



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

**REGION IV
1600 EAST LAMAR BOULEVARD
ARLINGTON, TEXAS 76011-4511**

June 06, 2022

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

**SUBJECT: CALLAWAY PLANT – NOTIFICATION OF NRC DESIGN BASES ASSURANCE
INSPECTION (PROGRAMS) (05000483/2022013) AND REQUEST FOR
INFORMATION**

Dear Mr. Diya:

On September 19, 2022 the U.S. Nuclear Regulatory Commission (NRC) will begin an onsite inspection at the Callaway Plant. A three-person team will perform this inspection using NRC Inspection Procedure 71111, Attachment 21N.02, "Design-Basis Capability of Power-Operated Valves Under 10 CFR 50.55a Requirements," dated October 9, 2020.

This inspection will evaluate the reliability, functional capability, and design basis of risk-significant power-operated valves as required by 10 CFR 50.55a and applicable 10 CFR Part 50, Appendix A and Appendix B, requirements, and as required by the Callaway Plant operating license. Additionally, the team will perform an inspection of the documentation files to verify that the plant activities associated with safety-related motor-operated valves meet your commitments to Generic Letter (GL) 89-10, "Safety-Related Motor-Operated Valve Testing and Surveillance," and GL 96-05, "Periodic Verification of Design-Basis Capability of Safety-Related Motor-Operated Valves." In conducting this inspection, the team will select power-operated valves used to prevent and mitigate the consequences of a design basis accident.

The inspection will include an information gathering site visit by the team leader and two weeks of onsite inspection by the team. The inspection team will consist of three NRC inspectors. The current inspection schedule is as follows:

Onsite Information Gathering Visit: September 19 – 21, 2022

Preparation Week: October 10 – 14, 2022

Onsite Weeks: October 17 – 21, 2022, and October 31 - November 4, 2022

The purpose of the information gathering visit is to meet with members of your staff to become familiar with the power-operated valve activities at Callaway Plant. The lead inspector will request a meeting with your personnel to discuss the site power-operated valve procedures. Additionally, the lead inspector will request a discussion with your staff to become familiar with the regulations and standards applicable to power-operated valves at the site. Additional information and documentation needed to support the inspection will be identified during the inspection, including interviews with engineering managers and engineers.

To minimize the inspection impact on the site and to ensure a productive inspection, we have enclosed a request for information needed prior to the inspection. This information should be made available to the lead inspector by September 12, 2022, one week before the September 19 – 21, 2022, visit. Since the inspection will be concentrated on safety-related and risk-significant power-operated valves, a list of such power-operated valves should be available to review during and following the information gathering visit to assist in our selection of appropriate power-operated valves to review.

Additional requests by inspectors will be made during the onsite weeks for specific documents needed to complete the review of specific power-operated valves and associated activities. It is important that all documentation is up-to-date and complete to minimize the number of additional documents requested during the preparation and/or the onsite portions of the inspection. To facilitate the inspection, we request that a contact individual be assigned to each inspector to ensure information requests, questions, and concerns are addressed in a timely manner.

The lead inspector for this inspection is Mr. Wayne Sifre. We understand that our licensing contact for this inspection is Mr. Tom Elwood. If there are any questions about the inspection or the requested materials, please contact the lead inspector by telephone at 817-200-1193 or by e-mail at Wayne.Sifre@nrc.gov.

PAPERWORK REDUCTION ACT STATEMENT

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Sincerely,

A handwritten signature in black ink that reads "Vincent Gaddy". The signature is written in a cursive, slightly slanted style.

