Attachments C, G, S1, S2, and W contain security-related information and should be withheld under 10 CFR 2.390. Upon removal of these Attachments, this correspondence is de-controlled.

Southern Nuclear

Cheryl A. Gayheart
Regulatory Affairs Director

3535 Colonnade Parkway
Birmingham, AL 35243
205 992 5316

cagayhea@southernco.com

December 13, 2019

Docket Nos.: 50-321
50-366

NL-19-1475

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Edwin I. Hatch Nuclear Plant – Units 1 and 2
Response to Request for Additional Information Regarding the License Amendment Request to Transition to 10 CFR 50.48(c) – NFPA -805 Performance Based Standard for Fire Protection for Light Water Reactor Generating Plants

Ladies and Gentlemen:

By letter dated April 4, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18096A936), Southern Nuclear Operating Company (SNC) submitted a license amendment request (LAR) for the Edwin I. Hatch Nuclear Plant (HNP), Units 1 and 2, to adopt National Fire Protection Association Standard 805 (NFPA 805), "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants," 2001 Edition (ADAMS Accession No. ML010800360), as incorporated into Title 10 of the Code of Federal Regulations, Part 50, Section 50.48(c). On March 29, 2019, and August 8, 2019, the U.S. Nuclear Regulatory Commission (NRC) staff issued requests for additional information (RAIs) to SNC. SNC responded to the RAIs by letters dated May 28, 2019, August 9, 2019, and October 7, 2019, with the exception of the March 29, 2019 PRA RAI 03 and 18.

Enclosure 1 to this letter provides the SNC response to PRA RAI 03 and 18. As part of the RAI response process, necessary modifications were identified to various Attachments and to Section 4.1.2 of the transition report provided in the April 4, 2018 LAR. Enclosure 2 provides a markup to the LAR transition report. Additional markups to the LAR Attachments are provided as stated in the Attachment list below. Additionally, a "clean" Attachment S is also provided (Attachment S2). This "clean" Attachment S incorporates all changes to the previously provided Attachment S, and supersedes the previously provided Attachment S in its entirety.

Based on revisions to Table S-2, "Plant Modifications Committed" and Table S-3, "Implementation Items" of Attachment S, an update to the Facility Operating License (FOL) Condition is necessary to reflect the latest Attachment S requirements. Enclosures 3 and 4 provide the revised marked-up and clean FOL Conditions.

A006
NRR

The conclusions of the No Significant Hazards Consideration and Environmental Consideration contained in the original License Amendment Request (LAR) have been reviewed and are unaffected by this RAI response.

This letter contains no NRC commitments. If you have any questions, please contact Jamie Coleman at 205.992.6611.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 13th day of December 2019.

Respectfully submitted,

C. A. Gayheart
Director, Regulatory Affairs
Southern Nuclear Operating Company

CAG/RMJ

Enclosures:
1. Response to PRA RAI 03 and 18
2. Markup to Transition Report Section 4.1.2
3. Revised Marked-Up FOL Condition
4. Revised Clean FOL Condition

Attachments:
A. Markup to LAR Attachment A
C. Markup to LAR Attachment C (Security-related information)
G. Markup to LAR Attachment G (Security-related information)
H. Markup to LAR Attachment H
J. Markup to LAR Attachment J
L. Markup to LAR Attachment L
S1. Markup to LAR Attachment S (Security-related information)
S2. Revised LAR Attachment S (Security-related information)
W. Markup to LAR Attachment W (Security-related information)

cc: Regional Administrator, Region II
NRR Project Manager – Hatch
Senior Resident Inspector – Hatch
Director, Environmental Protection Division – State of Georgia
RType: CHA02.004

Edwin I. Hatch Nuclear Plant – Units 1 and 2
Response to Request for Additional Information Regarding the License Amendment Request to Transition to 10 CFR 50.48(c) – NFPA -805 Performance Based Standard for Fire Protection for Light Water Reactor Generating Plants

Enclosure 1

Response to PRA RAI 03 and 18

PRA RAI 3:

Section 2.4.4.1 of NFPA 805 states that the change in public health risk arising from transition from the current fire protection program (FPP) to an NFPA 805 based program, and all future plant changes to the program, shall be acceptable to the NRC. RG 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," Revision 2, (ADAMS Accession No. ML100910006), provides quantitative guidelines on core damage frequency (CDF), and large early release frequency (LERF), and identifies acceptable changes to these frequencies that result from proposed changes to the plant's licensing basis and describes a general framework to determine the acceptability of risk-informed changes.

Based on other NRC staff RAIs, the PRA methods discussed in the following RAIs may need to be revised to be acceptable to the NRC:

- PRA RAI 02.b regarding update of the FPRA for IE F&O resolutions
- PRA RAI 04.b regarding replacement of methods that deviate from NRC guidance
- PRA RAI 07.b regarding treatment of sensitive electronics
- PRA RAI 08 regarding treatment of the impact of violations on influence factors
- PRA RAI 09.c.ii regarding minimum joint Human Error Probabilities (HEPs)
- PRA RAI 10 regarding obstructed plume modelling
- PRA RAI 11.e regarding fire modeling of the MCB enclosure
- PRA RAI 11.h regarding credit for MCB partitions
- PRA RAI 12.e regarding MCR abandonment due to loss of habitability (LOH)
- PRA RAI 13.f regarding MCR abandonment due to loss of control (LOC)
- PRA RAI 13.i regarding inclusion of the decision-to-abandon the MCR in LOC scenarios
- PRA RAI 16.c regarding the impact of untraced cables on change-in-risk
- PRA RAI 16.d regarding the impact of other modeling conservatisms on change-in-risk

This list may be revised following the NRC review of the licensee's response to all the RAIs (not just those listed here).

a) Provide the results of an aggregate analysis that provides the integrated impact on the fire risk (i.e., the total transition CDF and LERF, and the change (Δ) in CDF (ΔCDF), and ΔLERF), of replacing specific methods identified above with alternative methods which are acceptable to the NRC. In this aggregate analysis, for those cases where the individual issues have a synergistic impact on the results, a simultaneous analysis must be performed. For those cases where no synergy exists, a one-at-a-time analysis may be done. For those cases that have a negligible impact, a qualitative evaluation may be done.

b) For each method above, explain how the issue will be addressed in (1) the final aggregate analysis results provided in support of the LAR, and (2) the PRA that will be used at the beginning of the self-approval of post-transition changes. In addition, provide a method to ensure that all changes will be made, that a focused-scope peer review will be performed on changes that are PRA upgrades as defined in the PRA standard, and that any findings will be resolved before self-approval of post-transition changes.

c) Explain how the RG 1.205, "Risk-Informed, Performance-Based Fire Protection for Existing Light-Water Nuclear Power Plants," Revision 1, (ADAMS Accession No. ML092730314) risk acceptance guidelines are satisfied for the aggregate analysis. If applicable, include a description of any new modifications or operator actions being credited to reduce delta risk as well as a discussion of the associated impacts to the FPP.

d) If any unacceptable methods or weaknesses will be retained in the PRA that will be used to estimate the change-in-risk of post-transition changes to support self-approval, explain how the quantification results for each future change will account for the use of these unacceptable methods or weaknesses.

e) Identify and summarize the changes to the FPRA model beyond those associated with the RAIs cited above that may need to be revised and confirm that the changes do not introduce approaches unacceptable to NRC.

PRA RAI 3 RESPONSE:

a) The PRA was changed to address any issues identified in response to each of the RAIs listed. See response to b). Given the PRA was changed, only a single aggregate analysis is required. Furthermore, a qualitative evaluation is not required. The results of the aggregate analysis are provided in the following table.

	CDF (/yr.)	ΔCDF	LERF (/yr.)	ΔLERF
Unit 1	5.24E-05	8.12E-06	1.89E-06	4.88E-07
Unit 2	5.38E-05	8.31E-06	3.39E-06	5.74E-07

b) The PRA was changed to address any issues identified in response to each of the RAIs listed. The PRA with the changes was used for the final aggregate analysis results and will be used at the beginning of the self-approval of post-transition changes. The changes were performed in accordance with the SNC PRA maintenance procedures. These procedures are used to determine if changes are defined as upgrades per the PRA standard and if a focused-scope peer review is required. The changes to the PRA are summarized in the following table. Refer to the RAI responses for details of the PRA treatment for each RAI listed. No changes to the PRA satisfied the definition of a PRA upgrade and a focused-scope peer review was not required.

PRA RAI	PRA Resolution	PRA Upgrade	Comment
02.b	No change required	N/A	N/A
04.b	No change required	N/A	N/A
07.b	No change required	N/A	N/A
08	The FPRA was revised to incorporate the changes to the transient weighting factors.	No	No new or change in method.

PRA RAI	PRA Resolution	PRA Upgrade	Comment
09.c	The FPRA was changed to use a minimum JHEP floor value of 1E-5	No	The minimum JHEP floor value approach was used in the peer reviewed model; however, exceptions were justified. These exceptions have been replaced with the recommended floor value.
10	No change required	N/A	N/A
11.e	No change required	N/A	N/A
11.h	No change required	N/A	N/A
12.e	No change required	N/A	N/A
13.f	No change required	N/A	N/A
13.i	No change required	N/A	N/A
16.c	No change required	N/A	N/A
16.d	No change required	N/A	N/A

c) See response to a. The results provided show that the RG 1.205 risk acceptance guidelines are satisfied. The results do not credit any new modifications or operator actions to reduce delta risk.

d) See response to b. The PRA did not retain unacceptable methods or identified weaknesses.

e) The PRA model was revised in response to PRA RAI 18 to remove the assumed conditional probability of the loss of NPSH for low pressure emergency core cooling system pumps following containment venting. Changes to the model were based on existing PRA approaches.

PRA RAI 18:

Section 2.4.3.3 of NFPA 805 states that the PRA approach, methods, and data shall be acceptable to the NRC. Section 2.4.4.1 of NFPA 805 further states that the change in public health risk arising from transition from the current FPP to an NFPA 805 based program, and all future plant changes to the program, shall be acceptable to the NRC. RG 1.174 provides quantitative guidelines on CDF, LERF, and identifies acceptable changes to these frequencies that result from proposed changes to the plant's licensing basis and describes a general framework to determine the acceptability of RI changes. With regard to model uncertainty, Section 2.5.3 of RG 1.174 states that "In many cases, the industry's state of knowledge is incomplete, and there may be different opinions on how the models should be formulated." It also states that understanding the impact of key assumptions may be addressed by "performing the appropriate sensitivity studies."

Attachment 6, "Disposition of Key Assumptions/Sources of Uncertainty," of your application to adopt 10 CFR 50.69, provides dispositions for candidate key assumptions and sources of uncertainty for RI categorization. One uncertainty identified that may impact the NFPA 805 application concerns the assumed conditional probability of 1E-02 used account for the loss of net positive suction head (NPSH) following emergency containment venting which leads to failure of the of low pressure emergency core cooling system pumps. The 50.69 LAR did not explain the basis for the 1E-02 value or indicate how much uncertainty may exist in this assumption. NFPA 805 LAR Attachment C, Table C-1 identifies VFDRs associated with spurious opening of the Safety Relief Valves (SRVs) which suggests that assumptions made regarding loss of NPSH following containment venting might have an impact on the estimated change-in-risk. Accordingly, the NRC staff observes that the sensitivity of the fire change-in-risk results for the NFPA 805 application may be sensitive to the same modeling uncertainty as the 10 CFR 50.69 application. In light of these observations:

a) Describe the basis for the assumed conditional probability of 1E-02 for loss of NPSH given containment venting and indicate the degree of uncertainty that exists.

b) Justify why uncertainty in the assumed probability for loss of NPSH following containment venting has a minimal impact on fire risk estimates (i.e., CDF, LERF, ΔCDF, and ΔLERF).

c) If it cannot be qualitatively justified that the impact from the assumed probability for loss of NPSH following emergency venting has a minimal impact the fire risk estimates, then perform a sensitivity study on the integrated analysis provided in response to PRA RAI 03 demonstrating that the uncertainty associated with the assumed conditional probability of 1E-02 does not impact the NFPA 805 application.

