

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1): RIVER BEND STATION
DOCKET NUMBER (2): 0 5 0 0 0 | 4 5 | 8 1 OF 0 5 5
PAGE (3):

TITLE (4): Voluntary Report Due to De-energized Charcoal Heater Filter

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER (5)
08	29	88	88	020		00	09	23	88		0 5 0 0 0
											0 5 0 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11):

OPERATING MODE (9): 1	20.402(a)	20.406(a)	30.73(a)(2)(iv)	73.71(a)
POWER LEVEL (10): 100	20.406(a)(1)(i)	30.36(a)(1)	30.73(a)(2)(ix)	73.71(a)
	20.406(a)(1)(ii)	30.36(a)(2)	30.73(a)(2)(xv)	<input checked="" type="checkbox"/> OTHER (Specify in Abstract below and in Test NRC Form 308A)
	20.406(a)(1)(iii)	30.73(a)(2)(i)	30.73(a)(2)(xvii)(A)	Voluntary
	20.406(a)(1)(iv)	30.73(a)(2)(ii)	30.73(a)(2)(xviii)(B)	
	20.406(a)(1)(v)	30.73(a)(2)(iii)	30.73(a)(2)(ix)	
	20.406(a)(1)(vi)	30.73(a)(2)(iv)	30.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12):
NAME: L. A. England - Director, Nuclear Licensing
TELEPHONE NUMBER: 504 381-4145
AREA CODE: 504

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC

SUPPLEMENTAL REPORT EXPECTED (14):
YES (If you complete EXPECTED SUBMISSION DATE): NO:
EXPECTED SUBMISSION DATE (15): MONTH: DAY: YEAR:

ABSTRACT (Limit to 1600 words; i.e. approximately fifteen single space typewritten lines) (16):

At approximately 1950 hours on 8/29/88 with the unit operating at 100 percent power (Mode 1) while preparing for the performance of a surveillance test procedure, the control switches for both divisions of the fuel building filtration heaters were found in the de-energized position. With these heaters in the de-energized position, both divisions were considered inoperable. Immediate action was taken by the Shift Supervisor to return both systems to operable status. Notification to the NRC per 10CFR50.72.b.ii was made at 2045 hours. However, this event was subsequently determined to be not reportable pursuant to 10CFR50.73 in accordance with guidance of NUREG-1022, Supplement 1, Question 2.3 since the length of time the circuits were de-energized is indeterminant.

Station operating procedural changes are being implemented to provide further assurances of correct system configurations. An analysis was performed assuming a complete loss of the charcoal filters. This analysis determined that the offsite doses following a postulated loss-of-coolant accident within 10CFR100 limits. Therefore, there was no impact on the health and safety of the public.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104
EXPIRES 8-31-88

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TEXT (If more space is required, use additional NRC Form 288A (17))

Reported Condition

At approximately 1950 hours on 8/29/88 with the unit operating at 100 percent power (Mode 1) the Unit Operator (UO), while preparing for the performance of surveillance test procedure (STP)-406-0201, "Fuel Building HVAC Charcoal Filter Monthly Operability Test", found the control switches (*HS*) for both the division I and division II filtration heaters (*EHTR*) to be in the de-energized position. These switches (1HVF*FLT2AH/BH) are located on panel (*PL*) 1H13*P863 (HVAC bench board) in the main control room (*NA*). The Shift Supervisor, upon notification from the UO, immediately entered Technical Specification 3.0.3 when both divisions were conservatively determined to be inoperable. Immediate action was taken to return both fuel building filter (HVF) systems to operable status by using Standard Operating Procedure (SOP)-0062, "Fuel Building Filter". After the heaters were re-energized, the fuel building filter units (*BH*) were returned to service and Specification 3.0.3 LCO was terminated. This action was completed by 2045 hours and NRC notification was made pursuant to 10CFR50.72.b.ii. However, this event was subsequently determined to be not reportable pursuant to 10CFR50.73 in accordance with guidance of NUREG-1022, Supplement 1, Question 2.3 since the length of time the circuits were de-energized is indeterminant. Therefore, this voluntary report is being submitted to provide information regarding this event.

Verification of all system lineups per General Operating Procedure (GOP)-0001, "Master Startup Checklist", was completed with no other discrepancies identified.

Investigation

Following Scram 88-04 of August 25, 1988, (reference LER 88-018), Operations personnel performed a complete board lineup. General control board lineups are normally performed by using the system SOP as a guide with the completion noted by signature in the shift log. This control board lineup is independently verified by another operator and the verification also noted in the shift log. On 8/27/88 after an Engineered Safety Feature (ESF) high radiation signal was received causing the realignment of the fuel building ventilation system to the emergency mode, (reference LER 88-019), a second control board lineup was completed on the fuel building ventilation system and documented in the shift log. In addition to the above, a second board lineup was performed on the day shift of 8/27/88 after the ESF system initiation on the fuel building ventilation system. An investigation of possible system configuration changes between the time of Scram 88-04 and the time of discovery on 8/29/88 included a review of scheduled preventive maintenance, surveillance testing and other maintenance activities on this system. No work in these areas was identified during the period of 8/25 to 8/29/88.

