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Rick J. King
Director
Nuclear Safety Assurance

February 23, 2000

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

Subject: River Bend Station - Unit 1
Docket No. 50-458
License No. NPF-47
Licensee Event Report 50-458/00-002-00

File Nos. G9.5, G9.25.1.3

RBG-45273
RBF1-00-0032

Ladies and Gentlemen:

In accordance with 10 CFR 50.73, enclosed is the subject Licensee Event Report.
Attachment 1 identifies the commitment identified in this report.

Sincerely,

A handwritten signature in cursive script that reads "Rick J. King".

RJK/DLM
Attachment
Enclosure

IE22

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cc: U. S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

NRC Sr. Resident Inspector
P. O. Box 1050
St. Francisville, LA 70775

INPO Records Center
E-Mail

Mr. Jim Calloway
Public Utility Commission of Texas
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Austin, TX 78711-3326

Mr. Prosanta Chowdhury
Program Manager – Surveillance Division
Louisiana DEQ
Office of Radiological Emergency Planning & Response
P. O. Box 82215
Baton Rouge, LA 70884-2215

Attachment 1

Commitment Identification Form

Subject: LER 00-002-00

RBG-45273

RBF1-00-0032

Date: February 23, 2000

COMMITMENT	ONE TIME ACTION	CONTINUING COMPLIANCE
Specific guidance will be incorporated into the appropriate plant procedure to ensure continuing compliance.		X

FACILITY NAME (1)
River Bend Station

DOCKET NUMBER (2)
05000458

PAGE (3)
1 of 5

TITLE (4)
Inoperability of High Pressure Core Spray Diesel Generator due to Closure of Division I Service Water Isolation Valve.

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIA NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
03	16	1999	2000	--002--	00	02	23	2000	FACILITY NAME	DOCKET NUMBER
										05000
									FACILITY NAME	DOCKET NUMBER
										05000

OPERATING POWER LEVEL (10)	OPERATING POWER LEVEL (10)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)			
		20.2201(b)	20.2203(a)(2)(v)	50.73(a)(2)(i)(B)	50.73(a)(2)(viii)
1	80	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		20.2203(a)(1)	20.2203(a)(3)(i)	50.73(a)(2)(ii)	50.73(a)(2)(x)
		20.2203(a)(2)(i)	20.2203(a)(3)(ii)	50.73(a)(2)(iii)	73.71
		20.2203(a)(2)(ii)	20.2203(a)(4)	50.73(a)(2)(iv)	OTHER
		20.2203(a)(2)(iii)	50.36(c)(1)	50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A
		20.2203(a)(2)(iv)	50.36(c)(2)	50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME
D. N. Lorfing, Supervisor – Licensing

TELEPHONE NUMBER (Include Area Code)
225-381-4157

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)

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

EXPECTED MONTH DAY YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On March 16, 1999, with the plant in Mode 1 at approximately 80 % power, the isolation valve (SWP-MOV77A)(*ISV*) for the Division I service water supply to the Division III, High Pressure Core Spray (HPCS), diesel generator (DG) was closed. SWP-MOV77A was closed in excess of the maximum allowed outage time in the River Bend Station (RBS) technical specifications (TS) for this condition. Exceeding the allowed outage time constitutes operation prohibited by TS and is reportable according to 10 CFR 50.73(a)(2)(i)(B).

Site personnel understood that closing SWP-MOV77A did not impact the operability of the Division III DG. This misconception supported the contingency action of closing SWP-MOV77A instead of declaring the system inoperable and entering the applicable LCO.

An Operations Department Standing Order was issued that requires entry into technical specification LCOs if the service water supply or return valve for the Division III DG for either division is closed.

The significance of this condition was a reduction of systems available to mitigate accidents analyzed in the River Bend USAR.

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NRC FORM 366 (6-1998)

REPORTED CONDITION

On March 16, 1999, with the plant in Mode 1 at approximately 80 % power, the isolation valve (SWP-MOV77A)(*ISV*) for the Division I service water (*BI*) supply to the Division III, High Pressure Core Spray (HPCS) (*BG*), diesel generator (DG) (*EK*) was closed. This action was taken to ensure operability of the standby service water system (*BI*) following an in-service test failure of a service water check valve (*V*). Valve SWP-MOV77A remained closed until April 1, 1999. In this condition, only the Division II service water supply was available to the Division III diesel. Closing SWP-MOV77A causes a loss of redundancy of service water supplies to the Division III DG. SWP-MOV77A was closed in excess of the maximum allowed outage time in the River Bend Station (RBS) technical specifications (TS) for this condition. Exceeding the allowed outage time constitutes operation prohibited by TS and is reportable according to 10 CFR 50.73(a)(2)(i)(B).

This condition is being reported at this time due to an internal tracking error upon completion of the technical evaluation.

BACKGROUND

USAR Section 9.2.7.3 states, "The standby service water system has the capability to provide cooling water to essential equipment through two separate supply lines.....each standby service water system can, if required, be isolated into two separate redundant standby service water systems by closing the appropriate isolation valves. The two redundant systems merge to supply a single component in two locations. These are: 1) HPCS diesel generator jacket water cooler, 2) HPCS pump room unit cooler (HVR-UC5). ... These valves (supply & return MOVs) can be closed by operator action, either to isolate the component should a failure occur, or to isolate an operating SSW system from an inoperable redundant system." The USAR assumes that two divisions of SSW are normally aligned to these components and, thus, the HPCS pump function will not be lost on a loss of one division of SSW. If a supply/return valve is closed, this assumption is not valid.

