



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

May 8, 2018

Mr. William F. Maguire, 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 05000458/2018001**

Dear Mr. Maguire:

On March 31, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your River Bend Station, Unit 1. On April 25, 2018, the NRC inspectors discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

NRC inspectors documented two findings of very low safety significance (Green) in this report. One of these findings involved a violation of NRC requirements. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2.a of the NRC Enforcement Policy.

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

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Jason W. Kozal, Chief
Project Branch C
Division of Reactor Projects

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

Enclosure:

Inspection Report 05000458/2018001

w/ Attachments:

1. Documents Reviewed
2. Occupational Radiation Safety Inspection
Request for Information

**U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report**

Docket Number: 05000458

License Number: NPF-47

Report Number: 05000458/2018001

Enterprise Identifier: I-2018-001-0009

Licensee: Entergy Operations, Inc.

Facility: River Bend Station

Location: Saint Francisville, Louisiana

Inspection Dates: January 1, 2018 to March 31, 2018.

Inspectors: J. Sowa, Senior Resident Inspector
B. Parks, Resident Inspector
M. O'Banion, Acting Resident Inspector
J. Drake, Senior Reactor Inspector
C. Young, Senior Project Engineer
L. Carson II, Senior Health Physicist

Approved By: J. Kozal, Chief, Branch C
Division of Reactor Projects

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee’s performance by conducting an integrated inspection at River Bend Station in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC’s program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information. Findings and violations being considered in the NRC’s assessment are summarized in the table below.

List of Findings and Violations

Failure to Implement Procedure for Storage of Material in the Pools			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Occupational Radiation Safety	Green NCV 05000458/2018001-01 Closed	[H.4] – Human Performance, Teamwork	71124.02 – Occupational As Low As Reasonably Achievable (ALARA) Planning and Controls
The inspectors identified a non-cited violation of Technical Specification 5.4.1.a for the licensee’s failure to implement written procedures for activities referenced in Appendix A of Regulatory Guide 1.33, Revision 2, dated February 1978. Specifically, the licensee failed to implement radioactive material control Procedure ADM-0071, “Fuel Pools Material Control,” Revision 8, for the storage and movement of spent Tri-Nuke filters.			

Installation of an Incorrectly Specified Relay Causes Plant Transient and Reactor Scram			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Initiating Events	Green FIN 05000458/2018001-02 Closed	[H.5] – Human Performance, Work Management	71152 – Problem Identification and Resolution
The inspectors reviewed two examples of a self-revealed finding for the licensee’s installation of an incorrectly specified relay in 1) the control circuitry for the feedwater level control system and 2) the turbine generator voltage regulator circuitry. In each instance, the incorrectly specified relay failed in service, causing a plant transient and automatic reactor scram.			

Additional Tracking Items

Type	Issue number	Title	Report Section	Status
LER	05000458/2017-007-00	Automatic Reactor Scram Due to Failure of Main Generator Voltage Regulator Mode Transfer Relay	71153	Closed
LER	05000458/2017-008-00	Automatic Reactor Scram Due to Failure of Main Feedwater Regulator Transfer Relay	71153	Closed

PLANT STATUS

River Bend Station began the inspection period at rated thermal power. On January 8, 2018, the unit was shut down for a planned maintenance outage. A reactor startup was performed on January 30, 2018. The unit was shut down to conduct a forced outage on February 1, 2018, due to an unexpected trip of the B reactor recirculation pump. A reactor startup was performed on February 9, 2018. The unit was shut down to conduct a forced outage on March 1, 2018, due to a pipe leak associated with the main condenser. A reactor startup was performed on March 6, 2018. The unit was returned to rated thermal power on March 20, 2018. The unit remained at or near rated thermal power for the remainder of the inspection period.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors performed plant status activities described in IMC 2515 Appendix D, "Plant Status" and conducted routine reviews using IP 71152, "Problem Identification and Resolution." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

REACTOR SAFETY

71111.04—Equipment Alignment

Partial Walkdown (3 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) Division I residual heat removal system on January 25, 2018
- (2) Division II residual heat removal system on January 25, 2018
- (3) Control building heating, ventilation, and air conditioning (HVAC) system on March 15, 2018

Complete Walkdown (1 Sample)

The inspectors evaluated system configurations during a complete walkdown of the standby service water system on March 8, 2018.

71111.05AQ—Fire Protection Annual/Quarterly

Quarterly Inspection (4 Samples)

The inspectors evaluated fire protection program implementation in the following selected areas:

- (1) Residual heat removal pump A room, fire area AB-5 on January 25, 2018
- (2) Residual heat removal pump B room, fire area AB-3 on January 25, 2018
- (3) Standby service water pump A room, fire area PH-1/Z-1 on March 12, 2018
- (4) Standby service water pump B room, fire area PH-2/Z-1 on March 12, 2018

71111.06—Flood Protection Measures

Internal Flooding (1 Sample)

The inspectors evaluated internal flooding mitigation protections in the standby service water pump rooms, SW-01 on January 12, 2018.

Cables (1 Sample)

The inspectors evaluated cable submergence protection in:

- (1) Electrical manhole 1EMH607 on January 16, 2018
- (2) Electrical manhole 1EMH613 on January 16, 2018

71111.11—Licensed Operator Regualification Program and Licensed Operator Performance

Operator Regualification (1 Sample)

The inspectors observed and evaluated licensed operator regualification training on February 6, 2018.

Operator Performance (1 Sample)

The inspectors observed and evaluated the operators' performance during a plant shutdown for a planned maintenance outage on January 7, 2018.