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RIVER BEND STATION

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TEXT (if more space is required, use additional NRC Form 266A 2/17)

To further identify how this configuration was reached, a review of the system wiring logic showed that the only way the heaters could be de-energized without other indication is through the switches on the control panel. The only other signal that will open these breakers (*52*) is an overcurrent trip. This trip would have caused an annunciator (*ANN*), an amber status light (*IL*), and a process computer (*ID*) point alarm (*ALM*). As reported by Operations, no alarms nor amber lights were observed. As seen from the alarm display printout no heater breaker overcurrent trips occurred between 8/25/88 through 8/29/88. There are no other indications available that can be used to pinpoint when these filter train heater breakers were opened. Based on the above, it appears the breakers were opened from panel 1H13*P863.

GSU has concluded that the exact time of opening cannot be identified. However, based on alarm display printouts for the fuel building filter system and the system configuration changes which occurred on August 25, (restoration from Scram 88-04), and on August 27, (restoration from an RMS initiated ESF actuation) which were checked and verified as described above, the de-energization of the heaters appears to have been done during the period between August 27 to August 29, 1988.

A review of previously submitted LER's from River Bend Station for similar reportable events revealed no plant configuration changes from the control room which cannot be directly explained by personnel error or procedural deficiency.

Corrective Action

Upon discovery, the control switch was restored to the energized position. Other safety related system configurations were reviewed by the Operations staff and no other discrepancies were found. Although the time of the configuration change is indeterminate, GSU is assuming that operations personnel failed to identify this condition. System operating procedure changes are being implemented to provide further assurance of correct system configurations. These actions include:

1. Operations has implemented a control board lineup checksheet for the UO. This change includes further detail on system(s) condition including inservice/out-of-service equipment and LCO(s) in effect.
2. Operations will develop a control board lineup checklist to be used during reactor startup to insure proper alignment of safety related system. This checklist will include information identified in the checksheet identified above and is scheduled for implementation by 12/1/88, which is prior to the next scheduled outage.

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TEXT (if more space is required, use additional NRC Form 366A's) (17)

3. Training has incorporated specific simulator exercises designed to increase board awareness.
4. The Shift Supervisor is reviewing the UO checklist shortly after the shift briefing to check his understanding of board status against the UO's understanding.
5. A memo has been issued to all operators which described this event and the importance of control board awareness. Additionally, the Assistant Plant Manager has personally discussed this event with each shift crew.

Safety Assessment

Charcoal filter trains at River Bend Station (RBS) are provided with heaters whose purpose is to maintain the relative humidity (RH) of the air entering the charcoal bed at 70 percent or less to maintain filter efficiency at 99 percent as assumed in the Updated Safety Analysis Report. Loss of the heaters has significance only if the relative humidity of the entering air is above 70 percent which is assumed in the design. A review of the past surveillance tests confirms the filter efficiencies have exceeded the 99 percent design requirements. Additionally, recent field measurements have identified local humidities which average less than 70 percent. Therefore, GSU concluded that there was no actual effect on charcoal filter efficiency.

Limiting accidents considered for the fuel building are the fuel handling accident (FHA) and the loss of cooling accident (LOCA). Since no fuel handling activities were under way during the period of this event, the FHA is not a consideration. The fuel building is part of secondary containment. Technical Specification Table 3.6.1.3-1 limits annulus bypass leakage to the fuel building. The only viable air leakage path is the containment air lock. Periodic testing of the air lock has shown an actual leakage of approximately one-fourth of the limit, resulting in additional conservatism in the offsite dose calculations.

There is no postulated accident which results in higher humidities in the fuel building. As a bounding event, outside of the design basis, a loss of both divisions of the spent fuel pool cooling system was evaluated. Assuming no heat transfer to the environment, the spent fuel pool temperature rises to less than 180 degrees F in 30 days. Since this temperature is less than the boiling point of water, there would be only a small increase in the contribution of the pool to humidities in the fuel building.

In the event that the humidity in the fuel building was to rise above 70 percent, the effect on charcoal filter performance was also investigated. As a means of bounding the present conditions, analysis

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TEXT (if more space is required, use additional NRC Form 266A's) (17)

was performed at an assumed zero percent efficiency (loss of filter). The fuel building portion of the LOCA analysis was calculated at this efficiency. The additional contributions to Exclusion Area Boundary 2 hour thyroid dose are less than 6 REM and the total dose remains less than the 10CFR100 limit of 300 REM. Therefore, it is concluded that there were no impact on the health and safety of the public.

Note: Energy Industry Identification System Codes are identified in the text as (*XX*).



GULF STATES UTILITIES COMPANY

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AREA CODE 504 635-6794 JLS 3007

September 26, 1988
RBG- 28883
File Nos. G9.5, G9.25.1.3

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

Gentlemen:

River Bend Station - Unit 1
Docket No. 50-458

Please find enclosed voluntary Licensee Event Report No. 88-020 for River Bend Station - Unit 1. This report is being submitted to provide information regarding a condition discovered on August 29, 1988.

Sincerely,

J. E. Booker

J. E. Booker *by RJE*
Manager-River Bend Oversight
River Bend Nuclear Group

RBG (for RBG)
JEB/TFP/PDG/BMB/ch

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