

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

RBG-47104

January 5, 2011

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

Subject:

Licensee Event Report 50-458 / 10-004-00

River Bend Station - Unit 1

Docket No. 50-458 License No. NPF-47

File No.

G9.5

RBF1-10-0192

Dear Sir or Madam:

In accordance with 10CFR50.73, enclosed is the subject Licensee Event Report. This document contains no commitments. If you have any questions, please contact me at 225-381-4157.

Sincerely,

David N. Lorfing

Manager - Licensing

Enclosure

I Ead NRR Licensee Event Report 50-458 / 10-004-00 January 5, 2011 RBG-47104 RBF1-10-0192 Page 2 of 2

cc: U. S. Nuclear Regulatory Commission Region IV 612 East Lamar Blvd., Suite 400 Arlington, TX 76011-4125

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

> INPO Records Center E-Mail (MS Word format)

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

Mr. Jeffrey P. Meyers
Louisiana Department of Environmental Quality
Attn: OEC-ERSD
P.O. Box 4312
Baton Rouge, LA 70821-4312

NRC FORM 366			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. 2. DOCKET NUMBER 3. PAGE							
1. FACILITY NAME River Bend Station – Unit 1							05000 - 458				1 OF 3				
4. TITLE High Pre	essure	e Core Sr	orav Svst	em Ir	noperab	le Due	e to Failed	Motor	Oil Res	ervoir Dra	in Plua				
_	/ENT D		oray System Inoperable Due				T	PORT D							ED
MONTH	DAY	YEAR	YEAR	SEQU	ENTIAL	REV	MONTH	DAY	YEAR	FACILITY NA		DOCKET NUMBER		NUMBER -	
44		0040			MBER	NO.	04	0.5	0044	FACILITY N	USD000 LITY NAME DOCKET NUMBER			NUMBER	
11	07	2010			004-00		01	05	2011					0500	
9. OPERA	ATING N	MODE	11. THIS	REPO	RT IS SU	BMITT	ED PURSUA	NT TO	THE REQ		JIREMENTS OF 10 CFR §: (Check all that apply)				
1			20.22			[20.2203(a				☐ 50.73(a)(2)(i)(C)			50.73(a)(2)(vii)	
			20.22			إ	20.2203(a			D 50.73(a)		· · · ·		/3(a)(2)(viii)(A)	
			20.22			Ĺ	20.2203(a				50.73(a)(2)(ii)(B)			50.73(a)(2)(viii)(B)	
10. POWE	ED I EV	/EI	20.22			l T	50.36(c)(1			☐ 50.73(a)			☐ 50.7		
100			20.2203(a)(2)(iii)			50.36(c)(1)(ii)(A) 50.36(c)(2) 50.46(a)(3)(ii)			☐ 50.73(a) ☐ 50.73(a)			73.7	73(a)(2)(x)		
100	•								☐ 50.73(a) ☐ 50.73(a)				1(a)(4) 1(a)(5)		
													1(4)(5)		
			20 22	03(a)(2)(v)			2)(i)(A)		☐ 50.73(a)	(2)(v)(C)		□отн	FR ·	
						[50.73(a)(2			∏ 50.73(a) ⊠ 50.73(a)			OTH Specif		ract below
			☐ 20.22 ☐ 20.22		2)(vi)]]	50.73(a)(2 50.73(a)(2	2)(i)(B)		⊠ 50.73(a)			Specif		
CACILITY NA	ME				2)(vi)]]	50.73(a)(2	2)(i)(B)		⊠ 50.73(a)	(2)(v)(D)	JONE	Specif or in N	y in Abst IRC Forn	n 366A
FACILITY NA David N		ng, Mana	20.22 ager – Lic	03(a)(2 censir	2)(vi) ng	[[12. LIC	☐ 50.73(a)(2 ☐ 50.73(a)(2 ENSEE CON	?)(i)(B)	OR THIS	⊠ 50.73(a) LER	(2)(v)(D) TELEPI 225-	381	Specif or in N NUMBER (Incl -4157	y in Abst IRC Forn	n 366A
