



Entergy Operations, Inc.
River Bend Station
5485 U.S. Highway 61
PO. Box 220
St. Francisville, LA 70775
(504) 336-6225
FAX (504) 635-5068

JAMES J. FISICARO
Director
Nuclear Safety

October 10, 1994

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

SUBJECT: River Bend Station - Unit 1
Docket No. 50-458
License No. NPF-47
Licensee Event Report 50-458/94-025-00
File Nos. G9.5, G9.25.1.3

RBG-40944
RBF1-94-0073

Gentlemen:

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

Sincerely,

JJF/kvm
Enclosure

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PDR ADOCK 05000458
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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				
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) ADS VALVE INOPERABLE BECAUSE FIRE WRAP NOT REPLACED AFTER MAINTENANCE										
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
09	10	94	94	025	00	10	10	94	N/A	05000
									N/A	05000
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more (11))								
4		20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)		
POWER LEVEL (10)		20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)		
000		20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		OTHER		
		20.405(a)(1)(iii)		X 50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		(Specify in ab- text, NRC For elow and in)		
		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 T.W. Gates, Supervisor - Nuclear Licensing						TELEPHONE NUMBER (Include Area Code) 504-381-4866				
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 15 single-spaced typewritten lines) (16)										
<p>On September 10, 1994, plant personnel performing a walk-down of all main steam safety relief valve solenoid connections noted that the divisional power cables for the redundant solenoids associated with one Automatic Depressurization System valve were not properly wrapped to meet the requirements of Regulatory Guide 1.75. The plant was Operational Condition 4 (Cold Shutdown) at the time of discovery.</p> <p>An investigation revealed that the cable wrapping had been removed during the fourth refueling outage as part of a troubleshooting maintenance work order (MWO) which was issued to confirm the existence of an apparent faulty cable connector. In anticipation of this finding, the troubleshooting MWO was issued with partial instructions regarding connector replacement. However, the planning group intended to revise the MWO and provide complete rework instructions once the troubleshooting had confirmed the discrepancy. This intention was not clearly communicated in the troubleshooting MWO and the technician in the field corrected the discrepancy using the partial work instructions without obtaining a revision to the MWO. The partial rework instructions in the troubleshooting MWO did not include appropriate steps to ensure that separation criteria would be maintained.</p> <p>Wrapping was successfully placed on the valve cables on September 18, 1994. Subsequent to refueling outage 4, a procedure was issued to control troubleshooting activities. Additionally, an evaluation of maintenance procedures/processes will be performed and enhancements made to the program as necessary. The condition did not significantly compromise the safety of the plant because sufficient ADS valves remained operable to satisfy system demands.</p>										

RC FORM 366A (5-92)	U.S. NUCLEAR REGULATORY COMMISSION	APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95	
<p align="center">LICENSEE EVENT REPORT (LER) TEXT CONTINUATION</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 (NBB 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) River Bend Station		DOCKET NUMBER (2) 05000-458	LER NUMBER (5) 94-025
		PAGE (3) 2 OF 4	

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

REPORTED CONDITION

During an inspection to verify as-built configuration of the main steam relief valves solenoid connections, plant personnel identified that the solenoid connections for automatic depressurization system (ADS) valve 1B21*RVF041D were not wrapped as required to meet requirements specified by Regulatory Guide (RG) 1.75. This condition resulted in the valve being in a nonconforming condition during cycle 5. This condition is being reported pursuant to 10CFR50.73(a)(2)(i)(B) as operation prohibited by Technical Specifications.

INVESTIGATION

On September 10, 1994 plant personnel were performing a walk-down of all main steam safety relief valve solenoid connections. During the investigation, personnel noted that the divisional power cables for the redundant solenoids associated with 1B21*RVF041D were not properly wrapped to meet the requirements of RG 1.75. The plant was Operational Condition 4 (Cold Shutdown) at the time of discovery.

Based on the ensuing investigation, personnel determined that the required wrapping had been removed in accordance with a maintenance work order (MWO) and had not been reinstalled. An extensive review of maintenance that had been performed on 1B21*RVF041D revealed that during refueling outage (RF) 4, MWO R147182 was issued to replace F041D.

