



Entergy Operations, Inc.  
River Bend Station  
5485 U.S. Highway 61N  
St. Francisville, LA 70775  
Tel 225 381 4157  
Fax 225 635 5068  
dlorfin@entergy.com

David N. Lorfing  
Manager-Licensing

November 4, 2005

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555

Subject: River Bend Station – Unit 1  
Docket No. 50-458  
License No. NPF-47  
Licensee Event Report 50-458 / 05-003-00

File Nos. G9.5, G9.25.1.3

RBG-46491  
RBF1-05-0186

Ladies and Gentlemen:

In accordance with 10CFR50.73, enclosed is the subject Licensee Event Report.  
This document contains no commitments.

Sincerely,

  
David N. Lorfing  
Manager – Licensing

DNL/dhw  
Enclosure

IE22

Licensee Event Report 50-458 / 05-003-00  
November 4, 2005  
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cc: U. S. Nuclear Regulatory Commission  
Region IV  
611 Ryan Plaza Drive, Suite 400  
Arlington, TX 76011

NRC Sr. Resident Inspector  
P. O. Box 1050  
St. Francisville, LA 70775

INPO Records Center  
E-Mail

Mr. Jim Calloway  
Public Utility Commission of Texas  
1701 N. Congress Ave.  
Austin, TX 78711-3326

Mr. Ronnie Wascom  
Louisiana Department of Environmental Quality  
Office of Environmental Compliance  
P.O. Box 4312  
Baton Rouge, LA 70821-4312

## LICENSEE EVENT REPORT (LER)

(See reverse for required number of  
digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to [infocollects@nrc.gov](mailto:infocollects@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. FACILITY NAME River Bend Station, Unit 1	2. DOCKET NUMBER 05000 458	3. PAGE 1 of 4
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4. TITLE Operation Prohibited by Technical Specifications Due to Diesel Generator Malfunction
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5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
09	09	2005	2005	- 003 -	00	11	04	2005		05000
									FACILITY NAME	DOCKET NUMBER
										05000

9. OPERATING MODE  1	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: (Check all that apply)									
10. POWER LEVEL  100	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)						
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)						
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)						
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)						
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)						
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)						
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)						
	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER						
<input type="checkbox"/> 20.2203(a)(2)(vi)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A							

## 12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME David N. Lorfing, Manager – Licensing	TELEPHONE NUMBER (Include Area Code) 225-381-4157
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## 13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
A	EK	DG	TDI	Y					

## 14. SUPPLEMENTAL REPORT EXPECTED

☐ YES (If yes, complete 15. EXPECTED SUBMISSION DATE)☒ NO

## 15. EXPECTED SUBMISSION DATE

MONTH DAY YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On September 9, 2005, with the plant operating at 100 percent power, the results of an ongoing investigation concluded that the Division 1 emergency diesel generator had been inoperable for approximately 23 days during July 2005. This was due to a cracked tube in the engine jacket water cooling system that may have prevented the generator from fulfilling its safety function. River Bend Technical Specifications allow a maximum outage time of 14 days for the emergency diesel generator. This condition is being reported in accordance with 10CFR50.73(a)(2)(i)(b) as operations prohibited by Technical Specifications. The tubing was replaced on July 31, 2005, thus the condition no longer existed at the time of discovery.

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## REPORTED CONDITION

On July 8, 2005, a scheduled 24-hour test of the Division 1 diesel generator (DG) (\*\*DG\*\*) was nearing completion when a minor leak was identified at a compression fitting (\*\*TBG\*\*) in the jacket water cooling system. The leak was originally quantified at approximately one drop per second. A mechanic performed a tightness check on the fitting, but the leakage rate did not change. On July 31, 2005, the Division 1 DG was run in preparation for a planned maintenance inspection. The DG had been operating for approximately 2.5 hours when the jacket water tubing separated at the same fitting, causing a significant leak. The DG was quickly shut down in a controlled manner, and no high temperature condition occurred. The tubing was then disassembled and repaired using a new fitting.

On September 9, 2005, the results of the evaluation of the failed tubing fitting concluded that the as-found condition of the tubing on July 8 may have caused it to separate before the DG could complete its safety function under postulated accident conditions. Thus, the DG was inoperable for the period of July 8 - 31, or approximately 23 days. This exceeds the 14 day allowable outage time for the DG in River Bend Technical Specifications. This event is being reported in accordance with 10CFR50.73(a)(2)(i)(b) as operations prohibited by Technical Specifications.

## INVESTIGATION

The failed tubing was in the jacket water return path from the oil cooler on the engine governor. This section of half-inch diameter stainless steel tubing was installed with a compression fitting. The break occurred inside the nut and compression ferrule. This section of tubing had been fabricated on site at the time the DG was originally installed in approximately 1984.

This investigation determined that there was a pre-existing crack around approximately half the tubing circumference at the site of the failure. An examination of the crack determined that it had likely existed before the discovery of the minor leak on July 8. While it could not be determined how long the tubing had been cracked, no leakage had been observed prior to July 8. The final break of the tubing was a tension failure that allowed it to separate and come out of the compression fitting. The most probable cause of the failure was a combination of normal engine vibration and damage caused by over-tightening during past maintenance.

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Maintenance practices regarding repair of minor leaks on the DG had, in the past, allowed for simple tightening of the affected fitting. The investigation of this event has concluded that this practice likely led to over-tightening of the ferrule nut at some time prior to the discovery of the minor leak on July 8. The decision not to disassemble and repair the fitting on July 8 was based on inaccurate judgment on the part of the system engineer and the mechanic. It was concluded that this leak would behave like past minor leaks of this type, where a fitting continued to leak for an indefinite time, but retained integrity until corrected. It was not suspected that the tubing was cracked, or that it had a short remaining service life.

## CORRECTIVE ACTIONS

In 2003, a condition involving reassembly of oil piping on a reactor feed pump resulted in training for the mechanical maintenance staff on correction of leaks in compression fittings. This training is pertinent to the reported event, in that the tightness check that was performed on July 8 was in accordance with current maintenance guidelines. As described above, an examination of the failed tubing indicated that the circumferential crack had existed before discovery of the minor leak on July 8, and likely resulted from a combination of normal engine vibration and damage caused by over-tightening during past maintenance (prior to the 2003 maintenance training). Thus, no further corrective action is deemed necessary in this area.

An analysis of the causal factors for this event is being used to communicate lessons learned in the Engineering and Maintenance departments. This action is being tracked in the station's corrective action program.

## PREVIOUS OCCURRENCE EVALUATION

A review of prior reported leaks on the Division 1 and 2 DGs found that a damaged compression fitting was discovered and repaired in 2003. The investigation of that condition determined that the damage was caused during the maintenance period immediately preceding the discovery, due most likely to external contact with the tubing. This did not appear to be a case of progressive damage caused by over-tightening the fitting. Thus, this

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condition did not present an opportunity to prevent the failure of the jacket water tubing on July 31.

## SAFETY SIGNIFICANCE

During the period that the Division 1 DG was inoperable, the Division 2 DG remained in service (except for planned maintenance) to perform the safety function to provide a safety-related source of onsite emergency power. On three occasions, the Division 2 DG was removed from service briefly for scheduled surveillance tests. The duration of these three periods totaled 69 minutes. In each case, the DG was under the direct control of an operator implementing approved procedural guidance. Thus this event was of minimal safety significance.

(NOTE: Energy Industry Component Identification codes are annotated as (\*\*XX\*\*).)