			20.22 ager – Lic	03(a)(2 censir	2)(vi) ng NE LINE	[12. LIC FOR E	☐ 50.73(a)(2 ☐ 50.73(a)(2 ENSEE CON	2)(i)(B) ITACT F	OR THIS	⊠ 50.73(a) LER	(2)(v)(D) TELEPI 225-	381	Specification or in None Number (Incl4157	y in Abst IRC Forn ude Area	n 366A Code)
David N	l. Lorfii		□ 20.22 ager – Lic	03(a)(2 censir	2)(vi) ng	FOR E	50.73(a)(2 50.73(a)(2 ENSEE CON ACH COMPORTABLE TO EPIX	P)(i)(B) TACT F DNENT	OR THIS	⊠ 50.73(a) LER	(2)(v)(D) TELEPI 225-	381 REF	Specif or in N NUMBER (Incl -4157	y in Abst IRC Form ude Area	n 366A
David N	l. Lorfii	1	☐ 20.22 ager – Lic 3. COMPL	03(a)(2 censir ETE O	2)(vi) ng NE LINE MANU	FOR E	50.73(a)(2 50.73(a)(2 ENSEE CON ACH COMPORTABLE	P)(i)(B) TACT F DNENT	FAILURE	☑ 50.73(a) LER DESCRIBE	(2)(v)(D) TELEPI 225- D IN THIS	381 REF	Specification or in N NUMBER (Incl -4157 PORT MANU	y in Abst IRC Form ude Area	n 366A Code) REPORTABLE
David N	l. Lorfii	SYSTEM	ager – Lic 3. COMPL COMPON (see te	03(a)(i censir ETE O NENT xt)	PINE LINE MANU FACTUR (See to	FOR E	50.73(a)(2 50.73(a)(2 ENSEE CON ACH COMPOREPORTABLE TO EPIX YES	P)(i)(B) TACT F DNENT	FAILURE	☑ 50.73(a) LER DESCRIBE	(2)(v)(D) TELEPI 225- D IN THIS	381 REF	Specifor in N NUMBER (Incl -4157 PORT MANU FACTUE	y in Abst IRC Forn ude Area	n 366A Code) REPORTABLE TO EPIX
David N	l. Lorfii	SYSTEM	20.22 ager – Lic 3. COMPL	03(a)(i censir ETE O NENT xt)	PINE LINE MANU FACTUR (See to	FOR E	50.73(a)(2 50.73(a)(2 ENSEE CON ACH COMPOREPORTABLE TO EPIX YES	P)(i)(B) TACT F DNENT	FAILURE	DESCRIBE SYSTEM 15. EXP	TELEPI 225- D IN THIS COMPON	381 REF	Specification in N NUMBER (Incl -4157 PORT MANUFACTUR MONTH	y in Abst RC Form ude Area	n 366A Code) REPORTABLE TO EPIX YEAR
David N CAUSE	l. Lorfii	1 SYSTEM	ager – Lid 3. COMPL COMPON (see te	censine ETE O	ng ME LINE MANU FACTUF (See te	FOR E	50.73(a)(2 50.73(a)(2 ENSEE CON ACH COMPOREPORTABLE TO EPIX YES	P)(i)(B) TACT F DNENT	FAILURE	DESCRIBE SYSTEM	TELEPI 225- D IN THIS COMPON	381 REF	Specifor in N NUMBER (Incl -4157 PORT MANU FACTUE	y in Abst IRC Forn ude Area	n 366A Code) REPORTABLE TO EPIX
CAUSE E	B.	SYSTEM G 14. St	ager – Lid 3. COMPL COMPON (see te	censii ETE O NENT xt)	PINE LINE MANU FACTUR (see to	FOR E. J. RER EXT) EXPEC	50.73(a)(2 50.73(a)(2 ENSEE CON ACH COMPO REPORTABLE TO EPIX YES	DNENT C	FAILURE	DESCRIBE SYSTEM 15. EXP SUBMI	TELEPI 225- D IN THIS COMPON	381 REF	Specification in N NUMBER (Incl -4157 PORT MANUFACTUR MONTH	y in Abst RC Form ude Area	n 366A Code) REPORTABLE TO EPIX YEAR
CAUSE E	B.	SYSTEM G 14. St	ager – Lid 3. COMPL COMPON (see te	censii ETE O NENT xt)	PINE LINE MANU FACTUR (see to	FOR E. J. RER EXT) EXPEC	50.73(a)(2 50.73(a)(2 ENSEE CON ACH COMPC REPORTABLE TO EPIX YES TED E) NO	DNENT C	FAILURE	DESCRIBE SYSTEM 15. EXP SUBMI	TELEPI 225- D IN THIS COMPON	381 REF	Specification in N NUMBER (Incl -4157 PORT MANUFACTUR MONTH	y in Abst RC Form ude Area	n 366A Code) REPORTABLE TO EPIX YEAR
