



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

June 3, 2020

Mr. Eric Larson, Site Vice President
Entergy Operations, Inc.
Grand Gulf Nuclear Station
P.O. Box 756
Port Gibson, MS 39150

SUBJECT: GRAND GULF NUCLEAR STATION - NOTIFICATION OF NRC
FIRE PROTECTION BASELINE INSPECTION (NRC INSPECTION
REPORT 05000416/2020013) AND REQUEST FOR INFORMATION

Dear Mr. Larson:

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 your Grand Gulf Nuclear Station in August 2020. The inspection team will be comprised of three reactor inspectors from the NRC Region IV 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: July 21 and 22, 2020
- Onsite inspection: August 10– 4 and August 24–28, 2020

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 and one inspector will participate in the information gathering visit to select the scope of structures, systems, and components for evaluation, identify additional documents needed to support the inspection, obtain unescorted access, and meet with the key personnel who will support the inspection. The fire inspection sample selection will require a walkdown of fire areas in company with key personnel from your staff. The enclosure to this letter provides an initial list of the documents the team will need for their review. We request that your staff transmit copies of the documents listed in the enclosure to the NRC Region IV office 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 information gathering visit, the team leader will also 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 safe shutdown conditions, 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 conform 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, reactor plant fire protection systems and features, and the station fire protection program and its implementation.

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 August 10, 2020. Please put us in contact with the appropriate personnel for planning the walkthroughs during the onsite information gathering trip. The team would like to observe an unannounced fire brigade drill in the plant, if possible, during the week of August 24, 2020. Please put us in contact with the appropriate personnel for planning fire brigade drills during the onsite information gathering trip.

PAPERWORK REDUCTION ACT STATEMENT

This letter contains mandatory information collections that are subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). The Office of Management and Budget (OMB) approved these information collections (approval number 3150-0011). Send comments regarding this information collection to the Information Services Branch, Office of the Chief Information Officer, Mail Stop: T6 A10M, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0011) Office of Management and Budget, Washington, DC 20503.

Public Protection Notification

The NRC may not conduct nor sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid OMB control number.

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 in the Region IV office at (817) 200-1114 or Nnaerika.Okonkwo@nrc.gov.

Sincerely,

Nnaerika Okonkwo

Nnaerika Okonkwo, Reactor Inspector
Engineering Branch 2
Division of Reactor Safety

Docket No. 05000416

License No. NPF-29

Enclosure:

Triennial Fire Protection Inspection

Document Request

cc w/ encl: Distribution via LISTSERV®

GRAND GULF NUCLEAR STATION - NOTIFICATION OF NRC FIRE PROTECTION
BASELINE INSPECTION (NRC INSPECTION REPORT 05000416/2020013) AND REQUEST
FOR INFORMATION - June 3, 2020

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 By: NPO Yes No Publicly Available Sensitive NRC-002

OFFICE	RI:EB2				
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OFFICIAL RECORD COPY

Triennial Fire Protection Inspection Document Request

The documents and information requested in this enclosure should generally be made available to the inspection team prior to the inspection. Electronic format is preferred, 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 combined into a compressed (ZIP) file which is then 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 ANSI C-size paper (17" X 22") 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.18 should be made available to the team no later than June 22, 2020.

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.

To allow review before the on-site inspection weeks, the remaining requested documents should be made available to the team no later than August 3, 2020.

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 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.

A. DESIGN AND LICENSING BASIS DOCUMENTS

- A.1 The current version of the Fire Protection Program and Fire Hazards Analysis.
- A.2 Post-fire safe shutdown analysis and the supporting calculations that demonstrate acceptable plant response.
- A.3 The fire protection probabilistic risk assessment or portions of the plant's individual plant examination for external events (IPEEE) report addressing fire events. Also, include the results of any post-IPEEE reviews and listings of actions taken/plant modifications conducted in response to IPEEE information that relate to fire risk.
- A.4 Licensing basis documents for fire protection (safety evaluation reports, pertinent sections of the final safety analysis report, exemptions, deviations, letters to/from the NRC regarding fire protection/fire safe shutdown, etc.).
- A.5 List of post-fire safe shutdown systems and components (i.e., safe shutdown equipment list).
- A.6 List of fire areas with automatic fire suppression systems. Include a description of the suppression agent used.
- A.7 A list, with descriptions, of design change packages performed since the last fire protection team inspection associated with fire protection or post-fire safe shutdown systems.
- A.8 A list, with descriptions, of any fire protection program changes and evaluations (not limited to Generic Letter 86-10 evaluations) performed since the last fire protection team inspection.
- A.9 Facility Operating License.
- A.10 Technical Specifications (electronic format only).
- A.11 Updated Final Safety Analysis Report (electronic format only).
- A.12 Fire Protection System(s) Design Basis Document.
- A.13 A list of the ten most risk significant plant systems for core damage frequency from the fire protection probabilistic risk assessment (if available) or the internal events probabilistic risk assessment.
- A.14 A list of the ten most risk significant plant systems for large early release frequency from the fire protection probabilistic risk assessment (if available) or the internal events probabilistic risk assessment.

A.15 Plant layout drawings which identify: (electronic format and ANSI C-size paper drawings)

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

A.16 For local manual operator actions, provide the following:

- Manual Action Feasibility Study
- Operator Time Critical Action Program
- Time lines for time-critical manual actions
- Time line validations

A.17 Organization charts of site personnel down to the level of fire protection staff personnel.

A.18 A contact list of key site personnel who will be supporting this inspection, giving the office location and phone number onsite.

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 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 safe and stable conditions for the sample systems or fire areas selected demonstrating:
- The automatic or manual 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, rework, 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 List of applicable NFPA codes and standards and issuance dates (i.e., codes of record).
- C.22 A list or document identifying any deviations from the NFPA codes of record.

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 List with descriptions of licensed operator Job Performance Measures (JPMs) for operator actions required to achieve and maintain post-fire safe shutdown.
- E.2 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.3 Lesson plans for post-fire safe shutdown training for licensed and non-licensed operators.
- E.4 Thermal hydraulic calculation or analysis that determines the time requirements for time-critical manual operator actions.

- E.5 Operating procedures to achieve and maintain post-fire safe shutdown from the control room and requiring a control room evacuation.
- E.6 For safe shutdown equipment and tools, provide the following:
- Procedure for inventory and inspection
 - Most recent inspection and inventory results
- E.7 List with descriptions of procedures that implement cold shutdown repairs, if required.
- E.8 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 work-around.

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.