71111.12—Maintenance Effectiveness

Routine Maintenance Effectiveness (3 Samples)

The inspectors evaluated the effectiveness of routine maintenance activities associated with the following equipment and/or safety significant functions:

- (1) Functional failure review of standby service water on January 16, 2018

- (2) Functional failure review of the 120 VAC system on February 19, 2018
- (3) Functional failure review of the reactor recirculation system associated with the failure of the B recirculation pump to upshift to fast speed on March 1, 2018

71111.13—Maintenance Risk Assessments and Emergent Work Control (4 Samples)

The inspectors evaluated the risk assessments for the following planned and emergent work activities:

- (1) Yellow shutdown risk condition with containment access hatch open on January 8, 2018
- (2) Yellow risk condition due to fuel movement and Division III emergency diesel generator inoperability while in Mode 5 on January 24, 2018
- (3) Yellow risk condition due to high pressure core spray pump inoperability during remote shutdown panel surveillance testing on February 23, 2018
- (4) Yellow risk condition due to residual heat removal pump B discharge flow inoperability during maintenance and testing on March 15, 2018

71111.15—Operability Determinations and Functionality Assessments (5 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

- (1) E31-N604F main steam line tunnel temperature exceeded allowable values per surveillance test requirements on January 3, 2018
- (2) Jacket water leaks associated with Division I emergency diesel generator on January 5, 2018
- (3) Unexpected system response during Division II standby service water surveillance testing on January 15, 2018
- (4) Residual heat removal shutdown cooling outboard isolation valve E12-MOVF008 over-torqued on February 19, 2018
- (5) Division I inverter DNB-INV01A1 system output voltage exceeded max allowable voltage on March 20, 2018

71111.18—Plant Modifications (1 Sample)

The inspectors evaluated the following permanent modification:

- (1) Division I standby diesel generator exhaust manifold piping to eliminate a vulnerability to flaw formation and leakage after Division I emergency diesel generator shroud replacement on January 19, 2018

71111.19—Post Maintenance Testing (7 Samples)

The inspectors evaluated the following post maintenance tests:

- (1) STP-209-6310, Revision 39, "RCIC Pump and Valve Quarterly Operability and Flow Test," following maintenance on the reactor core isolation cooling governor valve on January 5, 2018
- (2) STP-504-4504, Revision 18, "RPS/Control Rod Block – IRM D Channel Functional Test and LSFT," following replacement of intermediate range monitor D control relay H13-P672-Z2K18 on January 13, 2018
- (3) STP-309-0206, Revision 29, "Division I Diesel Generator 184 Day Operability Test," following maintenance on Division I emergency diesel generator on January 22, 2018
- (4) STP-309-0203, Revision 329, "Division III Diesel Generator Operability Test," following replacement of the Division III emergency diesel generator voltage regulator on January 24, 2018
- (5) STP-504-4503, Revision 20, "RPS/Control Rod Block – IRM C Channel Functional Test and LSFT," following maintenance on intermediate range monitor C on January 30, 2018
- (6) SOP-0030, Revision 33, "High Pressure Core Spray System (Sys 203)," following maintenance on high pressure core spray motor supply breaker on February 22, 2018
- (7) STP-256-6603, Revision 21, "Division I Standby Service Water Quarterly Valve Operability Test," following maintenance and repairs to standby service water valve SWP-MOV96A on March 5, 2018

71111.20—Refueling and Other Outage Activities (3 Samples)

- (1) The inspectors evaluated a planned maintenance outage implemented to remove damaged fuel assemblies. Inspection activities occurred from January 8, 2018, to January 31, 2018.
- (2) The inspectors evaluated forced outage activities from February 1, 2018, to February 9, 2018. The forced outage occurred due to a failure of the B reactor recirculation pump to shift to fast speed. Station personnel conducted a forced outage and replaced the 13.8 kV transformer associated with the B reactor recirculation pump.
- (3) The inspectors evaluated forced outage activities from March 1, 2018, to March 7, 2018. The forced outage occurred due to a leak from a crack on piping associated with the main condenser. Station personnel conducted a forced outage and repaired the leak.

71111.22—Surveillance Testing

The inspectors evaluated the following surveillance tests:

Routine (3 Samples)

- (1) STP-203-1302, Revision 25, "E22-S001BAT Quarterly Surveillance," on January 18, 2018
- (2) STP-057-3801, Revision 012, "Containment Equipment Hatch Leak Rate Test," on January 27, 2018
- (3) OSP-0604, Revision 2, "Remote Shutdown System Control Circuit Operability Test," on February 26, 2018

In-service (2 Samples)

- (1) STP-204-1300, Revision 18, "LPCI Pump 'A' Start Time Delay Channel Calibration and Channel Functional Test," on January 2, 2018
- (2) STP-256-6301, Revision 23, "Division I Standby Service Water Quarterly Valve Operability Test," on January 6, 2018

Reactor Coolant System Leak Detection (1 Sample)

- (1) STP-000-0001, Revision 082, "Daily Operating Logs," on January 4, 2018

Containment Isolation Valve (1 Sample)

- (1) STP-057-7705, Revision 012, "Primary Containment Airlocks Seal Leakage Rate Test," on January 28, 2018

71114.06—Drill Evaluation

Drill/Training Evolution (1 Sample)

The inspectors evaluated a simulator-based emergency preparedness drill on March 13, 2018.