RAI 18 RAI RESPONSE:

a) The PRA model has been revised to remove the uncertainty associated with the assumed conditional probability for loss of NPSH for low pressure emergency core cooling system pumps following containment venting (model basic event NPSHLOSSPROB). The basic event NPSHLOSSPROB identified in the RAI was removed from the PRA model. Thermal hydraulic analysis and operator response analysis were used to remove the uncertainty and revise the model to include the dependencies of the pump NPSH on torus conditions and the operator response to throttle pump flow to maintain NPSH following containment venting. Thus, no new key sources of uncertainty were introduced with the model changes. The updated analysis results provided within PRA RAI 3 use the revised PRA model that removed the assumed conditional probability for loss of NPSH following containment venting. This model change also requires a procedure change to provide guidance to the operators to swap suction for core spray to the CST when the required NPSH for the core spray pumps is lost. See Attachment S, Table S-3, Implementation Item IMP-23.

b) See response to a.

c) See response to a.

Edwin I. Hatch Nuclear Plant – Units 1 and 2
Response to Request for Additional Information Regarding the License Amendment Request to Transition to 10 CFR 50.48(c) – NFPA -805 Performance Based Standard for Fire Protection for Light Water Reactor Generating Plants

Enclosure 2

Markup to Transition Report Section 4.1.2

4.1.2 Results of the Evaluation Process

4.1.2.1 NFPA 805 Chapter 3 Requirements Met or Previously Approved by the NRC

Attachment A contains the NEI 04-02 Table B-1, Transition of Fundamental Fire Protection Program and Design Elements. This table provides the compliance basis for the requirements in NFPA 805 Chapter 3. Except as identified in Section 4.1.2.3, Attachment A demonstrates that the fire protection program at HNP either:

- Complies directly with the requirements of NFPA 805 Chapter 3,
- Complies with clarification with the requirements of NFPA 805 Chapter 3,
- Complies through the use of existing engineering equivalency evaluations which are valid and of appropriate quality, or
- Complies with a previously NRC approved alternative to NFPA 805 Chapter 3 and therefore the specific requirement of NFPA 805 Chapter 3 is supplanted.
- Complies, with Required Action, with applicable implementation items identified in the compliance basis, and also appear in Attachment S.

4.1.2.2 NFPA 805 Chapter 3 Requirements Requiring Clarification of Prior NRC Approval

NFPA 805 Section 3.1 states in part, "Previously approved alternatives from the fundamental protection program attributes of this chapter by the AHJ take precedence over the requirements contained herein." In some cases, prior NRC approval of an NFPA 805 Chapter 3 program attribute may be unclear. SNC requests that the NRC concur with their finding of prior approval for the following sections of NFPA 805 Chapter 3:

- None.

4.1.2.3 NFPA 805 Chapter 3 Requirements Not Met and Not Previously Approved by NRC

The following sections of NFPA 805 Chapter 3 are not specifically met nor do previous NRC approvals of alternatives exist:

- 3.2.3(1) – Approval is requested for the use of EPRI performance-based fire protection inspection, testing, and maintenance frequencies
- 3.3.4 – Approval is requested for thermal insulation materials
- 3.3.5.1 – Approval is requested for wiring above suspended ceilings
- 3.3.5.2 – Approval is requested for 1) the use of nonmetallic conduit in embedded applications, 2) existing installations of flexible metallic and PVC coated flexible metallic conduits in lengths greater than 3-feet, and 3) the future use of flexible metallic and PVC coated flexible metallic conduits in lengths up to 6-feet.
- 3.5.2 and 3.5.10 – Approval is requested for the lack of check valves in the fire water tanks discharge piping
- 3.5.3 – Approval is requested for fire pump controller NFPA 20 compliance

Edwin I. Hatch Nuclear Plant – Units 1 and 2
Response to Request for Additional Information Regarding the License Amendment Request to Transition to 10 CFR 50.48(c) – NFPA -805 Performance Based Standard for Fire Protection for Light Water Reactor Generating Plants

Enclosure 3

Revised Marked-Up FOL Condition

for sample analysis or instrument calibration, or associated with radioactive apparatus or components

(6) Southern Nuclear, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This renewed license shall be deemed to contain, and is subject to, the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Section 50.54 of Part 50, and Section 70.32 of Part 70; all applicable provisions of the Act and the rules, regulations, and orders of the Commission now or hereafter in effect; and the additional conditions specified or incorporated below:

(1) Maximum Power Level

Southern Nuclear is authorized to operate the facility at steady-state reactor core power levels not in excess of 2,804 megawatts thermal.

(2) Technical Specifications

The Technical Specifications (Appendix A) and the Environmental Protection Plan (Appendix B), as revised through Amendment No. 298, are hereby incorporated in the renewed license. Southern Nuclear shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

The Surveillance Requirement (SR) contained in the Technical Specifications and listed below, is not required to be performed immediately upon implementation of Amendment No. 195. The SR listed below shall be successfully demonstrated before the time and condition specified:

SR 3.8.1.18 shall be successfully demonstrated at its next regularly scheduled performance.

(3) Fire Protection

Unit 1 Insert

~~Southern Nuclear shall implement and maintain in effect all provisions of the fire protection program, which is referenced in the Updated Final Safety Analysis Report for the facility, as contained in the updated Fire Hazards Analysis and Fire Protection Program for the Edwin I. Hatch Nuclear Plant, Units 1 and 2, which was originally submitted by letter dated July 22, 1986. Southern Nuclear may make changes to the fire protection program without prior Commission approval only if the changes~~

~~would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.~~

(4.a) Physical Protection

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans, including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plan is entitled: "Southern Nuclear Operating Company Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan," with revisions submitted through May 15, 2006.

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The Southern Nuclear CSP was approved by License Amendment No. 265, as supplemented by a change approved by License Amendment No. 274.

(4.b) Mitigation Strategy License Condition

Develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

(a) Fire fighting response strategy with the following elements:
1. Pre-defined coordinated fire response strategy and guidance
2. Assessment of mutual aid fire fighting assets
3. Designated staging areas for equipment and materials
4. Command and control
5. Training of response personnel

(b) Operations to mitigate fuel damage considering the following:
1. Protection and use of personnel assets
2. Communications
3. Minimizing fire spread
4. Procedures for implementing integrated fire response strategy
5. Identification of readily-available pre- staged equipment
6. Training on integrated fire response strategy
7. Spent fuel pool mitigation measures

(c) Actions to minimize release to include consideration of:
1. Water spray scrubbing
2. Dose to onsite responders

(4.c) The licensee shall implement and maintain all Actions required by Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.

(6) Southern Nuclear, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This renewed license shall be deemed to contain, and is subject to, the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Section 50.54 of Part 50, and Section 70.32 of Part 70; all applicable provisions of the Act and the rules, regulations, and orders of the Commission now or hereafter in effect; and the additional conditions[2] specified or incorporated below:

(1) Maximum Power Level

Southern Nuclear is authorized to operate the facility at steady-state reactor core power levels not in excess of 2,804 megawatts thermal, in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications (Appendix A) and the Environmental Protection Plan (Appendix B), as revised through Amendment No. 243, are hereby incorporated in the renewed license. Southern Nuclear shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Additional Conditions

The matters specified in the following conditions shall be completed to the satisfaction of the Commission within the stated time periods following the issuance of the renewed license or within the operational restrictions indicated. The removal of these conditions shall be made by an amendment to the license supported by a favorable evaluation by the Commission.

(a) Fire Protection

Unit 2 Insert

~~Southern Nuclear shall implement and maintain in effect all provisions of the fire protection program, which is referenced in the Updated Final Safety Analysis Report for the facility, as contained~~

2 The original licensee authorized to possess, use, and operate the facility was Georgia Power Company (GPC). Consequently, certain historical references to GPC remain in certain license conditions.

~~in the updated Fire Hazards Analysis and Fire Protection Program for the Edwin I. Hatch Nuclear Plant Units 1 and 2, which was originally submitted by letter from GPC to the Commission dated July 22, 1986. Southern Nuclear may make changes to the fire protection program without prior Commission approval only if the changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.~~

(b.1) Physical Protection

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans, including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plan is entitled: "Southern Nuclear Operating Company Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan," with revisions submitted through May 15, 2006.

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The Southern Nuclear CSP was approved by License Amendment No. 209, as supplemented by a change approved by License Amendment No. 219.

(b.2) Mitigation Strategy License Condition

Develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

(a) Fire fighting response strategy with the following elements:
1. Pre-defined coordinated fire response strategy and guidance
2. Assessment of mutual aid fire fighting assets
3. Designated staging areas for equipment and materials
4. Command and control
5. Training of response personnel

(b) Operations to mitigate fuel damage considering the following:
1. Protection and use of personnel assets
2. Communications
3. Minimizing fire spread
4. Procedures for implementing integrated fire response strategy
5. Identification of readily-available pre-staged equipment
6. Training on integrated fire response strategy
7. Spent fuel pool mitigation measures

Unit 1 Insert
Page 1 of 2

Southern Nuclear Operating Company shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the licensee amendment request dated April 4, 2018, supplemented by letters dated May 28, 2019, August 9, 2019, October 7, 2019, and December 13, 2019, and as approved in the NRC safety evaluation (SE) dated _____. Except where NRC approval for changes or deviations is required by 10 CFR 50.48(c), and provided no other regulation, technical specification, license condition or requirement would require prior NRC approval, the licensee may make changes to the fire protection program without prior approval of the Commission if those changes satisfy the provisions set forth in 10 CFR 50.48(a) and 10 CFR 50.48(c), the change does not require a change to a technical specification or a license condition, and the criteria listed below are satisfied.

(a) Risk-Informed Changes that May Be Made Without Prior NRC Approval

A risk assessment of the change must demonstrate that the acceptance criteria below are met. The risk assessment approach, methods, and data shall be acceptable to the NRC and shall be appropriate for the nature and scope of the change being evaluated; be based on the as-built, as-operated, and maintained plant; and reflect the operating experience at the plant. Acceptable methods to assess the risk of the change may include methods that have been used in the peer-reviewed fire PRA model, methods that have been approved by NRC through a plant-specific license amendment or NRC approval of generic methods specifically for use in NFPA 805 risk assessments, or methods that have been demonstrated to bound the risk impact.

(1) Prior NRC review and approval is not required for changes that clearly result in a decrease in risk. The proposed change must also be consistent with the defense in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.

(2) Prior NRC review and approval is not required for individual changes that result in a risk increase less than 1×10^{-7}/year (yr) for CDF and less than 1×10^{-8}/yr for LERF. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.

(b) Other Changes that May Be Made Without Prior NRC Approval

(1) Changes to NFPA 805, Chapter 3, Fundamental Fire Protection Program

Prior NRC review and approval are not required for changes to the NFPA 805, Chapter 3, fundamental fire protection program elements and design requirements for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is functionally equivalent or adequate for the hazard. The licensee may use an engineering evaluation to demonstrate that a change to an NFPA 805, Chapter 3, element is functionally equivalent to the corresponding technical requirement. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the component, system, procedure, or physical arrangement functionality using a relevant technical requirement or standard.

