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Rick J. King
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December 13, 1996

U. S. Nuclear Regulatory Commission
Document Control Desk
Mail Stop P1-37
Washington, DC 20555

Subject: River Bend Station - Unit 1
Docket No. 50-458
License No. NPF-47
Licensee Event Report 50-458/96-016-00
File Nos. G9.5, G9.25.1.3

RBG-43561
RBF1-96-0462

Ladies and Gentlemen:

In accordance with 10CFR50.73, enclosed is the subject report.

Sincerely,

RJK/RMM/kvm
enclosure

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Licensee Event Report 50-458/96-016-00
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RBG-43561
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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
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INPO Records Center
700 Galleria Parkway
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Mr. G. Dishong
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Louisiana Department of Environmental Quality
Radiation Protection Division
P. O. Box 82135
Baton Rouge, LA 70884-2135
ATTN.: Administrator

NRC FORM 366 (5-92)		U.S. NUCLEAR REGULATORY COMMISSION			APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/96		
LICENSEE EVENT REPORT (LER)					ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503		
FACILITY NAME (1) River Bend Station					DOCKET NUMBER (2) 05000-458		PAGE (3) 1 of 4
TITLE (4) Control Building Chiller Timer Defeat Switch Left in Test Position							
EVENT DATE (5)			LER NUMBER (6)		REPORT DATE (7)		OTHER FACILITIES INVOLVED (8)
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY
08	06	96	96	016	00	12	13
			FACILITY NAME N/A				
			DOCKET NUMBER 05000				
			FACILITY NAME N/A				
			DOCKET NUMBER 05000				
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check: one or more (11))					
1							
POWER LEVEL (10)							
100							
		20.402(b)		20.405(c)		50.73(a)(2)(iv)	
		20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)	
		20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)	
		20.405(a)(1)(iii)		x 50.73(a)(2)(i)		50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)	
LICENSEE CONTACT FOR THIS LER (12)							
NAME David Lorfig, Supervisor - Nuclear Licensing					TELEPHONE NUMBER (Include Area Code) 504-381-4157		
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)							
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT
SUPPLEMENTAL REPORT EXPECTED (14)					EXPECTED SUBMISSION DATE (15)		
YES (If yes, complete EXPECTED SUBMISSION DATE)		NO x					
ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)							
<p>On August 6, 1996 at 0745, with the reactor in Operational Condition 1 (Power Operation) at 100 percent power, it was discovered that a Division II control building chiller system timer defeat switch was in the test position. The Division II control building chiller system was operating at the time of discovery; however, in this configuration, an automatic swap to the alternate chiller system (Division I) would be prevented for certain single failures on the Division II chiller system. Subsequent investigation concluded that the positioning of the switch occurred during system testing while shutdown (Mode 4) on July 13, 1996. Because plant mode changes occurred on July 20 and July 21, 1996 prior to discovery of the switch position, this condition is reportable pursuant 10CFR50.73(a)(2)(i)(B) as operation prohibited by Technical Specifications in that a mode change was made with the Division I Chiller system automatic swap feature inoperable assuming certain single failures.</p> <p>The root cause was determined to be inappropriate worker selection, inadequate turnover during the test evolution, and the failure of supervision to verify work completion. Upon discovery, the switch was immediately returned to the normal position.</p> <p>The control building chiller system timer defeat switch is used during system testing and bypasses certain chilled water pump trips. The switch did not affect any Division II system start functions but could have prevented automatic start of the Division I system; however, the Division I system could be manually started. Therefore, this event was of little safety significance.</p>							

NRC FORM 366A (5-92)	U. S. NUCLEAR REGULATORY COMMISSION	APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95	
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Reported Condition

On August 6, 1996 at 0745, with the reactor in Operational Condition 1 at 100 percent power, it was discovered that the Division II control building chiller system (*KM*) timer defeat switch was in the test position with the system operable. In this configuration, an automatic swap to the alternate chiller system (Division I) would be prevented for certain single failures on the Division II chiller system. Subsequent investigation concluded that the positioning of the switch occurred during system testing while shutdown (Mode 4) on July 13, 1996. Because plant mode changes occurred on July 20 and July 21, 1996 prior to discovery of the switch position, this condition is reportable pursuant 10CFR50.73(a)(2)(i)(B) as operation prohibited by Technical Specifications in that a mode change was made with the Division I Chiller system automatic swap feature inoperable for certain single failures.

