

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) RIVER BEND STATION										DOCKET NUMBER (2) 0 5 0 0 0 4 5 8 1					PAGE (3) 1 OF 0 5	
TITLE (4) Unsealed Fire Barrier Penetrations																
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(S)			
0 3	0 1	8 8	8 8	0 0 9	0 0	0 3	3 1	8 8					0 5 0 0 0			
			0 5 0 0 0													
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)														
1		20.402(h)				20.405(e)				50.73(a)(2)(iv)				73.71(b)		
POWER LEVEL (10)		20.405(a)(1)(i)				50.38(e)(1)				50.73(a)(2)(v)				73.71(c)		
1 0 0		20.405(a)(1)(ii)				50.38(e)(2)				50.73(a)(2)(vi)				OTHER (Specify in Abstract below and in Text, NRC Form 365A)		
		20.405(a)(1)(iii)				X 50.73(a)(2)(ii)				50.73(a)(2)(vii)(A)						
		20.405(a)(1)(iv)				50.73(a)(2)(ix)				50.73(a)(2)(vii)(B)						
		20.405(a)(1)(v)				50.73(a)(2)(iii)				50.73(a)(2)(x)						
LICENSEE CONTACT FOR THIS LER (12)																
NAME L. A. England - Director-Nuclear Licensing										TELEPHONE NUMBER 5 0 4 3 8 1 - 4 1 4 5						
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)										EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR		
X YES (If yes, complete EXPECTED SUBMISSION DATE)										NO		0 4	3 0	8 8		

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

At 1000 hours on 3/1/88 with the unit at 100 percent power (operating condition 1), an unsealed penetration was discovered in a control building fire wall on the 70' elevation. A second unsealed penetration was discovered in the 98' elevation of the diesel generator building at 0830 hours on 3/11/88. On 3/17/88 at 1100, an unsealed penetration and an uncoated steel beam (forming part of a fire barrier assembly) was discovered in an auxiliary building fire wall in the "D" tunnel on the 70' elevation. On 3/24/88 at 1630, inadequately sealed penetrations between the auxiliary building and the reactor building annulus were discovered. A fire watch was in effect for the first three areas at the time of discovery. For the inoperative fire seal penetrations discovered on 3/24/88, a fire watch was established at the time of discovery satisfying the action statement in Technical Specification 3/4.7.7.

The penetrations were found during installation of security communications cable for a plant modification. The opening in the control building was in the wall between cable area C and HVAC room 1A. The unsealed diesel generator penetration was in the wall between the high pressure core spray (HPCS) diesel and division II diesel control rooms. Neither penetration had been previously sealed. No adverse safety consequences were identified due to the diesel generator and control building unsealed penetrations. In the cases of the control building and diesel generator building, redundant equipment was determined by analysis to be unaffected by a postulated fire in adjacent areas. Analysis is continuing on other reported unsealed penetrations.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) RIVER BEND STATION	DOCKET NUMBER (2) 0 5 0 0 0 4 5 8	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8/8	01019	010	012	OF	015

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

REPORTED CONDITION

At 1000 hours on 3/1/88, with the unit at full power in operating condition 1, Gulf States Utilities (GSU) Quality Control personnel found an unsealed penetration (*PEN*) in a control building fire wall.

At 0830 hours on 3/11/88, Quality Control personnel reported finding another unsealed conduit penetration in the fire wall between the 1E22*ENG001 high pressure core spray (HPCS) (*BG*) diesel (*DG*) and 1EGS*EG1B (division II) diesel control rooms.

On 3/17/88 at 1100 an unsealed penetration and an uncoated steel beam (forming part of a fire barrier assembly) was discovered in an auxiliary building (*NF*) fire wall in the "D" tunnel on the 70' elevation.

On 3/24/88 at 1630, inadequately sealed penetrations between the auxiliary building and the reactor building (*NG*) annulus were discovered.

Technical Specification 3/4.7.7 requires all sealing devices in fire rated assembly penetrations be operable at all times.