The subject valve was replaced as instructed in the MWO, an activity which did not require removal of the cable wrap. During the subsequent retest, the valve failed to operate properly and a revision to the existing MWO was issued to troubleshoot the valve malfunction. Anticipating a faulty cable connector, the troubleshooting MWO was issued with partial instructions regarding connector replacement. Eventually, the troubleshooting confirmed that the malfunction was the result of a faulty connector. Ultimately, the connector was replaced under the troubleshooting MWO despite the fact that complete instructions for the replacement work were not included in the package because the MWO did not address removal or installation of the cable wrap material.

Interviews with maintenance planners indicated that the intent was that the package be returned to the planning group for further revision once the cause of the malfunction was identified. However, this could not be clearly deduced from the step sequence in the MWO. As a result, the technician did not return the MWO prior to reworking the faulty connectors. Although the individual that performed the work was not available for comment, it appears that the technician presumed that the MWO would not require further revision since instructions for connector replacement were available in the work package.

The investigation also identified two other MWOs that were originally specified for SRV replacement during RF 4 that were revised to incorporate troubleshooting instructions. In each case, the connectors for the associated solenoids were replaced. However, only the F041D valve cables did not have the required wrapping.

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Further review of similar MWOs which were performed during RF 3 and RF 5 revealed that the wording for the particular step which required the work package to be returned to planning was not the same as the packages issued during RF 4. During RF 3 and 5 the work packages were returned to planning and an additional revisions were issued for the specific connector replacement. In the revisions, specifics steps were incorporated to maintain separation requirements.

The original RF 4 MWO did address separation requirements; however, the subsequent troubleshooting revision did not reference these requirements since it was not intended to perform the actual rework of malfunctioning components.

The subject cables were successfully wrapped to meet the requirements of RG 1.75 on September 18, 1994.

ROOT CAUSE

The lack of a specific revision for the connector replacement resulted in deficient MWO steps to maintain separation requirements. The MWO revision was only intended for troubleshooting activities. A particular step in the MWO required the work order to be returned to planning if additional work was required. However, due to connector replacement instructions being a part of the revision, the responsible technician apparently did not feel that an additional revision was required to perform the rework. The specific step in the MWO that required the package to be returned was generic in nature and was subject to broad interpretation. This step led to the technician completing the work and not returning the work package to planning for the appropriate revision.

The involved technician reworked connectors for two SRV's. The rework activity for the F041G was successfully completed and met the appropriate separation requirements. However, the work performed on F041D did not meet the above requirements. Review of work activities which occurred prior to RF 4 indicated that cable wrapping was installed on F041D. Therefore it is concluded that the technician removed the wrapping and did not replace it due to inattention to detail. This is a contributing factor to this incident.

CORRECTIVE ACTIONS

Subsequent to RF 4 a plant administrative procedure was developed and issued to control troubleshooting activities. This procedure provides guidance regarding proper implementation of troubleshooting activities.

Corrective Maintenance Procedure (CMP) -9144 will be revised to incorporate all steps necessary to perform corrective maintenance on the solenoid operated valves associated with the ADS, including steps necessary to check the cable connectors and confirm the proper installation of the cable fire wrap.

An evaluation of the maintenance planning process will be performed and enhancements implemented as appropriate.

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Finally, the condition report associated with this event will be reviewed by all maintenance planners.

SAFETY ASSESSMENT

ADS is designed to be a back-up system for the high pressure core spray system (*BG*). In the event HPCS fails to maintain vessel inventory during a loss of vessel inventory accident, ADS depressurizes the vessel to allow low pressure emergency core cooling systems to perform their intended functions. A single failure in one ADS valve results in only a small increase in the calculated peak centerline temperature following a small break loss of coolant accident (LOCA) and has no effect on a large break LOCA. The potential failure of ADS valve FO41D is bounded by the River Bend Station accident analyses which assume one ADS valve failure in addition to the most limiting single failure. As a result, this condition did not significantly compromise the health and safety of the public or plant personnel.

SIMILAR EVENTS

None.

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