for Operation Applicability," for the licensee's failure to restore safety-related equipment to operable status prior to changing modes. Specifically, the licensee failed to restore Division II of the MS-PLCS to operable status prior to entering Mode 2 on March 26, 2015, and Mode 1 on March 29, 2015.

Description. On March 5, 2015, while the licensee was refilling the Division II service water system, the licensee observed water leaking from the inlet piping of the Division II LSV compressor. This leakage was an expected consequence of an ongoing planned electrical bus outage that had caused a service water flow control valve in the system to fail in the open position. To stop the leakage, operators isolated the service water supply to the LSV compressor.

In a postulated loss of coolant accident scenario, the Division II LSV compressor provides pressurized air to the MS-PLCS, which injects that air into portions of the main steam line so as to reduce the possibility of leakage across the main steam isolation valves. TS 3.6.1.9 requires that two MS-PLCS subsystems shall be operable in Modes 1, 2, or 3. In isolating the service water supply to the Division II LSV compressor, the licensee rendered Division II of MS-PLCS inoperable.

The licensee made a control room log entry documenting the service water supply isolation. However, the licensee failed to enter the isolation into the limited condition for operability tracking system. The plant was in Mode 5 at the time, and therefore the MS-PLCS system was not required to be operable. However, the licensee was required by procedure EN-OP-104, "Operability Determination Process," Revision 7, Step 5.3.14, to track the inoperability of the system, so as to ensure that it would be restored to operable status prior to entry into a mode or condition in which it would be required to be operable.

On March 26, 2015, the licensee entered Mode 2 from Mode 4 with service water to the Division II LSV compressor isolated and the associated division of MS-PLCS inoperable. On March 29, 2015, the licensee entered Mode 1 with the same condition still existing. On May 4, 2015, during a scheduled 15-minute surveillance test run, the Division II LSV compressor tripped on high discharge air temperature. Division II of MS-PLCS was declared inoperable, and the licensee entered TS 3.6.1.9, Condition A, Action A.1.

On May 14, 2015, while hanging a tagout to support troubleshooting of the trip, operators discovered that the service water supply to the Division II LSV compressor was isolated. The licensee correctly aligned service water to the compressor and restored Division II of MS-PLCS to operable status.

Division II of MS-PLCS was left inoperable for a total of 49 consecutive days while operating in modes in which it was required to be operable by TS. This period exceeded the 30-day completion time associated with TS 3.6.1.9, Condition A, Action A.1. This aspect is further addressed in section 1R22 above.

Analysis. The failure to restore Division II of MS-PLCS to operable status prior to entering a mode of applicability for TS 3.6.1.9 was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it was associated with the barrier performance attribute of the Barrier Integrity Cornerstone and adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the reactor was taken to Mode 2 with Division II of the MS-PLCS system inoperable. The inspectors performed the initial significance determination using NRC Inspection Manual Chapter 0609, Appendix A, Exhibit 3, "Barrier Integrity Screening Questions." The inspectors determined that the finding was of very low safety significance (Green) because (1) the finding did not represent an actual open pathway in the physical integrity of reactor containment (valves, airlocks, etc.), containment isolation systems (logic and instrumentation), or heat removal components, and (2) the finding did not involve an actual reduction in function of hydrogen igniters in the reactor containment. This finding had a cross-cutting aspect in the area of human performance associated with procedure adherence because the

licensee failed to ensure that individuals follow processes, procedures, and work instructions [H.8].

Enforcement. Technical Specification 3.6.1.9 Limiting Condition for Operation (LCO) requires that two MS-PLCS subsystems shall be operable in Modes 1, 2, or 3. Technical Specification 3.0.4, "Limiting Condition for Operation Applicability," requires, in part, that when a limiting condition for operation is not met, entry into a mode in which the condition is applicable shall only occur if the associated actions that must be taken for the condition allow for continued operation in the mode for an unlimited period of time (3.0.4.a), or a risk assessment addressing the inoperability is conducted (3.0.4.b). Contrary to the above, on March 26, 2015, and March 29, 2015, with LCO 3.6.1.9 not met due to Division II of MS-PLCS being inoperable, the licensee entered a mode in which the condition was applicable without conducting a risk assessment. The licensee entered this condition into their corrective action program as Condition Report CR-RBS-2015-03581. The licensee restored compliance by restoring Division II of MS-PLCS to an operable status by restoring service water to the Division II LSV compressor. Because this violation was of very low safety significance and was entered into the licensee's corrective action program, it is being treated as a non-cited violation, consistent with Section 2.3.2.a of the NRC Enforcement Policy:
NCV 05000458/2015004-06, "Failure to Restore Main Steam Positive Leakage Control System to Operable Prior to Changing Modes."

