



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

November 15, 2022

Mr. Fadi Diya
Senior Vice President
and Chief Nuclear Officer
Ameren Missouri
8315 County Road 459
Steedman, MO 65077

SUBJECT: CALLAWAY PLANT – DESIGN BASIS ASSURANCE INSPECTION
(PROGRAMS) INSPECTION REPORT 05000483/2022013

Dear Mr. Diya:

On November 3, 2022, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Callaway Plant and discussed the results of this inspection with Mr. Barry L. Cox, Site Vice President, and other members of your staff. The results of this inspection are documented in the enclosed report.

No findings or violations of more than minor significance were identified during this inspection.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> 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,

A handwritten signature in black ink that reads "Vincent Gaddy".

Signed by Gaddy, Vincent
on 11/15/22

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

Docket No. 05000483
License No. NPF-30

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV

CALLAWAY PLANT – DESIGN BASIS ASSURANCE INSPECTION (PROGRAMS)
 INSPECTION REPORT 05000483/2022013- DATED NOVEMBER 15, 2022

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DOCUMENT NAME: CALLAWAY PLANT – DESIGN BASIS ASSURANCE INSPECTION (PROGRAMS)
 INSPECTION REPORT 05000483/2022013

ADAMS ACCESSION NUMBER: **ML22319A087**

SUNSI Review ADAMS: Non-Publicly Available Non-Sensitive
 Keyword: By: WCS Yes No Publicly Available Sensitive
 NRC-002

OFFICE	<i>DORS/EB1</i>	<i>DORS/EB1</i>	<i>DORS/EB1</i>	<i>DORS/EB1</i>	
NAME	<i>VGaddy</i>	<i>WSifre</i>	<i>JBraisted</i>	<i>DReinert</i>	
SIGNATURE	VGG	WCS	JDB	DRR	
DATE	11/15/22	11/15/22	11/15/22	11/15/22	

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**U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report**

Docket Number: 05000483

License Number: NPF-30

Report Number: 05000483/2022013

Enterprise Identifier: I-2022-013-0003

Licensee: Ameren Missouri

Facility: Callaway Plant

Location: Steedman, MO

Inspection Dates: October 17, 2022 to November 3, 2022

Inspectors: J. Braisted, Senior 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

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting a design basis assurance inspection (programs) inspection at Callaway Plant, 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

No findings or violations of more than minor significance were identified.

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. Evaluated maintenance activities including a walkdown of the sampled POVs (if accessible).

- (1) Component Cooling Water to Residual Heat Removal Heat Exchanger A Isolation Valve EGHV0101
- (2) Residual Heat Removal Pump A Suction Isolation Valve EJHV8701A
- (3) Turbine Driven Auxiliary Feedwater Pump to Steam Generator B Valve ALHV0010
- (4) Turbine Driven Auxiliary Feedwater Pump to Steam Generator C Valve ALHV0012
- (5) Pressurizer Power Operated Relief Valve BBPCV0456A
- (6) Residual Heat Removal Loop 1 Inlet Isolation Valve BBPV8702A
- (7) Safety Injection Pump A Discharge to Hot Leg Injection Isolation Valve EMHV8802A
- (8) Chemical and Volume Control System Component Cooling Pump to Reactor Coolant Pump Seals Throttle Valve BGHV8357B
- (9) Steam Generator C Atmospheric Steam Dump Valve ABPV0003
- (10) Motor Driven Auxiliary Feedwater Pump B to Steam Generator D Valve ALHV0005
- (11) Reactor Coolant System Pressurizer Outlet Power Operated Relief Valve BBHV8000B
- (12) Service Water to Essential Service Water Train B Upstream Isolation Valve EFHV0024

