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Site Vice President

April 16, 2015

RBG-47556

U. S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555

Subject: Licensee Event Report 050-458/2015-001-00  
River Bend Station – Unit 1  
Docket No. 50-458  
License No. NPF-47

RBF1-15-0052

Dear Sir or Madam:

The enclosed Licensee Event Report is hereby filed in accordance with 10 CFR 50.73. This document contains no commitments. If you have any questions, please contact Mr. Joseph Clark at 225-381-4177.

Sincerely,

EWO/dhw

Enclosure

cc: U.S. Nuclear Regulatory Commission  
Region IV  
1600 East Lamar Blvd.  
Arlington, TX 76011-4511

NRC Resident Inspector  
PO Box 1050  
St. Francisville, LA 70775

Central Records Clerk  
Public Utility Commission of Texas  
1701 N. Congress Ave.  
Austin, TX 78711-3326

IE22  
NRK

Mr. Alan Wang, Project Manager  
U.S. Nuclear Regulatory Commission  
MS O-8B1  
11555 Rockville Pike  
Rockville, MD 20852-2738

INPO  
(via ICES reporting)



**LICENSEE EVENT REPORT (LER)**  
(See Page 2 for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to Infocollects.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

|  |                                      |                          |
|--|--------------------------------------|--------------------------|
| <b>1. FACILITY NAME</b><br>River Bend Station - Unit 1 | <b>2. DOCKET NUMBER</b><br>05000 458 | <b>3. PAGE</b><br>1 OF 3 |
|--|--------------------------------------|--------------------------|

**4. TITLE**  
Operations Prohibited by Technical Specifications Due to Deficient Local Leak Rate Test Procedures Containing Erroneous Valve Alignments

| 5. EVENT DATE |     |      | 6. LER NUMBER |                   |         | 7. REPORT DATE |     |      | 8. OTHER FACILITIES INVOLVED |               |
|---------------|-----|------|---------------|-------------------|---------|----------------|-----|------|------------------------------|---------------|
| MONTH         | DAY | YEAR | YEAR          | SEQUENTIAL NUMBER | REV NO. | MONTH          | DAY | YEAR | FACILITY NAME                | DOCKET NUMBER |
| 2             | 18  | 2015 | 2015          | 001               | 00      | 04             | 16  | 2015 |                              | 05000         |
|               |     |      |               |                   |         |                |     |      | FACILITY NAME                | DOCKET NUMBER |
|               |     |      |               |                   |         |                |     |      |                              | 05000         |

|                               |  |   |   |   |
|-------------------------------|--|---|---|---|
| <b>9. OPERATING MODE</b><br>1 | <b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)</b> |   |   |   |
|                               | <input type="checkbox"/> 20.2201(b)  | <input type="checkbox"/> 20.2203(a)(3)(i)             | <input type="checkbox"/> 50.73(a)(2)(i)(C)  | <input type="checkbox"/> 50.73(a)(2)(vii)     |
|                               | <input type="checkbox"/> 20.2201(d)  | <input type="checkbox"/> 20.2203(a)(3)(ii)            | <input type="checkbox"/> 50.73(a)(2)(ii)(A) | <input type="checkbox"/> 50.73(a)(2)(viii)(A) |
|                               | <input type="checkbox"/> 20.2203(a)(1)   | <input type="checkbox"/> 20.2203(a)(4)                | <input type="checkbox"/> 50.73(a)(2)(ii)(B) | <input type="checkbox"/> 50.73(a)(2)(viii)(B) |
|                               | <input type="checkbox"/> 20.2203(a)(2)(i)  | <input type="checkbox"/> 50.36(c)(1)(i)(A)            | <input type="checkbox"/> 50.73(a)(2)(iii)   | <input type="checkbox"/> 50.73(a)(2)(ix)(A)   |
| <b>10. POWER LEVEL</b><br>98  | <input type="checkbox"/> 20.2203(a)(2)(ii)   | <input type="checkbox"/> 50.36(c)(1)(ii)(A)           | <input type="checkbox"/> 50.73(a)(2)(iv)(A) | <input type="checkbox"/> 50.73(a)(2)(x)       |
|                               | <input type="checkbox"/> 20.2203(a)(2)(iii)  | <input type="checkbox"/> 50.36(c)(2)                  | <input type="checkbox"/> 50.73(a)(2)(v)(A)  | <input type="checkbox"/> 73.71(a)(4)          |
|                               | <input type="checkbox"/> 20.2203(a)(2)(iv)   | <input type="checkbox"/> 50.46(a)(3)(ii)              | <input type="checkbox"/> 50.73(a)(2)(v)(B)  | <input type="checkbox"/> 73.71(a)(5)          |
|                               | <input type="checkbox"/> 20.2203(a)(2)(v)  | <input type="checkbox"/> 50.73(a)(2)(i)(A)            | <input type="checkbox"/> 50.73(a)(2)(v)(C)  | <input type="checkbox"/> OTHER                |
|                               | <input type="checkbox"/> 20.2203(a)(2)(vi)   | <input checked="" type="checkbox"/> 50.73(a)(2)(i)(B) | <input type="checkbox"/> 50.73(a)(2)(v)(D)  | Specify in Abstract below or in NRC Form 366A |

**12. LICENSEE CONTACT FOR THIS LER**

|   |  |
|---|--|
| LICENSEE CONTACT<br>Joseph A. Clark, Manager - Regulatory Assurance | TELEPHONE NUMBER (Include Area Code)<br>(225) 381-4177 |
|---|--|

