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October 24, 2006

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

Subject: Licensee Event Report 50-458 / 06-005-01
River Bend Station – Unit 1
Docket No. 50-458
License No. NPF-47

File Nos. G9.5, G9.25.1.3

RBG-46628
RBF1-06-0158

Ladies and Gentlemen:

In accordance with 10CFR50.73, enclosed is the subject Licensee Event Report. This is a supplement to the report originally submitted on June 29, 2006. This document contains no commitments.

Sincerely,

David N. Lorfing
Manager – Licensing

DNL/dhw
Enclosure

IE22

cc: U. S. Nuclear Regulatory Commission
Region IV
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Arlington, TX 76011

NRC Sr. Resident Inspector
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INPO Records Center
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NRC FORM 366 (6-2004) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 06/30/2007

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@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.

# LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

| 1. FACILITY NAME | 2. DOCKET NUMBER | 3. PAGE |
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**4. TITLE**

Automatic Start of Standby Service Water During Realignment of Reactor Plant Cooling Water

| 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 |
| | | | | | | | | | | 05000 |
| 05 | 01 | 2006 | 2006 | - 005 - | 01 | 10 | 24 | 2006 | FACILITY NAME | DOCKET NUMBER 05000 |

**9. OPERATING MODE**

5

**10. POWER LEVEL**

0

**11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§:** *(Check all that apply)*

- ☐ 20.2201(b)
- ☐ 20.2201(d)
- ☐ 20.2203(a)(1)
- ☐ 20.2203(a)(2)(i)
- ☐ 20.2203(a)(2)(ii)
- ☐ 20.2203(a)(2)(iii)
- ☐ 20.2203(a)(2)(iv)
- ☐ 20.2203(a)(2)(v)
- ☐ 20.2203(a)(2)(vi)
- ☐ 20.2203(a)(3)(i)
- ☐ 20.2203(a)(3)(ii)
- ☐ 20.2203(a)(4)
- ☐ 50.36(c)(1)(i)(A)
- ☐ 50.36(c)(1)(ii)(A)
- ☐ 50.36(c)(2)
- ☐ 50.46(a)(3)(ii)
- ☐ 50.73(a)(2)(i)(A)
- ☐ 50.73(a)(2)(i)(B)
- ☐ 50.73(a)(2)(i)(C)
- ☐ 50.73(a)(2)(ii)(A)
- ☐ 50.73(a)(2)(ii)(B)
- ☐ 50.73(a)(2)(iii)
- ☒ 50.73(a)(2)(iv)(A)
- ☐ 50.73(a)(2)(v)(A)
- ☐ 50.73(a)(2)(v)(B)
- ☐ 50.73(a)(2)(v)(C)
- ☐ 50.73(a)(2)(v)(D)
- ☐ 50.73(a)(2)(vii)
- ☐ 50.73(a)(2)(viii)(A)
- ☐ 50.73(a)(2)(viii)(B)
- ☐ 50.73(a)(2)(ix)(A)
- ☐ 50.73(a)(2)(x)
- ☐ 73.71(a)(4)
- ☐ 73.71(a)(5)
- ☐ OTHER

Specify in Abstract below or in NRC Form 366A

**12. LICENSEE CONTACT FOR THIS LER**

| FACILITY NAME | TELEPHONE NUMBER (Include Area Code) |
|---|---|
| David N. Lorfing, Manager – Licensing | 225-381-4157 |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| X | CC | v | Velan | Y | | | | | |

**14. SUPPLEMENTAL REPORT EXPECTED**

☐ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☒ NO

**15. EXPECTED SUBMISSION DATE**

| MONTH | DAY | YEAR |
|---|---|---|
| | | |

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

On May 1, 2006, at approximately 6:59 a.m., an unplanned automatic actuation of the Division 1 standby service water system occurred during a realignment of the reactor plant component cooling water (CCP) system. The plant was in cold shutdown for a refueling outage at the time. This event is being reported in accordance with 10CFR50.73(a)(2)(iv) as an automatic actuation of an emergency cooling water system. The actuation occurred due to a low pressure signal in the CCP system, caused by a partial drainage of a section of the system during testing and maintenance. A contributing cause of this event was the masking effect of the pre-existing flush on the monitoring of CCP system operations. The manual valves that caused the drainage have been tentatively scheduled for repair in the next refueling outage. There was no loss of cooing water to any safety-related components, and the standby service water system responded to the actuation signal as designed. This event was of minimal safety significance.

