

UNITED STATES NUCLEAR REGULATORY COMMISSION REGION IV 1600 EAST LAMAR BOULEVARD ARLINGTON, TEXAS 76011-4511

June 02, 2022

Mr. Kent Scott, Site Vice President Entergy Operations, Inc 5485 U.S. Highway 61N St. Francisville, LA 70775

SUBJECT: RIVER BEND STATION – DESIGN BASIS ASSURANCE INSPECTION (PROGRAMS) INSPECTION REPORT 05000458/2022011

Dear Mr. Scott:

On April 21, 2022, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at River Bend Station and discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

One finding of very low safety significance (Green) is documented in this report. This finding involved a violation of NRC requirements. We are treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violation or the significance or severity of the violation documented in this inspection report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement; and the NRC Resident Inspector at River Bend Station.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; and the NRC Resident Inspector at River Bend Station.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <u>http://www.nrc.gov/reading-rm/adams.html</u> and at the NRC Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

Vincent bally Signed by Gaddy, Vincent on 06/02/22

Vincent G. Gaddy, Chief Engineering Branch 1 Division of Operating Reactor Safety

Docket No. 05000458 License No. NPF-47

Enclosure: As stated

cc w/ encl: Distribution via LISTSERV®

RIVER BEND STATION – DESIGN BASIS ASSURANCE INSPECTION (PROGRAMS) INSPECTION REPORT 05000458/2022011 – DATED JUNE 02, 2022

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ADAMS ACCESSION NUMBER: ML22131A364

SUNSI Review		V ADAMS:	🗆 Non-Pu	ublicly Available	🗵 Non-Sensitiv	e Keyword:		
	By: WCS	🗵 Yes 🏾 🛛	🛛 No 🛛 Publicl	y Available	Sensitive	NRC-002		
	OFFICE	C:DORS/EB1	SRI:DORS/EB1	RI:DORS/EB1	RI:DORS/EB1	C:DORS/C		
	NAME	VGaddy	WSifre	WCullum	DReinert	JJosey		
	SIGNATURE	VGG	WCS	WLC	DRR	JEJ		
	DATE	6/1/2022	5/26/2022	5/31/2022	5/26/2022	5/19/2022		
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U.S. NUCLEAR REGULATORY COMMISSION Inspection Report

Docket Number:	05000458
License Number:	NPF-47
Report Number:	05000458/2022011
Enterprise Identifier:	I-2022-011-0008
Licensee:	Entergy Operations, Inc
Facility:	River Bend Station
Location:	St. Francisville, LA
Inspection Dates:	April 04, 2022 to April 22, 2022
Inspectors:	W. Cullum, Reactor Inspector D. Reinert, Reactor Inspector W. Sifre, Senior Reactor Inspector
Approved By:	Vincent G. Gaddy, Chief Engineering Branch 1 Division of Operating Reactor Safety

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting a design basis assurance inspection (programs) inspection at River Bend Station, in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to https://www.nrc.gov/reactors/operating/oversight.html for more information.

List of Findings and Violations

Failure to follow the Corrective Action Procedure						
Cornerstone	Cross-Cutting	Report				
		Aspect	Section			
Mitigating Green [H.11] - 71111.2						
Systems	NCV 05000458/2022011-01	Challenge the	02			
	Closed	Unknown				
The inspectors identified a Green finding and associated Non-cited violation (NCV) of						
10CFR50 Appendix B, Criterion V, Procedures, when the licensee failed to follow their						
Corrective Action Program procedure.						

Additional Tracking Items

None.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

REACTOR SAFETY

71111.21N.02 - Design-Basis Capability of Power-Operated Valves Under 10 CFR 50.55a Requirements

POV Review (IP Section 03) (12 Samples)

The inspectors:

a. Determined whether the sampled POVs are being tested and maintained in accordance with NRC regulations along with the licensee's commitments and/or licensing bases. Specific Guidance

b. Determined whether the sampled POVs are capable of performing their design-basis functions.

c. Determined whether testing of the sampled POVs is adequate to demonstrate the capability of the POVs to perform their safety functions under design-basis conditions.d. Evaluate maintenance activities including a walkdown of the sampled POVs (if accessible).

