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

March 28, 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 AN NRC FIRE PROTECTION BASELINE INSPECTION (NRC INSPECTION REPORT 05000483/2022011) AND REQUEST FOR INFORMATION

Dear Mr. Diya:

The purpose of this letter is to notify you that the U.S. Nuclear Regulatory Commission (NRC), Region IV staff will conduct a triennial fire protection baseline inspection at the Callaway Plant in July 2022. The inspection team will be comprised of three reactor inspectors from the NRC Region IV office and one reactor inspector from the NRC Region I office. The inspection will be conducted in accordance with Inspection Procedure 71111, Attachment 21N.05, "Fire Protection Team Inspection," the NRC's baseline fire protection inspection procedure.

The schedule for the inspection is as follows:

- Information gathering visit: June 7 – 9, 2022
- Onsite inspection: June 27 – July 1, 2022, and July 11 – 15, 2022

The purpose of the information gathering visit is to obtain information and documentation needed to support the inspection and to become familiar with the fire protection program, fire protection features, post-fire safe shutdown capabilities and plant layout.

The team lead will review the initial set of documents requested in the enclosure to select the scope of structures, systems, and components for evaluation, and identify additional documents needed to support the inspection. The enclosure to this letter provides an initial list of the documents the team will need for review. We request that your staff transmit copies of the documents listed in the enclosure to the NRC Region IV office for team use in preparation for the inspection. Please send this information so that it will arrive in the NRC Region IV office by the dates listed in the enclosure.

During the inspection planning meeting(s), the team leader will discuss the following inspection support administrative details: (1) office space size and location; (2) specific documents requested to be made available to the team in their office spaces; (3) arrangements for reactor site access (including radiation protection training, security, safety, and

fitness for duty requirements); and (4) the availability of knowledgeable plant staff and licensing organization personnel to serve as points of contact during the inspection.

We request that during the on-site inspection weeks you ensure that copies of analyses, evaluations, or documentation regarding the implementation and maintenance of the station fire protection program, including the success path necessary to achieve and maintain the nuclear safety performance criteria, be readily accessible to the team for their review. Of specific interest for the fire protection portion of the inspection are those documents which establish that your fire protection program satisfies NRC regulatory requirements and conforms to applicable NRC and industry fire protection guidance (i.e., fire protection compliance assessment documents). Also, personnel should be available at the site during the inspection who are knowledgeable regarding those plant systems required to achieve and maintain safe and stable plant conditions, including the electrical aspects of the nuclear safety capability assessment, reactor plant fire protection systems and features, and the station fire protection program and its implementation.

PAPERWORK REDUCTION ACT STATEMENT

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This letter and its enclosure 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 10 CFR 2.390, “Public Inspections, Exemptions, Requests for Withholding.”

Your cooperation and support during this inspection will be appreciated. If you have questions concerning this inspection or the inspection team's information or logistical needs, please contact me, the team lead inspector, in the Region IV office at (817) 200-1270, (817) 504-2105 (m), or greg.pick@nrc.gov.

Sincerely,

Greg Pick

Greg Pick
Senior Reactor Inspector
Engineering Branch 2
Division of Reactor Safety

Docket: 50-483
License: NPF-30

Enclosures:
1. Triennial Fire Protection Inspection Document Request

cc w/ encl: Distribution via LISTSERV®

CALLAWAY PLANT - NOTIFICATION OF AN NRC FIRE PROTECTION BASELINE INSPECTION (NRC INSPECTION REPORT 05000483/2022011) AND REQUEST FOR INFORMATION – DATED MARCH 28, 2022

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Triennial Fire Protection Inspection Document Request

The documents and information requested below should generally be made available to the inspection team prior to the inspection. Electronic format is the preferred format, except where specifically noted. If electronic files are made available via a secure document management service, then the remote document access must allow inspectors to download, save, and print the documents.

If a secure document management service is utilized, it is recommended that a separate folder be used corresponding to each item listed below. It is recommended that multiple documents within each folder be individually entered and also combined into a ZIP file which is uploaded into the same folder. Documents should be identified by both document number and noun name. Electronic media on compact disc or paper records (hard copy) are also acceptable.

Where C-size paper drawings are requested, please prepare two copies. Retain one copy on site for the Team's use during the inspection weeks. Send one copy to the team leader at the NRC Region IV office.

To allow review before the on-site information gathering visit, the documents requested in items A.1 thru A.13 should be made available to the team no later than May 16, 2022.

Based on review of the documentation, the team leader will identify the scope for the inspection prior to the end of the on-site information gathering visit or in-office review of the information obtained.

This document request is based on typical documents that a generic plant might have. As such, this generic document request is not meant to imply that any specific plant is required to have all of the listed documents. It is recognized that some documents listed below may not be available for your plant. In addition, the document titles listed below are based on typical industry document names; your plant-specific document titles may vary.

