



Entergy Operations, Inc.
River Bend Station
5485 U. S. Highway 61N
St. Francisville, LA 70775
Tel 225 381 4374
Fax 225 381 4872
eolson@entergy.com

Eric W. Olson
Site Vice President

RBG-47311

November 14, 2012

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

Subject: Licensee Event Report 50-458 / 2012-001-01
River Bend Station – Unit 1
Docket No. 50-458
License No. NPF-47

RB1-12-00146

Dear Sir or Madam:

In accordance with 10 CFR 50.73, enclosed is the subject Licensee Event Report. This is a supplement to the original report submitted July 9, 2012. This document contains no commitments. If you have any questions, please contact Mr. Joseph Clark at 225-381-4177.

Sincerely,

A handwritten signature in cursive script, appearing to read "Eric W. Olson".

EWO/dhw

Enclosure

JE22
NRR

A standard recycling symbol consisting of three chasing arrows forming a triangle.

Licensee Event Report 50-458 / 2012-001-01
November 14, 2012
RBG-47311
RBF1-12-0146
Page 2 of 2

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

NRC FORM 366 (10-2010)		U.S. NUCLEAR REGULATORY COMMISSION			APPROVED BY OMB: NO. 3150-0104		EXPIRES: 10/31/2013												
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 , 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		2012-001-01		11	14	2012		05000									
									FACILITY NAME	DOCKET NUMBER									
										05000									
9. OPERATING MODE 2			11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)																
10. POWER LEVEL <5			<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)(vii)(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)(vii)(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						15. EXPECTED SUBMISSION DATE		MONTH	DAY	YEAR									
<input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO																			
ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)																			
<p>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 25, 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 performing 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. That fuel leak likely resulted from gasket damage that occurred during work on the fuel injectors. On May 8, the DG was removed from service in order to change the lubricating oil and repair the fuel leak. It has been determined that, in the as-found condition, the DG remained capable of fulfilling the mission time assumed by the station's probabilistic risk analysis. Enhanced work instructions for fuel jumper installation have been added to the vendor manual and to model work orders. This condition is being reported in accordance with 10CFR50.73(a)(2)(i)(B) as operations prohibited by Technical Specifications.</p>																			

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
River Bend Station – Unit 1	05000 -458	YEAR	SEQUENTIAL NUMBER	REV. NO.	2 OF 3
		2012 -- 001 -- 01			

REPORTED CONDITION

On May 8, 2012, plant engineers confirmed that the lubricating oil in the Division 3 diesel generator (DG) (**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 25, 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 performing 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 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.

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.

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
River Bend Station – Unit 1	05000 -458	YEAR	SEQUENTIAL NUMBER	REV. NO.	3 OF 3
		2012 -- 001 -- 01			

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 have been added to the vendor manual and to model work orders.

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.

The term "mission time" is not precisely defined in the regulations – it is typically expressed as "for as long as needed". A 24-hour mission time is assumed for the Division 3 DG in the RBS Probabilistic Risk Analysis (PRA), and is specified under the Mitigating Systems Performance Index program for the Division 3 DG.

To evaluate the ability of the DG to fulfill its design function with the as-found fuel leak, a third-party engineering report performed for a nearly identical DG at Clinton station was obtained. This report concluded that the Clinton's DG could have successfully operated at full load with up to 22 percent dilution of the lube oil. Given this conclusion, RBS' site engineers determined that the DG could have operated with the calculated fuel leakage rate for at least 164 hours (6.8 days) at full power before reaching 22 percent dilution. As such, the Division 3 DG could have successfully supported the PRA mission time with significant margin in the as-found condition. This event was, thus, of minimal safety significance with respect to the health and safety of the public.

(Note – Energy Industry Component Identification codes are annotated as (**XX**).)