The service water check valve that failed has a safety function to close. The closed function is to prevent diversion of Standby Service Water (SSW) Division II flow into Division I if Division I fails during a design basis accident. The check valve also has an open function to ensure cooling water flow to the Division III DG Jacket Water Cooler (*LB*).

INVESTIGATION

On March 16, 1999, an in-service test was performed on the Division I service water check valve and the test failed. A maintenance action item was issued to repair the check valve. A condition report (CR) was written and the valve was declared inoperable.

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Contingency actions and operability considerations were evaluated. On March 16, 1999, a decision was made to close isolation valve SWP-MOV77A to isolate the Division I service water supply to the Division III DG to protect the operability of Division II standby service water (SSW). Site personnel understood the service water supplies to the Division III DG were redundant and that closing SWP-MOV77A did not impact operability of the Division III DG because Division II SSW would remain available to supply cooling water to the Division III DG. A tracking limiting condition for operation (TLCO) was written on March 16, 1999, and SWP-MOV77A was closed.

On March 30, 1999, SWP-MOV77A was tagged out and included in an LCO to permit inspection/repair of the check valve. The check valve was inspected and restored to operable status on March 31, 1999. SWP-MOV77A remained closed until all the retests were completed for the check valve. The TLCO was removed and SWP-MOV77A opened on April 1, 1999. This action restored the Division I service water supply to the Division III DG.

During September 1999, the operability determination related to the closure of SWP-MOV77A was questioned. Discussions with site engineering personnel resulted in a review of the operability determination and disposition of the CR written on March 16, 1999. Based on this review, a second CR was written and further evaluation of the condition was performed. The conclusion was that closing SWP-MOV77A causes the Division III DG to be inoperable.

River Bend Station personnel have also written a separate CR regarding the adequacy of operability determinations. The process and practices used for operability determinations will be reviewed and appropriate actions taken.

CAUSE

Site personnel understood that closing SWP-MOV77A did not impact the operability of the Division III DG. This misconception supported the contingency action of closing SWP-MOV77A, under a TLCO, and the failure to enter the applicable LCO upon declaration that the check valve was inoperable. The root cause investigation of this condition is ongoing and will include consideration of additional training.

CORRECTIVE ACTIONS

An Operations Department Standing Order was issued that requires entry into technical specification LCOs if the service water supply or return valve for either division is closed. As described in the Background section above, these are the only locations in the service water system where the redundant divisions merge to supply single components. Thus, this action is limited to these two components. Specific guidance will be incorporated into the appropriate plant procedure to ensure continuing compliance.

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SAFETY EVALUATION

In order to assess the safety significance of this event, a review of concurrent equipment outages in redundant safety systems was performed for the period March 16 to March 30, 1999. Three equipment outages in this period were evaluated in addition to the closure of the Division 1 service water supply valve (SWP-MOV77A) to the Division III DG. Note that the Division III DG has two divisional service water supplies. The Division II supply was available during the period of time evaluated.

The components that were out of service at some time during the period when SWP-MOV77A was closed were:

- 1) Division I diesel generator (9 days, 18 minutes),
- 2) Division I Residual heat removal (RHR) (*BO*) (21 hours 53 minutes) and,
- 3) Division II diesel generator (13 hours, 4 minutes).

Note that while the Division I DG was inoperable, it was capable of operation with an alternate fuel supply. The Division I DG is equipped with an electrically driven fuel booster pump (*P*) (*DC*) powered from the station's non-safety 125 volt DC system. The pump can run to support diesel operation as long as DC power is available. The non-safety station batteries (*BTRY*) (*EI*) are designed for a two-hour capacity following isolation of the battery charger (*BYC*) from the DC bus by a loss of coolant accident (LOCA) signal.

Concurrent out-of-service periods were considered. Division I RHR was out of service concurrent with the Division I DG. The Division II DG out-of-service time was not concurrent with either the Division I DG or Division I RHR out-of-service periods.

The significance of this condition was a reduction of systems available to mitigate accidents analyzed in the River Bend USAR. One specific example is that River Bend emergency core cooling systems analysis assumes that two of three emergency diesel generators operate in response to plant transients. There was a limited period of time in which only the Division II DG was operable with the Division I DG available as described above and the Division III DG aligned to only one division of service water. To further evaluate this significance, a probabilistic safety assessment for the condition was performed.

The instantaneous risk associated with each of these concurrent equipment outages was calculated and determined to be acceptable per the River Bend On-Line Maintenance Guide. Also, the incremental risk was evaluated using the methodology for temporary changes in the EPRI Probabilistic Safety Assessment Applications Guide (EPRI TR-105396). The calculated incremental risk values were found to be non-risk-significant.

During the period of time that the Division II and Division III DGs were concurrently inoperable (13 hours, 4 minutes), Division I DG was operable. This limited time period met the technical specification action requirements for two diesels out-of-service (24 hours). As stated in the technical specification bases for this condition, "...a significant spectrum of breaks would be capable of being responded to with onsite power."

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PREVIOUS OCCURRENCE EVALUATION

A review of previous licensee event reports found no similar events.

The Energy Industry Identification System (EIIS) component/system number is indicated by a parenthesis after the affected component/system. (Example: (*XX*))