UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, ILLINOIS 60532-4352

January 3, 2024

Rod Penfield
Site Vice President
Energy Harbor Nuclear Corp.
Perry Nuclear Power Plant
10 Center Road, P.O. Box 97
Perry, OH 44081

SUBJECT: PERRY NUCLEAR POWER PLANT - NOTIFICATION OF NRC FIRE PROTECTION TEAM INSPECTION REQUEST FOR INFORMATION

Dear Rod Penfield:

The purpose of this letter is to notify you that the U.S. Nuclear Regulatory Commission (NRC) Region III staff will conduct a Fire Protection Team Inspection (FPTI) at your Perry Nuclear Power Plant beginning April 22, 2024. The inspection will be conducted in accordance with IP 71111.21N.05, “Fire Protection Team Inspection (FPTI),” dated June 12, 2019.

The inspection will verify that plant Systems, Structures, and Components (SSCs) and/or administrative controls credited in the approved Fire Protection Program (FPP) can perform their licensing basis function.

The schedule for the inspection is as follows:

- Preparation week (R-III office): April 15–19, 2024
- Week 1 of onsite inspection: April 22–26, 2024
- In office inspection week: April 29–May 3, 2024
- Week 2 of onsite inspection: May 6–10, 2024

Experience has shown that the baseline fire protection team inspections are extremely resource intensive, both for the NRC inspectors and the licensee staff. In order to minimize the inspection impact on the site and to ensure a productive inspection for both organizations, we have enclosed a request for documents needed for the inspection. These documents have been divided into three groups.

The first group lists information necessary to aid the inspection team in choosing specific focus areas for the inspection and to ensure that the inspection team is adequately prepared for the inspection. It is requested that this information be provided to the lead inspector via mail or electronically no later than March 8, 2024.

The second group of requested documents consists of those items that the team will review, or need access to, during the inspection. Please have this information available by the first day of the first onsite inspection week, April 22, 2024.

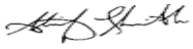
The third group lists the information necessary to aid the inspection team in tracking issues identified as a result of the inspection. It is requested that this information be provided to the lead inspector as the information is generated during the inspection.

It is important that all of these documents are up-to-date and complete in order to minimize the number of additional documents requested during the preparation and/or the onsite portions of the inspection.

The lead inspector for this inspection is Atif Shaikh. We understand that our regulatory contact for this inspection is George Dujanovic of your organization. If there are any questions about the inspection or the material requested, please contact the lead inspector at 630-829-9824 or via email at Atif.Shaikh@nrc.gov.

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 10 CFR 2.390, “Public Inspections, Exemptions, Requests for Withholding.”

Sincerely,



Signed by Shaikh, Atif
on 01/03/24

Atif Shaikh, Senior Reactor Inspector
Engineering and Reactor Projects Branch
Division of Operating Reactor Safety

Docket No. 05000440
License No. NPF–58

Enclosure:
Information Request for Fire Protection
Team Inspection

cc: Distribution via LISTSERV®

Letter to Rod Penfield from Atif Shaikh dated January 3, 2024.

SUBJECT: PERRY NUCLEAR POWER PLANT - NOTIFICATION OF NRC FIRE PROTECTION TEAM INSPECTION REQUEST FOR INFORMATION

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OFFICE	RIII						
NAME	AShaikh:sw						
DATE	01/03/2024						

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NOTIFICATION OF NRC TRIENNIAL FIRE PROTECTION BASELINE INSPECTION REQUEST FOR INFORMATION

I. Information Requested Prior to the Inspection Preparation Week

The following information is requested by **March 8, 2024**. If you have any questions regarding this request, please call the lead inspector as soon as possible. All information should be sent to Atif Shaikh (email address Atif.Shaikh@nrc.gov). Electronic or digital (online) media is preferred.

1. Design and Licensing Basis Documents

2. One set of hard-copy documents for facility layout drawings which identify plant fire area delineation; areas protected by automatic fire suppression and detection; and locations of fire protection equipment.

3. Licensing Information

   a. All Nuclear Regulatory Commission (NRC) Safety Evaluation Reports (SERs) applicable to fire protection (specifically including those SERs referenced by the plant fire protection license condition), and all licensing correspondence referenced by the SERs;

   b. All licensing correspondence associated with the comparison to Standard Review Plan (NUREG-0800), Section 9.5.1 or equivalent for licensing purposes;

   c. Exemptions from 10 CFR 50.48 and 10 CFR Part 50, Appendix R, and associated licensing correspondence;

   d. For pre-1979 plants, all licensing correspondence associated with those sections of 10 CFR Part 50, Appendix R, that are not applicable to the plant under 10 CFR 50.48(b)(1). Specifically, the licensing correspondence associated with those fire protection features proposed or implemented by the licensee that have been accepted by the NRC staff as satisfying the provisions of Appendix A to Branch Technical Position (BTP) APCSB 9.5-1 reflected in the NRC fire protection SERs issued before February 19, 1981, (10 CFR 50.48(b)(1)(i)); or those fire protection features, which were accepted by the NRC staff in comprehensive fire protection SERs issued before Appendix A to BTP APCSB 9.5-1 was published in August 1976 (10 CFR 50.48(b)(1)(ii)); and

   e. The final safety analysis report (FSAR) sections applicable to fire protection, FHA, and SSA in effect at the time of original licensing.