Unit 1 Insert
Page 2 of 2

The licensee may use an engineering evaluation to demonstrate that changes to certain NFPA 805, Chapter 3, elements are acceptable because the alternative is "adequate for the hazard." Prior NRC review and approval would not be required for alternatives to four specific sections of NFPA 805, Chapter 3, for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is adequate for the hazard. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the component, system, procedure, or physical arrangement functionality using a relevant technical requirement or standard. The four specific sections of NFPA 805, Chapter 3, are:

- Fire Alarm and Detection Systems (Section 3.8);
- Automatic and Manual Water-Based Fire Suppression Systems (Section 3.9);
- Gaseous Fire Suppression Systems (Section 3.10); and,
- Passive Fire Protection Features (Section 3.11).

This License Condition does not apply to any demonstration of equivalency under Section 1.7 of NFPA 805.

(2) Fire Protection Program Changes that Have No More than Minimal Risk Impact

Prior NRC review and approval are not required for changes to the licensee's fire protection program that have been demonstrated to have no more than a minimal risk impact. The licensee may use its screening process as approved in NRC SE dated _____ to determine that certain fire protection program changes meet the minimal criterion. The licensee shall ensure that fire protection defense-in-depth and safety margins are maintained when changes are made to the fire protection program.

(c) Transition License Conditions

(1) Before achieving full compliance with 10 CFR 50.48(c), as specified by (2) and (3) below, risk-informed changes to the licensee's fire protection program may not be made without prior NRC review and approval unless the change has been demonstrated to have no more than a minimal risk impact, as described in (b)(2) above.

(2) The licensee shall implement the modifications described in Attachment S2, Table S-2, "Plant Modifications Committed," of SNC letter NL-19-1475, dated December 13, 2019, to its facility to complete transition to full compliance with 10 CFR 50.48(c) by the startup of the second refueling outage (for each unit) after the issuance of the NRC SE. The licensee shall maintain appropriate compensatory measures in place until completion of these modifications.

(3) The licensee shall implement the items as listed in Attachment S2, Table S-3, "Implementation Items," of SNC letter NL-19-1475, dated December 13, 2019, within 365 days after the issuance of the NRC SE. An exception to this statement is for the completion date for Implementation Item IMP-19. This item will be completed for each unit at a time not to exceed 180 days after all modifications for the respective unit (as listed in Attachment S2, Table S-2) are operable.

Unit 2 Insert
Page 1 of 2

Southern Nuclear Operating Company shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the licensee amendment request dated April 4, 2018, supplemented by letters dated May 28, 2019, August 9, 2019, October 7, 2019, and December 13, 2019, and as approved in the NRC safety evaluation (SE) dated _____. Except where NRC approval for changes or deviations is required by 10 CFR 50.48(c), and provided no other regulation, technical specification, license condition or requirement would require prior NRC approval, the licensee may make changes to the fire protection program without prior approval of the Commission if those changes satisfy the provisions set forth in 10 CFR 50.48(a) and 10 CFR 50.48(c), the change does not require a change to a technical specification or a license condition, and the criteria listed below are satisfied.

(1) Risk-Informed Changes that May Be Made Without Prior NRC Approval

A risk assessment of the change must demonstrate that the acceptance criteria below are met. The risk assessment approach, methods, and data shall be acceptable to the NRC and shall be appropriate for the nature and scope of the change being evaluated; be based on the as-built, as-operated, and maintained plant; and reflect the operating experience at the plant. Acceptable methods to assess the risk of the change may include methods that have been used in the peer-reviewed fire PRA model, methods that have been approved by NRC through a plant-specific license amendment or NRC approval of generic methods specifically for use in NFPA 805 risk assessments, or methods that have been demonstrated to bound the risk impact.

a) Prior NRC review and approval is not required for changes that clearly result in a decrease in risk. The proposed change must also be consistent with the defense in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.

b) Prior NRC review and approval is not required for individual changes that result in a risk increase less than 1×10^{-7}/year (yr) for CDF and less than 1×10^{-8}/yr for LERF. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.

(2) Other Changes that May Be Made Without Prior NRC Approval

a) Changes to NFPA 805, Chapter 3, Fundamental Fire Protection Program

Prior NRC review and approval are not required for changes to the NFPA 805, Chapter 3, fundamental fire protection program elements and design requirements for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is functionally equivalent or adequate for the hazard. The licensee may use an engineering evaluation to demonstrate that a change to an NFPA 805, Chapter 3, element is functionally equivalent to the corresponding technical requirement. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the component, system, procedure, or physical arrangement functionality using a relevant technical requirement or standard.

Unit 2 Insert
Page 2 of 2

The licensee may use an engineering evaluation to demonstrate that changes to certain NFPA 805, Chapter 3, elements are acceptable because the alternative is "adequate for the hazard." Prior NRC review and approval would not be required for alternatives to four specific sections of NFPA 805, Chapter 3, for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is adequate for the hazard. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the component, system, procedure, or physical arrangement functionality using a relevant technical requirement or standard. The four specific sections of NFPA 805, Chapter 3, are:

- Fire Alarm and Detection Systems (Section 3.8);
- Automatic and Manual Water-Based Fire Suppression Systems (Section 3.9);
- Gaseous Fire Suppression Systems (Section 3.10); and,
- Passive Fire Protection Features (Section 3.11).

This License Condition does not apply to any demonstration of equivalency under Section 1.7 of NFPA 805.

b) Fire Protection Program Changes that Have No More than Minimal Risk Impact

Prior NRC review and approval are not required for changes to the licensee's fire protection program that have been demonstrated to have no more than a minimal risk impact. The licensee may use its screening process as approved in NRC SE dated _____ to determine that certain fire protection program changes meet the minimal criterion. The licensee shall ensure that fire protection defense-in-depth and safety margins are maintained when changes are made to the fire protection program.

(3) Transition License Conditions

a) Before achieving full compliance with 10 CFR 50.48(c), as specified by (b) and (c) below, risk-informed changes to the licensee's fire protection program may not be made without prior NRC review and approval unless the change has been demonstrated to have no more than a minimal risk impact, as described in (2)(b) above.

b) The licensee shall implement the modifications described in Attachment S2, Table S-2, "Plant Modifications Committed," of SNC letter NL-19-1475, dated December 13, 2019, to its facility to complete transition to full compliance with 10 CFR 50.48(c) by the startup of the second refueling outage (for each unit) after the issuance of the NRC SE. The licensee shall maintain appropriate compensatory measures in place until completion of these modifications.

c) The licensee shall implement the items as listed in Attachment S2, Table S-3, "Implementation Items," of SNC letter NL-19-1475, dated December 13, 2019, within 365 days after the issuance of the NRC SE. An exception to this statement is for the completion date for Implementation Item IMP-19. This item will be completed for each unit at a time not to exceed 180 days after all modifications for the respective unit (as listed in Attachment S2, Table S-2) are operable.

Edwin I. Hatch Nuclear Plant – Units 1 and 2
Response to Request for Additional Information Regarding the License Amendment Request to Transition to 10 CFR 50.48(c) – NFPA -805 Performance Based Standard for Fire Protection for Light Water Reactor Generating Plants

Enclosure 4

Revised Clean FOL Condition

for sample analysis or instrument calibration, or associated with radioactive apparatus or components

(6) Southern Nuclear, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This renewed license shall be deemed to contain, and is subject to, the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Section 50.54 of Part 50, and Section 70.32 of Part 70; all applicable provisions of the Act and the rules, regulations, and orders of the Commission now or hereafter in effect; and the additional conditions specified or incorporated below:

(1) Maximum Power Level

Southern Nuclear is authorized to operate the facility at steady-state reactor core power levels not in excess of 2,804 megawatts thermal.

(2) Technical Specifications

The Technical Specifications (Appendix A) and the Environmental Protection Plan (Appendix B), as revised through Amendment No. ____, are hereby incorporated in the renewed license. Southern Nuclear shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

The Surveillance Requirement (SR) contained in the Technical Specifications and listed below, is not required to be performed immediately upon implementation of Amendment No. 195. The SR listed below shall be successfully demonstrated before the time and condition specified:

SR 3.8.1.18 shall be successfully demonstrated at its next regularly scheduled performance.

(3) Fire Protection

Southern Nuclear Operating Company shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the licensee amendment request dated April 4, 2018, supplemented by letters dated May 28, 2019, August 9, 2019, October 7, 2019, and December 13, 2019, and as approved in the NRC safety evaluation (SE) dated _____. Except where NRC approval for changes or deviations is required by 10 CFR 50.48(c), and provided no other regulation, technical specification, license condition or requirement would require prior NRC approval, the licensee may make changes to the fire protection program without prior approval of the Commission if those changes satisfy the provisions set forth in 10 CFR 50.48(a) and 10 CFR 50.48(c), the change does not

require a change to a technical specification or a license condition, and the criteria listed below are satisfied.

(a) Risk-Informed Changes that May Be Made Without Prior NRC Approval

A risk assessment of the change must demonstrate that the acceptance criteria below are met. The risk assessment approach, methods, and data shall be acceptable to the NRC and shall be appropriate for the nature and scope of the change being evaluated; be based on the as-built, as-operated, and maintained plant; and reflect the operating experience at the plant. Acceptable methods to assess the risk of the change may include methods that have been used in the peer-reviewed fire PRA model, methods that have been approved by NRC through a plant-specific license amendment or NRC approval of generic methods specifically for use in NFPA 805 risk assessments, or methods that have been demonstrated to bound the risk impact.

(1) Prior NRC review and approval is not required for changes that clearly result in a decrease in risk. The proposed change must also be consistent with the defense in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.

(2) Prior NRC review and approval is not required for individual changes that result in a risk increase less than 1×10^{-7}/year (yr) for CDF and less than 1×10^{-8}/yr for LERF. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.

(b) Other Changes that May Be Made Without Prior NRC Approval

(1) Changes to NFPA 805, Chapter 3, Fundamental Fire Protection Program

Prior NRC review and approval are not required for changes to the NFPA 805, Chapter 3, fundamental fire protection program elements and design requirements for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is functionally equivalent or adequate for the hazard. The licensee may use an engineering evaluation to demonstrate that a change to an NFPA 805, Chapter 3, element is functionally equivalent to the corresponding technical requirement. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the component, system, procedure, or physical

arrangement functionality using a relevant technical requirement or standard.

The licensee may use an engineering evaluation to demonstrate that changes to certain NFPA 805, Chapter 3, elements are acceptable because the alternative is "adequate for the hazard." Prior NRC review and approval would not be required for alternatives to four specific sections of NFPA 805, Chapter 3, for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is adequate for the hazard. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the component, system, procedure, or physical arrangement functionality using a relevant technical requirement or standard. The four specific sections of NFPA 805, Chapter 3, are:

- Fire Alarm and Detection Systems (Section 3.8);
- Automatic and Manual Water-Based Fire Suppression Systems (Section 3.9);
- Gaseous Fire Suppression Systems (Section 3.10); and,
- Passive Fire Protection Features (Section 3.11).

This License Condition does not apply to any demonstration of equivalency under Section 1.7 of NFPA 805.

(2) Fire Protection Program Changes that Have No More than Minimal Risk Impact

Prior NRC review and approval are not required for changes to the licensee's fire protection program that have been demonstrated to have no more than a minimal risk impact. The licensee may use its screening process as approved in NRC SE dated _____ to determine that certain fire protection program changes meet the minimal criterion. The licensee shall ensure that fire protection defense-in-depth and safety margins are maintained when changes are made to the fire protection program.