RADIATION SAFETY

71124.02—Occupational As Low As Reasonably Achievable (ALARA) Planning and Controls

Radiological Work Planning (1 Sample)

The inspectors evaluated the licensee's radiological work planning by reviewing the following activities:

- (1) RWP 2017-1220, Pre/Post Outage Prep Including Support
- (2) RWP 2017-1296, RWCU Pump Replacement and Support Activities

- (3) RWP 2017-1426, Motor Operated Valve and In-Vessel Testing
- (4) RWP 2017-1436, Installation/Removal of Temporary Installation Main Steam Tunnel
- (5) RWP 2017-1753, RWCU Hx Room Flow Accelerated Corrosion (FAC) Piping Replacement
- (6) RWP 2017-1800, RF-19 Refuel Floor Outage Activities
- (7) RWP 2018-1327, Separator Repair Following SHZAM Bolt Disengagement

Verification of Dose Estimates and Exposure Tracking Systems (1 Sample)

The inspectors evaluated dose estimates and exposure tracking.

Implementation of ALARA and Radiological Work Controls (1 Sample)

The inspectors reviewed ALARA practices and radiological work controls by reviewing the following activities:

- (1) RWP 2017-1220, Pre/Post Outage Prep Including Support
- (2) RWP 2017-1296, RWCU Pump Replacement and Support Activities
- (3) RWP 2017-1426, Motor Operated Valve and In-Vessel Testing
- (4) RWP 2017-1436, Installation/Removal of Temporary Installation Main Steam Tunnel
- (5) RWP 2017-1753, RWCU HX Room FAC Piping Replacement
- (6) RWP 2017-1800, RF-19 Refuel Floor Outage Activities
- (7) RWP 2018-1327, Separator Repair Following SHZAM Bolt Disengagement

Radiation Worker Performance (1 Sample)

The inspectors evaluated radiation worker and radiation protection technician performance.

71124.04 - Occupational Dose Assessment

Source Term Characterization (1 Sample)

The inspectors evaluated the licensee's source term characterization.

External Dosimetry (1 Sample)

The inspectors evaluated the licensee's external dosimetry program.

Internal Dosimetry (1 Sample)

The inspectors evaluated the licensee's internal dosimetry program.

Special Dosimetric Situations (1 Sample)

The inspectors evaluated the licensee's performance for special dosimetric situations.

OTHER ACTIVITIES – BASELINE

71151—Performance Indicator Verification (3 Samples)

The inspectors verified licensee performance indicators submittals listed below:

- (1) IE01: Unplanned Scrams per 7000 Critical Hours Sample (01/01/2017 – 12/31/2017)
- (2) IE03: Unplanned Power Changes per 7000 Critical Hours Sample (01/01/2017 – 12/31/2017)
- (3) IE04: Unplanned Scrams with Complications (USwC) Sample (01/01/2017 – 12/31/2017)

71152—Problem Identification and Resolution

Annual Follow-up of Selected Issues (1 Sample)

The inspectors reviewed the licensee's implementation of its corrective action program related to the following issue:

- (1) Relay failures in the feedwater level control system and the turbine generator voltage regulator control system resulted in reactor scrams

71153—Follow-up of Events and Notices of Enforcement Discretion

Licensee Event Reports (2 Samples)

The inspectors evaluated the following licensee event reports which can be accessed at <https://lersearch.inl.gov/LERSearchCriteria.aspx>:

- (1) Licensee Event Report 05000458/2017-007-00, Automatic Reactor Scram Due to Failure of Main Generator Voltage Regulator Mode Transfer Relay on August 21, 2017
- (2) Licensee Event Report 05000458/2017-008-00, Automatic Reactor Scram Due to Failure of Main Feedwater Regulator Transfer Relay on October 12, 2017

INSPECTION RESULTS

Failure to Implement Procedure for Storage of Material in the Pools			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Occupational Radiation Safety	Green NCV 05000458/2018001-01 Closed	[H.4] – Human Performance, Teamwork	71124.02 – Occupational As Low As Reasonably Achievable (ALARA) Planning and Controls

The inspector identified a non-cited violation of Technical Specification 5.4.1.a, for the licensee's failure to implement written procedures for activities referenced in Appendix A of Regulatory Guide 1.33, Revision 2, dated February 1978. Specifically, the licensee failed to implement radioactive material control Procedure ADM-0071, "Fuel Pools Material Control," Revision 8, for the storage and movement of spent Tri-Nuke filters.

Description:

The inspector reviewed condition reports (CRs) that documented incidents associated with the movement and storage of highly radioactive materials in the various pools at River Bend Station (RBS) in 2017. Four radiological occurrences involved unplanned and unanticipated movements of spent Tri-Nuke filters around the separator and upper inclined fuel transfer storage (IFTS) pools.

- January 5, 2017, CR-RBS-2017-0100: Radiation Protection (RP) was notified that a spent Tri-Nuke filter was found floating on the surface of the separator pool. Surveys of the filter and surrounding area were performed by RP technicians. Dose rates on the filter measured 2.2 Roentgen/hour (R/hr) on contact and 0.85 R/hr at 30 centimeters (cm).
- April 3, 2017, CR-RBS-2017-03011: A used Tri-Nuke filter measuring 1.3 R/hr and 0.350 R/hr at 30 cm was discovered floating in the reactor building (RB)-186 separator pool.
- April 24, 2017, CR-RBS-2017-03424: While performing video surveillance of the refueling pool on RB-186, a Tri-Nuke filter was discovered floating on the surface of the separator pool. The filter had a dose rate of 11 R/hr on contact and 6 R/hr at 30 cm.
- During the week of April 27, 2017, the licensee transferred the 30 Tri-Nuke filters from the separator pool to the IFTS. However, one of the Tri-Nuke filters (0.300 R/hr) had been damaged when falling into the bottom of the IFTS pool. It was eventually recovered and stored.

