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10 CFR 50.73

RBG-47957

June 3, 2019

Attn: Document Control Desk
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852-2738

Subject: Licensee Event Report 50-458 / 2019-001-00, "Initiation of Standby Service Water due to Inadequate Monitoring of System Parameters During Maintenance Activities".
River Bend Station, Unit 1
NRC Docket No. 50-458
Renewed License No. NPF-47

In accordance with 10 CFR 50.73, enclosed is the subject Licensee Event Report. This document contains no commitments. If you have any questions, please contact Mr. Tim Schenk at 225-381-4177.

Sincerely,

SPV/twf

Enclosure: Licensee Event Report 50-458 / 2019-001-00, "Initiation of Standby Service Water due to Inadequate Monitoring of System Parameters During Maintenance Activities".

cc: NRC Region IV Regional Administrator, w/o Enclosure
NRC Senior Resident Inspector – River Bend Station, Unit 1
Ji Young Wiley, Department of Environmental Quality, Office of Environmental Compliance, Radiological Emergency Planning and Response Section
Public Utility Commission of Texas, Attn: PUC Filing Clerk
NRC Project Manager

NRC FORM 366
(04-2018)

U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

(See Page 2 for required number of digits/characters for each block)

(See NUREG-1022, R.3 for instruction and guidance for completing this form http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 03/31/2020

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 Information Services Branch (T-2 F43), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by 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.

1. Facility Name	2. Docket Number	3. Page
River Bend Station – Unit 1	05000 458	1 OF 3

4. Title

Initiation of Standby Service Water due to Inadequate Monitoring of System Parameters During Maintenance Activities

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
									NA	05000 NA
04	04	2019	2019	001	00	06	03	2019	Facility Name NA	Docket Number 05000 NA

9. Operating Mode	11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: *(Check all that apply)*			
5	☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
	☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
	☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
	☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☑ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
10. Power Level	☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
0	☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
	☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(C)	☐ 73.77(a)(1)
	☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(D)	☐ 73.77(a)(2)(i)
	☐ 20.2203(a)(2)(vi)	☐ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(vii)	☐ 73.77(a)(2)(ii)
		☐ 50.73(a)(2)(i)(C)	☐ Other (Specify in Abstract below or in NRC Form 366A)	

12. Licensee Contact for this LER

Licensee Contact	Telephone Number (Include Area Code)
Tim Schenk, Manager – Regulatory Assurance	225-381-4177

13. Complete One Line for each Component Failure Described in this Report

Cause	System	Component	Manufacturer	Reportable to ICES	Cause	System	Component	Manufacturer	Reportable to ICES
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

14. Supplemental Report Expected	15. Expected Submission Date	Month	Day	Year
☐ Yes (If yes, complete 15. Expected Submission Date) ☑ No		NA	NA	NA

Abstract (Limit to 1400 spaces, i.e., approximately 14 single-spaced typewritten lines)

On April 4, 2019, the operating Normal Service Water pumps tripped on low suction pressure, resulting in the initiation of the Standby Service Water System. The low suction pressure condition was caused by inadequate monitoring of system parameters during operation in an off-normal system configuration. After the event, both the Normal and Standby Service Water Systems were returned to their normal configurations. This event did not constitute a loss of Shut Down Cooling. This event was of minimal significance to the health and safety of the public.

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

(See NUREG-1022, R.3 for instruction and guidance for completing this form http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)

1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
River Bend Station – Unit 1	05000- 458	2019	- 001	- 00

NARRATIVE

BACKGROUND

The Normal Service Water (NSW) [KG] system provides cooling water to a number of components throughout the plant during normal online and shutdown conditions. One surge tank provides net positive suction head for pumps which are protected by a low suction pressure trip. The NSW system provides cooling to safety and non-safety related components during normal operating online and shutdown conditions. When a low pressure condition exist in the NSW system, Standby Service Water (SSW) [BI] automatically initiates as the safety related portion of the NSW system is separated from the non-safety related portion by automatic valve alignment. Cooling water to the safety related loads is then provided by the SSW system.

The Residual Heat Removal [BO] system transfers decay heat from the Reactor to either the NSW or SSW system.

At the time of the event, the plant was in a refueling outage operating in Mode 5 and NSW was providing cooling water to the RHR system.

REPORTED CONDITION

On April 4, 2019 at 17:48 CST, the operating NSW pumps tripped on low suction pressure, resulting in the initiation of SSW. On April 3, 2019, a maintenance clearance was placed on the NSW system which isolated the NSW surge tank automatic make up. Remote level indication of the surge tank in the Main Control Room was also removed by the clearance. A non-licensed operator was directed to monitor surge tank level locally three times per shift and manually maintain surge tank level between 18 and 20 feet. The additional monitoring actions were added to the operator's turnover sheet. The surge tank level was successfully monitored and maintained inside the required band for approximately two shifts. On the third shift the operator failed to maintain surge tank level causing the running NSW pumps to trip on low suction pressure and a subsequent SSW initiation.

All systems responded as expected. The surge tank level was restored and both the NSW and SSW systems were restored to the configuration they were in prior to the event. The additional monitoring plan was revised to have a non-licensed operator stationed at the surge tank to continuously monitor and adjust level. At no time during this event was the ability to remove decay heat impaired.

Therefore, this condition is being reported as a System Actuation, 50.73(a)(2)(iv)(A).

CAUSAL ANALYSIS

Maintenance was recently performed on the NSW system during normal online operation which required a clearance that placed the system in a configuration similar to the one at the onset of this event. Additional monitoring was performed on the NSW surge tank level in the same manner it was performed during this event. The maintenance activity was completed without a SSW initiation. Confidence in the successful outcome of the online plan led to over confidence in the same plan used during shut down operation.

Activities were in progress to drain a division of SSW but neither the Operations Shift Manager (OSM) nor the Control Room Supervisor (CRS) recognized that the draining activity would increase the required makeup rate to the (NSW) surge tank.

Because crew leadership did not recognize the risk arising from the draining activity, they in turn did not adequately

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NARRATIVE

prepare the operator for the task of NSW surge tank monitoring. Specifically, they did not properly set direction or mitigate proficiency challenges. In this case, the operator was relatively inexperienced and did not have the proficiency to understand the importance of the parameter he was controlling or how the parameter could be expected to change.

CORRECTIVE ACTION TO PREVENT RECURRENCE

The following actions have been completed to prevent recurrence.

- A Night Order was created that requires the Assistant Operations Manager and OSM to approve all additional monitoring to ensure supervisor engagement.
- Operators are now required to report to the Main Control Room at the beginning of each shift to brief additional monitoring items with the Control Room Supervisor for the remainder of Refueling Outage 20.

The following actions have been assigned to prevent a recurrence of this event and are documented in the station's corrective action program.

- Create an Additional Monitoring Log in Narrative Logs.
- Develop a pilot process for determining the level of effort required for additional monitoring based off of system, risk, and significance.
- Present the pilot process for additional monitoring to the fleet for potential fleet incorporation.

PREVIOUS OCCURRENCE EVALUATION

There was one unplanned SSW initiation event at River Bend Station in the last ten years of operation and was reported as a System Actuation by Licensee Event Report 11-001-00. There is no common cause associated with the past event and the event described in this report.

SAFETY SIGNIFICANCE

The SSW system responded to a valid low pressure NSW signal as designed. At no time during this event was cooling lost to the RHR Heat Exchangers, thus shut down cooling capability was sustained. Therefore this event was of minimal significance with regard to the health and safety of the public.

(NOTE: Energy Industry Identification System component function identifier and system name of each component or system referred to in the LER are annotated as (**XX**) and [XX], respectively.)