(c) Transition License Conditions

(1) Before achieving full compliance with 10 CFR 50.48(c), as specified by (2) and (3) below, risk-informed changes to the licensee's fire protection program may not be made without prior NRC review and approval unless the change has been demonstrated to have no more than a minimal risk impact, as described in (b)(2) above.

(2) The licensee shall implement the modifications described in Attachment S2, Table S-2, "Plant Modifications Committed," of SNC letter NL-19-1475, dated December 13, 2019, to its facility

to complete transition to full compliance with 10 CFR 50.48(c) by the startup of the second refueling outage (for each unit) after the issuance of the NRC SE. The licensee shall maintain appropriate compensatory measures in place until completion of these modifications.

(3) The licensee shall implement the items as listed in Attachment S2, Table S-3, "Implementation Items," of SNC letter NL-19-1475, dated December 13, 2019, within 365 days after the issuance of the NRC SE. An exception to this statement is for the completion date for Implementation Item IMP-19. This item will be completed for each unit at a time not to exceed 180 days after all modifications for the respective unit (as listed in Attachment S2, Table S-2) are operable.

(4.a) Physical Protection

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans, including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plan is entitled: "Southern Nuclear Operating Company Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan," with revisions submitted through May 15, 2006.

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The Southern Nuclear CSP was approved by License Amendment No. 265, as supplemented by a change approved by License Amendment No. 274.

(4.b) Mitigation Strategy License Condition

Develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

(a) Fire fighting response strategy with the following elements:
1. Pre-defined coordinated fire response strategy and guidance
2. Assessment of mutual aid fire fighting assets
3. Designated staging areas for equipment and materials
4. Command and control
5. Training of response personnel

(b) Operations to mitigate fuel damage considering the following:
1. Protection and use of personnel assets
2. Communications
3. Minimizing fire spread
4. Procedures for implementing integrated fire response strategy

5. Identification of readily-available pre- staged equipment
6. Training on integrated fire response strategy
7. Spent fuel pool mitigation measures

(c) Actions to minimize release to include consideration of:
1. Water spray scrubbing
2. Dose to onsite responders

(4.c) The licensee shall implement and maintain all Actions required by Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.

(5) FSAR Supplement

The licensee's Final Safety Analysis Report Supplement, dated September 5, 2001, shall be included in the next Updated Final Safety Evaluation Analysis Report update, required by 10 CFR 50.71(e).

(6) Safety Analysis Report

The licensee's Final Safety Analysis Report Supplement, dated September 5, 2001, submitted pursuant to 10 CFR 54.21(d), describes certain future inspection activities to be completed before the period of extended operations begins. The licensee shall complete those activities no later than August 6, 2014.

(7) Integrated Surveillance Program

The licensee shall implement a staff-approved reactor vessel integrated surveillance program for the extended period of operation which satisfies the requirements of 10 CFR Part 54. Such a program will be implemented through a staff-approved Boiling Water Reactor Vessel and Internals Project program or through a staff-approved plant-specific program. The plant-specific program, if needed, will be developed in a manner that is consistent with other aging management programs, will include consideration of the 10 program attributes utilized for other aging management programs, and will provide a technical justification for any

program attribute not covered by the plant-specific surveillance material testing program. The plant-specific program, if needed, will include the following actions:

(a) Capsules will periodically be removed to determine the rate of embrittlement.

(b) Capsules will be removed at neutron fluence levels that provide relevant data for assessing the integrity of the Plant Hatch, Unit 1 reactor pressure vessel (in particular, for the determination of reactor pressure vessel pressure-temperature limits through the period of extended operation).

(c) Capsules will contain material to monitor the impact of irradiation on the Plant Hatch Unit 1 reactor pressure vessel and will contain dosimetry to monitor neutron fluence.

Before the renewal term begins, the licensee will notify the NRC of its decision to implement the integrated surveillance program or a plant-specific program, and provide the appropriate revisions to the Updated Final Safety Analysis Report Supplement summary descriptions of the vessel surveillance material testing program.

(8) Design Bases Accident Radiological Consequences Analyses

Southern Nuclear is authorized to credit administering potassium iodide to reduce the 30 day post-accident thyroid radiological dose to the operators in the main control room until May 31, 2012. Should design basis changes be completed rendering the crediting of potassium iodide no longer necessary prior to May 31, 2012, Southern Nuclear will remove the crediting of potassium iodide from the design basis accident radiological consequences analyses (reference Unit 2 FSAR paragraph 15.3.3.4.2.2) in the next Updated Final Safety Analysis Report as required by 10 CFR 50.71(e).

(9) Alternative Source Term

1) Southern Nuclear Operating Company, Inc (SNC, the licensee) shall complete actions by April 30, 2010, as described in SNC's letters dated October 18, 2007, and March 13, 2008, to complete the design modifications to the HNP turbine building ventilation exhaust systems. Specifically, the HNP Units 1 and 2 turbine building exhaust fans shall be capable of being manually switched over from normally operating power supplies, to a Class 1E circuit that will be isolated by an appropriately rated safety related, environmentally and seismically qualified circuit breaker. For further protection and isolation, the licensee shall also use fuses

that will be located in a seismically qualified manual transfer switch housing. The aforementioned circuit breaker and fuses shall be adequately coordinated with the upstream load center breaker over the entire range. These devices shall be adequately rated to prevent adverse effects of a fault to the rest of the distribution system.

2) SNC shall implement modifications by May 31, 2010, as described in Enclosure 1, section 2.7.3.2, of the LAR and section 5.7 of SNC's letter dated February 25, 2008 (NL 08-0175) to modify the design for the air supply to the turbine building exhaust ventilation dampers, such that operating air to the dampers will be supplied from a non-interruptible instrument air source to eliminate single failure point vulnerability to loss of system/instrument air.

3) SNC shall complete actions by May 31, 2010, as described in SNC's letter dated February 25, 2008 (NL-08-0175) to install and implement the capability for Standby Liquid Control System hand switch jumpers for HNP Units 1 and 2.

4) SNC shall complete actions by May 31, 2012 for HNP Unit 1, as described in SNC's letters dated February 25, 2008 (NL-08-0175) and July 2, 2008 (NL-08-1022), to modify the following Main Steam Isolation Valve alternate leakage treatment boundary valves, such that they can be closed in the event of a loss of offsite power without requiring local operation:

1N38-F101A, 1N38-F101B, 1N33-F012, 1N33-F013

5) SNC shall implement actions by May 31, 2010, as described in SNC's letter dated February 27, 2008, to assure that temperature switches which monitor charcoal bed temperature meet the environmental qualification requirements of 10 CFR 50.49.

(10) TSTF-448, Control Room Habitability

Upon implementation of the Amendments adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 3.7.4.4, in accordance with TS 5.5.14.c.(i), the assessment of CRE habitability as required by Specification 5.5.14.c.(ii), and the measurement of CRE pressure as required by Specification 5.5.14.d, shall be considered met. Following implementation:

a. The first performance of SR 3.7.4.4, in accordance with Specification 5.5.14.c.(i), shall be within the next 18 months.

b. The first performance of the periodic assessment of CRE habitability, Specification 5.5.14.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, of the next successful tracer gas test.

c. The first performance of the periodic measurement of CRE pressure, Specification 5.5.14.d, shall be within 24 months, plus the 6 months allowed by SR 3.0.2, from the date of the most recent successful pressure measurement test.

D. Southern Nuclear shall not market or broker power or energy from Edwin I. Hatch Nuclear Plant, Unit 1.

3. This renewed license is effective as of the date of issuance and shall expire at midnight, August 6, 2034.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Samuel J. Collins, Director
Office of Nuclear Reactor Regulation

Attachments:
Appendix A – Technical Specifications
Appendix B – Environmental Protection Plan

Date of Issuance: January 15, 2002

(6) Southern Nuclear, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This renewed license shall be deemed to contain, and is subject to, the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Section 50.54 of Part 50, and Section 70.32 of Part 70; all applicable provisions of the Act and the rules, regulations, and orders of the Commission now or hereafter in effect; and the additional condition[2] specified or incorporated below:

(1) Maximum Power Level

Southern Nuclear is authorized to operate the facility at steady-state reactor core power levels not in excess of 2,804 megawatts thermal, in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications (Appendix A) and the Environmental Protection Plan (Appendix B), as revised through Amendment No. ____, are hereby incorporated in the renewed license. Southern Nuclear shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Additional Conditions

The matters specified in the following conditions shall be completed to the satisfaction of the Commission within the stated time periods following the issuance of the renewed license or within the operational restrictions indicated. The removal of these conditions shall be made by an amendment to the license supported by a favorable evaluation by the Commission.

(a) Fire Protection

Southern Nuclear Operating Company shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the licensee amendment request dated April 4, 2018, supplemented by letters dated May 28, 2019, August 9, 2019, October 7, 2019, and December 13, 2019, and as approved in the NRC safety evaluation (SE) dated _____. Except where NRC approval for changes or deviations is required by 10 CFR 50.48(c), and provided no other regulation, technical specification, license condition or requirement would require prior NRC approval,

[2] The original licensee authorized to possess, use, and operate the facility was Georgia Power Company (GPC). Consequently, certain historical references to GPC remain in certain license conditions.

the licensee may make changes to the fire protection program without prior approval of the Commission if those changes satisfy the provisions set forth in 10 CFR 50.48(a) and 10 CFR 50.48(c), the change does not require a change to a technical specification or a license condition, and the criteria listed below are satisfied.

(1) Risk-Informed Changes that May Be Made Without Prior NRC Approval

A risk assessment of the change must demonstrate that the acceptance criteria below are met. The risk assessment approach, methods, and data shall be acceptable to the NRC and shall be appropriate for the nature and scope of the change being evaluated; be based on the as-built, as-operated, and maintained plant; and reflect the operating experience at the plant. Acceptable methods to assess the risk of the change may include methods that have been used in the peer-reviewed fire PRA model, methods that have been approved by NRC through a plant-specific license amendment or NRC approval of generic methods specifically for use in NFPA 805 risk assessments, or methods that have been demonstrated to bound the risk impact.

a) Prior NRC review and approval is not required for changes that clearly result in a decrease in risk. The proposed change must also be consistent with the defense in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.

b) Prior NRC review and approval is not required for individual changes that result in a risk increase less than 1×10^{-7}/year (yr) for CDF and less than 1×10^{-8}/yr for LERF. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.

(2) Other Changes that May Be Made Without Prior NRC Approval

a) Changes to NFPA 805, Chapter 3, Fundamental Fire Protection Program

Prior NRC review and approval are not required for changes to the NFPA 805, Chapter 3, fundamental fire protection program elements and design requirements for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is functionally equivalent or adequate for the hazard. The licensee may use an engineering evaluation to demonstrate that a change to an NFPA 805, Chapter 3, element is functionally equivalent to the

corresponding technical requirement. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the component, system, procedure, or physical arrangement functionality using a relevant technical requirement or standard.

The licensee may use an engineering evaluation to demonstrate that changes to certain NFPA 805, Chapter 3, elements are acceptable because the alternative is "adequate for the hazard." Prior NRC review and approval would not be required for alternatives to four specific sections of NFPA 805, Chapter 3, for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is adequate for the hazard. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the component, system, procedure, or physical arrangement functionality using a relevant technical requirement or standard. The four specific sections of NFPA 805, Chapter 3, are:

- Fire Alarm and Detection Systems (Section 3.8);
- Automatic and Manual Water-Based Fire Suppression Systems (Section 3.9);
- Gaseous Fire Suppression Systems (Section 3.10); and,
- Passive Fire Protection Features (Section 3.11).