The inspector examined the circumstances that caused the Tri-Nuke filters to become buoyant and float around the separator pool resulting in unintended radiological hazards. Two CRs from 2015 (CR-RBS-2015-07893 and CR-RBS-2015-08050) identified concerns with air

intrusion from a leaky spent fuel cooling system valve. Also, two CRs from 2017 (CR-RBS-2017-01881 and CR-RBS-2017-03424) identified that the leaky valve caused spent Tri-Nuke filters to float. The licensee eventually determined the solution to the problem was to transfer the spent Tri-Nuke filters to the upper IFTS pool. However, the inspector determined that the licensee was not supposed to leave the spent Tri-Nukes in the separator and upper IFTS pools unless designed storage racks were in place or an engineering change request (ECR) evaluation allowed the practice.

The movement and storage of radioactive material in and around the pools at RBS are implemented through the following procedures:

- EN-RP-121, Revision 13, "Radioactive Material Control"
- EN-RP-123, Revision 1, "Radiological Controls of Highly Radioactive Objects"
- ADM-0071, Revision 8, "Fuel Pools Material Control"

The inspector determined that the purpose of Entergy Corporate Procedures EN-RP-121 and EN-RP-123 was to prevent the unauthorized movement and removal of radioactive materials around the site and from pools. These procedures required that licensee personnel receive proper authorization from reactor engineering and radiation protection management for movement and storage of radioactive materials in pools and the around pools. Based on the documents and procedures reviewed by the inspector, the licensee did not specify storage requirements or equipment for these filters to prevent them from floating to the top of the pools and becoming radiological hazards.

The inspector reviewed RBS site-specific Procedure ADM-0071, Revision 8, which described the requirements established for the control of miscellaneous material stored in fuel pools. At RBS, radioactive materials are stored in the following seven pools: spent fuel pool, cask pool, lower IFTS, upper IFTS, upper containment pool, dryer storage pool, and separator pool.

ECR RBS-ER-97-504, "Fuel Pool Inventory Identification, Justification, and Evaluation," dated September 30, 1997, stated that the purpose of ADM-0071 was to provide a means to adequately control, regulate, and inventory non-special nuclear material stored in the spent fuel pool and upper containment pools. Items may not be stored in the spent fuel storage upper containment pools, which includes the separator pool, without design engineering approval. Additionally, items that are not stainless steel or in a stainless steel container are not to be stored without being verified radiation resistant and not detrimental to the fuel pool water quality.

Section 7.3 of Procedure ADM-0071 provided instructions for storing or moving material within the same pool or to another pool location. Section 7.3.7 required that the pool material inventory 'POOL MATERIAL CONTROL FORM' be completed and updated after approval of the material storage/move by the reactor engineering manager and radiation protection superintendent. The form required specific information about proposed items to be stored, such as the radiation surveys taken, work order used, storage container location, special requirements, radiation exposure duration, and applicable ECR evaluations. At the time of this inspection, the licensee did not have any pool material control forms completed for the 30 Tri-Nuke filters that were placed into the separator pool and subsequently transferred to the IFTS in 2017. In particular, there was no pool material control forms signed by the reactor engineering manager and radiation protection superintendent approving the proper storage and movement of these Tri-Nuke filters for either location.

Procedure ADM-0071 allowed miscellaneous items such as Tri-Nuke filters to be stored in the separator and IFTS pools if an ECR evaluation and engineering approval on the storage method were done. The inspector queried whether any ECRs had been performed for storage of the Tri-Nuke filters. Only two were available for the inspector's review. The two ECRs (ECR RBS-ER-97-504 and ECR 33163) revealed that the licensee had not made specific provisions or performed evaluations for the storage of Tri-Nuke filters in the separator or upper IFTS pools.

The inspector determined that licensee's procedures did not adequately address securing highly radioactive material in pools such as Tri-Nuke filters to prevent radioactive material from floating to the pool surface and thereby becoming radiation hazards to personnel, as had occurred three times in early 2017. Further, the failure to follow the requirements of Procedure ADM-0071 resulted in bypassing the performance of an evaluation to ensure proper movement and storage of the filters.

Corrective Actions: Immediate safety concerns with filters becoming buoyant due to the air intrusion in the separator pool were addressed when the licensee transferred the 30 Tri-Nuke filters to the IFTS pool in late April 2017. Procedure compliance issues are being addressed through an action item in CR-RBS-2018-00523.

Corrective Action References: CR-RBS-2018-00523

Performance Assessment:

Performance Deficiency: The licensee's failure to implement written procedures for activities referenced in Appendix A of Regulatory Guide 1.33, Revision 2, dated February 1978, as required by Technical Specification 5.4.1.a, was a performance deficiency. Specifically, the licensee failed to implement radioactive material control Procedure ADM-0071, "Fuel Pools Material Control," Revision 8, for the storage and movement of spent Tri-Nuke filters.

Screening: The performance deficiency was more than minor because it adversely affected the programs and process (exposure control) attribute of the Occupational Radiation Safety Cornerstone and its objective to ensure the adequate protection of the worker health and safety from exposure to radiation from radioactive material. Specifically, allowing highly radioactive material (Tri-Nuke filters) to be moved and stored in an unsafe, unevaluated, unapproved manner resulted in unanticipated dose rates and unplanned worker exposures to radiation.

Significance: The inspectors assessed the significance of the finding using NRC Inspection Manual Chapter 0609, Appendix, C, "Occupational Radiation Safety Significance Determination Process," and determined that the finding was of very low safety significance (Green) because it did not: (1) involve ALARA planning or work controls, (2) did not involve an overexposure, (3) did not have a substantial potential to be an overexposure, and (4) the ability to assess dose was not compromised.