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

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

- On November 3, 2022, the inspectors presented the design basis assurance inspection (programs) inspection results to Mr. Barry L. Cox, Site Vice President and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date	
71111.21N.02	Calculations	AB-42	ABPV0001-4 Capability and Margin Calculation	3	
		AL-07	Failure Analysis Calculation of the Valve Stem on ALHV0005/7/9/11	0	
		AL-38	ALHV0006 Capability and Margin Calculation	2	
		M-BB-18	Pressurizer Safety and Relief Valves Maximum Reaction Forces	0	
		ZZ-214	MOV Voltage Drop Calculation	12	
		ZZ-443	Small Break LOCA Containment Pressure-Temperature Analysis	1	
		ZZ-467	MOV High Torque-High Voltage Conditions	0	
		ZZ-525	LOCA and MSLB Containment Pressure and Temperature Response	3	
		ZZ-534	Quarter-Turn MOV Capability and Margin Calculation	1	
		ZZ-536	Rising-Stem MOV Capability and Margin Calculation	2	
	Corrective Action Documents	Condition Report	202204485, 201900092, 202101555, 202105068, 202201038, 201303382, 201806463, 201900180, 202004200, 202004239, 201902392, 201705979, 201801857, 201907109, 202103637, 202201372, 202103140, 202203930, 202005727, 202104467, 202203142, 201408399, 201800513, 201800813, 201800316, 202101876, 202203588, 201707095, 202204499, 202204501, 202204669, 201600100, 201705611, 201801820, 201801836, 201901444, 201902545, 201905928, 202100006, 202102952, 202103313, 202103313, 202200020, 202200740, 202202780, 202203930, 202203978, 202204499, 201606533		
			202206849, 202206881, 202206943, 202206944, 202206946		
	Corrective Action Documents Resulting from Inspection	Condition Report			
	Drawings	E-23EG07(Q)	Schematic Diagram, Component Cooling Water Supply to		16

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			RHR Heat Exchanger	
		M-22AL01(Q)	Piping & Instrumentation Diagram, Auxiliary Feedwater System	51
		M-22EG02(Q)	Piping & Instrumentation Diagram, Component Cooling Water System	26
	Engineering Changes	MP 19-0103	RFR 180203 - Hot Leg Recirculation Valve Position Change and Mission Time Basis Documentation	0
		MP 94-1006	Change Limitorque Operator Gear Ratio for RHR Suction Isolation Valves	A
	Engineering Evaluations	Request for Resolution	20224A, 15502A, 2930A, 200604991, 5353B, 8746I, 5353S, 5353Y, 5353X, 18112D, 8746R, 5353H	
	Miscellaneous		Inservice Testing Program	37
		5710-99-H 049	Westinghouse Instruction Book for Motor Operated Gate Valves, Manually Operated Gate Valves & Swing Check Valves for SNUPPS Project	1
		AOV.BID	Preventive Maintenance Background Information Document, Air Operated Valves (AOV)	6
		EDP-ZZ-01114	Motor Operate Valve Program Guide	41
		EDP-ZZ-01133	Air Operated Valve Program Guide	25
		Procedures	ISL-BB-0P403	RCS Pressure (WR) Loop Calibration
	ITM-ZZ-VT001		Diagnostic Calibration and Testing of Modulating Air Operated Valves	25
	MTE-ZZ-QA013		Movats UDS Testing of Torque Controlled Limitorque Motor Operated Rising Stem Valves	5
	MTE-ZZ-QA035		MOVATS Votes Testing of Torque Controlled Limitorque Motor Operated Rising Stem Valves	8
	MTE-ZZ-QA037		MOVATS Votes Testing of Limitorque Motor Operated Butterfly Valves	9
	MTM-BB-QV002		Pressurizer Power Operated Relief Valves Disassembly/Inspection/Reassembly	017
	OSP-BB-V0001		Reactor Coolant System Valve Inservice Test	031
	OSP-BB-V002A		Power Operated Relief Valve Inservice Test	016
	OSP-BG-V001B		Chemical and Volume Control Train B Valve Inservice Test	042
Work Orders	Job	1051183.600, 1051184.600, 13506020.600,		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			19511393.500, 19511394.500, P724301.500, 15512230.500, 10507456.500, 7507046.500, 13505927.500, 21002431.500, 20512247.655, 20513601.500, 22508953.500, 17512947.500, 20511322.500, 20511372.500, 20511724.500, 20509560.565, 18500160.500, 19003553.500, 21500227.500, 14005755.901, 16000928.500, 11513514.580, 5109335.550, 12000070.550, 13505384.500, 21002429.500, 07506261.500, 13505468.500	