This License Condition does not apply to any demonstration of equivalency under Section 1.7 of NFPA 805.

b) Fire Protection Program Changes that Have No More than Minimal Risk Impact

Prior NRC review and approval are not required for changes to the licensee's fire protection program that have been demonstrated to have no more than a minimal risk impact. The licensee may use its screening process as approved in NRC SE dated _____ to determine that certain fire protection program changes meet the minimal criterion. The licensee shall ensure that fire protection defense-in-depth and safety margins are maintained when changes are made to the fire protection program.

(3) Transition License Conditions

a) Before achieving full compliance with 10 CFR 50.48(c), as specified by (b) and (c) below, risk-informed changes to the

licensee's fire protection program may not be made without prior NRC review and approval unless the change has been demonstrated to have no more than a minimal risk impact, as described in (2)(b) above.

b) The licensee shall implement the modifications described in Attachment S2, Table S-2, "Plant Modifications Committed," of SNC letter NL-19-1475, dated December 13, 2019, to its facility to complete transition to full compliance with 10 CFR 50.48(c) by the startup of the second refueling outage (for each unit) after the issuance of the NRC SE. The licensee shall maintain appropriate compensatory measures in place until completion of these modifications.

c) The licensee shall implement the items as listed in Attachment S2, Table S-3, "Implementation Items," of SNC letter NL-19-1475, dated December 13, 2019, within 365 days after the issuance of the NRC SE. An exception to this statement is for the completion date for Implementation Item IMP-19. This item will be completed for each unit at a time not to exceed 180 days after all modifications for the respective unit (as listed in Attachment S2, Table S-2) are operable.

(b.1) Physical Protection

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans, including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plan is entitled: "Southern Nuclear Operating Company Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan," with revisions submitted through May 15, 2006.

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The Southern Nuclear CSP was approved by License Amendment No. 209, as supplemented by a change approved by License Amendment No. 219.

(b.2) Mitigation Strategy License Condition

Develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

(a) Fire fighting response strategy with the following elements:

1. Pre-defined coordinated fire response strategy and guidance
2. Assessment of mutual aid fire fighting assets
3. Designated staging areas for equipment and materials
4. Command and control
5. Training of response personnel

(b) Operations to mitigate fuel damage considering the following:
1. Protection and use of personnel assets
2. Communications
3. Minimizing fire spread
4. Procedures for implementing integrated fire response strategy
5. Identification of readily-available pre-staged equipment
6. Training on integrated fire response strategy
7. Spent fuel pool mitigation measures

(c) Actions to minimize release to include consideration of:
1. Water spray scrubbing
2. Dose to onsite responders

(b.3) The licensee shall implement and maintain all Actions required by Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.

(c) FSAR Supplement

The licensee's Final Safety Analysis Report Supplement dated September 5, 2001, shall be included in the next Updated Final Safety Analysis Report update, required by 10 CFR 50.71(e).

(d) Safety Analysis Report

The licensee's Final Safety Analysis Report Supplement dated September 5, 2001, submitted pursuant to 10 CFR 54.21(d), describes certain future inspection activities to be completed before the period of extended operations begins. The licensee shall complete those activities no later than June 13, 2018.

(e) Integrated Surveillance Program

The licensee shall implement a staff-approved reactor vessel integrated surveillance program for the extended period of operation which satisfies the requirements of 10 CFR Part 54. Such a program will be implemented through a staff-approved

Boiling Water Reactor Vessel Internals Project program or through a staff-approved plant-specific program. The plant-specific program, if needed, will be developed in a manner consistent with other aging management programs, will include consideration of the 10 program attributes utilized for other aging management programs, and will provide a technical justification for any program attribute not covered by the plant-specific surveillance material testing program. The plant-specific program, if needed, will include the following actions:

i. Capsules will periodically be removed to determine the rate of embrittlement.

ii. Capsules will be removed at neutron fluence levels that provide relevant data for assessing the integrity of the Plant Hatch Unit 2 reactor pressure vessel (in particular, for the determination of reactor pressure vessel pressure-temperature limits through the period of extended operation).

iii. Capsules will contain material to monitor the impact of irradiation on the Plant Hatch Unit 2 reactor pressure vessel and will contain dosimetry to monitor neutron fluence.

Before the renewal term begins, the licensee will notify the NRC of its decision to implement the integrated surveillance program or a plant-specific program, and provide the appropriate revisions to the Updated Final Safety Analysis Report Supplement summary descriptions of the vessel surveillance material testing program.

(f) Design Bases Accident Radiological Consequences Analyses

Southern Nuclear is authorized to credit administering potassium iodide to reduce the 30 day post-accident thyroid radiological dose to the operators in the main control room until May 31, 2011. Should design basis changes be completed rendering the crediting of potassium iodide no longer necessary prior to May 31, 2011, Southern Nuclear will remove the crediting of potassium iodide from the design basis accident radiological consequences analyses (reference Unit 2 FSAR paragraph 15.3.3.4.2.2) in the next Updated Final Safety Analysis Report update as required by 10 CFR 50.71(e).

(g) Alternative Source Term

i) Southern Nuclear Operating Company, Inc (SNC, the licensee) shall complete actions by April 30, 2010, as described in SNC's letters dated October 18, 2007, and March 13, 2008, to complete the design modifications to the HNP turbine building ventilation exhaust systems. Specifically, the HNP Units 1 and 2 turbine building exhaust fans shall be capable of being

manually switched over from normally operating power supplies, to a Class -1E circuit that will be isolated by an appropriately rated safety related, environmentally and seismically qualified circuit breaker. For further protection and isolation, the licensee shall also use fuses that will be located in a seismically qualified manual transfer switch housing. The aforementioned circuit breaker and fuses shall be adequately coordinated with the upstream load center breaker over the entire range. These devices shall be adequately rated to prevent adverse effects of a fault to the rest of the distribution system.

ii) SNC shall implement modifications by May 31, 2010, as described in Enclosure 1, section 2.7.3.2, of the LAR and section 5.7 of SNC's letter dated February 25, 2008, (NL 08-0175) to modify the design for the air supply to the turbine building exhaust ventilation dampers, such that operating air to the dampers will be supplied from a non-interruptible instrument air source to eliminate single failure point vulnerability to loss of system/instrument air.

iii) SNC shall complete actions by May 31, 2010, as described in SNC's letter dated February 25, 2008 (NL-08-0175) to install and implement the capability for Standby Liquid Control System hand switch jumpers for HNP Units 1 and 2.

iv) SNC shall complete actions by May 31, 2011, for HNP Unit 2, as described in SNC's letters dated February 25, 2008 (NL-08-0175) and July 2, 2008 (NL-08-1022), to modify the following Main Steam Isolation Valve alternate leakage treatment boundary valves, such that they can be closed in the event of a loss of offsite power without requiring local operation:

2N11-F004A, 2N11-F004B, 2N33-F003, 2N33-F004

v) SNC shall implement actions by May 31, 2010, as described in SNC's letter dated February 27, 2008, to assure that temperature switches which monitor charcoal bed temperature meet the environmental qualification requirements of 10 CFR 50.49.

(h) TSTF-448 Control Room Habitability

Upon implementation of the Amendments adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 3.7.4.4, in accordance with TS 5.5.14.c.(i), the assessment of CRE habitability as required by Specification 5.5.14.c.(ii), and the measurement of CRE pressure as required by Specification 5.5.14.d, shall be considered met. following implementation:

i) The first performance of SR 3.7.4.4, in accordance with Specification 5.5.14.c.(i), shall be within the next 18 months.

ii) The first performance of the periodic assessment of CRE habitability, Specification 5.5.14.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, of the next successful tracer gas test.

iii) The first performance of the periodic measurement of CRE pressure, Specification 5.5.14.d, shall be within 24 months, plus the 6 months allowed by SR 3.0.2, from the date of the most recent successful pressure measurement test.

D. This renewed license is subject to the following antitrust conditions:

(1) As used herein:

(a) "Entity" means any financially responsible person, private or public corporation, municipality, county, cooperative, association, joint stock association or business trust, owning, operating or proposing to own or operate equipment or facilities within the state of Georgia (other than Chatham, Effingham, Fannin, Towns and Union Counties) for

the generation, transmission, or distribution of electricity, provided that, except for municipalities, counties, or rural electric cooperatives, "entity" is restricted to those which are or will be public utilities under the laws of the State of Georgia or under the laws of the United States, and are or will be providing retail electric service under a contract or rate schedule on file with and subject to the regulation of the Public Service Commission of the State of Georgia or any regulatory agency of the United States, and provided further, that as to municipalities, counties, or rural electric cooperatives, "entity" is restricted to those which provide electricity to the public at retail within the State of Georgia (other than Chatham, Effingham, Fannin, Towns and Union Counties) or to responsible and legally qualified organizations of such municipalities, counties, and/or cooperatives in the State of Georgia (other than Chatham, Effingham, Fannin, Towns and Union Counties) to the extent they may bind their members.

(b) "Power Company" means Georgia Power Company, any successor, assignee of this license, or assignee of all or substantially all of Georgia Power Company's assets, and any affiliate or subsidiary of Georgia Power Company to the extent it engages in the ownership of any bulk power supply generation or transmission resource in the State of Georgia (but specifically not including (1) flood rights and other land rights acquired in the State of Georgia incidental to hydroelectric generation facilities located in another state and (2) facilities located west of the thread of the stream on that part of the Chattahoochee River serving as the boundary between the states of Georgia and Alabama).

(2) Power Company recognizes that it is often in the public interest for those engaging in bulk power supply and purchases to interconnect, coordinate for reliability and economy, and engage in bulk power supply transactions in order to increase interconnected system reliability and reduce the costs of electric power. Such arrangements must provide for Power Company's costs (including a reasonable return) in connection therewith and allow other participating entities full access to the benefits available from interconnected bulk power supply operations and must provide net benefits to Power Company. In entering into such arrangements neither Power Company nor any other participant should be required to violate the principles of sound engineering practice or forego a reasonably contemporaneous alternative arrangement with another, developed in good faith in arms length negotiations (but not including arrangements between Power Company and its affiliates or subsidiaries which impair entities' rights hereunder more than they would be impaired were such arrangements made in good faith between Power Company a non-affiliate or non-subsidiary) which affords it greater benefits. Any such arrangement must provide for adequate notice and joint planning procedures consistent with sound engineering practice, and must relieve Power Company from obligations undertaken by it in the event such procedures are not followed by any participating entity.

Power Company recognizes that each entity may acquire some or all of its bulk power supply from sources other than Power Company.

In the implementation of the obligations stated in the succeeding paragraphs, Power Company and entities shall act in accordance with the foregoing principles, and these principles are conditions to each of Power Company's obligations herein undertaken.

(3) Power Company shall interconnect with any entity which provides, or which has undertaken firm contractual obligations to provide, some or all of its bulk power supply from source other than Power Company on terms to be included in an interconnection agreement which shall provide for appropriate allocation of the costs of interconnection facilities; provided, however, that if an entity undertakes to negotiate such a firm contractual obligation, the Power Company shall, in good faith, negotiate with such entity concerning any proposed interconnection. Such interconnection agreement shall provide, without undue preference or discrimination, for the following, among other things, insofar as consistent with the operating necessities of Power Company's and any participating entity's systems:

(a) maintenance and coordination of reserves, including, where appropriate, the purchase and sale thereof,

(b) emergency support,

(c) maintenance support,

(d) economy energy exchanges,

(e) purchase and sale of firm and non-firm capacity and energy,

(f) economic dispatch of power resources within the State of Georgia, provided, however, that in no event shall such arrangements impose a higher percentage of reserve requirements on the participating entity than that maintained by Power Company for similar resources.