Cross-cutting Aspect: The finding has a cross-cutting aspect in the area of human performance, associated with teamwork, because individuals and work groups failed to communicate and coordinate their activities within and across organizational boundaries to ensure nuclear safety was maintained. Specifically, the communication and coordination of

activities between construction projects, health physics, and nuclear engineering failed to prevent radiological issues associated with the storage and movement of Tri-Nuke filters.

Enforcement:

Violation: Technical Specification 5.4.1.a requires, in part, that procedures be written, implemented, and established for those areas recommended in Regulatory Guide 1.33, Appendix A, Revision 2, 1978. Section 7(b) of Regulatory Guide 1.33, Appendix A, requires procedures for control of radioactive materials to minimize potential releases to the environment and control personnel exposure associated with solid radioactive waste.

Licensee Procedure ADM-0071, "Fuel Pools Material Control," Revision 8, Section 7.1, requires that if material must be stored in a pool or previously stored material must be moved from one pool to a different pool or to a different area in the same pool, Section 7.3 must be completed. Section 7.3.7 requires that the pool material inventory 'POOL MATERIAL CONTROL FORM' be updated after approval of the material storage/move by the reactor engineering manager and radiation protection superintendent.

Contrary to the above, beginning in 2017 and to present, the licensee stored material in a pool and moved previously stored material from one pool to a separate pool without completing Section 7.3 of Procedure ADM-0071. Specifically, the licensee stored 30 Tri-Nuke filters in the separator pool without completing the pool material Inventory form and, in April 2017, moved the filters to the incline fuel transfer storage pool without completing/ updating a pool material Inventory 'POOL MATERIAL CONTROL FORM' and obtaining the required approvals.

As of January 26, 2018, the licensee had not fully implemented Section 7.3 of Procedure ADM-0071 by updating the form and obtaining written approval from the radiation protection superintendent and reactor engineering manager for the movement and safe storage of the 30 Tri-Nuke filters in the incline fuel transfer storage pool.

Disposition: This violation is being treated as a non-cited violation consistent with Section 2.3.2.a of the NRC Enforcement Policy.

Installation of an Incorrectly Specified Relay Causes Plant Transient and Reactor Scram

Cornerstone	Significance	Cross-cutting Aspect	Report Section
Initiating Events	Green FIN 05000458/2018001-02 Closed	[H.5] – Human Performance, Work Management	71152 – Problem Identification and Resolution

The inspectors reviewed two examples of a self-revealed finding for the licensee's installation of an incorrectly specified relay in 1) the control circuitry for the feedwater level control system and 2) the turbine generator voltage regulator circuitry. In each instance, the incorrectly specified relay failed in service, causing a plant transient and automatic reactor scram.

Description:

Example 1: On August 18, 2017, with the plant operating at 100 percent power, an automatic scram occurred. At the time of the scram, operators were performing a scheduled

surveillance test that called for a planned shift of the controlling channel of the feedwater level control system from channel B to channel A. Immediately after the shift, feedwater regulating valves went full open and recirculation pumps downshifted to slow speed. The combination of these events caused an automatic scram to occur on high flow-biased thermal power.

The cause of the scram was a failure of the feedwater level select relay, C33A-K12. The failure of this relay caused the interpreted level in the feedwater level control system to go to zero, which in turn caused a full open demand on the feedwater regulating valves and a downshift of recirculation pumps from fast to slow speed on a perceived low level condition in the reactor vessel.

A subsequent investigation determined that the feedwater level select relay failed due to a degradation in the electrical contacts on the relay. The degradation caused a sharp increase in resistance across the contacts, which in turn led to a substantial reduction in the current passing through these contacts to the rest of the feedwater level control circuit. With the current substantially reduced, the circuit incorrectly perceived a low vessel level condition.

The failed relay was a General Electric Agastat GPI type relay. Operating experience at River Bend Station and at other sites in the industry has established that this type of relay is prone to intermittent failure. When used in low current applications such as those associated with the feedwater level control circuit, there is a potential for oxidation to build up on the contacts of the relay, which will create resistance across the relay and impair its ability to pass current. In light of this operating experience, the licensee issued part interchangeability evaluation (PIE) 411 in March 1993. PIE 411 called for a GPIA type relay with gold-plated contacts to be used for C33A-K12 in lieu of the silver-plated GPI type relay that had traditionally been used.

The inspectors determined that PIE-411 was a self-imposed licensee standard. The licensee complied with this standard until February 2017, when the gold-plated relay installed in the system was incorrectly replaced with a silver-plated relay. Given that the silver-plated relay was being used in a low current application, it built up resistance over time and eventually failed, causing the scram.

Example 2: On June 23, 2017, with the plant operating at 100 percent power, an automatic scram occurred. At the time of the scram, operators were performing a scheduled surveillance test that called for a planned shift of the turbine generator voltage regulator control from automatic to manual. Immediately after the shift, the main generator tripped which caused a subsequent reactor scram.

The cause of the scram was a failure of the voltage regulator transfer circuit relay, EXS-PNL1-43A. The failure of this relay caused an open circuit in both the manual and automatic voltage regulators and complete loss of control of the Alterrex Excitation System. When neither the manual nor the automatic voltage regulator is connected to the Alterrex Excitation System, there is no excitation field applied. The result is a turbine trip on loss of excitation.

A subsequent investigation determined that the main generator voltage regulator mode transfer relay failed due to a degradation in the electrical contacts on the relay. The degradation caused a sharp increase in resistance across the contacts, which in turn led to a substantial reduction in the current passing through these contacts to the rest of the voltage

regulator control circuit. With the current substantially reduced, the circuit could not be completed for either the manual or automatic control system of the turbine voltage regulator.