A fire watch for the first three areas was in effect at the time the unsealed penetrations were discovered. For the penetrations found on 3/24/88, a fire watch was established at the time of discovery, satisfying the action statement in Technical Specification Section 3/4.7.7.

EVALUATION AND INITIAL CORRECTIVE ACTION

The opening in the control building (*NA*) fire wall was discovered during repair of a nearby penetration, breached under Modification Request (MR) 87-0414. Personnel performing the repair noted the opening and informed GSU Quality Control. The opening is at El. 91 feet - 6 inches, 7 feet - 4 inches west of CA-line, in the wall 1 foot - 3 inches south of 2-line. This wall separates cable (*CBL*) area C from HVAC (*VI*) room 1A. The opening itself is approximately 8 inches in diameter with a 3 inch fire protection line passing through the opening.

The opening between the HPCS and division II diesel control rooms was discovered during installation of coaxial cable in nearby penetration 1WS913N13 also per MR 87-0414. Inspection of this penetration noted the absence of fire seal (*SEAL*) material in penetration 1WS911N11, approximately 20 inches west at the same elevation. Maintenance Work Order (MWO) 116710 and a Limiting Condition of Operation (LCO) were initiated and entered into the LCO to track sealing of the open penetration.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/88

FACILITY NAME (1) RIVER BEND STATION	DOCKET NUMBER (2) 0 5 0 0 0 4 5 8	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 8	— 0 0 9	— 0 0	0 3	OF	0 5

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

Concerning the inoperative penetrations discovered on 3/24/88, immediate corrective action consisted of verifying annulus pressure was within required limits and installing temporary sealing in the identified inoperative penetrations.

Concerning the unsealed penetration discovered in the auxiliary building in the "D" tunnel fire wall, further analysis and evaluation is on going. The results will be supplied in a supplement to this report by 4/30/88.

Fire watches will continue as required until each identified unsealed penetration has been sealed.

FURTHER INVESTIGATION AND CORRECTIVE ACTION

A stainless steel sleeve (*SLV*) was found around the pipe in the penetration in the control building fire wall, an adhesive sealant had been used to seal the annular space between the pipe and sleeve. A subcontractor work tag was found attached to the wall nearby. Review of design documents shows this penetration was created under Engineering and Design Coordination Report (E&DCR) C-14461A to allow passage of the AS-6C sprinkler system line. The E&DCR requires a 4 inch diameter sleeve. No reseal instructions or penetration number was provided. By inspection of the design documents and the as found condition, it is apparent construction crafts exposed the first rebar layer to allow an opening to be chipped in the wall without rebar damage. The penetration was made, the pipe was put in place, and the subcontractor installed a sleeve and a fire seal. Repair of the wall was never addressed, and each contractor assumed the other would repair the wall. The penetration has been open since the conclusion of construction. The opening will be grouted in accordance with Specification 210.370, the site specification for concrete installation.

Penetration 1WS911N11 between the HPCS diesel generator control room and the division II diesel generator control room was installed by E&DCR C26,873. The 2-inch diameter sleeve contains a 1 and 1/2-inch diameter communications conduit (*CND*). Review of subcontractor records show that this penetration was shown as a spare, with no seal required. Remaining penetrations in this fire wall are shown as receiving fire-rated seals. Inspection results of all penetrations installed under E&DCR C26,873 (11 total) show the remainder have fire seals installed. There is no apparent explanation for the absence of the required fire seal at this penetration, except for human error.

Due to ongoing evaluations and the assessment of implementing a program of corrective action, at this time, GSU will later provide details of the corrective action program in a supplement report by 4/30/88.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO 3150-0104

EXPIRES: 8/31/88

FACILITY NAME (1) RIVER BEND STATION	DOCKET NUMBER (2) 0500045888	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			

TEXT (If more space is required, use additional NRC Form 365A's) (17)

A review of previously submitted LERs from River Bend Station revealed a similar condition of two unsealed penetrations in cubicle 'B' for the spent fuel pooling cooling (*DA*) pump (*P*) reported in LER 87-021. These penetrations were not in a "typical" wall. The penetration seal contractor, utilizing "typical" penetration drawings, was unaware of them and failed to seal them.

