



ENTERGY

Entergy Operations, Inc.  
River Bend Station  
PO Box 220  
St. Francisville, LA 70775

July 5, 1994

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

Subject: River Bend Station - Unit 1  
Docket No. 50-458  
License No. NPF-47  
Licensee Event Report 50-458/94-014-00  
File Nos.: G9.5, G9.25.1.3

RBG-40692

Gentlemen:

In accordance with 10CFR50.73, enclosed is a Licensee Event Report.

Very truly yours,

James J. Fisicaro  
Director - Nuclear Safety

JJF/dch  
enclosure

9407110153 940705  
PDR ADDCK 05000458  
S PDR

LE 22  
11

Licensee Event Report 94-014-00

July 5, 1994

RBG-40692

Page 2 of 2

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

NRC Sr. Resident Inspector  
P.O. Box 1051  
St. Francisville, LA 70775

INPO Records Center  
700 Galleria Parkway  
Atlanta, GA 30339-3064

Mr. C.R. Oberg  
Public Utility Commission of Texas  
7800 Shoal Creek Blvd., Suite 400 North  
Austin, TX 78757

Louisiana Department of Environmental Quality  
Radiation Protection Division  
P.O. Box 82135  
Baton Rouge, LA 70884-2135  
ATTN: Administrator

NRC FORM 366 (5-82)		U.S. NUCLEAR REGULATORY COMMISSION				APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95				
<b>LICENSEE EVENT REPORT (LER)</b>						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 (MNB 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) <b>River Bend Station</b>						DOCKET NUMBER (2) <b>05000-458</b>		PAGE (3) <b>1 of 4</b>		
TITLE (4) Actuation of Multiple Division I Containment Isolation Valves Due to Inadequate Review of a Job Plan Change										
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 NAME	DOCKET NUMBER
06	02	94	94	--014--	00	07	05	94	N/A	05000
									FACILITY NAME	DOCKET NUMBER
									N/A	05000
OPERATING MODE (9)		5		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more (11))						
				20.402(b)		20.405(c)		<input checked="" type="checkbox"/> 50.73(a)(2)(iv)		73.71(b)
POWER LEVEL (10)		0		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
				20.405(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		(Specify in abstract below and in text: NRC Form 366A)
				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 <b>Timothy W. Gates, Supervisor - Nuclear Licensing</b>						TELEPHONE NUMBER (Include Area Code) <b>504-381-4866</b>				
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)										
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs	
SUPPLEMENTAL REPORT EXPECTED (14)						EXPECTED		MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)		<input checked="" type="checkbox"/> NO				SUBMISSION DATE (15)				
<b>ABSTRACT</b> (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)										
<p>On June 2, 1994 at 1705, with the plant in Operational Condition 5 (Refueling), a division I balance of plant (BOP) containment isolation signal was generated during replacement of the base of a relay. This resulted in closure of several containment isolation valves in various systems.</p> <p>The root cause of this event was inattention to detail by the electrical discipline technical specialist in that the risk and consequences of a change to the job plan were not adequately reviewed and assessed. The electrical discipline technical specialist was counseled in a meeting with his supervision and the general manager - plant operations.</p> <p>In accordance with Abnormal Operating Procedure, AOP - 0003, "Automatic Isolations," operations personnel confirmed that the plant responded properly to the ESF signal and each isolation occurred as expected. Therefore, this event did not compromise the health and safety of the public or plant personnel.</p>										

NRC FORM 368A (5-92)	U.S. NUCLEAR REGULATORY COMMISSION	APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95	
<p align="center"><b>LICENSEE EVENT REPORT (LER)</b> <b>TEXT CONTINUATION</b></p>		<p>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 (MNRB) 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.</p>	
		FACILITY NAME (1) <b>River Bend Station</b>	DOCKET NUMBER (2) <b>05000-458</b>

TEXT (If more space is required, use additional copies of NRC Form 368A) (17)

### Reported Condition

On June 2, 1994 at 1705, with the plant in Operational Condition 5 (Refueling), a division I balance of plant (BOP) containment isolation signal was generated during replacement of the base of a relay. This resulted in closure of several containment isolation valves in various systems. Therefore, this event constitutes an engineered safety feature (ESF) actuation and is reported pursuant to 10CFR50.73(a)(2)(iv).

### Investigation

During replacement of relay 1B21H\*K163, as part of the Agastat relay replacement effort at River Bend Station, a problem with the relay base was discovered. The relay is located in the reactor water cleanup system (\*CE\*) isolation circuitry in control room panel 1H13-P623. Pins located in the base were found to have moved down inside the base, making it impossible for the relay to be properly installed. The relay replacement work was performed under an equipment qualification preventive maintenance task (EQPM). Following the discovery that the base required replacement, the work package was returned to the technical specialist assigned to the relay replacement. This technical specialist is very familiar with Agastat relay replacement work and the circuitry in the control room back panels. However, he did not identify the common, or daisy chain, neutral which led to the ESF actuation.