The failed relay was a General Electric DC operated 4-pole double throw miniature 43A relay provided as part of the turbine generator package and is part of the Alterrex exciter transfer panel assembly. Operating experience at River Bend Station and at other sites in the industry has established that this type of relay is prone to intermittent failure. The station generated engineering change 40442 in 2012 to replace the 43A relay with a different model documenting obsolescence of this relay as well as operating experience related to intermittent failures of this type of relay. In light of this operating experience, the licensee cancelled engineering change 40442 for unknown reasons and did not replace the 43A relay with a different style.

Corrective Actions: The licensee installed the correctly specified relay in the feedwater level control system and an upgraded vendor recommended relay in the turbine voltage regulator control system. The licensee also completed an extent of condition review on similar relays.

Corrective Action References: Condition Reports CR-RBS-2017-06118 and CR-RBS-2017-04961

Performance Assessment:

Performance Deficiency: The inspectors determined that the licensee's installation of an incorrectly specified relay in 1) the control circuitry for the feedwater level control system and 2) the control circuitry for the main generator voltage regulator were two examples of a performance deficiency.

Screening: The performance deficiency was more than minor, and therefore a finding, because it was associated with the equipment 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.

Significance: The inspectors assessed the significance of the finding using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process for Findings At-Power." The finding was determined to be of very low safety significance (Green) because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigating equipment would not be available.

Cross-cutting Aspect: The finding has a cross-cutting aspect in the area of human performance associated with work management because the licensee failed to implement a process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority.

Enforcement: Inspectors did not identify a violation of regulatory requirements associated with this finding.

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

On January 26, 2018, the inspectors presented the radiation safety inspection results to Mr. W. Maguire, Site Vice President, and other members of the licensee staff.

On April 25, 2018, the inspectors presented the quarterly resident inspector inspection results to Mr. W. Maguire, Site Vice President, and other members of the licensee staff.

DOCUMENTS REVIEWED

71111.04 – Equipment Alignment

Condition Reports (CR-RBS-)

2017-05292	2017-07460	2017-07880	2018-00615
2018-00992			

Drawings

<u>Number</u>	<u>Title</u>	<u>Revision</u>
PID-09-10E	Engineering P&I Diagram, System 256, Service Water – Standby	24
PID-22-09A	Engineering P&I Diagram, System 402, HVAC – Control Building	21

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
R-STM-0118	Service Water Systems	26
R-STM-0402	HVAC – Control Building and Diesel Generator Building	9
SOP-0031	Residual Heat Removal	338
SOP-0042	Standby Service Water System (Sys #256)	46
SOP-0058	Control Building HVAC System (Sys #402)	24

71111.05 – Fire Protection

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
AB-070-502	RHR Pump A Room, Fire Area AB-5	4
AB-070-505	RHR Pump B Room, Fire Area AB-3	3
EN-DC-161	Control of Combustibles	17
SP-118-450	Standby Cooling Pump A Room, Fire Area PH-1/Z-1	3
SP-118-451	Standby Cooling Pump B Room, Fire Area PH-2/Z-1	3
STP-250-4533	FPM-PNL6 Fire Detection Channel Functional and Operational Tests for Zone SD72, SD73, and SD89 (A&B)	1

71111.06 – Flood Protection Measures

Condition Reports (CR-RBS-)

2018-00200	2018-00367	2018-00369
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Procedure

<u>Number</u>	<u>Title</u>	<u>Revision</u>
PN-317	Max Flood Elevations for Moderate Energy Line Cracks in Cat I Structures	01

Work Orders

0052802383	0052802384
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71111.11 – Licensed Operator Requalification Program and Licensed Operator Performance

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
GOP-0002	Power Decrease/Plant Shutdown	078
RSMS-OPS-HIT1	Licensed Operator Requalification	0

71111.12 – Maintenance Effectiveness

Condition Reports (CR-RBS-)

2017-00629	2017-01579	2017-01668	2017-01703
2017-01739	2017-01748	2017-01749	2017-03871
2017-04048	2017-04514	2017-05273	2017-05939
2017-06767	2017-06977	2017-06998	2017-07017
2017-07200	2017-07410	2017-07454	2017-07820
2017-07880	2017-07950	2018-00825	2018-01363

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-DC-203	Maintenance Rule Program	3
EN-DC-204	Maintenance Rule Scope and Basis	4
EN-DC-205	Maintenance Rule Monitoring	6
EN-DC-206	Maintenance Rule (A)(1) Process	3

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
SOP-0042	Standby Service Water System (Sys #256)	45

71111.13 – Maintenance Risk Assessments and Emergent Work Control

Condition Report (CR-RBS-)

2018-00505

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
ADM-0096	Risk Management Program Implementation and On-Line Maintenance Risk Assessment	326
EN-WM-104	On Line Risk Assessment	16
OSP-0037	Shutdown Operations Protection Plan (SOPP)	036

71111.15 – Operability Determinations and Functionality Assessments

Condition Reports (CR-RBS-)

2016-05866	2017-04048	2017-04097	2017-04302
2017-05033	2017-07111	2017-07162	2017-07199
2017-07219	2017-07532	2017-08048	2018-00194
2018-00402			

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EC 66261	SWP-SOV523B Reasonable Expectation of Operability Input for CR-RBS-2016-05866	0

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
OSP-0028	Log Report – Normal Switchgear, Control, and Diesel Generator Buildings	108
STP-000-0001	Daily Operating Logs	82
STP-256-6608	Division II Standby Service Water 2 Year Position Indication Verification Test	4
STP-309-0201	Division I Diesel Generator Operability Test	59

Work Orders

00469400 00476322 00479296

71111.18 – Plant Modifications

Calculation

<u>Number</u>	<u>Title</u>	<u>Revision</u>
G13.18.2.4-108	LPI, Inc. Evaluation of Standby Diesel Generator Exhaust Manifold Stiffeners	1