Signed by Gaddy, Vincent
on 06/06/22

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

Docket: 50-483
License: NPF-30

Enclosures:
Request for Information and
Valves of Interest

cc w/ encl: Distribution via LISTSERV®

CALLAWAY PLANT – NOTIFICATION OF NRC DESIGN BASES ASSURANCE INSPECTION (PROGRAMS) (05000483/2022013) AND REQUEST FOR INFORMATION – JUNE 06, 2022

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OFFICE	<i>DORS/EB1</i>	<i>DORS/EB1</i>			
NAME	<i>VGaddy</i>	<i>WSifre</i>			
SIGNATURE	<i>/RA/</i>	<i>/RA/</i>			
DATE	6/6/2022	6/6/2022			

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**Request for Information
Design-Basis Capability of Power-Operated Valves
CALLAWAY PLANT**

Inspection Report: 05000483/2022013

EPID Number: I-2022-013-0003

Information Gathering Dates: September 19 – 22, 2022

Onsite Inspection Dates: October 17 – 21, 2022, and October 31 – November 4, 2022

Inspection Procedure: IP 71111, Attachment 21N.02, "Design-Basis Capability of Power-Operated Valves Under 10 CFR 50.55a Requirements"

Lead Inspector: Mr. Wayne C. Sifre, Senior Reactor Inspector

I. Information Requested for Information Gathering Visit (September 19, 2022)

The following information should be provided to the lead inspector in hard copy or electronic format, to the attention of the lead inspector by September 5, 2022, to facilitate the reduction in the items to be selected for a final list of components. The inspection team will finalize the selected list during the prep week using the documents requested in this enclosure. The specific items selected from the lists shall be available and ready for review on the day indicated in this request. *Please provide requested documentation electronically in "pdf" files, Excel, or other searchable formats, if possible. The information should contain descriptive names and be indexed and hyperlinked to facilitate ease of use. Information in "lists" should contain enough information to be easily understood by someone who has knowledge of pressurized water reactor technology. If requested documents are large and only hard copy formats are available, please inform the inspectors, and provide subject documentation during the first day of the onsite inspection.

1. Provide the valve characteristics for the valves listed in the attached list as described in Appendix C of NRC Inspection Procedure 71111, Attachment 21N.02, "Design Basis Capability of Power-Operated Valves Under 10 CFR 50.55a Requirements."
2. List of power-operated valves (POVs) important to safety for the Callaway Plant. The list should include (a) component identification number; (b) applicable plant system; (c) ASME *Boiler and Pressure Vessel Code* (BPV Code) Class; (d) safety-related or nonsafety-related classification; (e) valve type, size and manufacturer; and (f) actuator type, size, and manufacturer. If the NRC has granted a license amendment to categorize structures, systems, and component in accordance with 10 CFR 50.69, please provide the risk-informed safety category of the structure, system, or component.

Enclosure

3. List of POVs sorted by risk importance, including internal and external risk considerations
4. Word-searchable updated final safety analysis report (UFSAR), license conditions, technical specifications, and most recent inservice testing (IST) program plan (and bases document), including any standards that have been committed to with respect to POV capability and testing. Also, identify which UFSAR sections address environmental, seismic, and functional qualification of POVs.
5. Provide copies of the latest POV program level procedures or manuals.
6. NRC Safety Evaluation Report(s) associated with the IST program including relief and alternative requests submitted in accordance with 10 CFR 50.55a for POVs.
7. Provide any responses to NRC Generic Letter (GL) 89-10, "Safety-Related Motor-Operated Valve Testing and Surveillance," (and its supplements) and GL 96-05, "Periodic Verification of Design-Basis Capability of Safety-Related Motor-Operated Valves."
8. Provide the most recently completed audit, self-assessment, or benchmark of POV programs at Callaway Plant.
9. List of systems, system numbers/designators, and corresponding names.
10. List of site contacts that will be associated with the inspection.

II. *Discussions Requested During the Information Gathering Visit*

1. Interview with a representative to discuss site POV capability analyses, including plant drawings and assumptions. This includes analysis for accident conditions.
2. Interview with a representative to discuss POV maintenance elements as integrated into plant programs and procedures.
3. Interview with a representative to discuss maintaining the design-basis capability of POVs if they have entered a period of extended operation, if applicable.

III. *Information Requested for Inspection Preparation (October 10, 2022) **

1. Calculations and/or evaluations associated with the selected POVs, as applicable. For example, these may include those related to motor-operated valve (MOV) torque switch setpoint, MOV terminal (degraded) voltage, maximum expected differential and pressure, torque switch bypass settings, rate of loading, environmental and process conditions during normal/accident operation, seismic and weak-link analysis, and pressure locking and thermal binding, etc. (Ten specific valves will be identified and communicated to you prior to October 3, 2022.)
2. Environmental qualification files associated with the selected POVs, as applicable.
3. Vendor manuals and technical sheets associated with the selected POVs.