(4) Power Company shall sell full requirements power to any entity. Power Company shall sell partial requirements power to any entity. Such sales shall be made pursuant to rates on file with the Federal Power Commission, or any successor regulatory agency, and subject to reasonable terms and conditions.

(5) (a) Power Company shall transmit ("transmission service") bulk power over its system to any entity or entities with which it is interconnected, pursuant to rate schedules on file with the Federal Power Commission which will fully compensate Power Company for the use of its system, to the extent that such arrangements can be accommodated from a functional engineering standpoint and to the extent that Power Company has surplus line capacity or reasonably available funds to finance new construction for this purpose. To the extent the entity or entities are able, they shall reciprocally provide transmission service to Power Company. Transmission service will be provided under this subparagraph for the delivery of power to an entity for its or its members' consumption and retail distribution or for casual resale to another entity for (1) its consumption or (2) its retail distribution. Nothing contained herein shall require the Power Company to transmit bulk power so as to have the effect of making the Tennessee Valley Authority ("TVA") or its distributors, directly or indirectly, a source of power supply outside the area determined by the TVA Board of Directors by resolution of May 16, 1966 to be the area for which the TVA or its distributors were the primary source of power supply on July 1, 1957, the date specified in the Revenue Bond Act of 1959, 16 USC 831 n-4.

(b) Power Company shall transmit over its system from any entity or entities with which it is interconnected, pursuant to rate schedules on file with the Federal Power Commission which will fully compensate Power Company for the use of its system, bulk power which results from any such entity having excess capacity available from self-owned generating resources in the State of Georgia, to the extent such excess necessarily results from economic unit sizing or from failure to forecast load accurately or from such generating resources becoming operational earlier than the planned in-service date, to the extent that such arrangements can be accommodated from a functional engineering standpoint, and to the extent Power Company has surplus line capacity available.

(6) Upon request, Power Company shall provide service to any entity purchasing partial requirements service, full requirements service or transmission service from Power Company at a delivery voltage appropriate for loads served by such entity, commensurate with Power Company's available transmission facilities. Sales of such service shall be made pursuant to rates on file with the Federal Power Commission or any successor regulatory agency, and subject to reasonable terms and conditions.

(7) Upon reasonable notice, Power Company shall grant any entity the opportunity to purchase an appropriate share in the ownership of, or, at the option of the entity, to purchase an appropriate share of unit power from each of the following nuclear generating units at Power Company's costs, to the extent the same are constructed and operated: Hatch 2, Vogtle 1, Vogtle 2, and any other nuclear generating unit constructed by Power Company in the State of Georgia which, in the application filed with USAEC or its successor agency, is scheduled for commercial operation prior to January 1, 1989.

An entity's request for a share must have regard for the economic size of such nuclear unit(s), for the entity's load size, growth and characteristics, and for demands upon Power Company's system from other entities and Power Company's retail customers, all in accordance with sound engineering practice. Executory agreements to accomplish the foregoing shall contain provisions reasonably specified by Power Company requiring the entity to consummate and pay for such purchase by an early date or dates certain. For purposes of this provision, "unit power" shall mean capacity and associated energy from a specified generating unit.

(8) Southern Nuclear shall not market or broker power or energy from Edwin I. Hatch Nuclear Plant, Unit 2. Georgia Power Company shall continue to be responsible for compliance with the obligations imposed on it in its antitrust license conditions. Georgia Power Company is responsible and accountable for the actions of Southern Nuclear, to the extent that Southern Nuclear's actions may, in any way, contravene the existing antitrust license conditions.

(9) To effect the foregoing conditions, the following steps shall be taken:

(a) Power Company shall file with the appropriate regulatory authorities and thereafter maintain in force as needed an appropriate transmission tariff available to any entity;

(b) Power Company shall file with the appropriate regulatory authorities and thereafter maintain in force as needed an appropriate partial requirements tariff available to any entity; Power Company shall have its liability limited to the partial requirements service actually contracted for and the entity shall be made responsible for the security of the bulk power supply resources acquired by the entity from sources other than the Power Company;

(c) Power Company shall amend the general terms and conditions of its current Federal Power Commission tariff and thereafter maintain in force as needed provisions to enable any entity to receive bulk power at transmission voltage at appropriate rates;

(d) Power Company shall not have the unilateral right to defeat the intended access by each entity to alternative sources of bulk power supply provided by the conditions to this license; but Power Company shall retain the right to seek regulatory approval of changes in its tariffs to the end that it be adequately compensated for services it provides, specifically including, but not limited to, the provisions of Section 205 of the Federal Power Act;

(e) Power Company shall use its best efforts to amend any outstanding contract to which it is a party that contains provisions which are inconsistent with the conditions of this license;

(f) Power Company affirms that no consents are or will become necessary from Power Company's parent, affiliates or subsidiaries to enable Power Company to carry out its obligations hereunder or to enable the entities to enjoy their rights hereunder;

(g) All provisions of these conditions shall be subject to and implemented in accordance with the laws of the United States and of the State of Georgia, as applicable, and with rules, regulations, and orders of agencies of both, as applicable.

3. This renewed license is effective as of the date of issuance and shall expire at midnight, June 13, 2038.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Samuel J. Collins, Director
Office of Nuclear Reactor Regulation

Attachments:
Appendix A – Technical Specifications
Appendix B – Environmental Protection Plan

Date of Issuance: January 15, 2002

Edwin I. Hatch Nuclear Plant – Units 1 and 2
Response to Request for Additional Information Regarding the License Amendment Request to Transition to 10 CFR 50.48(c) – NFPA -805 Performance Based Standard for Fire Protection for Light Water Reactor Generating Plants

Attachment A

Markup to LAR Attachment A

NFPA 805 Ch. 3 Ref.	Requirements/Guidance	Compliance Statement	Compliance Basis	Reference Document
3.3.5.2	Only metal tray and metal conduits shall be used for electrical raceways. Thin wall metallic tubing shall not be used for power, instrumentation, or control cables. Flexible metallic conduits shall only be used in short lengths to connect components.	Complies	Except as identified below, HNP complies with no additional clarification.	Drawing A29500, Conduit and Conduit Support, Ver. 3.0 / Section 3.1 Drawing A29501, General Design Document and Details for the Installation of Nonsafety-Related Electrical Work, Ver. 2.0 / Section 6.0 Drawing B13000, Conduit & Grounding Installation Notes, Ver. 5.0 E-1-03, SNC Raceway Design Standard, Rev. 6 Specification SS-2123-009, Technical Specification for Cable Trays and Cable Tray Accessories for the Edwin I. Hatch Nuclear Plant - Unit 2, Rev. A / All
	Replace with: NRC approval for: 1) the use of nonmetallic conduit in embedded applications, 2) existing installations of flexible metallic and PVC coated flexible metallic conduits in lengths greater than 3-feet, and 3) the future use of flexible metallic and PVC coated flexible metallic conduits in lengths up to 6-feet is being requested in Attachment L, Approval Request 4.	Submit for NRC Approval	FAQ 06-0021 defines "short lengths" as approximately three feet of flexible metallic conduit. ~~NRC approval of the use of PVC coated flexible conduit in lengths up to 6 feet and embedded non-metallic conduit is being requested in Attachment L, Approval Request 4.~~	FAQ 06-0021, Cable Air Drops, Rev. 0 / All
	Insert:	Complies, with Required Action	Implementation items are identified below.	None

IMPLEMENTATION ITEMS (See Attachment S, Table S-3):

IMP-20 Current cable/raceway installation procedures allow for flexible metallic conduit installations up to 6-feet, or greater if approved by the Architectural Engineer. Cable/raceway procedures will be revised to ensure that installation guidance is limited to a maximum of 6 feet for future flexible metallic conduit installations.

FPE RAI 02

NFPA 805 Ch. 3 Ref.	Requirements/Guidance	Compliance Statement	Compliance Basis	Reference Document
3.4.1(e)	Each industrial fire brigade member shall pass an annual physical examination to determine that he or she can perform the strenuous activity required during manual firefighting operations. The physical examination shall determine the ability of each member to use respiratory protection equipment.	Complies	No Additional Clarification	Procedure MS-MED-009, Fire Brigade Physical Examination Procedure, Ver. 1.1 / All Procedure NMP-ES-035-010, Fire Brigade, Ver. 5.0 / Section 3.0 Procedure NMP-TR-426, Fire Training Program, Ver. 5.1 / Sections 4.2.1.k and 4.3
3.4.2 Pre-Fire Plans.	Current and detailed pre-fire plans shall be available to the industrial fire brigade for all areas in which a fire could jeopardize the ability to meet the performance criteria described in Section 1.5.	Complies, with Required Action	Current and detailed pre-fire plans for fighting fires in all areas have been instituted at HNP and are readily available. The pre-fire plans describe actions to be taken by firefighting personnel during the fire, including instructions on use of firefighting equipment. Implementation items are identified below.	Drawing Series A-43965, Pre-Fire Plan for Powerblock Areas Drawing Series A-43966, Pre-Fire Plan for Non-Powerblock Areas

IMPLEMENTATION ITEMS (See Attachment S, Table S-3):

IMP-4 ~~Fire Brigade training materials and pre-fire plans will be revised to address the radioactive release requirements of NFPA 805 and to ensure that details regarding nuclear safety components that are present in the area are provided.~~

Replace with:
Fire Brigade training materials and pre-fire plans will be revised to address the radioactive release requirements of NFPA 805. Pre-fire plans will also be updated to include components necessary to achieve the nuclear safety performance criteria where entry to the affected fire area is required.

NFPA 805 Ch. 3 Ref.	Requirements/Guidance	Compliance Statement	Compliance Basis	Reference Document
3.4.2.1	The plans shall detail the fire area configuration and fire hazards to be encountered in the fire area, along with any nuclear safety components and fire protection systems and features that are present.	Complies, with Required Action	The pre-fire plans at Plant Hatch detail the fire area configuration and fire hazards to be encountered for the fire area. The pre-fire plans also list any fire protection systems and features that are present in the fire area. Implementation items are identified below.	Drawing Series A-43965, Pre-Fire Plan for Powerblock Areas / All Drawing Series A-43966, Pre-Fire Plan for Non-Powerblock Areas / All Procedure NMP-ES-035-GL01, Fire Protection Program Guideline, Ver. 3.0 / Section 3.2.4.f

IMPLEMENTATION ITEMS (See Attachment S, Table S-3):

IMP-4 ~~Fire Brigade training materials and pre-fire plans will be revised to address the radioactive release requirements of NFPA 805 and to ensure that details regarding nuclear safety components that are present in the area are provided.~~

3.4.2.2	Pre-fire plans shall be reviewed and updated as necessary.	Complies	No Additional Clarification	PM NCFIREPLAN1, Review Pre-Fire Plans / All PM NCFIREPLAN2, Review Pre-Fire Plans / All Procedure NMP-ES-035-GL01, Fire Protection Program Guideline, Ver. 3.0 / Sections 3.2.4.e(1) and 3.2.4.e(3) Procedure NMP-ES-084-001, Plant Modification and Configuration Change Processes, Ver. 7.0 / All

Replace with:
Fire Brigade training materials and pre-fire plans will be revised to address the radioactive release requirements of NFPA 805. Pre-fire plans will also be updated to include components necessary to achieve the nuclear safety performance criteria where entry to the affected fire area is required.