Condition Reports (CR-RBS-)

2015-04817	2016-06841	2016-07753	2017-07111
2017-07532	2017-08048		

Drawing

<u>Number</u>	<u>Title</u>	<u>Revision</u>
PID-08-09B	Engineering P&I Diagram System 309 Diesel Generator	23

Procedure

<u>Number</u>	<u>Title</u>	<u>Revision</u>
SOP-0053	Standby Diesel Generator and Auxiliaries (Sys #309)	057

Work Order

00228397

71111.19 – Post-Maintenance Testing

Condition Reports (CR-RBS-)

2017-07237	2017-07728
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Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
E22-S004 ACB2	Vendor Overhaul Breaker	0

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
CMP-EM-203-1001	Inspection and Maintenance of 4.16 KV Magne-Blast Circuit Breakers	1
STP-209-0201	RCIC Discharge Piping Fill and Valve Lineup Verification	13

Work Orders

00228397	00478865	00492550	00493155	00493741
52650988	52769345	52779858		

71111.20 – Refueling and Other Outage Activities

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
GOP-0001	Plant Startup	099
GOP-0002	Power Decrease/Plant Shutdown	078

71111.22 – Surveillance Testing

Condition Reports (CR-RBS-)

2015-02736	2018-00290
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Drawing

<u>Number</u>	<u>Title</u>	<u>Revision</u>
GE-828E534AA	Elementary Diagram Residual Heat Removal Sheet 8	28

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
SOP-0018	Normal Service Water System	67
SOP-0042	Standby Service Water System	45

Work Orders

00492725	52785880	52787021
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71114.06 – Drill Evaluation

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Revision</u>
RDRL-EP-1201	Site Drill Scenario	01

71124.02 – Occupational As Low As Reasonably Achievable (ALARA) Planning and Controls

Audits and Self-Assessments

<u>Number</u>	<u>Title</u>	<u>Date</u>
LO-RLO-2017-0055	Pre-NRC Self-Assessment Radiation Safety – IP 71124.02	December 4, 2017
LO-RLO-2016-0145	Pre-NRC Self-Assessment Radiation Safety – IP 71124.02	January 17, 2017

Condition Reports (CR-RBS-)

2015-07893	2015-08050	2017-00100	2017-00707
2017-00868	2017-01250	2017-01355	2017-01731
2017-01881	2017-01927	2017-03011	2017-03237
2017-03266	2017-03424	2017-03598	2017-03788
2017-04856	2017-04941	2017-05499	2017-01372
2017-01422			

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Date</u>
	RF-19 Water Movement Plan	January 2017
	10 CFR Part 20.1101(c) Report for 2016	June 2017
ADM-0071	Post Material Inventory Report Post RF-19	May 31, 2017
WO 473593	Relocate Tri-Nuke filters from the Separator Pool the IFTS	April 11, 2017

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
ADM-0071	Fuel Pools Material Control	08
EN-RP-100	Radiation Worker Expectations	12
EN-RP-101	Access Control for Radiologically Controlled Areas	13

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-RP-102	Radiological Control	05
EN-RP-105	Radiological Work Permits	18
EN-RP-106	Radiological Survey Documentation	07
EN-RP-108	Radiation Protection Posting	19
EN-RP-109	Hot Spot Program	05
EN-RP-110	ALARA Program	14
EN-RP-110-03	Collective Radiation Exposure (CRE) Guidelines	04
EN-RP-110-04	Radiation Protection Risk Assessment Process	07
EN-RP-110-06	Outage Dose Estimating and Tracking	01
EN-RP-115-01	BRAC Survey Instructions	00
EN-RP-121	Radioactive Material Control	13
EN-RP-123	Radiological Controls for Highly Radioactive Objects	01
EN-RP-143	Source Control	13
EN-RP-151	Radiological Diving	03
GMP-0111	Tri-Nuclear Filter Operations	01

Radiation Surveys

<u>Number</u>	<u>Title</u>	<u>Date</u>
RBS-1701-0042	RB +186 Upper Pool HCA Handrail	January 5, 2017
RBS-1703-0124	RB +186 Upper Pool and Carousel Area	March 5, 2017
RBS-1704-0059	RB +186 Upper Pool 354 R/hr. Tri-Nuke Filter	April 5, 2017
RBS-1704-0248	RB +186 Upper Pool 11 R/hr. Tri-Nuke Filter	April 21, 2017
RBS-1704-0303	RB +186 Upper Pool 24 Tri-Nuke Filters	April 21, 2017

Radiation Work Permits/ALARA Reviews

<u>Number</u>	<u>Title</u>	<u>Revision</u>
2017-1220	Pre/Post Outage Prep Including Support	01
2017-1296	RWCU Pump Replacement and Support Activities	01
2017-1426	Motor Operated Valve and In-Vessel Testing	01

Radiation Work Permits/ALARA Reviews

<u>Number</u>	<u>Title</u>	<u>Revision</u>
2017-1436	Installation/Removal of Temporary Installation Main Steam Tunnel	01
2017-1753	RWCU HX Room FAC Piping Replacement	01
2017-1800	RF-19 Refuel Floor Outage Activities	01
2018-1327	Separator Repair Following SHZAM Bolt Disengagement	00

71124.04 – Occupational Dose Assessment

Audits and Self-Assessments

<u>Number</u>	<u>Title</u>	<u>Date</u>
LO-RBS-2017-00055	Pre-NRC Assessment IP71124.04 Occupational Dose	October 27, 2017

Condition Reports (CR-RBS-)