4. Fire Protection Program

   a. A listing of changes made to the FPP since the last triennial fire protection inspection;

b. For pre-1979 plants, a listing of the protection methodologies identified under 10 CFR Part 50, Appendix R, Section III.G used to achieve compliance for fire zones/areas. That is, please specify whether 3-hour rated fire barriers; (Section III.G.2.a), 20 foot separation along with detection and suppression; (Section III.G.2.b), 1-hour rated fire barriers with detection and suppression; (Section III.G.2.c), or alternative shutdown capability; (Section III.G.3) is used as a strategy for each selected fire zone/area;

c. A list of Generic Letter 86-10 evaluations (i.e., a list of adverse to safe-shutdown evaluations);

d. A list of applicable codes and standards related to the design of plant fire protection features. The list should include National Fire Protection Association (NFPA) code versions committed to (i.e., the NFPA Codes of Record); and

e. List of plant deviations from code commitments and associated evaluations;

f. Fire Protection Program and/or Fire Protection Plan document;

g. (If available) Fire Probabilistic Risk Assessment (PRA) Summary Report or full PRA document (if summary document not available);

h. List of the top 25 highest fire CDF scenarios for each unit;

i. List of Fire Areas/Zones ranked by contribution to CDF (i.e., ranking of highest to lowest risk fire areas/zones);

j. List of the top 25 highest fire LERF scenarios for each unit;

k. Risk ranking of operator actions and/or recovery actions from your site-specific PRA sorted by RAW and human reliability worksheets for these items.

5. Facility Information

a. Piping and instrumentation (flow) diagrams showing the components used to achieve and maintain hot standby and cold shutdown for fires outside the control room, and those components used for those areas requiring alternative shutdown capability;

b. One-line schematic drawings of the electrical distribution system for 4160 Volts alternating current (Vac) down to 480Vac;

c. One-line schematic drawings of the electrical distribution system for 250 Volts direct current (Vdc) and 125Vdc systems as applicable;

d. Logic diagrams showing the components used to achieve and maintain hot standby and cold shutdown; and

e. Safe-shutdown cable routing database (requested electronically, such as on compact disc, if available).

6. Operations Response for Fire Protection

    a. Pre-fire plans for fire zones/areas;

    b. Plant operating procedures which specify the initial operations response to a fire alarm or annunciator; and

7. Corrective Actions

    a. Listing of open and closed fire protection condition reports (i.e., problem identification forms and their resolution reports) since the date of the last triennial fire protection inspection; and

    b. List of current fire impairments, including duration.

8. General Information

    a. A listing of abbreviations and/or designators for plant systems;

    b. Organization charts of site personnel down to the level of fire protection staff personnel; and

    c. A phone list for onsite licensee personnel.

II. Information Requested to Be Available on First Day of the First Onsite Inspection Week (April 22, 2024)

The following information is requested to be provided on the first day of inspection. It is requested that this information be provided on three sets of CDs (searchable, if possible).

1. Program Procedures

    a. Procedures for:

        i. Administrative controls (such as allowed out of service times and compensatory measures) for fire protection systems and components;
        ii. Control of transient combustibles;
        iii. Control of hot work.

    b. List of maintenance and surveillance testing procedures for alternative shutdown capability and fire barriers, detectors, pumps, and suppression systems; and

    c. List of maintenance procedures which routinely verify fuse breaker coordination in accordance with the post-fire safe-shutdown coordination analysis.

2. Design and Equipment Information **(for only selected fire zone/area(s) and/or SSCs to be determined during inspection preparation week)**:

   a. Coordination calculations and/or justifications that verify fuse/breaker coordination for SSCs that are fed off of the same electrical buses as components in the protected safe-shutdown train;

   b. Copies of significant fire protection and post-fire safe-shutdown related design change package descriptions (including their associated 10 CFR 50.59 evaluations) and Generic Letter (GL) 86-10 (or adverse to safe shutdown) evaluations;

   c. Gaseous suppression system pre-operational testing, if applicable, for selected fire zones/areas;

   d. Hydraulic calculations and supporting test data which demonstrate operability for water suppression systems;

   e. Alternating current (ac) coordination calculations for 4160Vac down to 480Vac electrical systems; and

   f. List of all fire protection or Appendix R calculations.