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

.1 (Closed) Licensee Event Report 05000458/2014-003-01: Automatic Reactor Scram and Primary Containment Isolation Due to Loss of Power on the Division II Reactor Protection System with a Concurrent Division I Half-Scram

This licensee event report (LER) described additional, amplifying information to that contained in LER 2014-003-00, issued on August 11, 2014. The original LER described a condition during which technicians performing a scheduled surveillance test found that one instrument channel in the reactor protection system failed its response acceptance criterion. A previous failure of the same surveillance test had occurred earlier, and it was postulated that independent redundant channels in the same system could have been inoperable at the same time. This LER was reviewed during the 2014 component design basis inspection and was closed in NRC Inspection Report 05000458/2014007. The inspectors reviewed the supplemental LER, 2014-003-01, which contained details of channels affected, test response time impacts, and proposed corrective actions. LER 05000458/2014-003-01 is closed.

.2 (Closed) Licensee Event Report 05000458/2015-002-00: Emergency Diesel Generator Start Circuit Actuation Due to Loss of Power from Reserve Station Service Line No. 2

On March 7, 2015, while the plant was in cold shutdown, River Bend Station experienced a loss of reserve station service (RSS) line no. 2. The loss of RSS line no. 2 generated an automatic start signal on the Division II emergency diesel generator, which did not start because it was tagged out for planned maintenance. The Division II standby service water pumps were being run for scheduled testing and tripped off upon the loss of power. The cause of the loss of RSS line no. 2 was inadequate work practices on the part of electricians, who made inadvertent contact with sudden-pressure trip circuitry wires while performing maintenance in a cabinet on RSS transformer D.

The workers recognized the adverse conditions, but did not put into place robust barriers to prevent inadvertent contact. The event did not involve any interruption of the shutdown cooling function. The inspectors reviewed the LER associated with the event and determined that the report adequately documented the summary of the event, including the cause of the event and potential safety consequences.

The inspectors identified a minor violation for the licensee's failure to comply with TS 5.4, "Procedures," which commits the licensee to establish and implement the procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A. Procedure EN-MA-101, "Conduct of Maintenance," is a procedure that the licensee uses, in part, to satisfy the requirements of section 9 of Regulatory Guide 1.33 and was not properly implemented. The performance deficiency screened as minor because it did not adversely affect any cornerstone objective, was not a precursor to a significant event, nor did have the potential to lead to a more significant safety concern. This failure to comply with TS 5.4 constitutes a minor violation that is not subject to enforcement action in accordance with the NRC's Enforcement Policy. LER 05000458/2015-002-00 is closed.

.3 (Closed) Licensee Event Report 05000458/2015-003-00: Operations Prohibited by Technical Specifications and Loss of Safety Function Due to Inoperability of Division II Containment Penetration Leakage Control System

On May 14, 2015, with the plant operating at full power, valve SWP-V912, a manual valve in the Division II LSV that aligns service water to the compressor, was found shut and out of position. The valve had been out of position since the March 2015 outage. With the valve out of position, the Division II LSV compressor was unable to perform its required support function for Division II MS-PLCS, and therefore Division II MS-PLCS was inoperable. The total time of inoperability was 49 days, in excess of the 30 days allowed in TS 3.6.1.9. The cause of the incorrectly positioned valve was a failure to appropriately track maintenance conducted on the system during the outage. The inspectors reviewed the LER associated with the event and determined that the report adequately documented the summary of the event, including the cause of the event and potential safety consequences. The inspectors issued a Green non-cited violation for the licensee's action of entering a mode of applicability for TS 3.6.1.9 with Division II MS-PLCS inoperable, and a Green non-cited violation for the licensee's failure to take required actions for an inoperable subsystem of MS-PLCS as required by TS 3.6.1.9. These findings are discussed in Sections 4OA2.3 and 1R22 of this report, respectively. LER 05000458/2015-003-00 is closed.

.4 (Closed) Licensee Event Report 05000458/2015-005-00: Automatic Reactor Scram Due to Low Reactor Water Level Following a Loss of Instrument Power

This LER described a reactor scram that occurred on June 1, 2015, while the plant was operating at approximately 90 percent power. This event resulted from the loss of 24-VDC control power in nonsafety-related electrical panel H13-P854. Upon the loss of power to these panels, reactor feedwater pump minimum flow valves opened. The opening of these valves caused a reduction in feed flow to the reactor. Additionally, the flow to the main condenser through the minimum flow valves caused reactor feed pump suction pressure to lower. Feedwater pump 1A (FWS-P1A) tripped on low suction pressure. Approximately 17 seconds later, an automatic reactor scram occurred on a low reactor water level condition (level 3). Resident inspectors interviewed plant

personnel, reviewed plant parameters, and reviewed the licensee's root cause evaluation conducted to investigate the events leading to the reactor scram.