- (1) Reactor Building Equipment Drain Inboard Containment Isolation Valve Air Operated Valve DER-AOV126
- (2) Containment and Drywell Floor Drain Sump Pump Discharge Header Inboard Containment Isolation Valve - Air Operated Valve DFR-AOV101
- (3) Residual Heat Removal Pump Shutdown Cooling Inboard Isolation Valve Motor Operated Valve E12-MOVF009
- (4) Residual Heat Removal Pump A Injection Line Shutoff Valve Motor Operated Valve E12-MOVF027A
- (5) Low Pressure Core Spray Pimp Low Pressure Core Spray Injection Shut Off Valve -Motor Operated Valve E21-MOVF005
- (6) High Pressure Core Spray Pump Discharge Line Main Isolation Valve Motor Operated Valve E22-MOVF004
- (7) Reactor Core Isolation Cooling & Residual Heat Removal Systems Steam Supply Isolation Valve - Motor Operated Valve E51-MOVF063
- (8) Reactor Core Isolation Cooling Steam Supply Line Outboard Containment Isolation Valve - Motor Operated Valve E51-MOVF064
- (9) Suppression Pool Cleanup & Cooling System Suction Valve Air Operated Valve RHS-AOV63
- (10) Standby Service Water Pump A Discharge Isolation Valve Motor Operated Valve SWP-MOV40A

- (11) Drywell Unit Coolers Supply Header A Outboard Containment Isolation Valve Motor Operated Valve SWP-MOV507A
- (12) Standby Cooling Tower 1 Division 2 Return Line Isolation Valve Motor Operated Valve SWP-MOV55B

INSPECTION RESULTS

Failure to follow the	Failure to follow the Corrective Action Procedure								
Cornerstone	Significance	Cross-Cutting	Report						
		Aspect	Section						
Mitigating	Green	[H.11] -	71111.21N.0						
Systems	NCV 05000458/2022011-01	Challenge the	2						
	Closed	Unknown							
The inspectors ider 10CFR50 Appendia Corrective Action P	The inspectors identified a Green finding and associated Non-cited violation (NCV) of 10CFR50 Appendix B, Criterion V, Procedures, when the licensee failed to follow their Corrective Action Program procedure.								
Description: The ins	spectors reviewed an as-found Motor-Ope	erated Valve static	test, dated						
March 8, 2021, of E	22-MOVF004, HPCS Discharge Line Ma	in Isolation Valve,	and noted that						
the licensee docum	ented negative margin in the test results.	Since a negative r	nargin falls						
outside of the acce	ptance criteria, the inspectors asked to re	view the condition	report to						
assess the operability determination and corrective actions for the valve. The inspectors were									
informed that a con	informed that a condition report was not generated to document the negative margin. The site								
procedure EN-LI-10	J2, Revision 47, titled, "Corrective Action	Program," Section	5.2, Step 5,						
states, "Employees	and contractors are required to initiate co	phalition reports for	adverse						
includes Conditions	Adverse to Quality plus undesirable con	ditions related to	design basis "						
Since the Motor Or	erated Valve had negative margin, there	was reasonable do	uesiyii basis.						
whether the valve of	could perform its design basis function if c	alled upon Similar	ly inspectors						
reviewed an as-left	Motor-Operated valve static test, dated F	ehruary 28, 2013	of $E21_{-}$						
MOVE005 LPCS I	niection Shut Off Valve, and noted that it	also had negative r	nargin No						
condition report wa	s written to document this occurrence of r	negative margin eit	her. In both						
circumstances, the	licensee used conservatisms within the c	alculations to deter	mine that						
margin still existed	margin still existed and the valves were considered operable								

Corrective Actions: The licensee took action to restore margin to the affected valves. By using conservatisms in the calculations and revising assumptions, the valves were left with positive margin and, therefore, in an operable condition. The licensee entered the margin deficiencies and failure to write a condition report into their corrective action program.