CAUSE E YES (ABSTRACT On N core s	B (If yes, c) (Limit to ovem spray	14. Stocomplete 15 to 1400 space to (HPCS)	ger – Lic 3. COMPL COMPON (see te. 5. EXPECT PS, i.e., approx 010, at	censine ETE ON SENT STED SU COXIMATE DE SU COXIMATE	PINE LINE MANUFACTURE (See to	FOR E. J. RER EXT DIN DAT	SO.73(a)(2 SO.73(a)(2 SO.73(a)(2 ENSEE CON ACH COMPC REPORTABLE TO EPIX YES STED typewritten lin with the p d inopera	DNENT C.	FAILURE AUSE	DESCRIBE SYSTEM 15. EXP SUBMI DA	TELEPI 225- D IN THIS COMPON ECTED SSION TE	pov	NUMBER (Incl4157 PORT MANUFACTUF MONTH 03	y in Abst RC Form ude Area DAY 03	TO EPIX YEAR 2011 Pressure pump
CAUSE E YES (ABSTRACT On N core : moto	I. Lorfii B: (If yes, controller to the covern spray) r (**M)	14. SI complete 15 to 1400 space there 7, 2 to (HPCS) IO**). Till	ger – Lic 3. COMPL COMPON (see te	censine ETE O SU STATE SU STATE SU	PREPORT JBMISSIC Was de the oil	FOR E. FOR E. PERER EXPECT ON DAT COLT, Veclare leak v	SO.73(a)(2 SO.73(a)(2 SO.73(a)(2 ENSEE CON ACH COMPO REPORTABLE TO EPIX YES STED Typewritten lin with the p d inopera vas found	es) lant o ble fo l to be	FAILURE AUSE perating llowing a crac	DESCRIBE SYSTEM 15. EXP SUBMIL DA g at 100 p the discooked drain	TELEPI 225- D IN THIS COMPON ECTED SSION TE	pov an h th	NUMBER (Incl. 4157 PORT MANUFACTUR MONTH 03 wer, the oil leak of elower is	ude Area DAY O3 high pon the motor	TO EPIX YEAR 2011 Pressure pump
CAUSE E YES (ABSTRACT On N core : motor bearing	I. Lorfil B (If yes, of (Limit to ovem spray) r (**M) ng oil	14. SI complete 15 to 1400 space ther 7, 2 (HPCS) (IO**). Ti reservo	ger – Lic 3. COMPL COMPON (see te. JPPLEMEI 5. EXPECT 28, i.e., appro (BG) pine source ir. The components of the control of t	censine ETE OF SUMMER S	PREPORT JBMISSIC JS a.m. (was de the oil ug was	FOR E. PERPECON DAT CONTRACT CONT	SO.73(a)(2 SO.73(a)(2 SO.73(a)(2 ENSEE CON ACH COMPORE REPORTABLE TO EPIX YES STED With the p d inopera vas found ced, and	es) lant o ble fo the H	PER THIS FAILURE AUSE perating llowing a crack PCS sy	DESCRIBE SYSTEM 15. EXP SUBMIL DA g at 100 p the disconted drain retem wa	TELEPI 225- D IN THIS COMPON ECTED SSION TE	pov an n th	NUMBER (Incl. 4157 PORT MANUFACTUR MONTH 03 ver, the oil leak of e lower is sta	DAY O3	ressure pump