2016-05858	2017-08105	2017-00707	2017-00868
2017-00910	2017-03788	2017-05176	2017-05489

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Date</u>
2017	Multi-Pack TLD Results	2017
2018	NVLAP Accreditation Report	2018

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-RP-131	Air Sampling	15
EN-RP-201	Dosimetry Administration	05
EN-RP-202	Personnel Monitoring	13
EN-RP-203	Dose Assessment	10
EN-RP-204	Special Monitoring Requirements	11
EN-RP-205	Prenatal Monitoring	04
EN-RP-206	Dosimeter of Legal Record QA	07
EN-RP-208	Whole Body Counting / In-Vitro Bioassay	07

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-RP-311	Electronic Alarming Dosimeter	02
EN-RP-317-09	Electronic Alarming Dosimeter Calibration	02

Self-Reading Dosimeter Calibration Records

<u>Number</u>	<u>Title</u>	<u>Date</u>
2017-B2-28-CALDAT-05667	Self-Reading Dosimeter	September 18, 2017
2017-B2-28-CALDAT-05713	Self-Reading Dosimeter	September 30, 2017
2017-B2-28-CALDAT-05736	Self-Reading Dosimeter	September 30, 2017
2017-B2-28-CALDAT-05836	Self-Reading Dosimeter	September 26, 2017
2017-B2-28-CALDAT-06692	Self-Reading Dosimeter	December 15, 2017

71151 – Performance Indicator Verification

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-LI-114	Performance Indicator Process	11
NEI 99-02	Regulatory Assessment Performance Indicator Guideline	7

71152 – Problem Identification and Resolution

Condition Reports (CR-RBS-)

2017-06118	2017-04961
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71153 – Follow-up of Events and Notices of Enforcement Discretion

Condition Report (CR-RBS-)

2017-06118

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Revision</u>
PIE-411	Part Interchangeability Evaluation 411	0

Procedure

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-MA-101	Conduct of Maintenance	22

Work Order

00441196

**The following items are requested for the
Occupational Radiation Safety Inspection
at River Bend Station
January 22–25, 2018
Integrated Report 2018001**

Inspection areas are listed in the attachments below.

Please provide the requested information on or before January 12, 2018.

Please submit this information using the same lettering system as below. For example, all contacts and phone numbers for Inspection Procedure 71124.01 should be in a file/folder titled "1- A," applicable organization charts in file/folder "1- B," etc.

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

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

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

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

PAPERWORK REDUCTION ACT STATEMENT

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

2. Occupational ALARA Planning and Controls (71124.02)

Date of last inspection: January 21, 2016

- A. List of contacts and telephone numbers for ALARA program personnel
- B. Applicable organization charts
- C. Copies of audits, self-assessments, and LERs, written since date of last inspection, focusing on ALARA
- D. Procedure index for ALARA Program
- E. Please provide specific procedures related to the following areas noted below. Additional specific procedures may be requested by number after the inspector reviews the procedure indexes.
 - 1. ALARA Program
 - 2. ALARA Committee
 - 3. Radiation Work Permit (RWP) Preparation
- F. A summary list of corrective action documents (including corporate and sub-tiered systems) written since date of last inspection, related to the ALARA program. In addition to ALARA, the summary should also address RWP violations, electronic dosimeter alarms, and RWP dose estimates

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. List of work activities greater than 1 rem, since date of last inspection, Include original dose estimate and actual dose.
- H. Site dose totals and 3-year rolling averages for the past 3 years (based on dose of record)
- I. Outline of source term reduction strategy
- J. If available, provide a copy of the ALARA outage report for the most recently completed outages for each unit
- K. Please provide your most recent Annual ALARA Report.

4. Occupational Dose Assessment (Inspection Procedure 71124.04)

Date of Last Inspection: January 21, 2016

- A. List of contacts and telephone numbers for the following areas:
 - 1. Dose Assessment personnel
- 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. Occupational Dose Assessment
- D. Procedure indexes for the following areas:
 - 1. Occupational Dose Assessment
- 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. Radiation Protection Program
 - 2. Radiation Protection Conduct of Operations
 - 3. Personnel Dosimetry Program
 - 4. Radiological Posting and Warning Devices
 - 5. Air Sample Analysis
 - 6. Performance of High Exposure Work
 - 7. Declared Pregnant Worker
 - 8. Bioassay Program
- F. List of corrective action documents (including corporate and sub-tiered systems) written since date of last inspection, associated with:
 - 1. National Voluntary Laboratory Accreditation Program (NVLAP)
 - 2. Dosimetry (TLD/OSL, etc.) problems
 - 3. Electronic alarming dosimeters
 - 4. Bioassays or internally deposited radionuclides or internal dose
 - 5. Neutron dose

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. List of positive whole body counts since date of last inspection, names redacted if desired
- H. Part 61 analyses/scaling factors
- I. The most recent National Voluntary Laboratory Accreditation Program (NVLAP) accreditation report or, if dosimetry is provided by a vendor, the vendor’s most recent results

RIVER BEND STATION – NRC INTEGRATED INSPECTION REPORT 05000458/2018001 –
 DATED MAY 8, 2018

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Electronic Distribution for River Bend Station

ADAMS ACCESSION NUMBER: ML18128A246

SUNSI Review: ADAMS: Non-Publicly Available Non-Sensitive Keyword:
 By: CHY/rdr Yes No Publicly Available Sensitive NRC-002

OFFICE	SRI:DRP/C	RI:DRP/C	ARI:DRP/C	SPE:DRP/C	C:DRS/EB1	C:DRS/EB2
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DATE	4/23/18	4/30/18	4/24/18	4/27/18	4/23/18	4/23/18
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