Main control room panel H13-P854 is a nonsafety-related balance of plant instrumentation panel. The panel is fed by 120-VAC power, which is distributed to four 24-VDC power supplies. Each power supply is protected by a 6-amp input fuse. On the output of each power supply is a power indication status light and power supply failure alarm relay. The power supplies were installed in a parallel configuration as were the power loss indicating lights and power supply failure alarm. While there are four indicating lights for the four power supplies, the system was designed and configured such that all four power available lights would remain lit so long as power to any one 24-VDC power supply was available. Additionally, no alarm would be generated until all four power supplies were lost. On June 1, 2015, the station lost power to panel H13-P854. The station contracted for a fuse failure analysis to be performed on all four input fuses. There were no indications of failure to operate as designed. The analysis was not able to determine if the fuses had blown prior to the event. Oxidation on the blown fuse elements suggested that some of the fuses had blown prior to the event, but it was not possible to identify when the fuses blew nor in what order. The report indicated that the most likely cause of the blown fuses was a transient on the 120-VAC side of the power supplies. As a result, the vendor recommended the use of slow blow fuses on the power supplies which the licensee installed prior to conducting a reactor startup.

The inspectors also interviewed engineering and operations personnel and reviewed preventative maintenance records, design drawings and documents, and maintenance history of power supplies, circuitry, fuses, and associated inverters. No performance deficiencies were identified during the course of the event follow-up.
LER 05000458/2015-005-00 is closed.

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

4OA6 Meetings, Including Exit

Exit Meeting Summary

On December 11, 2015, the inspectors presented the radiation safety inspection results to Mr. E. Olson, 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. A supplemental teleconference interim exit was conducted with K. Huffstatler, Senior Licensing Specialist, Regulatory Assurance, on January 11, 2016.

On January 7, 2016, the inspectors presented the inspection results to Mr. E. Olson, 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.

- Technical Specification 5.4.1, states, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, "Quality Assurance Program Requirements," Appendix A, Section 7.d, requires procedures for "BWR Air Extraction, Offgas Treatment, and Other Gaseous Effluent Systems" including sampling, ventilation, and stack monitor. Station Procedure Technical Requirements Manual, Section 3.3.11.3, requires, in part, that with both of the main plant exhaust noble gas effluent radiation monitors (RMS-RE-125 and RMS-RE-126) out of service, the licensee perform grab samples release path "once per 12 hours," and if the licensee were to exceed the 12-hour grab sampling action time requirement, "immediately suspend release of radioactive gaseous effluents via this pathway." Contrary to the above, on March 7, 2015, the licensee had both of the main plant exhaust noble gas effluent radiation monitors out of service and failed to perform grab samples of the main plant exhaust noble gas effluent release path "once per 12 hours." Additionally, once the licensee exceeded the 12-hour grab sampling action time requirement, the licensee failed to immediately suspend radioactive gaseous effluents via this pathway.

  The licensee's failure to initiate timely compensatory effluent sample collection and analysis as required by the station's Technical Requirement Manual when the main plant exhaust duct noble gas radiation monitors were out of service was a performance deficiency. This performance deficiency is more than minor, and therefore a finding, because it adversely affects the Public Radiation Safety Cornerstone, in that, by not performing auxiliary sampling of the main plant exhaust duct, the licensee was not monitoring effluents being released from the main plant exhaust duct for about 15 hours. Using NRC Inspection Manual Chapter 0609, Appendix D, "Public Radiation Safety Significance Determination Process," dated February 12, 2008, the inspectors determined the violation was of very low safety significance (Green) because 1) it was a finding in the effluent release program and 2) there was no failure to implement the effluent program. As corrective action, the licensee performed a human performance evaluation and entered the issue into their corrective action program as Condition Report CR-RBS-2015-01784.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