CAUSE E YES (ABSTRACT On N core s motor bearin condi	Ovem spray r (**M ng oil ition a	14. SI complete 15 to 1400 space aber 7, 2 (HPCS) IO**). Till reservo at 7:40 p	D20.22 ager - Lic 3. COMPL COMPON (see te. 5. EXPECT es, i.e., appro (BG) prine source ir. The come. CDT	censine ETE O	MANU FACTUP (See to by 15 single the oil ug was same	FOR E. J. RER PEXT PER CONT. V. Colare leak v. repladay.	S0.73(a)(2 50.73(a)(2 ENSEE CON ACH COMPO REPORTABLE TO EPIX YES TED typewritten lin with the p d inopera was found ced, and This is a	es) lant o ble fo l to be the H prelim	PCS sylinary re	DESCRIBE SYSTEM 15. EXP SUBMI DA g at 100 the disco ked drain rstem wa eport, as	ECTED SSION TE	pov an h the	NUMBER (Incl. 4157 PORT MANUFACTUR MONTH 03 ver, the oil leak of e lower is sta	DAY O3	ressure pump
CAUSE E YES (ABSTRACT On N core s motor bearin condi	Ovem spray r (**M ng oil ition a	14. SI complete 15 to 1400 space aber 7, 2 (HPCS) IO**). Till reservo at 7:40 p	D20.22 ager - Lic 3. COMPL COMPON (see te. 5. EXPECT es, i.e., appro (BG) prine source ir. The come. CDT	censine ETE O	MANU FACTUP (See to by 15 single the oil ug was same	FOR E. J. RER PEXT PER CONT. V. Colare leak v. repladay.	SO.73(a)(2 SO.73(a)(2 SO.73(a)(2 ENSEE CON ACH COMPORE REPORTABLE TO EPIX YES STED With the p d inopera vas found ced, and	es) lant o ble fo l to be the H prelim	PCS sylinary re	DESCRIBE SYSTEM 15. EXP SUBMI DA g at 100 the disco ked drain rstem wa eport, as	ECTED SSION TE	pov an h the	NUMBER (Incl. 4157 PORT MANUFACTUR MONTH 03 ver, the oil leak of e lower is sta	DAY O3	ressure pump
CAUSE E YES (ABSTRACT On N core : motor bearin condi	But the spray of t	14. SI complete 15 to 1400 space (HPCS) IO**). Ti reservo at 7:40 p	ger – Lic 3. COMPL COMPON (see te: 5. EXPECT 010, at (BG) pine source ir. The component of the source ir. A sup	censine ETE OF SUMMER S	PREPORT JBMISSIC Was de the oil ug was same ent to to	FOR E. FOR E. PARER EXPECT ON DAT COLOR COLOR	SO.73(a)(2 SO.73(a)(2 ENSEE CON ACH COMPO REPORTABLE TO EPIX YES STED Typewritten lin with the p d inopera vas found ced, and This is a eport will be	DNENT Company Compa	perating llowing a crack PCS sylinary revided b	DESCRIBE SYSTEM 15. EXP SUBMIL DA g at 100 the disco ked drain vstem wa eport, as by March	TELEPI 225- D IN THIS COMPON ECTED SSION TE	pov an h th ed t	NUMBER (Incl. 4157 PORT MANUFACTUR MONTH 03 wer, the oil leak of e lower is oits stall analysis	py in Abst RC Form ude Area DAY 03 high pon the motor ndby of thi	YEAR 2011 Pressure pump s event
David N CAUSE E YES (ABSTRACT On N core : motor bearing conditions not	B (If yes, continued to the condition as the condition a	14. SI complete 18 lo 1400 space liber 7, 2 (HPCS) IO**). Ti reservo at 7:40 p complete	DPPLEMENT (BG) point a source in. The composition of the control o	censine ETE OF SUMMER S	PREPORT JBMISSIC Was de the oil ug was same aent to	FOR E. FOR E. FOR E. FOR E. CON DAT CON DAT Colare leak v repla day. chis re-	S0.73(a)(2 S0.73(a)(2 S0.73(a)(2 ENSEE CON ACH COMPORE REPORTABLE TO EPIX YES STED With the p d inopera vas