



**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

October 11, 2007

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

Subject: Licensee Event Report 50-458 / 07-004-00  
River Bend Station – Unit 1  
Docket No. 50-458  
License No. NPF-47

File Nos. G9.5, G9.25.1.3

RBG-46749  
RBF1-07-0188

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

NRR

Licensee Event Report 50-458 / 07-004-00  
October 11, 2007  
RBG-46749  
RBF1-07-0188  
Page 2 of 2

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. Jeff Meyers  
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: 80 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, 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.

<b>1. FACILITY NAME</b> River Bend Station - Unit 1	<b>2. DOCKET NUMBER</b> 05000 -458	<b>3. PAGE</b> 1 OF 4
--	---------------------------------------	--------------------------

**4. TITLE**  
Emergency Diesel Generator Failed Surveillance Test Due to Paint on Fuel Injector Control Linkage

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
08	15	2007	2007	4	0	10	11	2007		05000
									FACILITY NAME	DOCKET NUMBER
										05000

<b>9. OPERATING MODE</b> 1	<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §:</b> (Check all that apply)										
	<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)							
<b>10. POWER LEVEL</b> 100	<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
--	--

**13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT**

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
E	EK	DG	(see text)	yes					

<b>14. SUPPLEMENTAL REPORT EXPECTED</b> <input type="radio"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="radio"/> NO	<b>15. EXPECTED SUBMISSION DATE</b> MONTH: _____ DAY: _____ YEAR: _____
--	--

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

On August 15, 2007, at 9:29 PM, the Division 2 emergency diesel generator (DG) was started for a scheduled surveillance test. The plant was operating at 100 percent power at the time of the test. One acceptance criterion for the test requires generator output frequency to be stabilized between 58.8 and 61.2 hertz within 10.0 seconds of the start signal. The DG failed to meet this criterion, taking 13.1 seconds to stabilize within the required frequency range. As the DG did not meet the acceptance criterion required by Technical Specifications, it was shut down and declared inoperable. An examination of the DG found that the fuel injector metering rods were fouled with paint overspray. This was caused by inadequate planning and controls of the painting in the DG room. It was determined that this condition had existed for approximately 4 months. Since this period exceeds the allowable outage time for the DG, this event is being reported in accordance with 10CFR50.73(a)(2)(i)(B) as operations prohibited by Technical Specifications. Analysis of tests performed in the interim period concluded that the DG was capable of controlling electrical load and reaching the test load range of 3000-3100 KW with paint on the fuel injection pump metering rods. There was no loss of safety function of the emergency electrical supply system as a result of this condition.

LICENSEE EVENT REPORT (LER)

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE	
River Bend Station – Unit 1	05000-458	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 4	
		2007	- 004	- 00		

REPORTED CONDITION

On August 15, 2007, at 9:29 PM, the Division 2 emergency diesel generator (DG) (\*\*DG\*\*) was started for a scheduled surveillance test. The plant was operating at 100 percent power at the time of the test. One acceptance criterion for the test requires generator output frequency to be stabilized between 58.8 and 61.2 hertz within 10.0 seconds of the start signal. The DG failed to meet this criterion, taking 13.1 seconds to stabilize within the required frequency range. As the DG did not meet the acceptance criterion required by Technical Specifications, it was shut down and declared inoperable.

The investigation of this event determined that the cause of the test failure had existed for approximately 4 months. Since this period exceeds the allowable outage time for the DG, this event is being reported in accordance with 10CFR50.73(a)(2)(i)(B) as operations prohibited by Technical Specifications.

INVESTIGATION and CAUSAL ANALYSIS

The Division 2 DG is a Transamerica Delaval Enterprise Type DSR 48, and is tested monthly. There are three types of tests – a slow start, a timed fast start, and a twenty-four hour test run for which the DG start signal can be either a slow or a fast start. The test being conducted on August 15 was a timed fast start, which is required every 184 days by Technical Specifications. The last successful fast start of the Division 2 DG was conducted on March 2, 2007.

Painting was conducted in the Division 2 DG room from March 5th to April 30th this year, involving the engine and other components. In preparation for this work, the DG system engineer and the painter foreman examined the equipment in the room and identified areas where paint could potentially cause a problem. In order to maintain the operability of the diesel generator, drop cloths were hung to shield the sensitive areas from the paint. These shield cloths were apparently not completely effective in preventing overspray on the fuel injector metering rods. Although the painters took precautions to minimize overspray, they were not aware that the overspray had occurred. No inspections of the sensitive areas or retests of the diesel were required or performed during or after the painting was completed.

The fuel injection metering pumps on each cylinder of the DG are connected to the engine governor by mechanical linkages to regulate engine speed. On each injector pump, a metering rod slides in and out of the pump body in response to the motion of the governor linkage to control fuel delivery. An examination of the DG found that the metering rods were fouled with paint overspray. The painting inadvertently deposited paint on the exposed portion of fuel injection pump metering rods. The heaviest deposits of paint were on the metering rods for cylinders 2, 3, and 4, while the remaining cylinders

LICENSEE EVENT REPORT (LER)

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE	
River Bend Station – Unit 1	05000-458	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3 OF 4	
		2007	- 004	- 00		

had minor deposits of paint. Scrape marks in the paint indicated that the motion of the metering rods had been hindered, causing the delay in stabilization of engine speed.

This event was caused by inadequate planning and controls of the work. The work order for the painting was found to lack the rigor required to perform the task. Due to the sensitive nature of the equipment being painted, more stringent controls should have been specified. Steps requiring documented involvement of the system engineer or mechanical maintenance technicians in pre-job and daily walk downs with documentation would have been appropriate. A retest of the fast start capability of the DG should have been performed upon completion of the painting activity.

This condition did not affect the other emergency DGs, since no painting was conducted in those rooms. The paint overspray was removed from the injector metering rods, and the DG was successfully tested on August 16.

**CORRECTIVE ACTIONS TO PREVENT RECURRENCE**

A briefing will be conducted with maintenance planners on the need to implement appropriate controls when painting safety-related equipment. The applicable maintenance procedure will be revised to incorporate controls for painting on safety-related equipment. These actions are being tracked in the station's corrective action program.

**PREVIOUS EVENTS EVALUATION**

A review of DG failures in the last five years found no other occurrences of fouling of the fuel rack linkages.

**SAFETY SIGNIFICANCE**

While the actual date that the engine was painted is unknown, the DG successfully completed a slow start test at least twice in the interim period prior to the August 15 test. Each of these slow start tests demonstrated that the DG was capable of controlling electrical load and reaching the test load range of 3000-3100 KW with paint on the fuel injection pump metering rods.

The Division 2 diesel generator was not capable of meeting the fast start timing requirements during the test on August 15. However, analysis of prior operating experience indicates that the DG remained capable of automatically starting and loading in response to a postulated loss of offsite power or loss of coolant accident. The diesel generator remained capable of supplying power to the Division 2 electrical bus within the

LICENSEE EVENT REPORT (LER)

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE	
River Bend Station – Unit 1	05000-458	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	4 OF 4	
		2007	- 004	- 00		

design limitations of the diesel generator and the connected equipment. The ability of the governor system to control engine operation was not compromised. Thus, this event was of no significance with respect to the ability of the DG to perform its design safety function. There was no loss of safety function of the emergency electrical supply system as a result of this condition.

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