D. Burnett, Director, Emergency Planning, Entergy South
G. Bush, Manager, Material, Procurement, and Contracts
J. Clark, Manager, Regulatory Assurance
B. Cole, Manager, Radiation Protection
R. Conner, Manager, Nuclear Oversight
F. Corley, Manager, Design & Program Engineering
K. Crissman, Senior Manager, Maintenance
B. Ford, Senior Manager, Fleet Regulatory Assurance
T. Gates, Manager, Operations Support
K. Hallaran, Manager, Chemistry
J. Henderson, Assistant Manager, Operations
R. Hilliard, Supervisor, Chemistry
R. Hite, Supervisor, Radiological Support
K. Huffstatler, Senior Licensing Specialist, Regulatory Assurance
V. Huffstatler, Senior HP/Chemistry Specialist, Chemistry
R. Leasure, Superintendent, Radiation Protection
P. Lucky, Manager, Performance Improvement
J. Maher, Manager, Systems & Components Engineering
C. Miller, Manager, Site Projects and Maintenance Services
J. Morgan, Senior HP/Chemistry Specialist, Chemistry
P. O'Conner, Manager, Training
E. Olson, Site Vice President
S. Peterkin, Manager, Radiation Protection
M. Reeves, Supervisor, Radiation Protection
W. Renz, Director, Emergency Planning, Entergy South
J. Reynolds, Manager, Operations
C. Rich, General Manager, Plant Operations
R. Cook, Manager, Security
T. Schenk, Manager, Emergency Preparedness
W. Spell, Senior HP/Chemistry Specialist, Chemistry
S. Vazquez, Director, Engineering
J. Vukovics, Supervisor, Reactor Engineering
J. Wieging, Senior Manager, Production
F. Wilson, Project Manager
D. Yoes, Manager, Quality Assurance

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000458/2015-004-01	NCV	Failure to Ensure Work Hours are Within Work Hour Limits (Section 1R20)
05000458/2015-004-02	NCV	Failure to Properly Implement Surveillance Testing of Penetration Valve Leakage Control System Leads to Inoperability in Excess of Technical Specification Allowed Outage Time (Section 1R22)
05000458/2015-004-03	NCV	Failure to Conduct Operations and Control Work Practices to Minimize Residual Radioactivity into the Site, including the Subsurface (Section 2RS7)
05000458/2015-004-04	NCV	Failure to Make a Notification to NRC Operations Center Regarding a Radioactive Spill Reported to Another Government Agency (Section 2RS7)
05000458/2015-004-05	NCV	Failure to Follow Procedure Results in Inadvertent Draindown of Reactor Pressure Vessel (Section 4OA2.2)
05000458/2015-004-06	NCV	Failure to Restore Main Steam Positive Leakage Control System to Operable Prior to Changing Modes (Section 4OA2.3)

Closed

05000458/2014-003-01	LER	Automatic Reactor Scram and Primary Containment Isolation Due to Loss of Power on the Division II Reactor Protection System with a Concurrent Division I Half-Scram (Section 4OA3.1)
05000458/2015-002-00	LER	Emergency Diesel Generator Start Circuit Actuation Due to Loss of Power from Reserve Station Service Line No. 2 (Section 4OA3.2)
05000458/2015-003-00	LER	Operations Prohibited by Technical Specifications and Loss of Safety Function Due to Inoperability of Division II Containment Penetration Leakage Control System (Section 4OA3.3)
05000458/2015-005-00	LER	Automatic Reactor Scram Due to Low Reactor Water Level Following a Loss of Instrument Power (Section 4OA3.4)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Calculation

Number	Title	Revision
G13.18.2.1*067-0	Control Building Heat Area Winter Temperatures During Normal and Loca/Loop Operating Conditions	0

Condition Reports (CRs)

CR-RBS-1996-02028 CR-RBS-2002-00048 CR-RBS-2015-06832

Procedure

Number	Title	Revision
OSP-0043	Freeze Protection and Temperature Maintenance	28

Section 1R04: Equipment Alignment

Condition Reports (CRs)

CR-RBS-2015-03231 CR-RBS-2015-03351 CR-RBS-2015-03605 CR-RBS-2015-04559
CR-RBS-2015-04562 CR-RBS-2015-06848

Procedures

Number	Title	Revision
SOP-0030	High Pressure Core Spray	029
SOP-0066	Control Building HVAC Chilled Water System (SYS#410)	325

Other Document

Number	Title	Revision
R-STM-0402	HVAC – Control Building and Diesel Generator Building	6

Section 1R05: Fire Protection

Condition Report (CR)

CR-RBS-2015-04571

Procedures

Number	Title	Revision
AB-070-506	HPCS Piping Area Fire Area AB-2/Z-1	4
AB-095-517	HPCS Piping Area Fire Area AB-2/Z-2	4
AB-141-531	SGTS Filter A Room Fire Area AB-14	2
CB-116-127	Control Building Fire Area C-17	5

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

Procedures

Number	Title	Revision
RJPM-OPS-205-03	Manually Start LPCS – Suppression Pool to Suppression Pool	6
RJPM-OPS-209-04	RCIC Turbine Trip During Initiation	4