**13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT**

| CAUSE | SYSTEM | COMPONENT | MANU-FACTURER | REPORTABLE TO EPIX | CAUSE | SYSTEM | COMPONENT | MANU-FACTURER | REPORTABLE TO EPIX |
|-------|--------|-----------|---------------|--------------------|-------|--------|-----------|---------------|--------------------|
| n/a   |        |           |               |                    |       |        |           |               |                    |

|  |                                     |       |     |      |
|--|-------------------------------------|-------|-----|------|
| <b>14. SUPPLEMENTAL REPORT EXPECTED</b><br><input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO | <b>15. EXPECTED SUBMISSION DATE</b> | MONTH | DAY | YEAR |
|  |                                     |       |     |      |

**ABSTRACT** (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On February 18, 2015, while the plant was operating at approximately 98% power, it was discovered that four local leak rate surveillance test procedures each contained a similar error that resulted in an improper test configuration. This deficiency in each procedure erroneously required the closure of the respective motor-operated valve in the packing leak-off line for the outboard main steam isolation valve (MSIV) being tested, when the proper test configuration would require the valve to be open. The net effect of the error was to partially negate the effectiveness of a surveillance test required by Technical Specifications. This condition had existed since the procedures were revised in 1992 to add valve lineup checklists. The incorrect valve position for the subject test procedures was caused by lack of attention to detail when the procedures were developed. An assessment of the effects of the procedure error was conducted, and reasonable assurance was established that the safety function of the outboard MSIVs was not compromised by this condition. The procedures were corrected, and the tests were successfully conducted in the recent refueling outage. This condition is being reported in accordance with 10CFR50.73(a)(2)(i)(B) as operations prohibited by Technical Specifications.



**LICENSEE EVENT REPORT (LER)  
CONTINUATION SHEET**

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**NARRATIVE**

**REPORTED CONDITION**

On February 18, 2015, while the plant was operating at approximately 98% power, it was discovered that four local leak rate surveillance test procedures (STP) each contained a similar error that resulted in an improper test configuration. This deficiency in each procedure erroneously required the closure of the respective motor-operated valve in the packing leak-off line for the outboard main steam isolation valve being tested, when the proper test configuration would require the valve to be open. This condition had existed since the procedures were revised in 1992 to add specific valve lineup checklists, where the error existed. The net effect of the error was to partially negate the effectiveness of a surveillance test required by Technical Specifications.

This condition is being reported in accordance with 10CFR50.73(a)(2)(v) as operations prohibited by Technical Specifications.

**BACKGROUND**

The function of the primary containment isolation valves, including the main steam isolation valves (MSIVs) is to limit fission product release during and following postulated design basis accidents. The main steam positive leakage control system (MS-PLCS) supplements the isolation function of the MSIVs. The MS-PLCS consists of two independent subsystems: an inboard subsystem, which is connected between the inboard and outboard MSIVs; and an outboard subsystem, which is connected between the double disk of main steam line shutoff valves and the valve stem packing glands of the outboard MSIVs. The system supplies pressurized air to those components following system actuation to provide positive sealing of each penetration. Each subsystem is powered by the respective emergency diesel generator.

Surveillance Requirement (SR) 3.6.1.3.10 requires the verification that the total leakage rate through the valves served by each division of main steam penetration leakage control system (MS-PLCS) is less than or equal to 150 standard cubic feet per hour (scfh) per division. The test frequency is governed by the primary containment leakage rate testing program. The valves tested in the affected procedures are the outboard main steam isolation valves (MSIVs), and the test boundary includes the MSIV packing leak-off lines.

The MS-PLCS system is designed to seal the various primary containment penetrations isolated by power-operated valves, and would be manually initiated following an event postulated in the site accident analysis, as documented in the Updated Safety Analysis Report. Periodic verification of the leakage rate through the individual containment penetrations serves to validate the radiological assumptions supporting the accident analysis.

If the MS-PLCS system is placed into service, the MSIV packing leak-off isolation valves would be open. Having the valves closed isolates the outboard MSIV packing glands leak-off lines, and thus artificially confines the boundary of the potential leakage paths.

**INVESTIGATION and IMMEDIATE ACTIONS**

This condition was discovered as the station was preparing to enter a scheduled refueling outage. The plant was taken offline on February 22, and entered cold shutdown later that day.

This condition was discovered during development of a new procedure for combined steam line MSIV and outboard drain isolation valve leak rate testing. During development of the new STP, it was recognized that the existing procedures specify an incorrect position for motor-operated valves B21-MOVF027A, B, C, and D (main steam isolation valve stem leak-off drain). Because these

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**NARRATIVE**

were specified to be in the closed position, outboard MSIV stem packing leakage, if any, was not included in the leakage total for the outboard MSIVs, and has not been included in past testing as required to support the 150 scfh limit documented in SR 3.6.1.3.10. The Division I (outboard) main steam line and steam line drain penetration leakage rate summation documented at the end of the previous refueling outage was 101.35 scfh, compared to an allowable rate of 150 scfh indicating a margin of approximately 48 scfh.

The incorrect valve position for the subject test procedures was caused by lack of attention to detail when the procedures were developed. The procedure preparer and reviewers failed to recognize that the closed position for the subject valves would not allow for inclusion of potential packing leakage in the total leakage summation for the outboard MSIVs.

The affected procedures were revised and performed to establish the correct test configuration and confirm compliance with the applicable surveillance requirement.

**PREVIOUS OCCURRENCE EVALUATION**

No similar occurrences have been reported by River Bend Station in the past five years.

**SAFETY SIGNIFICANCE**

An assessment of effects of the procedure error was conducted. Reasonable assurance was established that the safety function of the outboard MSIVs was not compromised by this condition. Additionally, since the outboard MSIV packing leak-off isolation valves were required to be open by the system operating procedure, this condition did not adversely affect the ability of the MS-PLCS system to perform its design function. This conclusion is based on review of test results for the previous three operating cycles.