



Entergy Operations, Inc.

River Bend Station  
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Eric W. Olson  
Site Vice President

RBG-47260

July 9, 2012

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

Subject: Licensee Event Report 50-458 / 2012-001-00  
River Bend Station – Unit 1  
Docket No. 50-458  
License No. NPF-47

RBF1-12-0086

Dear Sir or Madam:

In accordance with 10 CFR 50.73, enclosed is the subject Licensee Event Report. This document contains no commitments. If you have any questions, please contact Mr. Joseph Clark at 225-381-4177.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric W. Olson", with a long, sweeping underline.

EWO/dhw

Enclosure

IE22



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cc: U. S. Nuclear Regulatory Commission  
Region IV  
1600 East Lamar Blvd.  
Arlington, TX 76011-4511

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

INPO Records Center  
E-Mail (MS Word format)

Ms. Tracie Lowery  
Public Utility Commission of Texas  
1701 N. Congress Ave.  
Austin, TX 78711-3326

Department of Environmental Quality  
Office of Environmental Compliance  
Radiological Emergency Planning and Response Section  
JiYoung Wiley  
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 FOIA/Privacy Section (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to [infocollects.resource@nrc.gov](mailto:infocollects.resource@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 3

**4. TITLE**  
Operations Prohibited by Technical Specifications Due to Inoperability of Division 3 Diesel Generator

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
05	08	2012		2012-001-00		07	09	2012		05000
										05000

<b>9. OPERATING MODE</b>  2	<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §:</b> <i>(Check all that apply)</i>									
	<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>  <5	<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  
Joseph A. Clark, Manager – Licensing

TELEPHONE NUMBER *(Include Area Code)*  
225-381-4177

**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
n/a									

**14. SUPPLEMENTAL REPORT EXPECTED**

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

**15. EXPECTED SUBMISSION DATE**

MONTH	DAY	YEAR
09	28	2012

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

On May 8, 2012, plant engineers confirmed that the lubricating oil in the Division 3 diesel generator (DG) was contaminated with fuel at a level that required its replacement. At the time of this discovery, a plant heat-up was in progress in preparation for return to service following a maintenance outage. The oil sample that yielded these results had been drawn on April 28, and shipped off-site for vendor analysis. Plant engineers evaluated the trends of prior lubricating oil samples taken prior to May 8, and determined that the DG had become incapable of running for the full 30 days assumed by its design safety function on approximately October 28, 2011. It was concluded that this date was the likely starting point of the internal fuel leak that contaminated the oil. On May 8, the DG was removed from service in order to change the lubricating oil and repair the fuel leak. The investigation of this event determined that the fuel leak was likely due to gasket damage that occurred during the maintenance outage in October 2011. This condition is being reported in accordance with 10CFR50.73(a)(2)(i)(B) as operations prohibited by Technical Specifications.

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CONTINUATION SHEET**

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**REPORTED CONDITION**

On May 8, 2012, plant engineers confirmed that the lubricating oil in the Division 3 diesel generator (DG) was contaminated with fuel at a level that required its replacement. At the time of this discovery, a plant heat-up was in progress in preparation for return to service following a maintenance outage.

The oil sample that yielded these results had been drawn on April 28, and shipped off-site for vendor analysis. Plant engineers evaluated the trends of prior lubricating oil samples taken prior to May 8, and determined that the DG had become incapable of running for the full 30 days assumed by its design safety function on approximately October 28, 2011. It was concluded that this date was the likely starting point of the internal fuel leak that contaminated the oil.

On May 8, the DG was removed from service in order to change the lubricating oil and repair the fuel leak.

This condition is being reported in accordance with 10CFR50.73(a)(2)(i)(B) as operations prohibited by Technical Specifications.

**INVESTIGATION and CAUSAL ANALYSIS**

The Division 3 DG is an Electro-Motive Division (EMD) Model No. 20-645-E4. Many of the fuel system components are located internally, such that any fuel leakage will likely migrate to the oil sump.

The specified oil viscosity for this engine is 40 weight. Fuel dilution of approximately 5% thins the oil such that the viscosity becomes similar to 30 weight. EMD instructions direct that the engine must not be run with oil contamination greater than 5%. The sample drawn on April 25 contained approximately 4.29% fuel.

In October 2011, the DG was removed from service for scheduled maintenance, including removal and testing of the fuel injectors. Following re-installation of the injectors, a fuel system visual leak test confirmed that no leaks were present.

After the DG was removed from service on May 8, a fuel leak was found at the jumper-to-filter cap connection on number 20 cylinder. The jumper was replaced, and a leak test was performed. The leak rate was reduced, but was not eliminated. The jumper was again removed.

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While observing maintenance technicians performing the work, the system engineer directed that the two ends of the jumper be installed in a certain sequence using a specific technique. This technique appeared to cause less binding on the connection at the injector, and the leakage was stopped.

There is no guidance in any vendor manual that states exactly how to install the fuel line jumper (i.e., which side to install first). Only the final torque is specified. The system engineer discussed assembly technique with a vendor representative. The vendor confirmed that it is a good practice to install the fuel line jumpers as the engineer had directed because the lead gaskets on each end of the jumper are easily damaged. The vendor suggested that these specific instructions be added to the model work package to minimize the risk of damage to the gaskets.

This investigation found that the fuel leak was likely caused by gasket damage that occurred during the re-installation of the injectors in October 2011.

**PREVIOUS OCCURRENCE EVALUATION**

No similar failure has been reported by River Bend Station in the last five years.

**CORRECTIVE ACTION TO PREVENT RECURRENCE**

Enhanced work instructions for fuel jumper installation will be added to the vendor manual and to model work orders. This action is being tracked in the station's corrective action program.

**SAFETY SIGNIFICANCE**

With offsite power available, the high pressure core spray system remained capable of performing its safety function. There were no actual events during this period requiring the Division 3 DG to respond in the emergency mode.

An analysis is being conducted to quantify the risk significance of this event. The results of that analysis will be provided in a supplement to this report.