NFPA 805 Ch. 3 Ref.	Requirements/Guidance	Compliance Statement	Compliance Basis	Reference Document
3.5.7	Individual fire pump connections to the yard fire main loop shall be provided and separated with sectionalizing valves between connections.	Complies	No Additional Clarification	Drawing H-11033 Sheet 1, Fire Protection- P&ID Pumphouse Layout, Ver. 51.0 / All
3.5.8	A method of automatic pressure maintenance of the fire protection water system shall be provided independent of the fire pumps.	Complies	No Additional Clarification	Drawing H-11033 Sheet 1, Fire Protection- P&ID Pumphouse Layout, Ver. 51.0 / All
3.5.9	Means shall be provided to immediately notify the control room, or other suitable constantly attended location, of operation of fire pumps.	Complies	No Additional Clarification	A-42162, Unit No. 1 / 2 Fire Protection Detection/Annunciation Multiplex Database, Rev. 10 / All Procedure 34SV-X43-001-1, Fire Pump Test, Ver. 3.5 / Section 7.0
3.5.10	An underground yard fire main loop, designed and installed in accordance with NFPA 24, Standard for the Installation of Private Fire Service Mains and Their Appurtenances, shall be installed to furnish anticipated water requirements.	Complies with Use of EEEE's	The underground yard fire main loop is designed in accordance with NFPA 24 as identified in Calculation SMNH-16-031, NFPA 24 Code Compliance Review.	Calculation SMNH-16-031, NFPA 24 Code Compliance Review, Ver. 1 / All Drawing H-11033 Sheet 1, Fire Protection- P&ID Pumphouse Layout, Ver. 51.0 / All NFPA 24, Standard for Outside Protection, 1973 Edition / All
	Insert:	Complies, with Required Action	Implementation items are identified below.	None

IMPLEMENTATION ITEMS (See Attachment S, Table S-3):

IMP-21 Bollards or other appropriate protection will be provided for yard post indicator valves 1Y43-F308P and 1Y43-F316P in accordance with approved plant design.

FPE RAI 04

NFPA 805 Ch. 3 Ref.	Requirements/Guidance	Compliance Statement	Compliance Basis	Reference Document
		Complies, with Required Action	Bypass lines or pressure relief trim kits will be installed to prevent pressure buildup in wet pipe sprinkler systems subject to excessive static pressures. (See Attachment S, Table S-2, Item 3.) Implementation items are identified below.	Calculation SMNH-16-026, NFPA 13 Code Compliance Review, Ver. 1 / All NFPA 13, Standard for Installation of Sprinkler Systems, 1983 Edition / All

IMPLEMENTATION ITEMS (See Attachment S, Table S-3):

IMP-7 Sprinkler system testing procedures will be revised to ensure inspectors' test connections are appropriately sized during system testing.

IMP-8 Update plant documentation to perform periodic internal sprinkler piping obstruction testing and monitoring.

Insert:
of preaction and dry pipe sprinkler systems

NFPA 805 Ch. 3 Ref.	Requirements/Guidance	Compliance Statement	Compliance Basis	Reference Document
3.9.1(2)	NFPA 15, Standard for Water Spray Fixed Systems for Fire Protection	Complies with Use of EEEE's	Water spray systems are installed in accordance with NFPA 15 as identified in Calculation SMNH-16-028, NFPA 15 Code Compliance Review. Calculation SMNH-16-062 evaluates the separation distances between the transformers and the Turbine building and documents that the current configuration is adequate for the hazards. Calculation SMNH-16-067 documents the functionality of hose station supply and the pressure and application density of the suppression system in the Intake Structure. ~~Evaluation SMNH-16-107 documents the adequacy of the application density for the water spray system (2X43129W03) protecting the 500 kV Auto Transformers (Fire Area 0801).~~	Calculation SMNH-16-028, NFPA 15 Code Compliance Review, Ver. 1 / All Calculation SMNH-16-062, Engineering Evaluation of NFPA 805 Power Block Building Separation, Ver. 1 / All Calculation SMNH-16-067, Hydraulic Calculation and Evaluation of Hose Stations and Water Spray / Sprinkler System - Intake Structure, Ver. 1 / All ~~Calculation SMNH-16-107, Hydraulic Calculation and Evaluation of Water Spray System - 500 kV Auto Transformers, Ver. 1 / All~~ NFPA 15, Standard for Water Spray Fixed Systems for Fire Protection, 1982 Edition / All NFPA 15, Standard for Water Spray Fixed Systems for Fire Protection, 2001 Edition / All NFPA 15, Standard for Water Spray Fixed Systems for Fire Protection, 2007 Edition / All NFPA 15, Standard for Water Spray Fixed Systems for Fire Protection, 2012 Edition / All

Edwin I. Hatch Nuclear Plant – Units 1 and 2
Response to Request for Additional Information Regarding the License Amendment Request to Transition to 10 CFR 50.48(c) – NFPA -805 Performance Based Standard for Fire Protection for Light Water Reactor Generating Plants

Attachment H

Markup to LAR Attachment H

This table includes the approved FAQs that have not been incorporated into the current endorsed revision of NEI 04-02 and utilized in this submittal:

Table H-1 - NEI 04-02 FAQs Utilized in LAR Submittal

No.	Rev.	Title	FAQ Ref.	Closure Memo
06-0008	9	NFPA 805 Fire Protection Engineering Evaluations	ML090560170	ML073380976
06-0022	3	Acceptable Electrical Cable Construction Tests	ML090830220	ML091240278
07-0030	5	Establishing Recovery Actions	ML103090602	ML110070485
07-0032	2	Clarification of 10 CFR 50.48(c), 10 CFR 50.48(a) and GDC 3 clarification	ML081300697	ML081400292
07-0035	2	Bus Duct Counting Guidance for High Energy Arcing Faults	ML091610189	ML091620572
07-0038	3	Lessons learned on Multiple Spurious Operations	ML103090608	ML110140242
07-0039	2	Lessons Learned - NEI B-2 Table	ML091420138	ML091320068
07-0040	5	Non-Power Operations Clarification	ML17331B109	ML17331B108
08-0042	0	Fire Propagation from Electrical Cabinets	ML080230438 ML091460350	ML092110537
08-0043	1	Electrical Cabinet Fire Location	ML083540152 ML091470266	ML092120448
08-0044	0	Large Oil Fires	ML081200099 ML091540179	ML092110516
08-0049	0	Cable Fires	ML081200309 ML091470242	ML092100274
08-0052	0	Transient Fire Growth Rate and Control Room Non-Suppression	ML081500500 ML091590505	ML092120501
08-0054	1	Demonstrating Compliance with Chapter 4 of NFPA 805	ML103510379	ML15016A280
09-0056	2	Radioactive Release Transition	ML102810600	ML102920405
09-0057	3	New Shutdown Strategy	ML100330863	ML100960568
10-0059	~~5~~	~~NFPA 805 Monitoring~~	~~ML120410589~~	~~ML120750108~~
12-0062	1	UFSAR Content	ML121430035	ML121980557
12-0063	1	Fire Brigade Make-Up	ML121670141	ML121980572
Replace with: 6		NFPA 805 Monitoring	ML18208A450	ML18208A409

Edwin I. Hatch Nuclear Plant – Units 1 and 2
Response to Request for Additional Information Regarding the License Amendment Request to Transition to 10 CFR 50.48(c) – NFPA -805 Performance Based Standard for Fire Protection for Light Water Reactor Generating Plants

Attachment J

Markup to LAR Attachment J

Table J-1 V & V Basis for Fire Models / Model Correlations Used

Calculation	Application	V & V Basis	Discussion
Smoke Detection Actuation Correlation ~~(Method of Heskestad and Delichatsios)~~	~~Alpert Ceiling Jet correlation is used to determine temperature and the Heskestad and Delichatsios temperature to smoke density correlation for smoke detection timing estimates~~	Technical Reference: • NUREG-1805, Chapter 11, 2004 • NUREG-1824, Volume 4, 2007 • NUREG-1934, Chapter 2, 2012 • SFPE Handbook of Fire Protection Engineering, 5th Edition, Chapter 40, Custer R., Meacham B., and Schifiliti, R., 2016 • SFPE Handbook of Fire Protection Engineering, 5th Edition, Chapter 14, Alpert, R., 2016	• The smoke detection correlation is contained in NUREG-1805. • Alpert's ceiling jet correlation V&V is documented in NUREG-1824. • The correlation has been applied within its limits of applicability and the validated range reported in NUREG-1824 or, if applied outside the validated range, the model has been justified as acceptable, either by qualitative analysis, or by quantitative sensitivity analysis. The methodology for justifying application of the fire model outside the range is in accordance with methods documented in NUREG-1934. • ~~The temperature to smoke density correlation is documented in an authoritative publication of the "SFPE Handbook of Fire Protection Engineering."~~ The applicability of the V&V basis to the model implementation in the HNP FPRA is described in the following HNP Calculations: • H-RIE-FIREPRA-U00-008A, "Hatch Fire PRA Task 8/11a, Fire Scenario Development and Detailed Fire Modeling", Version 2, Attachment A, Fire Modeling Workbook Methodology for HNP
Heat Detection Actuation Correlation	Estimates heat detector timing based on the Alpert ceiling jet temperature, velocity, and thermal response of sprinkler.	Technical Reference: • NUREG-1805, Chapter 11, 2004 • NFPA Fire Protection Handbook, 19th Edition, Chapter 3-9, Budnick, E., Evans, D., and Nelson, H., 2003 • NUREG-1824, Volume 4, 2007 • NUREG-1934, Chapter 2, 2012	• The heat detection correlation is contained in NUREG-1805. • The correlation is documented in an authoritative publication of the NFPA Fire Protection Handbook. • Alpert's ceiling jet correlation V&V is documented in NUREG-1824. • The correlation has been applied within its limits of applicability and the validated range reported in NUREG-1824 or, if applied outside the validated range, the model has been justified as acceptable, either by qualitative analysis, or by quantitative sensitivity analysis. The methodology for justifying application of the fire model outside the range is in accordance with methods documented in NUREG-1934. The applicability of the V&V basis to the model implementation in the HNP FPRA is described in the following HNP Calculations: • H-RIE-FIREPRA-U00-008A, "Hatch Fire PRA Task 8/11a, Fire Scenario Development and Detailed Fire Modeling", Version 2, Attachment A, Fire Modeling Workbook Methodology for HNP

Replace with:
(Smoke optical density method)

Replace with:
An optical density method, developed from Alpert's ceiling jet temperature correlation, is used to determine the time to automatic smoke detection.

Replace with:
The Alpert's ceiling jet correlation temperature is transformed to a soot optical density by application of basic laws of thermodynamics and fluid mechanics.

FM RAI 03(c)

FM RAI 03(c)

Edwin I. Hatch Nuclear Plant – Units 1 and 2
Response to Request for Additional Information Regarding the License Amendment Request to Transition to 10 CFR 50.48(c) – NFPA -805 Performance Based Standard for Fire Protection for Light Water Reactor Generating Plants

Attachment L

Markup to LAR Attachment L

Approval Request 4

NFPA 805 Section 3.3.5.2 states:

"Only metal tray and metal conduits shall be used for electrical raceways. Thin wall metallic tubing shall not be used for power, instrumentation, or control cables. Flexible metallic conduits shall only be used in short lengths to connect components."