Corrective Action References: CR-RBS-2022-02005, CR-RBS-2022-02241 Performance Assessment:

Performance Deficiency: The licensee failed to follow procedures for activities affecting quality as required by 10CFR50 Appendix B Criterion V, Procedures. Specifically, the licensee failed to follow Step 5 of Section 5.2 of procedure EN-LI-102, "Corrective Action Program," which states, "Employees and contractors are required to initiate a Condition Report for adverse conditions." The inspectors identified 2 examples of this performance deficiency.

First, on March 8, 2021, a Condition Report was not written to document an adverse condition when the As Found Motor-Operated Valve static test of E22-MOVF004, HPCS Discharge Line Main Isolation Valve, showed negative margin in the open direction. Second, on February 28, 2013, a Condition Report was not written to document an adverse condition when the As Left Motor-Operated Valve static test of E21-MOVF005, LPCS Injection Shut Off Valve, showed negative margin in the open direction.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Human Performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, regardless of the final operability or functionality, the as-found condition was such that there was a reasonable doubt whether E22-MOVF004 and E21-MOVF005 would have been capable of performing their functions had they been called upon since the safety-related Motor-Operated Valves had negative margin. When the licensee evaluated the as found condition, they determined that the remaining margin falls outside of the design process acceptance criteria and assumptions were revised solely to obtain favorable results.

Significance: The inspectors assessed the significance of the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The inspectors screened the issue using Inspection Manual Chapter 0609 Appendix A titled "The Significance Determination Process for Findings At-Power." The issue screened to Green using Exhibit 2, "Mitigating Systems Screening Questions," since the degraded condition did not represent a loss of the PRA function of a single train Technical Specification system for greater than its allowed outage time.

Cross-Cutting Aspect: H.11 - Challenge the Unknown: Individuals stop when faced with uncertain conditions. Risks are evaluated and managed before proceeding. The inspectors found the most recent example on March 8, 2021, is indicative of present performance. The inspectors selected this cross-cutting aspect because they found that the licensee did not stop when faced with uncertain conditions. The negative margin was resolved without entering the corrective action process. As a result, opportunities were missed to evaluate the cause and determine operability of components.

Enforcement:

Violation: Title 10 CFR Part 50, Appendix B, Criterion V, "Procedures" requires, in part, that the licensee prescribe and accomplish activities affecting quality by documented instructions, procedures, or drawings of a type appropriate to the circumstances. Procedure EN-LI-102, "Corrective Action Program," Revision 20 Step 5.2[1](e) and Revision 42 Step 5.2.4, require, in part, that employees are required to initiate condition reports for adverse conditions. Contrary to the above, on February 18, 2013, and March 8, 2021, the licensee failed to initiate a condition report for an adverse condition. Specifically, on February 28, 2013, a condition report was not generated to document negative margin found during an as-left static test of E21-MOVF005, LPCS Injection Shut Off Valve, and on March 8, 2021, a condition report was not generated to document negative margin found during an as-found static test of E22-MOVF004, HPCS Discharge Line Main Isolation Valve.