Following revision of the work package, the technical specialist should have obtained a review of the work package by system engineering. This conclusion is based on Maintenance Section Procedure, MSP - 0003, "Preventive Maintenance Program," and Administrative Procedure, ADM - 028, "Maintenance Work Order." In addition, the shift superintendent was not notified to authorize start of the rework, which was also required by procedure.

The job plan required determining a lead at terminal B4. When this was done, it resulted in breaking a daisy chain neutral for 14 relays, 4 status lights, and 4 meters. All of this equipment is located in control room panel 1H13-P623. De-energization of the affected equipment generated a division I BOP containment isolation signal which resulted in isolations in the condensate transfer system (\*KA\*), fire protection water system (\*KP\*), service air system (\*LF\*), instrument air system (\*LF\*), spent fuel pool cooling system (\*DA\*), reactor plant component cooling water system (\*CC\*), and reactor recirculation system (\*AD\*) hydraulic lines. In addition, tripping of two supply breakers (\*52\*) for non-safety related equipment powered from 480VAC emergency switchgear occurred.

NRC FORM 366A (5-92)	U.S. NUCLEAR REGULATORY COMMISSION	APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95	
<p align="center"><b>LICENSEE EVENT REPORT (LER)</b> <b>TEXT CONTINUATION</b></p>		<small>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 (MNB 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.</small>	
		FACILITY NAME (1) <b>River Bend Station</b>	DOCKET NUMBER (2) <b>05000-458</b>

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

### Root Cause

The root cause of this event was inattention to detail by the electrical discipline technical specialist. This technical specialist is very familiar with Agastat relay replacement work and has been the leader of the Agastat relay replacement project for the last seven months. However, in this particular case, he did not adequately review and assess the risk and consequences of the change to the job plan. A contributing factor was the technical specialist did not obtain system engineering review of the work package.

A review of previous LERs involving ESF actuations due to inadequate reviews was conducted for LERs since 1992. This revealed similarities in LERs 93-010, 93-016, and 93-017. Corrective actions for these events included procedure changes, training for workers, and emphasizing management policies and expectations.

### Corrective Action

- The electrical discipline technical specialist was counseled in a meeting with his supervision and the general manager - plant operations.
- Briefings for maintenance management personnel are being conducted to emphasize the importance of obtaining appropriate cross-disciplinary reviews during corrective rework under a preventive maintenance (PM) work order. Because performing corrective rework under a PM work order is a new process, briefings will review and emphasize the requirements of this process pursuant to MSP-0003, "Preventive Maintenance Program." These briefings will be completed by July 11, 1994.
- The long-term performance improvement plan includes an initiative to address human performance effectiveness. The objectives of this program are improvement in the River Bend Station human performance enhancement system (HPES), development of a human performance database, and improvement in the effectiveness of the self-checking program. Details of this program are provided in Section 13 of the LTPIP, submitted to the NRC on March 28, 1994 (RBG-40428).

NRC FORM 366A (b-92)	U.S. NUCLEAR REGULATORY COMMISSION	APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95	
<p align="center"><b>LICENSEE EVENT REPORT (LER)</b> <b>TEXT CONTINUATION</b></p>		<p>ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50 D HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (INRB 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.</p>	
		FACILITY NAME (1) RBS Bend station	DOCKET NUMBER (2) 05000-458

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

- The efforts to address ESF actuations at RBS contain the following elements:
  - Before refueling outage 5 (RF-5), RBS performed a risk evaluation to study previous ESFs involving losses of shutdown cooling. This effort has contributed to limiting the challenges to shutdown cooling during RF-5.
  - During the course of RF-5, RBS initiated a limited study to review other types of outage-related ESF actuations that occurred during previous refueling outages. This study compared ESF actuations occurring in previous outages with those that had occurred in RF-5 through June 2, 1994. Engineered safety feature actuations for RF-5 included in this study are documented in LERs 94-007, 94-011, 94-013, and 94-014. The objective of this review was to identify commonalities between RF-5 events and previous events. Recommendations to reduce the potential for future outage-related ESF actuations were developed.
  - The scope of this review will be expanded to include ESF actuations occurring during operating conditions as well as outage-related ESF actuations. This evaluation will be completed by October 31, 1994.
  - Plant maintenance is establishing a multi-disciplinary team to evaluate practices and processes which will apply to all surveillances and maintenance work. The goal of the team will be to identify improvements to reduce testing errors and thus, ESF actuations. Improvements in the area of work practices, testing methods, and plant testability will be considered. In addition, this team will establish an improved process for providing test jacks on terminals to facilitate periodic testing.

### **SAFETY ASSESSMENT**

In accordance with Abnormal Operating Procedure, AOP - 0003, "Automatic Isolations," operations personnel confirmed that the plant responded properly to the ESF signal and each isolation occurred as expected. Therefore, this event did not compromise the health and safety of the public or plant personnel.

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