found ced, and This is a eport will be ace with 1	es) lant o ble fo l to be the H prelim pe pro	perating llowing a crack PCS sylinary revided b	DESCRIBE SYSTEM 15. EXP SUBMIL DA g at 100 p the discondended drain restem was eport, as	TELEPI 225- D IN THIS COMPONE ECTED SSION TE Dercent overy of a plug of s restor the cau 3, 2011	pov an n th ed t sal	NUMBER (Incl. 4157 PORT MANUFACTUR MONTH 03 wer, the oil leak of e lower is star analysis	DAY O3 high pon the motor ndby of thi	YEAR 2011
David N CAUSE E YES (ABSTRACT On N core s motor bearin condi is not This of	Ovem spray r (**M ng oil ition at yet condited to	14. SI complete 15 o 1400 space aber 7, 2 (HPCS) IO**). Till reservo at 7:40 p complete tion is be mitigate	DEPLEMENT OF SOLUTION COMPONENT OF SOLUTION	censine ETE O	POINT LINE MANUE FACTUF (See to the standard of the oil and the	FOR E. J. RER PEXT) EXPECT CON DAT Colare leak varepla day. chis recordant of an	S0.73(a)(2 50.73(a)(2 50.73(a)(2 ENSEE CON ACH COMPO REPORTABLE TO EPIX YES TED typewritten lin with the p d inopera was found ced, and This is a eport will be accident.	es) lant o ble fo l to be the H prelimoe pro	perating lowing a crack PCS sylinary revided b	DESCRIBE SYSTEM 15. EXP SUBMI DA g at 100 the disco ked drain rstem wa eport, as ey March a)(2)(v)(D afety-rela	ECTED SSION TE Dercent overy of a plug of s restor the caus 3, 2011 as the ted sys	pov an n th ed t sal	NUMBER (Incl. 4157 PORT MANUFACTUR MONTH 03 wer, the oil leak of e lower to its star analysis as of a system of the system of t	DAY O3 high ron the motor ndby of thi	YEAR 2011 Pressure pump s event
David N CAUSE E YES (ABSTRACT On N core s motor bearing condition is not	Ovem spray r (**M ng oil ition at yet condited to g the	14. SI complete 15 o 1400 space aber 7, 2 (HPCS) IO**). Till reservo at 7:40 p complete tion is be mitigate	GENERAL COMPLETE S. I.E., appropriate Control of the HP	censiment orted sequences of se	PREPORT JBMISSIC Was de the oil ug was same tent to the system	FOR E. J. RER PEXT) EXPECT CON DAT Colare leak varepla day. chis recordant of an	S0.73(a)(2 S0.73(a)(2 S0.73(a)(2 ENSEE CON ACH COMPORE REPORTABLE TO EPIX YES STED With the p d inopera vas found ced, and This is a eport will be ace with 1	es) lant o ble fo l to be the H prelimoe pro	perating lowing a crack PCS sylinary revided b	DESCRIBE SYSTEM 15. EXP SUBMI DA g at 100 the disco ked drain rstem wa eport, as ey March a)(2)(v)(D afety-rela	ECTED SSION TE Dercent overy of a plug of s restor the caus 3, 2011 as the ted sys	pov an n th ed t sal	NUMBER (Incl. 4157 PORT MANUFACTUR MONTH 03 wer, the oil leak of e lower to its star analysis as of a system of the system of t	DAY O3 high ron the motor ndby of thi	YEAR 2011 Pressure pump s event