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

• On April 21, 2022, the inspectors presented the design basis assurance inspection (programs) inspection results to Kent Scott and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection	Туре	Designation	Description or Title	Revision or
Procedure				Date
71111.21N.02	Calculations	4221.412-000- 007C	Maximum Thrust Weak Link Seismic Calculation	В
71111.21N.02	Calculations	4228.212-047- 019C	Design Report 10" 600lb Gate Valve Weak Link	3
71111.21N.02	Calculations	4228.212-047- 024C	Seismic Analysis Report 10" 600lb Gate Valve	2
71111.21N.02	Calculations	4228.212-047- 040C	Weak Link Analysis - Seismic Qualification of Motor Operated Valves	В
71111.21N.02	Calculations	4228.243-105- 007A	Weak Link and Seismic Analysis SWP-MOV40A	A
71111.21N.02	Calculations	G13.18.15.2*053	Maximum Thrust Force for Valves E12-MOVF042A, 042B, and 042C and E21-MOVF005	2
71111.21N.02	Calculations	G13.18.2.3*148	G.L. 89-10 Design Basis Review for E12-MOVF004A/B	5
71111.21N.02	Calculations	G13.18.2.3*157	G.L. 89-10 Design Basis Review for E12-MOVF027A/B	3
71111.21N.02	Calculations	G13.18.2.3*178	GL 89-10 Design Basis Review for E21-MOVF005	5
71111.21N.02	Calculations	G13.18.2.3*182	GL 89-10 Design Basis Review for E22-MOVF004	6
71111.21N.02	Calculations	G13.18.2.3*206	G.L. 89-10 Design Basis Review for E51-MOVF063 & 064	5
71111.21N.02	Calculations	G13.18.2.3*206	G. L. 89-10 DESIGN BASIS REVIEW FOR E51- MOVF063 & F064	5
71111.21N.02	Calculations	G13.18.2.3*282	GL 89-10 Design Basis Review for SWP-MOV40A/B/C/D	2
71111.21N.02	Calculations	G13.18.2.3*290	G.L. 89-10 Design Basis Review for SWP-MOV81A/B & 507A/B	4
71111.21N.02	Calculations	G13.18.2.3*316	GL 96-05 MOV Periodic Static Test Frequency	0
71111.21N.02	Calculations	G13.18.2.3*325	River Bend Station NRC Generic Letter 96-05 AC MOV Actuator Output Capability Calculation	2
71111.21N.02	Calculations	G13.18.2.3*339	Air Operated Valve Program System Level Calculation for Reactor Building Equipment and Floor Drain System (System 609)	0
71111.21N.02	Calculations	G13.18.2.3*345	Air Operated Valve Component Level Calculation for Valve DFR-AOV101 and DFR-AOV102	0
71111.21N.02	Calculations	G13.18.2.6*183	High Pressure Core Spray System Hydraulic Performance	1
71111.21N.02	Corrective Action	CR-RBS-	2011-08093, 2014-03977, 2017-01907, 2019-02889,	

Inspection	Туре	Designation	Description or Title	Revision or
Procedure				Date
	Documents		2021-02048, 2021-02286, 2021-02626, 2021-07651,	
			1992-00673, 2017-02471, 2018-06872, 2019-04679,	
			2021-01871, 2007-00351, 2017-00936, 2017-01811,	
			2018-02890, 2018-06782, 2020-04845, 2021-02049,	
			2021-04891, 2021-07355, 2022-01833, 2014-00633,	
			2011-08093, 2014-03977, 2019-02373, 2021-01884	
71111.21N.02	Corrective Action	CR-HQN-	2022-00732, 2022-00754	
	Documents			
	Resulting from			
	Inspection			
71111.21N.02	Corrective Action	CR-RBS-	2022-02013, 2022-01977, 2022-01978, 2022-01980,	
	Documents		2022-02005, 2022-02061, 2022-02062, 2022-02063,	
	Resulting from		2022-02065, 2022-02066, 2022-02067, 2022-02069,	
	Inspection		2022-02070, 2022-02088, 2022-02125, 2022-02241	
71111.21N.02	Engineering	EC 0000039724	Adjust Limit Switch Settings for 2 MOVS, E22-MOVF004	0
	Changes		and G33-MOVF054	
71111.21N.02	Engineering	EC 60680	Provide HELB Scenario MOVs at Degraded Voltage in a	0
	Changes		Design Basis Calculation for E51-MOVF063, E51-	
	-		MOVF064, G33-MOVF001, & G33-MOVF004	
71111.21N.02	Engineering	EC 86640	Design/Seismic/Weak Link Analysis Report for 8" Gate	0
	Changes		Valve	
71111.21N.02	Engineering	MC-96-007	Motor Operated Valve Program Closure Report	0
	Evaluations			
71111.21N.02	Engineering	VA-7230.439-	Weak Link Analysis for 30-IN. Tricentric Valves	0
	Evaluations	000-009A		
71111.21N.02	Miscellaneous	AF E22-	As Found MOV Static Test Report	03/08/2021
		MOVF004		
71111.21N.02	Miscellaneous	AR 21006476	RBS Post R21 Static Test Frequency Changes for the	08/04/2021
			MOV Program	
71111.21N.02	Miscellaneous	E21-MOVF005-	MOV Static Test Report	07/28/1992
		ST-001		
71111.21N.02	Miscellaneous	E21-MOVF005-	MOV Static Test Report	09/18/1997
		ST-002		
71111.21N.02	Miscellaneous	E21-MOVF005-	MOV Static Test Report	02/20/2008