Plant Hatch uses embedded PVC conduits. In addition, *flexible metallic and* PVC coated flexible metallic conduits in ~~lengths of up to 6-feet~~ *lengths greater than 3-feet* are used to route cables between equipment and rigid conduits. This exceeds the ~~3-foot~~ maximum allowable "short length" as clarified in FAQ 06-0021. FPE RAI 02

SNC requests NRC approval for*: 1)* the use of nonmetallic conduit in embedded applications*, 2) existing installations* ~~and for the use~~ of flexible *metallic and* PVC coated *flexible* metallic conduits in lengths *greater than 3-feet, and 3) the future use of flexible metallic and PVC coated flexible metallic conduits in lengths* up to 6-feet, as acceptable variances from the requirements of NFPA 805, Chapter 3. FPE RAI 02

Basis for Request:

The basis for the approval request of the deviation for the use of *flexible metallic and* PVC coated flexible metallic conduits in lengths ~~up to 6~~ *greater than 3*-feet *in existing installations* is:

- *Current cable/raceway installation procedures allow for flexible metallic conduit installations up to 6-feet. Flexible metallic conduit installations that exceed 6-feet require Architect/Engineer (A/E) approval. An implementation item will ensure revision to cable/raceway installation guidance that limits future flexible metallic conduit installations to a maximum of 6 feet (See Attachment S, Table S-3, Implementation Item IMP-20).* FPE RAI 02

- PVC coated flexible metallic conduit provides equivalent physical and electrical protection to uncoated flexible metallic conduit, because the characteristics of the metallic body of the conduit are not affected by the coating.

- According to vendor specifications, the PVC coating on the metallic conduit is very thin and is not expected to provide any credible influence on fire propagation behavior and the amount of PVC introduced to a given fire area is considered negligible.

- If a fire were to occur in a fire area containing these conduits, existing controls such as fire-rated barriers, electrical raceway fire barrier systems, spatial separation, etc. would ensure redundant cabling and circuitry would not be affected by the fire.

- *Flexible metallic and* PVC coated flexible metallic conduits exceeding the 3-foot length clarified in FAQ 06-0021 are installed such that the conduits are not in danger of being damaged by equipment or personnel. FPE RAI 02

The basis for the approval request of the deviation for the future use of flexible metallic and PVC coated flexible metallic conduits in lengths up to 6-feet is similar to that for flexible metallic and PVC coated flexible metallic conduits in lengths greater than 3-feet above, with the exception of the assurance that future installation of flexible conduit will be no greater than 6-feet in length. As committed above, an implementation item will ensure revision to cable/raceway installation guidance that limits future flexible metallic conduit installations (including PVC coated flexible metallic conduit) to a maximum of 6-feet (See Attachment S, Table S-3, Implementation Item IMP-20). FPE RAI 02

The basis for the approval request of the deviation for the use of nonmetallic conduit in embedded applications is:

- For instances where nonmetallic conduit is used in concrete embedded applications, the concrete provides physical protection and separation for the conduit.

- The embedded PVC conduits, while combustible material, are not subject to flame or heat impingement from an external source which would result in structural failure, contribution to the fire load, and/or damage to circuits contained within where the conduit is embedded in concrete and exposure is minimal.

- NFPA 70 (National Electric Code (NEC)), Article 352, allows the use of rigid nonmetallic conduit for underground and embedded applications.

- Failure of circuits within embedded *non-metallic* conduits resulting in a fire would not result in damage to external targets (i.e., other circuits would not be exposed to the effects of a circuit failure in the embedded conduit). FPE RAI 02

- The non-metallic conduits are installed such that the conduits are not in danger of being damaged by equipment or personnel.

- ~~Failure of circuits within non-metallic conduits resulting in a fire would not result in damage to external targets (i.e., other circuits would not be exposed to the effects of a circuit failure in the conduit).~~ FPE RAI 02

Acceptance Criteria Evaluation:

Nuclear Safety and Radiological Release Performance Criteria:

The use of nonmetallic conduit in embedded applications ~~and the use of flexible PVC coated metallic conduits in lengths up to 6-feet~~ does not affect nuclear safety as the material in which conduits are run are located such that they are not subject to failure mechanisms that potentially result in circuit damage or damage to external targets. FPE RAI 02

Additionally, NFPA 70 allows for the use of rigid nonmetallic conduit for underground and embedded applications.

Also, the use of flexible conduit (both metallic and PVC coated metallic) in lengths greater than 3-feet does not affect nuclear safety. If a fire were to occur in a fire area containing these conduits, existing controls such as fire-rated barriers, electrical raceway fire barrier systems, spatial separation, etc. would ensure redundant cabling and circuitry would not be affected by the fire. Therefore, there is no impact on the nuclear safety performance criteria. FPE RAI 02

The use of nonmetallic conduit in embedded applications and the use of flexible *conduit (both metallic and* PVC coated metallic) ~~conduits~~ in lengths *greater than 3-feet* ~~up to 6-feet~~ have no impact on the radiological release performance criteria. The radiological release review was performed based on the manual fire suppression activities in areas containing or potentially containing radioactive materials and is not dependent on the type of conduit material. The conduit material or length of conduit does not change the radiological release evaluation, which concluded that potentially contaminated water is contained and smoke is monitored. The conduits for which NRC approval is requested do not add additional radiological materials to the area or challenge system boundaries. FPE RAI 02

Safety Margin and Defense-in-Depth:

The areas with nonmetallic conduit in embedded applications and flexible ~~PVC coated metallic~~ conduits *(both metallic and PVC coated metallic)* in lengths ~~up to 6~~ *greater than 3*-feet have been analyzed in their current configuration. The precautions and limitations of the use of these materials do not impact the analysis of the fire event. PVC coated flexible metallic conduit introduces a negligible amount of combustibles to a fire area due to the thickness of the PVC coating. Although, the PVC coating introduces a potential smoke toxicity issue due to its corrosive nature to electrical circuits and sensitive electronics in the event of a fire, the PVC coating is of minimal thickness and would not result in smoke production that would impact electrical circuits or sensitive electronics. *This conclusion also applies to any future installations of PVC coated flexible metallic conduit in lengths not to exceed 6-feet.* Embedded nonmetallic conduit is protected from an exposure fire and possible mechanical damage. ~~PVC conduit that is not embedded~~ *The PVC coating on flexible metallic conduit* introduces a negligible amount of combustibles to an area. Therefore, the inherent safety margin and conservatisms in these methods remain unchanged. FPE RAI 02 FPE RAI 02

The three echelons of defense-in-depth are:

(1) To prevent fires from starting (combustible/hot work controls)
(2) Rapidly detect, control and extinguish fires that do occur, thereby limiting damage (fire detection systems, automatic fire suppression, manual fire suppression, pre-fire plans)
(3) Provide adequate level of fire protection for systems and structures so that a fire will not prevent essential safety functions from being performed (fire barriers, fire rated cable, success path remains free of fire damage, recovery actions)

Per NFPA 805 Section 1.2, defense-in-depth is achieved when an adequate balance of each of these elements is provided.

The current configuration of the conduit at Plant Hatch, *and the future use of flexible conduit (metallic and PVC coated metallic) in lengths up to 6-feet,* does not impact fire protection defense-in-depth. FPE RAI 02

PVC coated flexible metallic conduit used within the plant is constructed of a metallic core coated with a thin layer of PVC. The metal core is expected to withstand any potential exposure fire or flame impingement and the PVC coating is thin enough so that it is not expected to provide any credible influence on fire propagation behavior, therefore not affecting the three echelons of defense-in-depth. When installed in configurations exceeding 3 feet in length, the conduit is not expected to negatively affect the three echelons of defense-in-depth as the additional combustibles added by exceeding 3 feet in length is negligible.

Nonmetallic conduit in embedded applications does not affect the three echelons of defense-in-depth. The use of nonmetallic conduits *in embedded applications* has no effect on the ability for the plant to rapidly detect, control and extinguish any fires that may occur. Additionally, embedded conduit will be shielded from an exposure fire. Lastly, *failure of circuits within embedded non-metallic conduits resulting in a fire would not result in damage to redundant circuits and would not prevent essential safety functions from being performed.* ~~in every area of the plant where redundant pathways or required safe shutdown-related cables are located, one pathway is protected with a fire protection barrier allowing for essential safety functions to be completed.~~ FPE RAI 02 FPE RAI 02

The use of these conduits does not directly result in compromising automatic fire suppression functions, manual fire suppression functions, or post-fire safe shutdown capability, and will not prevent essential functions from being performed.

Conclusion:

NRC approval is requested for*: 1)* the use of nonmetallic conduit in embedded applications*, 2) existing installations* ~~and for the use~~ of flexible *metallic and* PVC coated *flexible* metallic conduits in lengths *greater than 3-feet, and 3) the future use of flexible metallic and PVC coated flexible metallic conduits in lengths* up to 6-feet. The engineering analysis performed determined that the performance-based approach utilized to evaluate a variance from the requirements of NFPA 805 Chapter 3: FPE RAI 02

(A) Satisfies the performance goals, performance objectives, and performance criteria specified in NFPA 805 related to nuclear safety and radiological release;

(B) Maintains safety margins; and

(C) Maintains fire protection defense-in-depth (fire prevention, fire detection, fire suppression, mitigation, and post-fire shutdown capability).

elevation 130' and the bottom of the fire zone at elevation 87'. Class III hose stations are available in the fire zones above, 1203F and 2203F respectively. The Class III hose stations are located approximately 75 feet from the top of the enclosed stairway leading down to Fire Zones 1203C and 2203C. These hose stations therefore provide some, but not full, redundant manual suppression coverage in Fire Zone 1205C. Fire Zones 1203C and 2203C are also protected by automatic wet-pipe sprinkler systems. Water flow alarms will initiate response by the plant fire brigade.

- Fire Zones 1205Z and 2205Z have upper level metal grate platform accessed by a metal grate open stairwell. Additional 1½-inch fire hose stations are located in the adjacent Fire Zones 1205B and 2205B near the doorways leading to Fire Zones 1205Z and 2205Z. These additional hose stations provide redundant coverage to the entire floor level of Fire Zones 1205Z and 2205Z, which contains the majority of the hazards. Fire Zones 1205Z and 2205Z are also protected by automatic wet-pipe sprinkler systems. These fire zones also have fire extinguishers on the 97' elevation and the 118' elevation. ~~The north wall boundary to Fire Zone 2205B is protected by directional spray nozzles.~~ The wet-pipe sprinkler system is expected to control the fire and initiate a water flow alarm both locally and in the MCR to initiate response by the plant fire brigade.
- Unit 1 Hose Stations HS-R06, HS-R07, HS-R08 and HS-R09 are installed to protect the contiguous Torus Fire Zones 1205A and 1203A. Similarly, Unit 2 Hose Stations 2HS-R06, 2HS-R07, 2HS-R08 and 2HS-R09 are installed to protect the contiguous Torus Fire Zones 2205A and 2203A. The spacing and hose lengths are sufficient to reach all portions of these fire zones with almost fully-overlapping redundant coverage. There are also wall-mounted fire extinguishers located next to two of the four hose stations in each unit. These fire zones are partially protected by a common wet-pipe sprinkler system and linear heat detection system at the open boundary between Fire Area 1203 (Fire Zone 1203A) and Fire Area 1205 (Fire Zone 1205A) in Unit 1 and between Fire Area 2203 (Fire Zone 2203A) and Fire Area 2205 (Fire Zone 2205A) in Unit 2. The suppression systems are designed to prevent fire propagation across the open fire area boundaries between 1203A and 1205A in Unit 1 (2203A and 2205A in Unit 2). Actuation of the installed suppression or detection system provides both local and MCR alarms to initiate response by the plant fire brigade.
- The fire brigade members are trained in the use standpipe and hose systems, as well as the use backup capabilities located in adjacent fire areas/fire zones when needed. NMP-TR-426, Fire Training Program, indicates that backup lines (i.e., safety lines) from independent water supplies are used to reinforce and protect personnel in case the initial attack line proves inadequate. NMP-TR-426 also describes the responsibility of the Site Lead Fire Instructor to ensure adequate protection for personnel on training attack lines by always providing backup lines. The fire brigade will properly use the hose stations in adjacent fire zones identified herein which provide additional/redundant hose coverage.