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedure

Number	Title	Revision/Date
EN-WM-104	On Line Risk Assessment	12

Section 1R15: Operability Determinations and Functionality Assessments

Condition Report (CR)

CR-RBS-2015-07747

Procedure

Number	Title	Revision
STP-204-6304	Div II RHR Quarterly Valve Operability Test	22

Work Order (WO)

WO 00429228

Section 1R19: Post-Maintenance Testing

Calculation

Number	Title	Revision
E-144	ENB-BAT01B Duty Cycle, Current Profile, and Size Verification	7

Condition Reports (CRs)

CR-RBS-2015-07479	CR-RBS-2015-07489	CR-RBS-2015-07672	CR-RBS-2015-07681
CR-RBS-2015-07682	CR-RBS-2015-07692	CR-RBS-2015-07710	CR-RBS-2015-07732
CR-RBS-2015-07733	CR-RBS-2015-08282		

Procedures

Number	Title	Revision
STP-305-1604	ENB-CHGR1B Load Test	301
STP-309-0603	Division III ECCS Test	041

Work Orders (WOs)

WO 00430786-01	WO 00430919-01	WO 52404985	WO 52499046
WO 52525609	WO 52525612		

Section 1R22: Surveillance Testing

Condition Reports (CRs)

CR-RBS-2015-03581	CR-RBS-2015-03622

Procedures

Number	Title	Revision
STP-000-0201	Monthly Operating Log	309
STP-000-0201	Monthly Operating Log	310
STP-000-0201	Monthly Operating Log	311

Section 1EP6: Drill Evaluation

Procedure

Number	Title	Revision
RDRL-EP-0803EX	Site Drill Scenario	00

Section 2RS5: Radiation Monitoring Instrumentation

Audits and Self-Assessment

Number	Title	Date
LO-RLO-2014-0071	Instrument Control Focused Self-Assessment	May 1, 2014

Condition Reports (CRs)

CR-HQ-2014-00368	CR-HQ-2015-00142	CR-RBS-2014-01817	CR-RBS-2014-02167
CR-RBS-2014-03723	CR-RBS-2014-03910	CR-RBS-2014-06338	CR-RBS-2015-00541
CR-RBS-2015-02666	CR-RBS-2015-04210	CR-RBS-2015-04726	CR-RBS-2015-04728
CR-RBS-2015-04727	CR-RBS-2015-07913		

Procedures

Number	Title	Revision
RHP-0106	Calibration of Whole Body Counters	3
RPP-0118	Calibration and Maintenance of Portable Radiological Air Samplers	4
EN-RP-301	Radiation Protection Instrument Control	8
EN-RP-302	Operation of Radiation Protection Instrumentation	3
EN-RP-303	Source Checking of Radiation Protection Instrumentation	4
EN-RP-304	Operation of Counting Equipment	4
EN-RP-306	Calibration and Operation of the Eberline PM-7	2
EN-RP-307	Operation and Calibration of the Eberline Personnel Contamination Monitors	2
EN-RP-308	Operation and Calibration of Gamma Scintillation Tool Monitors	8
EN-RP-311	Electronic Alarming Dosimeters	2
EN-RP-313	Operation and Calibration of the ARGOS-5AB Personnel Contamination Monitor	2
EN-RP-315	Operation and Calibration of the CRONOS Contamination Monitor	1
EN-RP-317	Central Calibration Facility	0
RPP-0010	Operation and Verification of the Shepherd Model 89 Gamma Calibrator	301
RPP-0036	Calibration of DRMS Area Monitors and Determination of Alert and High Alarm Setpoints	7
STP-511-4201	Main Steam Line Radiation High High Channel Calibration and Logic System Functional Test	19
STP-511-4203	Main Steam Line Radiation High High Channel Calibration and Logic System Functional Test	20

Radiation Protection Instrumentation Calibrations

Number	Title	Date
Fastscan II	Whole Body Counter	February 10, 2015
Accuscan II	Whole Body Counter	February 11, 2015