Inspection	Туре	Designation	Description or Title	Revision or
Procedure				Date
		ST-003		
71111.21N.02	Miscellaneous	E21-MOVF005- ST-004	MOV Static Test Report	02/28/2013
71111.21N.02	Miscellaneous	E21-MOVF005- ST-005	MOV Static Test Report	03/13/2020
71111.21N.02	Miscellaneous	VTD-F130-0131	Instruction Manual for Type 667 Diaphragm Actuator Sizes 30-76 and 87	1
71111.21N.02	Procedures	CEP-APJ-001	Primary Containment Leakage Rate Testing Program Plan	6
71111.21N.02	Procedures	EN-DC-117	Post-Modification Testing and Special Instructions	15
71111.21N.02	Procedures	EN-DC-304	MOV Thrust Torque Setpoint Calculations	4
71111.21N.02	Procedures	EN-DC-311	MOV Periodic Verification	7
71111.21N.02	Procedures	EN-DC-312	Motor Operated Valve MOV Test Data Review	9
71111.21N.02	Procedures	EN-DC-331	MOV Program	7
71111.21N.02	Procedures	EN-DC-334	Primary Containment Leakage Rate Testing (Appendix J)	4
71111.21N.02	Procedures	EN-EP-S-003- MULTI	ENS Magnesium Motor MOV Management Plan	0
71111.21N.02	Procedures	EN-LI-102	Corrective Action Program	47
71111.21N.02	Procedures	EN-MA-107	Post-Maintenance Testing	0
71111.21N.02	Procedures	OSP-0047	Local Leak Rate Testing Implementation	16
71111.21N.02	Procedures	SEP-APJ-004	Primary Containment Leakage Rate Testing Program	6
71111.21N.02	Procedures	SOP-0140	Suppression Pool Cleanup and Alternate Decay Heat Removal	41
71111.21N.02	Procedures	STP-057-3800	Local Leak Rate Test - Outage Summation	16
71111.21N.02	Procedures	STP-204-6304	Div II RHR Quarterly Valve Operability Test	25
71111.21N.02	Procedures	STP-209-3818	RCIC Penetration KJB-Z15 Valve Leak Rate Test	14
71111.21N.02	Work Orders	WO-RBS-	00067202, 00111606, 00232968, 00361059, 00377354, 00419530, 52247989, 52763221, 52895690, 00408614, 00442627, 00523754, 00539666, 52670970, 52766967, 52800959, 52810875, 52896350, 52863845, 52863911, 00442627, 00222817, 00408614, 00178505, 00222817, 00469591, 00484868, 00494597, 00496171, 00513196, 00518871, 00518871, 00518871, 00525607, 00543336, 00553907, 00560225, 52441262, 52560099, 52560101	

Inspection	Туре	Designation	Description or Title	Revision or
Procedure				Date
			52639670, 52639815, 52723206, 52767232, 52769527,	
			52771072, 52825271, 52830247, 52898905, 52902937,	
			52920964, 52887116,	