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REPORTED CONDITION

On May 1, 2006, at approximately 6:59 a.m., an unplanned automatic actuation of the Division 1 standby service water (SSW) (**BI**) system occurred during a realignment of the reactor plant component cooling (CCP) (**CC**)water system. The plant was in cold shutdown at the time for a refueling outage. This event is being reported in accordance with 10CFR50.73(a)(2)(iv) as an automatic actuation of an emergency cooling water system.

CAUSAL ANALYSIS AND IMMEDIATE ACTIONS

The CCP system provides cooling water to safety-related and non-safety related components in the auxiliary building and reactor building. Those safety-related components it serves are provided a back-up source of cooling water by the SSW system. This is accomplished by automatically starting the SSW pumps and realigning the CCP flowpath upon a low pressure condition in either of the redundant divisional CCP loops.

On April 29, a section of the CCP system inside the reactor building was isolated and drained under a clearance order to allow maintenance on the "A" reactor recirculation pump. The affected portion of the CCP system drained as expected, but the clearance boundary valves (**V**) were leaking approximately 3 gpm. The leakage did not affect the operation of the rest of the CCP system, as there is an automatic makeup feature that maintains system inventory. A flow totalizer is installed to provide indication of the amount of makeup water used.

Prior to the installation of the clearance boundary tags, a slow continuous flush of the CCP system had been established to improve water quality. A drain path had been opened to cause frequent addition of clean water, and the daily makeup flow volume was being recorded by the Operators. This reading was outside the specified normal parameters detailed on the logs, and the discrepancy was noted as being due to the ongoing system flush.

On May 1, integrated emergency core cooling system (ECCS) testing was being conducted, which involved a planned automatic closure of the containment isolation valves in the CCP system. The drained portion of the system under the clearance order was part of the header inside the reactor building that was isolated by the containment isolation signal. The containment isolation valves were closed for approximately four hours before post-test restoration was begun. During that

time, the leakage past the clearance boundary valves partially drained the header inside the reactor building. When the containment isolation valves were opened to restore the system to its normal alignment, the partially drained header caused a sudden decrease in CCP system pressure. The low pressure signal actuated the Division 1 SSW subsystem as designed.

A contributing cause of this event was the masking effect of the pre-existing flush on the monitoring of CCP system operations. Makeup flow volume readings that were out of specifications continued to be recorded during the time that the clearance order was in place. The significant increase in makeup volume was not questioned, nor was its effect considered when post-test system restoration was performed.

## CORRECTIVE ACTIONS TO PREVENT RECURRENCE

Following completion of the maintenance on the "A" reactor recirculation pump, the CCP system was fully restored to service. As such, the system is no longer susceptible to a repeat occurrence while the plant is operating. The valves used as a clearance boundary for the maintenance on "A" recirculation pump will be repaired to correct the seat leakage.

The procedure for the integrated ECCS test will be revised to add requirements to review CCP makeup water usage prior to system restoration to avoid conditions that can cause pressure perturbations.

The duties of the outage water movement coordinator will be expanded to include focused monitoring of leakage and makeup water usage in the CCP system.

These actions will be tracked by the station's corrective action program.

## PREVIOUS OCCURRENCE EVALUATION

No recent actuations of the SSW system were caused by the same mechanism as this event.

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SAFETY SIGNIFICANCE

The Division 1 SSW system responded as designed to the low pressure condition in the CCP system. There was no loss of cooling water flow to any safety-related components as a result of this event. The seat leakage of the affected CCP valves did not cause any component to be incapable of performing its safety function. This event was of minimal safety significance.

(NOTE: Energy Industry Component Identification codes are annotated as (**XX**).)