Radiation Protection Instrumentation Calibrations

Number	Title	Date
CHP-TEL028	WR TelePole	December 11, 2014
CHP-ARM041	AMP-200	October 7, 2015
CHP-DR-129	RO-20	December 10, 2014
CHP-MF-053	ASP-1	November 25, 2014
CHP-CR-118	LM-177	June 2, 2014
1413	Eberline Alpha Counter	December 31, 2014
095044	Liquid Scintillation Counter	November 9, 2015
394	PM-7	January 12, 2015
395	PM-7	January 12, 2015
890527	CPO – Small Article Monitor	April 29, 2015
1410-184	ARGOS	August 12, 2015
WO52485690	RE125 – Main Plant Exhaust Duct Noble Gas Activity Channel	August 13, 2015
WO52382277	RE126 – Main Plant Exhaust Duct Noble Gas Activity Channel	December 30, 2013
WO 52647783	RE6A – Radwaste Building Ventilation Exhaust	November 3, 2015
WO 52374198	RE5A - Fuel Building Ventilation Exhaust Radiation/High Channel	July 24, 2014
WO 52369520	RE107 - Liquid Radwaste Effluent Line Radiation Monitor Channel	October 30, 2013
WO 52501641	RE112 - Reactor Coolant System Leakage Drywell Atmosphere	November 9, 2015
WO 52525079	RE16B - Primary Containment Area Radiation Monitor	October 27, 2015
WO 52498944	RE20B - Primary Drywell Area Radiation Monitor	March 16, 2015

Section 2RS6: Radioactive Gaseous and Liquid Effluent Treatment

Audits and Self-Assessment

Number	Title	Date
LO-RBS-2015-0097	Radiological Environmental Monitoring Program and Radioactive Gaseous and Liquid Effluent Treatment	June 11, 2015

Condition Reports (CRs)

CR-RBS-2014-04450	CR-RBS-2015-00861	CR-RBS-2015-01784	CR-RBS-2015-03359
CR-RBS-2015-04237	CR-RBS-2015-04238	CR-RBS-2015-04871	CR-RBS-2015-04970
CR-RBS-2015-05061	CR-RBS-2015-05178	CR-RBS-2015-05418	CR-RBS-2015-05845
CR-RBS-2015-06396	CR-RBS-2015-06401	CR-RBS-2015-06437	CR-RBS-2015-08585

Miscellaneous Documents

Number	Title	Date
	Annual Radioactive Effluent Release Report for 2013	May 1, 2014
	Annual Radioactive Effluent Release Report for 2014	May 1, 2015
	Radiological Gaseous and Liquid Effluent Discharge Packages	Selected Records 2014 and 2015
	System Health Reports; Radiation Monitoring System	Selected Records 2014 and 2015
	Radiological Gaseous and Liquid Effluent Discharge Packages	Selected Records 2014 and 2015
52448605	STP-257-8601, Div I Standby Gas Treatment System Carbon Filter Analysis	January 7, 2015
52444669	STP-257-8602, Div II Standby Gas Treatment System Carbon Filter Analysis	October 16, 2014
52465829	STP-402-3601, Inservice Testing of Div I Control Room Fresh Air	February 19, 2015
52364812	STP-402-3602, Inservice Testing of Div II Control Room Fresh Air	August 20, 2013
52502770	STP-402-8604, Div I Control Room Fresh Air Carbon Filter Analysis	February 19, 2015
52369513	STP-402-8605, Div II Control Room Fresh Air Carbon Filter Analysis	September 11, 2013
52541732	STP-406-3601, Inservice Testing of Div I Fuel Building Ventilation	July 21, 2015
52444670	STP-406-3602, Inservice Testing of Div II Fuel Building Ventilation	November 26, 2014
52444671	STP-406-8602, Div I Fuel Building Ventilation Carbon Filter Analysis	October 7, 2014
52449512	STP-406-8603, Div II Fuel Building Ventilation Carbon Filter Analysis	January 20, 2015

Procedures

Number	Title	Revision
EN-DC-153	Preventive Maintenance Component Classification	12
EN-WM-100	Work Request (WR) Generation, Screening, and Classification	11
MSP-0027	River Bend Station; Station Operating Manual; Protective Coatings (Paint)	08

Section 2RS7: Radiological Environmental Monitoring Program

Audits, Self-Assessments, and Surveillances

Number	Title	Date
LO-RBS-2015-0097	Focused Self-Assessment: Radiological Environmental Monitoring Program and Radioactive Gaseous and Liquid Effluent Treatment	June 11, 2015
NUPIC 2013V-16	NUPIC Audit: Teledyne Brown Engineering Environmental Services – TVA Supplier Audit 2013V-16	October 11, 2013

Calibration and Maintenance Records

Number	Title	Date
WO 52580866	Meteorological Monitoring – Air Temperature Difference Elev. 30/150 foot (Secondary) Semi-Annual Channel Calibration	April 2, 2015
WO 52620481	Meteorological Monitoring – Wind Speed Elev. 30 foot (Secondary) Calibration Test	August 26, 2015
WO 52620482	Meteorological Monitoring – Wind Speed Elev. 150 foot (Primary) Calibration Test	August 26, 2015
WO 52620483	Meteorological Monitoring – Wind Speed Elev. 150 foot (Secondary) Calibration Test	August 26, 2015
WO 52620484	Meteorological Monitoring – Wind Direction Elev. 30 foot (Primary) Calibration Test	August 25, 2015
WO 52620485	Meteorological Monitoring – Wind Direction Elev. 30 foot (Secondary) Calibration Test	August 25, 2015