3. Assessment and Corrective Actions:

   The three most recent fire protection Quality Assurance (QA) audits and/or fire protection self-assessments.

4. Any updates to information previously provided.

5. Classic Fire Protection **(for only selected fire zone/area(s) and/or SSCs to be determined during inspection preparation week)**:

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

   b. Pre-fire plans for selected fire area(s);

   c. List of fire protection system design changes completed in the last 3 years.

6. Electrical (for only selected fire zone/area(s) and/or SSCs to be determined during inspection preparation week):

   a. Nuclear safety circuit coordination analysis for fuse and breaker coordination of safe-shutdown components;

   b. Administrative or configuration control procedures that govern fuse replacement (e.g., fuse control procedures);

c. Maintenance procedures that verify breaker over-current trip settings to ensure coordination remains functional, for post-fire nuclear safety capability components;

d. Last surveillance demonstrating operability of those components operated from the primary control stations;

e. Schematic or elementary diagrams for circuits (only for selected SSCs) to be reviewed (C-size paper drawings);

f. Cable routing for components and equipment credited for post-fire nuclear safety capability systems and components;

g. List of post-fire nuclear safety capability system and component design changes completed, in the last 3 years;

h. List of identified fire induced circuit failure analyses.

7. Operations

a. List of procedures that implement Cold Shutdown Repairs (if applicable for selected fire area).

b. For Cold Shutdown Repairs, provide the following:

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

c. List of licensed operator Job Performance Measures (JPMs) for operator actions required to achieve and maintain post-fire nuclear safety performance criteria (for selected SSCs and fire area).

d. For Radio communications, provide the following:

i. Communications Plan for firefighting and post-fire safe-shutdown manual actions;
ii. Repeater locations;
iii. Cable routing for repeater power supply cables;
iv. Radio coverage test results; and
v. Radio Dead Spot locations in the plant.

e. Environmental and habitability evaluations for post-fire operator actions (temperature, smoke, humidity, SCBAs, etc.).

8. Administrative Control, Oversight, and Corrective Action Programs

a. Self-assessments, peer assessments, and audits of fire protection activities for the last 3 years;

b. Self-assessments, peer assessments, and audits of post-fire nuclear safety capability methodology for the last 3 years;

c. List of fire event analysis reports for the last 3 years.

9. Any updates to information previously provided.

III. Information Requested to Be Provided Throughout the Inspection

1. Copies of any corrective action documents generated as a result of the inspection team's questions or queries during this inspection.

2. Copies of the list of questions submitted by the inspection team members and the status/resolution of the information requested (provided daily during the inspection to each inspection team member).

3. Facility Information

   One set of hard-copy documents for facility layout drawings which identify plant fire area delineation; areas protected by automatic fire suppression and detection; and locations of fire protection equipment.

4. General Plant Design Documents (available onsite for inspector review)

   a. Piping and instrumentation diagrams (P&IDs) and legend list for components used to achieve and maintain nuclear safety performance criteria for: (C-size paper drawings):

      i. Fires outside the main control room; and
      ii. Fires in areas requiring recovery actions at other than primary control stations.

   b. P&IDs and legend list for fire protection systems, including fire water supply, water suppression sprinklers & deluge, and carbon dioxide (CO2) and Halon systems (C-size paper drawings).

   c. Yard layout drawings for underground fire protection buried piping (C-size paper drawings).

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

   e. Single line diagrams for motor control centers (MCCs) that supply post-fire nuclear safety component loads (only for selected fire areas) (C-size paper drawings).

   f. Equipment location drawings which identify the physical plant locations of post-fire nuclear safety capability equipment (C-size paper drawings).

g. Logic diagrams showing the components used to achieve and maintain hot standby and cold shutdown.

5. Administrative Control, Oversight, and Corrective Action Programs

   a. Corrective actions associated with operator actions to achieve and maintain post-fire nuclear safety performance criteria.

   b. List of open and closed condition reports for the fire protection system for the last 3 years.

   c. List of open and closed condition reports for post-fire nuclear safety capability issues for the last 3 years. This includes issues affecting the nuclear safety capability analysis, fire hazards analysis, NFPA 805 design basis, fire risk evaluations, plant change evaluations, post-fire operating procedures and/or training, timeline evaluations for operator actions, and supporting engineering evaluations, analysis, or calculations.

   d. List of procedures that control the configuration of the fire protection program, features, and post-fire nuclear safety capability methodology and system design.

6. General Information

   a. A listing of abbreviations and /or designators for plant systems;

   b. Organization charts of site personnel down to the level of fire protection staff personnel; and

   c. A phone list for onsite personnel.