River Bend Station's LER 86-038 reported a similar condition of omitted fire seals. These were the result of the proper deletion of the radiation sealing requirements causing the sealing contractor to additionally delete the fire sealing requirements. Fifty-six additional unsealed conduits were sealed as a result of corrective action reported in LER 86-038.

An earlier report, LER 86-036, described improperly installed "one-shot" conduit seals. These "one-shot" seals were not installed per configurations that were fire tested by the installation subcontractor.

The above mentioned similarly reported LERs will be reviewed for applicability to the corrective action program for the condition reported here.

SAFETY CONSEQUENCES

The first opening found is in the wall separating control building fire areas C-4 and C-5. Area C-4 contains unit coolers (*AHU*) 1HVC*ACU2A and 1HVC*ACU2B while area C-5 contains divisional and non divisional cable in cable tray (*TY*). Both areas have fire detection and suppression installed, a water spray (deluge) system in area C-5 and a wet pipe automatic sprinkler system in area C-4. The 'A' and 'B' unit coolers serve the standby switchgear rooms and cable chase areas and each is sized for 100 percent of the required capacity. The redundant unit coolers are further protected from fire damage by a one hour firewall between the A and B divisions. The open penetration is in the area occupied by 1HVC*ACU2B. The fire load presented by the unit coolers is negligible, so a fire in the area of 1HVC*ACU2B would have no effect on the cabling in fire area C-5.

A fire in area C-5 could admit smoke and hot gases to the area around unit cooler 1HVC*ACU2B. Deluge system actuation in area C-5 would greatly limit any heat or combustion products, and smoke alone would not be sufficient to disable the unit cooler. Conservatively assuming 1HVC*ACU2B was lost due to the effects of a fire in area C-5, the redundant unit cooler 1HVC*ACU2A would be available if required.

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FACILITY NAME (1) RIVER BEND STATION	DOCKET NUMBER (2) 0 5 0 0 0 4 5 8 8 8 - 0 0 9 - 0 0	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
					0 5	OF	0 5

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

Concerning the second reported penetration, the major fire hazard in the diesel generator area is the diesel fuel and lubricating oil present in and around the engine. A fire in either of the affected diesel rooms would be of the same intensity (approximately a 45 minute fire). Fire detection is installed in the diesel rooms for actuation of the preaction sprinkler system and in the control rooms for alarm only.

Curbs are provided along the DE-line door openings for fuel oil spill retention.

A diesel generator control room fire alone would be insufficient to cause any significant heat or buildup of combustion products to communicate to the adjacent control room. A fire occurring in the diesel room would cause large amounts of heat and smoke, however the location of this opening in relation to the postulated fire and the relative size (1/4 inch annulus) indicate no detrimental effect would be seen in the adjacent control room. Smoke and heat from a diesel fire would emerge from the fresh air vents on the east side of the building and from roof penetrations, which are not fire rated. The small amount of smoke introduced into the adjacent area from this penetration would be far less than that which would occur during manual firefighting activities such as opening doors, laying hose, and ventilating. There is no effect on safety due to either penetration. Redundant equipment in the control and diesel generating building would be unaffected by fires in adjacent areas. The ability to safely shut down the unit was not compromised. No fires have occurred in the plant. There has been no adverse effect to the health and safety of the public as a result of these unsealed penetrations.

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



GULF STATES UTILITIES COMPANY

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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 Licensee Event Report No. 88-009 for River Bend Station - Unit 1. This report is being submitted pursuant to 10CFR50.73.

Sincerely,

J. E. Booker
by RJK

J. E. Booker
Manager-River Bend Oversight
River Bend Nuclear Group

DED
JEB/TFP/AOF/BRS/es

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11