WO 52620486	Meteorological Monitoring – Wind Speed Elev. 30 foot (Primary) Calibration Test	August 26, 2015
WO 52622366	Meteorological Monitoring – Wind Direction Elev. 150 foot (Primary) Calibration Test	August 25, 2015
WO 52622367	Meteorological Monitoring – Air Temperature Difference Elev. 30/150 foot (Primary) Semi-Annual Channel Calibration	November 15, 2015
WO 52622368	Meteorological Monitoring – Air Temperature Difference Elev. 30/150 foot (Secondary) Semi-Annual Channel Calibration	August 27, 2015

Condition Reports (CRs)

CR-RBS-2013-02971	CR-RBS-2013-05654	CR-RBS-2014-00086	CR-RBS-2014-00115
CR-RBS-2014-00119	CR-RBS-2014-00321	CR-RBS-2014-00840	CR-RBS-2014-00930
CR-RBS-2014-01193	CR-RBS-2014-02197	CR-RBS-2014-02309	CR-RBS-2014-02733
CR-RBS-2014-03321	CR-RBS-2014-03413	CR-RBS-2014-03414	CR-RBS-2014-04559
CR-RBS-2014-05461	CR-RBS-2015-00658	CR-RBS-2015-03844	CR-RBS-2015-04299
CR-RBS-2015-04965	CR-RBS-2015-05530	CR-RBS-2015-05541	CR-RBS-2015-08260
CR-RBS-2015-08678	WT-WTRBS-2014-00171		

Miscellaneous Documents

Number	Title	Date
	Wind Rose Data Charts: 10 and 50 Meter	March 1979
	Land Use Census Results	2014
LAR-1998-09	Radiological Environmental Monitoring Program Change	December 30, 1998
2013	Annual Radiological Environmental Operating Report	May 1, 2014
	Groundwater Monitoring Plan: River Bend, Rev. 5	July 24, 2014
2014	Annual Radiological Environmental Operating Report	May 1, 2015
	Wind Rose Data: 2005-2014 (10 Meter)	May 18, 2015
	MET Tower Qualifications	December 3, 2015

Procedures

Number	Title	Revision
EN-CY-108	Monitoring of Non-Radioactive Systems	6

Procedures

Number	Title	Revision
EN-CY-111	Radiological Groundwater Monitoring Program	6
EN-EV-100	Environmental Expectations	5
EN-RP-113	Response to Contaminated Spills/Leaks	8
EN-TQ-212	Conduct of Training and Qualification	14
ESP-8-012	Routine Performance Checks of Meteorological Monitoring Equipment	15
ESP-8-021	Sampling Of Water For Radiological Environmental Monitoring	14
ESP-8-023	Sampling of Airborne Radioiodine and Particulates for Radiological Environmental Monitoring	14
ESP-8-042	Radioactive Standard Preparation for Environmental Program	7
ESP-8-050	Conduct of the Radiological Environmental Monitoring Program (REMP)	15
ESP-8-052	Inter-laboratory Comparison Program for Radiological Environmental Monitoring	11
RSP-0008	Offsite Dose Calculation Manual	14
STP-000-0001	Daily Operating Logs	78

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

Audits, Self-Assessments, and Surveillances

Number	Title	Date
LO-RLO-2014-0157, CA-01	Radioactive Material Interim Storage Effectiveness	December 23, 2014
LO-RLO-2015-0075	Pre-NRC Handling, Storage and Transportation of Radioactive Material (71124.08)	July 14, 2015
QA-14/15-2015-RBS-01	Radiation Protection/Radwaste Audit	September 1, 2015

Condition Reports (CRs)

CR-HQN-2012-00526	CR-HQN-2014-00297	CR-HQN-2015-00043	CR-HQN-2015-00098
CR-HQN-2015-00231	CR-HQN-2015-00934	CR-HQN-2015-00946	CR-RBS-2013-07206
CR-RBS-2014-00587	CR-RBS-2014-01173	CR-RBS-2014-01444	CR-RBS-2014-02279
CR-RBS-2015-03742	CR-RBS-2015-07265	CR-RBS-2015-07977	