4. Provide results (i.e., completed work orders) from the last three performances of diagnostic (static and/or dynamic) testing and inservice testing (stroke time, leak rate, etc.) of the selected POVs.
5. Provide performance (or failure) trending data for the selected POVs.
6. List of modifications related to the selected POVs.
7. List of corrective action program documents, with a brief description, related to the selected POVs over the past five years.
8. List of preventive maintenance activities for the selected POVs (valve and actuator). Include the identification number, title and/or description, and frequency.
9. System training manuals and/or design basis documents associated with the selected POVs.
10. Piping and instrument diagrams for systems related to the selected POVs.
11. Tours of the rooms in which the selected POVs are installed. If the inspection will be performed remotely, multiple pictures of selected valve and valve location can be provided. The pictures must have an orientation reference, a size reference, pictures of the surrounding environment, and pictures of the nameplates of both valve and valve operator.

IV. Discussions Requested During the First Inspection Week (October 17 – 21, 2022)

1. Brief presentation of POV programs at Callaway.
2. Interviews with representatives to discuss the design-basis capability of POVs based upon the team's review of gathered information.

** Please sort the Section III responses by each selected POV.*

Inspector Contact Information:

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817-200-1193
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Dustin Reinert
Reactor Inspector
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Mailing Address:

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Arlington, TX 76011-4511

**Valves of Interest
Design-Basis Capability of Power-Operated Valves
CALLAWAY PLANT**

No.	ACT	Valve Size	Valve Type	System Name	Utility ID
1.	AOV	8	Globe	Main Steam	ABPV0003
2.	AOV	4	Globe	Main Steam	ABPV0005
3.	AOV	14	Globe	Feedwater	AEFCV0520
4.	AOV	14	Globe	Feedwater	AEFCV0540
5.	MOV	4	Globe	Auxiliary Feedwater	ALHV0005
6.	AOV	4	Globe	Auxiliary Feedwater	ALHV0010
7.	AOV	4	Globe	Auxiliary Feedwater	ALHV0012
8.	MOV	6	Butterfly	Auxiliary Feedwater	ALHV0030
9.	MOV	8	Gate	Auxiliary Feedwater	ALHV0034
10.	MOV	3	Gate	Reactor Coolant	BBHV8000B
11.	SOV	1	Globe	Reactor Coolant	BBHV8001A
12.	SOV	1	Globe	Reactor Coolant	BBHV8157B
13.	SOV	3	Globe	Reactor Coolant	BBPCV456A
14.	MOV	12	Gate	Reactor Coolant	BBPV8702A
15.	MOV	2	Globe	Chemical & Volume Control	BGHV8104
16.	MOV	1	Globe	Chemical & Volume Control	BGHV8357B
17.	MOV	4	Gate	Chemical & Volume Control	BGLCV0112C
18.	MOV	12	Gate	Borated Refueling Water Storage	BNHV0004
19.	MOV	30	Butterfly	Essential Service Water	EFHV0024
20.	MOV	14	Butterfly	Essential Service Water	EFHV0045
21.	MOV	4	Gate	Component Cooling Water	EGHV0061
22.	MOV	18	Butterfly	Component Cooling Water	EGHV0101
23.	AOV	2	Globe	Component Cooling Water	EGRV0009
24.	MOV	12	Gate	Residual Heat Removal	EJHV8701A
25.	MOV	10	Gate	Residual Heat Removal	EJHV8809B
26.	MOV	4	Gate	High Pressure Coolant Injection	EMHV8802A
27.	MOV	10	Gate	Containment Spray	ENHV0012
28.	AOV	1	Globe	Accumulator Safety Injection	EPHV8880

No.	ACT	Valve Size	Valve Type	System Name	Utility ID
29.	MOV	6	Gate	Reactor Building & Hot Machine Shop Floor & Equipment Drain	LFFV0095
30.	AOV	6	Globe	Reactor Building & Hot Machine Shop Floor & Equipment Drain	LFFV0096