To allow review before the on-site inspection weeks, all requested documents should be made available to the team no later than June 20, 2022.

A. DESIGN AND LICENSING BASIS DOCUMENTS

A.1 Post-fire Nuclear Safety Capability, Systems, and Separation Analysis

A.2 Fire Hazards Analysis and/or NFPA 805 Design Basis Document

A.3 Fire Probabilistic Risk Assessment (PRA) Summary Document or full PRA Document

A.4 NFPA 805 Transition Report, developed in accordance with NEI 04-02

A.5 Fire Risk Evaluations (i.e., NFPA 805 Section 2.4.3)

A.6 Plant Change Evaluations (i.e., NFPA 805 Section 2.4.4)

A.7 Facility Operating License.

A.8 Technical Specifications (electronic format only).

A.9 Updated Final Safety Analysis Report (electronic format only).

A.10 A list of the ten most risk significant plant systems for core damage frequency from the fire protection probabilistic risk assessment.

A.11 A list of the ten most risk significant plant systems for large early release frequency from the fire protection probabilistic risk assessment.

A.12 Plant layout drawings which identify: (electronic format and C-size paper drawings)

- Plant fire area boundaries
- Combustible control zone drawings
- Areas protected by automatic fire suppression and detection

A.13 For recovery actions, provide the following:

- Manual Action Feasibility Study
- Operator Time Critical Action Program
- Timelines for time-critical manual actions
- Timeline validations

B. GENERAL PLANT DESIGN DOCUMENTS

B.1 Piping and instrumentation diagrams (P&IDs) and legend list for components used to achieve and maintain post-fire safe shutdown for the sample systems or fire areas selected (electronic format and C-size paper drawings).

B.2 Piping and instrumentation diagrams and legend list for fire protection systems, including the fire water supply; water suppression sprinklers; and deluge, gaseous suppression systems for the sample systems or fire areas selected (electronic format and C-size paper drawings).

B.3 AC and DC electrical system single line diagrams, from off-site power down to the highest safety-related bus level (typically 4kV, EDG bus) (electronic format and C-size paper drawings).

B.4 Single line diagrams for motor control centers (MCCs) that supply post-fire nuclear safety component loads for the sample systems or fire areas selected (electronic format and C-size paper drawings).

B.5 Equipment location drawings which identify the physical plant locations of post-fire safety shutdown equipment for the sample systems or fire areas selected (electronic format and C-size paper drawings).

C. CLASSIC FIRE PROTECTION

C.1 Copy of fire protection program implementing procedures (e.g., administrative controls, surveillance testing, and fire brigade).

C.2 List, with descriptions, of calculations and engineering analyses, studies, or evaluations for the fire protection system, including the fire water system.

C.3 Last two completed surveillances of fire protection features for the sample systems or features within the fire areas selected (detection, suppression, damper inspections, damper tests, penetration inspections, barrier inspections, etc.).

C.4 List, with descriptions, of routine tests, surveillances, and preventive maintenance on fire pumps, including pump controllers and batteries.

C.5 Last two completed annual fire pump pressure and flow tests with a complete copy of the test procedure.

C.6 Last two completed monthly and/or quarterly fire pump tests with a complete copy of the test procedure.

C.7 Last two completed fire water system flow tests and flushes with a complete copy of the test procedure.

C.8 For Fire Brigade Drills, provide the following:

- Last five fire brigade drill critiques
- Last drill critique for a drill with off-site fire department support
- Last unannounced drill critique
- Last back-shift drill critique
- Dates, shifts, and locations of unannounced drills for last three years
- Summary of any unsatisfactory drill performance items for last three years
- Last unannounced drill critique by a qualified individual independent of the licensee's staff

C.9 For fire brigade equipment provide the following:

- Procedure for inventory and inspection
- Most recent inspection and inventory results

C.10 Fire Brigade Qualifications, including self-contained breathing apparatus (SCBA), and training lesson plans.

C.11 Copy of the evaluation or analysis of the effects of fire suppression activities on the ability to achieve the nuclear safety performance criteria for the sample systems or fire areas selected demonstrating:

- The automatic or manually actuation of a suppression system, due to a fire in a single location, will not indirectly cause damage to the success path
- The inadvertent actuation or rupture of a suppression system will not indirectly cause damage to the success path
- Adequate drainage for areas protected by water suppression systems
- The hydrostatic rating of any floor penetration seals installed within the fire areas that are credited with keeping water from leaking into fire areas below

C.12 Pre-fire plans for all fire areas.

C.13 Impairment Log (at start of inspection) for fire protection features that are out of service.

C.14 List of penetration seal work, re-work, or installation activities, in the last three years.

C.15 List of fire wrap work, re-work, or installation activities, in the last three years.