Miscellaneous Documents

Number	Title	Revision/Date
UFSAR Chapter 9	RBS Updated Final Safety Analysis Report	19
UFSAR Chapter 11	RBS Updated Final Safety Analysis Report	24
UFSAR Chapter 12	RBS Updated Final Safety Analysis Report	24
	Radwaste Packaging, Transportation, and Disposal Training Records	2015
	Shipping Logbook	2013
	Shipping Logbook	2014
	Shipping Logbook	2015
T.S. 5.6.5 R.G. 1.21	RBS Annual Radioactive Effluent Release Report for 2013	May 1. 2015
T.S. 5.6.2 R.G. 1.21	RBS Annual Radioactive Effluent Release Report for 2014	May 1, 2014
EN-RP-143	Source Control, Leak Test, & Inventory 2015	May 7, 2015

Procedures

Number	Title	Revision
RWS-0304	Radioactive Waste Control	15
RW-108	Radioactive Shipment Accident Response	1
RW-106	Integrated Transportation Security Plan	4
RW-105	Process Control Program	5
RW-104	Scaling Factors	12
RW-103	Radwaste Tracking	4
RW-102	Radwaste Shipping	10
RW-101	Radwaste Management	3

Procedures

Number	Title	Revision
RP-121	Rad Material Control	11
RP-121-01	Receipt of Rad Material	2
RWS-0336	Operation of Dewatering System	11
EN-RP-143	Source Control	10
RSP-0221	Controls for Storage, Monitoring, and Decontamination Areas Outside the Protected Area	8

Shipments

RBS-2014-0053	RBS-2014-0052	RBS-2013-0080	RBS-2013-0069	RBS-2012-081
RBS-2013-0061	RBS-2013-0043	RBS-2013-0015		

Section 4OA1: Performance Indicator Verification

Procedures

Number	Title	Revision
COP-0001	Sampling Via Various Balance of Plant Systems	23
COP-0032	Startup and Operation of the Reactor Sample Panel G33-Z020	10
COP-0044	Configuration Control of Sampling Valves	2
COP-0308	Operation of the Chemistry and Environmental Gamma Ray Spectroscopy Systems Using APEX	2
COP-0619	Gamma Isotopic Analysis Sample Preparation	6
EN-LI-114	Performance Indicator Process	6

Other Documents

Number	Title	Revision/Date
Engineering Report RBS-SA-06-0001	RBS Mitigating System Performance Index (MSPI) Basis Document	2
NEI 99-02	Regulatory Assessment Performance Indicator Guideline	7
RBF1-15-0170	Electronic Submittal of Third Quarter 2015 NRC Performance Indicator Information	October 21, 2015

Section 4OA2: Problem Identification and Resolution

Condition Reports (CRs)

CR-RBS-2015-02354	CR-RBS-2015-03367	CR-RBS-2015-03581	CR-RBS-2015-03622
CR-RBS-2015-04165	CR-RBS-2015-05530	CR-RBS-2015-06504	CR-RBS-2015-06505

Procedure

Number	Title	Revision
EN-OP-104	Operability Determination Process	7

The following items are requested for the
Occupational/Public Radiation Safety Inspection
at River Bend Station
December 07 to 11, 2015
Integrated Report 2015004

Inspection areas are listed in the attachments below.

Please provide the requested information on or before November 4, 2015.

Please submit this information using the same lettering system as below. For example, all contacts and phone numbers for Inspection Procedure 71124.05 should be in a file/folder titled "5- A," applicable organization charts in file/folder "5- 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 on-site 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 Martin Phalen at (817) 200-1158 or martin.phalen@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. Radiation Monitoring Instrumentation (71124.05)
Date of Last Inspection: November 22, 2013

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 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 sub-tiered 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 counter’s.

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

2. Radioactive Gaseous and Liquid Effluent Treatment (71124.06)
Date of Last Inspection: November 22, 2013

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 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 sub-tiered 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. 2013 and 2014 Annual Radioactive Effluent Release Report, or the two most recent reports.

H. Current Copy of the Offsite Dose Calculation Manual

I. Copy of the 2013 and 2015 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 dept.) 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. Moreover, please provide a specific list of all effluent radiation monitors that were considered inoperable for 7 days or more since November 2013. 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 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).

3. Radiological Environmental Monitoring Program (71124.07)
Date of Last Inspection: November 22, 2013

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 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 sub-tiered 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 2013 and 2014 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 2013 and 2014, 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 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 leaks /spills to groundwater since the last inspection

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

Date of Last Inspection: November 22, 2013

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 sub-tiered 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 49CFR172 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 2013 and 2014, or the two most recent results.

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

K. A listing of all on-site 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.