NRC FORM 366A (10-2010) U.S. NUCLEAR REGULATORY COMMISS CONTINUATION SHEET							
1. FACILITY NAME		2. DOCKET	6. LER NUMBER			3. PAGE	
River Bend Station – Unit 1		05000 450	YEAR	SEQUENTIA NUMBER	L REV. NO.	2 05 2	
	05000 -458		20	10 004 ·	00	2 OF 3	

REPORTED CONDITION

On November 7, 2010, at 10:23 a.m. CDT, with the plant operating at 100 percent power, the high pressure core spray (HPCS) (BG) pump was declared inoperable following the discovery of an oil leak on the pump motor (**MO**). This condition is being reported in accordance with 10CFR50.73(a)(2)(v)(D) as the loss of a system needed to mitigate the consequences of an accident.

The source of the oil leak was found to be a cracked drain plug on the lower motor bearing oil reservoir. The oil plug was replaced, and the HPCS system was restored to its standby condition at 7:40 p.m. CDT that same day. No other safety-related systems were out of service during the time that the HPCS system was inoperable.

INVESTIGATION

On July 14, 2010, a minor, unquantifiable oil leak was found on the lower reservoir drain plug of the HPCS pump. The leak appeared only as oil sheen around the drain plug. On August 7, the leak was quantified as approximately 1 drop every 3 minutes. The leakage rate was determined to be stable, and it was concluded that the pump remained capable of performing its safety function.

The approximate timeline of subsequent activities concerning this event, developed from documentation and from interviews with the operators and maintenance technicians, is as follows. Oil was added to the reservoir on September 13. The HPCS system was operated on September 20 for scheduled surveillance testing, and no increase in the leakage rate was seen. Oil was again added to the reservoir on October 26. No further oil additions were made until November 7. Twice-weekly inspections of the pump by the operators confirmed that the leakage had not increased. (Operators also perform a general inspection of the pump room each shift, checking for oil accumulation on equipment and other conditions. Those inspections continued to be satisfactory.) On October 29, the operators wrapped an absorbent pad around the plug to eliminate the need to clean up oil around the pump pedestal, and to eliminate the potential slipping hazard. These pads were subsequently replaced three times prior to November 7 (the last replacement was on November 5), and on each occasion, the oil leak rate had not increased.

On November 7, the operator removed the absorbent pad, and found that the leak had increased to a small stream approximately one-tenth of an inch in diameter. The HPCS pump was removed from service, and the oil drain plug was replaced with a new part.

IMMEDIATE CORRECTIVE ACTIONS

The failed drain plug was replaced, and the HPCS pump was restored to service at 7:40 p.m. CDT on the same day. At the time of this event, no similar leaks had been reported on the other

NRC FORM 366A (10-2010) LICENSEE EVENT REPORT (LER) U.S. NUCLEAR REGULATORY COMMISS CONTINUATION SHEET							
1. FACILITY NAME	2. DOCKET	6. LER NUMBER	3. PAGE				
River Bend Station – Unit 1	05000 450	YEAR SEQUENTIAL REV. NUMBER NO.	2 05 2				
	05000 -458	2010 004 00	3 OF 3				

emergency core cooling system (ECCS) pumps, which share a common drain plug design with the HPCS pump.

CAUSAL ANALYSIS and CORRECTIVE ACTIONS TO PREVENT RECURRENCE

The investigation of this event is ongoing. The final results of the causal analysis will be provided in a supplement to this report.

PREVIOUS OCCURRENCE EVALUATION

There have been no similar events reported by RBS since January 1, 2005.

SAFETY SIGNIFICANCE

Two of three divisions of ECCS are required for the RBS loss of coolant accident analyses. While HPCS was out of service, Division 1 and Division 2 ECCS systems and the automatic depressurization system were available, and would have met the ECCS performance criteria of 10CFR50.46. The HPCS system was returned to service within the time limit of the Required Action in the plant's Technical Specifications. This event was of minimal safety significance with respect to the health and safety of the public.

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