A reportability determination was performed on August 6, 1996, subsequent to discovery of the switch in the test position. This determination failed to recognize the impact of the single failure vulnerability on the automatic swap feature. On November 13, 1996, subsequent reviews identified the single failure vulnerability for the automatic swap to the alternate chiller system (Division I) and the inappropriate mode changes which occurred on July 20 and 21, 1996.

Investigation

The control building chiller system is made up of two redundant trains. Division I and II both contain two 100% capacity trains; Trains "A" and "C" for Division I and Trains "B" and "D" for Division II. During normal operation one divisional train is operable with the alternate divisional train in standby. As described in USAR Section 9.2.10.5, subsequent to a loss of off-site power, the pre-selected Division II chiller, Train "B" or "D", starts automatically during the appropriate bus loading sequence. In the event the Division II train fails, the pre-selected Division I train starts automatically. This automatic swap feature initiates on Division II low chilled water pump (*KM-P*) flow. Except for a few days during the time that the "Timer Defeat Keylock Switch" was in the test position, Train "B" was the pre-selected Division II train.

The test function of the control building chiller "Timer Defeat Keylock Switch" is to bypass chilled water pump trips during system testing. This function bypasses trips for air handling unit (*AHU*) low air flow and chiller (*CHU*) malfunctions except for chilled water pump motor thermal overload. This trip bypass does not affect any of the auto start functions of the corresponding chiller system and does not prevent manual starting of the alternate division. With the associated "Timer Defeat Keylock Switch" in the test position, the Train "B" chiller pump would not trip on a Train "B" chiller compressor failure or low air-conditioning unit air flow. Without the loss of chilled water flow, the automatic swap would not occur. In this configuration, a single failure of the Train "B" chiller compressor or air handling units could result in the loss of cooling capability and not trip the associated chilled water pump.

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Operating logs, records and other work activities were reviewed to determine when the switch was placed in the test position. Most likely, the switch was placed in the test position during maintenance activities with the plant shutdown on July 13, 1996. The "Timer Defeat Keylock Switch" is manipulated in accordance with Attachment 6B of SOP-0066, "Plant And Control Building HVAC Chilled Water System," which includes steps to place the switch in the test position and return it to the normal position.

The procedure documentation denoting completion of the evolution could not be located. The operator performing the evolution went home due to fatigue prior to completion of the evolution. During subsequent interviews (about 20 days later), the operator indicated that he believed that he had turned over to the Control Room Supervisor indicating that the field portion of the evolution was complete and that restoration was still required. However, neither the Control Room Supervisor, Operations Shift Superintendent or Unit Operator logged the need to complete system restoration.

A review of recent LERs did not identify any similar events.

Root Cause

An investigation concluded that the Train "B" "Timer Defeat Keylock Switch" was most likely placed in the test position during maintenance activities on July 13, 1996, due to inadequate evolution control. The most likely root causes for this event are:

- Inappropriate worker selection - The operator assigned to the test evolution had mistakenly assumed that he was not required to work the night in question and had not planned to work. He became fatigued and left the site prior to completion of the evolution.
- Inadequate turnover - Chiller Train "B" was turned over to an oncoming shift without any supervisor ensuring the manipulations in the plant were properly documented.
- Standard, Policy or Administrative Controls not used - Supervision did not verify satisfactory completion of the evolution and adequacy of documentation.

Corrective Actions

Upon discovery of the mispositioned switch, the switch was returned to normal and a system lineup was performed in accordance with SOP-0066, Attachment 6B.

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Corrective actions included counseling the applicable personnel for lack of ownership and less than adequate oversight of the evolution being conducted. In addition, this event was discussed with operators to emphasize the importance and need for plant configuration control and accountability regarding manipulation of plant equipment.

Safety Significance

The test function of the control building chiller "Timer Defeat Keylock Switch" is to bypass chilled water pump trips during system testing. However, with the Train "B" chiller system operating and the associated timer defeat switch in the test position, a single active failure in the Train "B" chiller system may not initiate an automatic swap to Division I. This switch position would not prevent the manual start capability or an automatic start of the Division II system subsequent to a loss of off-site power and would not prevent manual start capability of the Division I chiller system.

Multiple indications of problems with the control building air handling units and/or chillers are available to operators. Abnormal Operating Procedure AOP-0060, "Loss of Control Building Ventilation," provides direction to start the available subsystems on indication of a loss of operating chiller or air handling units. For the reported condition, the systems remained operable except for the automatic swap feature which reduced the capability to withstand a single failure. Therefore, this condition was of little safety significance.

Note : Energy Industry Identification codes are identified in the text as (*XX*)