C.16 Fire protection system health reports for the two most recent quarters.

C.17 Fire protection program health reports for the two most recent quarters.

C.18 Licensee evaluations of industry operating experience concerning fire protection issues completed in the last three years.

C.19 List of fire event analysis reports for the last three years.

C.20 Fire protection program requirements (e.g., limiting conditions for operation, surveillance test requirements) covered by technical specifications, the technical requirements manual, the updated final safety analysis report, procedures or similar documents.

C.21 Fire Protection System(s) Design Basis Document.

C.22 List of applicable NFPA codes and standards and issuance dates (i.e., codes of record).

C.23 A list or document identifying any deviations from the NFPA codes of record.

C.24 Organization charts of site personnel down to the level of fire protection staff personnel.

C.25 A contact list of key site personnel who will be supporting this inspection, giving the office location and phone number.

C.26 The team would like to observe an unannounced fire brigade drill in the plant, if possible, during the week of July 11, 2022. Please put us in contact with the appropriate personnel for planning fire brigade drills during the onsite information gathering trip.

C.27 The team would like to perform a walkdown of the sample fire protection systems and/or fire areas with fire protection personnel in the plant during the week of June 27, 2022. Please put us in contact with the appropriate personnel for planning the walkdowns during the onsite information gathering trip.

D. ELECTRICAL

D.1 Electrical system health reports for the two most recent quarters.

D.2 Surveillance procedures and last surveillance demonstrating operability of components required for alternative shutdown.

E. OPERATIONS

E.1 The team would like to perform a walkthrough of a sample of post-fire safe shutdown procedures with qualified operators in the plant during the week of June 27, 2022. Please put us in contact with the appropriate personnel for planning the walkthroughs during the onsite information gathering trip.

E.2 List, with descriptions, of licensed operator Job Performance Measures (JPMs) for operator actions required to achieve and maintain post-fire safe shutdown.

E.3 List, with descriptions, of non-licensed operator training associated with non-licensed operator actions to achieve and maintain post-fire nuclear safe shutdown (including JPMs, in-field training walkdowns, simulations, or initial qualification).

E.4 Lesson plans for post-fire safe shutdown training for licensed and non-licensed operators.

E.5 Thermal hydraulic calculation or analysis that determines the time requirements for time-critical manual operator actions.

E.6 Operating procedures to achieve and maintain post-fire safe shutdown from the control room and requiring a control room evacuation.

E.7 For safe shutdown equipment and tools, provide the following:

- Procedure for inventory and inspection
- Most recent inspection and inventory results

E.8 List, with descriptions, of procedures that implement cold shutdown repairs.

E.9 For cold shutdown repairs, if required, provide the following:

- Procedure for inventory and inspection (i.e., needed tools, material, etc.)
- Most recent inspection and inventory results

F. ADMINISTRATIVE CONTROL, OVERSIGHT, AND CORRECTIVE ACTION PROGRAMS

F.1 Copies of procedures that control the configuration of the fire protection program, features, and post-fire safe shutdown methodology and system design. Also, copies of procedures that govern the implementation of plant modifications, maintenance, and special operations and their impact on fire protection.

F.2 List of open and closed condition reports for the fire protection systems for the last three years.

F.3 List of open and closed condition reports associated with the post-fire safe shutdown analysis for the last three years.

F.4 List of open and closed condition reports associated with operator actions to achieve and maintain post-fire safe shutdown for the last three years.

F.5 List of open and closed condition reports associated with the fire protection program including plant change evaluations, post-fire operating procedures and/or training, timeline evaluations for operator actions, and supporting engineering evaluations, analysis, or calculations for the last three years.

F.6 List of open and closed condition reports for emergency lighting units for the last three years.

F.7 Self-assessments, peer assessments, and audits of fire protection activities for the last three years.

F.8 Self-assessments, peer assessments, and audits of post-fire nuclear safety capability methodology for the last three years.

F.9 Provide administrative procedures that control temporary modifications, permanent plant changes, design changes, procedure changes, ageing management changes, equivalency evaluations, suitability analyses, calculations, commercial grade dedication, safety-security interface, and repairs.

F.10 Provide procedures that control the following: combustible controls, hot work, monitoring, compensatory measures, and workarounds.

F.11 Last five hot work permits (at power).

F.12 Last five transient combustible permits (at power).

G. AGING MANAGEMENT PROGRAM

G.1 Copies of the aging management programs applicable to fire protection including but not limited to the following:

- Fire Protection
- Fire Water System
- Aboveground Metallic Tanks
- Buried and Underground Piping and Tanks

G.2 Copies of procedures, work orders, preventive maintenance tasks, or other documents which implement the commitments made as part of the license extension related to fire protection.

G.3 List of aging management activities related to fire protection performed to date.