GULF STATES UTILITIES COMPANY

RIVER BEND STATION POST OFFICE BOX 220 ST. FRANCISVILLE, LOUISIANA 70775

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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 Supplement 3 to Licensee Event Report No. 90-032 for River Bend Station - Unit 1. This supplemental report is submitted to provide the final disposition of GSU's evaluation of the Engineering/Maintenance Planning responsibility and interface.

Sincerely,

W. H. Odell
Manager - Oversight
River Bend Nuclear Group

IAE/PDG/GAB/DEJ/JPM/DCH/pj

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NRC FORM 366 (6-89)

U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

APPROVED OMB NO. 3150-0104
EXPIRES 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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

TITLE (4)
RWCU ISOLATION DURING MODIFICATIONS TO POWER SUPPLY WIRING IN A CONTROL ROOM PANEL

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)
1 1	0 4	9 0	9 0	— 0 3 3	— 0 3	0 7	0 1	9 1		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0	20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	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	TELEPHONE NUMBER
	AREA CODE
L. A. England, Director - Nuclear Licensing	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 NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

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

On 11/04/90 at 1140 with the unit in Operational Condition 5 (Refueling), an isolation of the reactor water cleanup system (RWCU) occurred. The isolation occurred while performing plant modifications to power supply wiring in control room panel 1H13-P642. The power supply circuit in this panel provides power to several systems including the leak detection system (LDS) and the RWCU system and is daisy-chained from one component to another. The modification involved de-terminating and re-terminating power supply leads on several LDS components, and when the first de-termination was made, power was lost to the RWCU system through the daisy-chain. Since the safety related components of the RWCU system fail to a safe position upon a loss of power, an isolation resulted. This isolation constitutes an engineered safety feature (ESF) actuation; therefore, this event is reportable pursuant to 10CFR50.73(a)(2)(iv).

The RWCU isolation occurred as designed and was restored following re-termination of the lead. Therefore, this event did not adversely affect the health and safety of the public. At the direction of the Plant Manager, a task force has been formed to establish a program to resolve engineering/maintenance planning interface issues. The task force has completed its recommendations. These recommendations have been approved by management and are being implemented.

REPORTED CONDITION

On 11/04/90 at 1140 with the unit in Operational Condition 5 (Refueling), an isolation of the reactor water cleanup system (RWCU) (*CE*) occurred. The isolation occurred while performing plant modifications to power supply wiring in control room panel (*PL*) 1H13-P642. The power supply circuit in this panel provides power to several systems including the leak detection system (LDS) and the RWCU system (*CE*) and is daisy-chained from one component to another. The modification involved de-terminating and re-terminating power supply leads on several LDS components, and when the first de-termination was made, power was lost to the RWCU system through the daisy-chain. Since the safety related components of the RWCU system fail to a safe position upon a loss of power, an isolation resulted. This isolation constitutes an engineered safety feature (ESF) actuation; therefore, this event is reportable pursuant to 10CFR50.73(a)(2)(iv).

INVESTIGATION

Modification Request (MR) 87-0837, field change notice (FCN) 1 required the addition/deletion of various wiring terminations in 1H13*PNLP642 (*PL*) to replace the existing leak detection system drywell unit cooler condensate leak-off line flow transmitter instrumentation loop. During the performance of this work, the work instructions provided in FCN 1 required that one of two wires currently terminated on fuse 1E31A-F78-1 be removed and another wire added. When the terminal screw was removed at this termination point, control power for all downstream instrument loops was lost which caused an RWCU isolation due to power failure. These instrument loops are designed to fail safe on a loss of control power.

The work instructions given in MR 87-0837 FCN 1 provide a complete list of steps necessary to accomplish the wiring changes shown within the MR. However, precautionary steps were not provided to warn of potential isolations associated with the addition/deletion of power supply wiring.

A review of previous reports has identified two similar events. LER 89-016 reported isolations of valves (*ISV*) 1DER*AOV126 and 1DFR*AOV101 during a modification in panel (*PL*) 1H13*P852. An engineering analysis completed prior to the implementation of the modification(to install an emergency operating procedure actuation switch) did not reveal the potential for relay 3B-2-1ISCB04 to react before relay 3B-1ISCB04 when the AC daisy chain neutral for the Division II BOP loss of coolant accident (LOCA) initiation circuit was re-established. LER 90-035 reported a loss of shutdown cooling when a cable (*CBL3*) was disconnected from control room panel (*PL*) 1H13-P692. The system engineer prepared a cable-effects list for a

modification. This was caused by the system engineer not recognizing that the removal of the cable would result in the isolation of valve 1E12*MOVF009.

CORRECTIVE ACTION

At the time of the isolation, the Shift Supervisor ordered the maintenance personnel to re-terminate the power supply lead. With power restored, the Shift Supervisor reset the isolation signal and the RWCU (*CE*) system was returned to operation.

Design Engineering implemented specific precautionary steps directly into the field work instructions of the modification package to prevent additional occurrences. These additional work instructions were then incorporated into the maintenance job plan.

GSU has concluded its evaluation of the engineering/maintenance planning responsibility and interface to identify corrective actions designed to reduce the potential for similar events. At the direction of the Plant Manager, a task force comprised of representatives from System Engineering, Maintenance Planning, Design Engineering and Operations was established. The purpose of this task force was to establish a program for in-line review of modification requests prior to release for field work in order to prevent ESF actuations, operability problems and construction problems. Based on the task force investigation, the root cause of this event was that no program existed to identify potential ESF actuations in conjunction with the processing of MRs. Design Engineering's procedures contained no requirements for this review. The typical practice by Maintenance Planning was to incorporate work scope instructions, developed by Design Engineering as part of the MR, directly into a maintenance work order (MWO) without a review for potential ESF actuations.

The corrective actions for this condition recommended by the task force are as follows:

1) Revision of the MR procedure (ENG-3-006) to require the design engineer to provide precautionary statements in the MR to advise the maintenance planner of potential ESF actuations.

2) A post-design review meeting to be conducted for appropriate MRs. These meetings would typically be comprised of representatives from DE, Operations, Maintenance Planning, Materials, and System Engineering. These meetings will provide a forum in which potential ESF actuations, operability issues, and constructibility issues can be identified. In general, these meetings will

be conducted at the discretion of the responsible Design Engineering Supervisor.

3) For those MRs in which a potential ESF actuation has been identified, either by DE or others during the post-design review meeting, an independent review of the MWO work plan by a system engineer will be required prior to implementation of the MR.

GSU is committed to preventing unanticipated ESF actuations as a part of the plant modification process. The task force recommendations have been approved by management and are being implemented.

SAFETY ASSESSMENT

The RWCU isolation occurred as designed and was restored following re-termination of the lead. Therefore, this event did not adversely affect the health and safety of the public.

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