



Serial: HNP-09-056
10 CFR 50.90

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

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1
DOCKET NO. 50-400/RENEWED LICENSE NO. NPF-63
NON-SECURITY SENSITIVE VERSION OF ORIGINAL REQUEST FOR
LICENSE AMENDMENT TO ADOPT NFPA 805 PERFORMANCE-BASED
STANDARDS FOR FIRE PROTECTION FOR LIGHT WATER REACTOR
GENERATING PLANTS (2001 EDITION)

- References:
1. Letter from R. J. Duncan to the Nuclear Regulatory Commission (Serial: HNP-08-061), "Request for License Amendment to Adopt NFPA 805 Performance-Based Standard for Fire Protection for Light Water Reactor Generating Plants (2001 Edition)," dated May 29, 2008
 2. Letter from D. H. Corlett to the Nuclear Regulatory Commission (Serial: HNP-08-119), "Non-Security Sensitive Version of Supplement to Request for License Amendment to Adopt NFPA 805 Performance-Based Standards for Fire Protection for Light Water Reactor Generating Plants (2001 Edition)," dated February 05, 2009

Ladies and Gentlemen:

Harris Nuclear Plant's NFPA 805 License Amendment Request (Reference 1) included Attachments containing sensitive information submitted under 10 CFR 2.390(d)(1). Non-security sensitive versions of Attachments A, G, S, W and X were previously submitted (Reference 2). Enclosed please find non-security sensitive versions of the following Attachments, with information previously identified as security sensitive redacted:

- Attachment D – NEI 04-02 Table F-1 Non-Power Operational Modes Transition
- Attachment J – Existing Engineering Equivalency Evaluation Transition
- Attachment K – Existing Licensing Action Transition

Please refer any questions regarding this submittal to me at (919) 362-3137.

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4006
MRR

Sincerely,



David H. Corlett
Supervisor – Licensing/Regulatory Programs
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DHC/kms

- Enclosures:
1. Attachment D – NEI 04-02 Table F-1 Non-Power Operational Modes Transition - Non-Security Sensitive
 2. Attachment J – Existing Engineering Equivalency Evaluation Transition - Non-Security Sensitive
 3. Attachment K – Existing Licensing Action Transition - Non-Security Sensitive

Attachment D – NEI 04-02 Table F-1 Non-Power Operational Modes Transition
(Non-Security Sensitive)
10 Pages

Table F-1 - Non-Power Operational Modes Transition Report**NFFPA 805 Section 1.3.1 Nuclear Safety Goal**

The nuclear safety goal is to provide reasonable assurance that a fire during any operational mode and plant configuration will not prevent the plant from achieving and maintaining the fuel in a safe and stable condition

Implementing Guidance F.1

Review existing Outage Management Processes

Define Higher Risk Evolutions (HREs), if not already defined in plant outage management procedures. The HRE definition should consider the following:

- o Time to boil
- o Reactor coolant system and fuel pool inventory
- o Decay heat removal capability

Review

HNP Outage Management Procedure, OMP-003 "Outage Shutdown Risk Management" provides the basic definition for Higher Risk Evolutions used during plant outages, which is: "Outage activities, plant configuration or conditions during shutdown where the plant is more susceptible to an event causing the loss of a key safety function." Implementation of this definition, and the actual determination of higher risk evolutions, is based on an evaluation of outage configurations that are graded on three qualitative criteria. These criteria, which each represents a contributor to overall risk, consider:

- 1) Time to Boil
- 2) Inventory
- 3) Equipment Availability (availability and reliability of decay heat removal systems)

Using this criteria and the score (0 to 3) that results from the process, a risk level is assigned that correlates to a color (going from low to high risk) of Green, Yellow, Orange, or Red. As defined in OMP-003, all higher risk evolutions are defined as Orange or Red.

Unit Applicability 1

Comments

Reference Document

Document Detail

Table F-1 - Non-Power Operational Modes Transition Report**NFPA 805 Section 1.3.1 Nuclear Safety Goal**

The nuclear safety goal is to provide reasonable assurance that a fire during any operational mode and plant configuration will not prevent the plant from achieving and maintaining the fuel in a safe and stable condition

Implementing Guidance F.2**Identify Components and Cables**

The identification of systems and components to be included in this NPO Review begins with the identification of the plant operational states (POSSs) that need to be considered

Identify the various operational states that a plant goes through during NPO, and which ones are the most risk significant:

Review

A review of the Harris Nuclear Plant (HNP) Outage Management Procedure, OMP 003 "Outage Shutdown Risk Management", Revision 24, along with discussions with Harris Outage management personnel has resulted in the identification of the Plant Operational States that were included in HNP Non-Power Operational (NPO) Modes Review. These Plant Operational States are described in Attachment F-1A.

HNP procedure, OMP 003, "Outage Shutdown Risk Management", provided the foundation for establishing the Key Safety Functions that would be evaluated during the HNP NPO review. Attachment F-1B provides a listing of the KSF that were identified from this procedure and included in this review. This attachment also identifies the independent paths that are capable of ensuring that the KSF can be met.

The equipment required to maintain the NPO KSF and paths identified in Attachment F-1B was determined to be a subset of that required to safely shutdown the plant as a result of a fire while at power. Included in this equipment identification process was the assignment of a KSF code to each NPO component that correlates with the KSF paths identified in Attachment F-1B. In some cases these components were identified as being required to support more than one KSF path, and therefore had more than one KSF code assigned. The results of this KSF equipment identification, and KSF code assignment tasks were uploaded into the HNP Fire Safe Shutdown Program Manager Database (FSSPMD).

Approximately 16 power operated components were identified as being needed to support a NPO KSF that were either not included on the post-fire safe shutdown equipment list, or the component had a different functional requirement for NPO than it did for safe shutdown, and required additional circuit analysis. These additional circuit analyses were performed using Progress Energy procedure FIR-NGGC-0101, "Fire Protection Nuclear Safety Capability Assessment". This procedure utilizes information provided in NEI 00-01, "Guidance for Post-Fire Safe Shutdown Analysis".

The results of the completed circuit analysis for each of these components was loaded into the FSSPMD and documented with the same information as was done for the safe shutdown components. Information documented in this circuit analysis included the identification of required position or condition of component, cables, function and failure mode of the cable, and any associated circuits.

The additional circuit analyses that were performed for the components identified above included the identification and routing of associated cables on a fire zone and area basis. This cable information was then documented in the HNP FSSPMD.

The FSSPMD which contains all of the information required to perform a fire area assessment (assigned KSF code(s) for each component, its location in the plant, and fire area routing of associated cables) was utilized to produce reports (NPO Separation Report) that allowed for evaluations on a fire area basis. These reports identify NPO components, and their cables, assigned to each KSF path to determine which paths might be potentially impacted as a result of fire induced damage to cables and/or equipment. Assessments were then made to determine which KSF path may be impacted by a fire in a given area. If it was determined that all paths that are capable of providing a KSF could be lost in that fire area, a "pinch point" was identified. A "pinch point" is defined as a plant location (fire area) where all of the NPO defense-in-depth paths that are credited to perform a specific KSF could potentially be rendered unavailable by a single fire.

Unit Applicability 1**Comments****Reference Document****Document Detail**

Table F-1 - Non-Power Operational Modes Transition Report

NFPA 805 Section 1.3.1 Nuclear Safety Goal

The nuclear safety goal is to provide reasonable assurance that a fire during any operational mode and plant configuration will not prevent the plant from achieving and maintaining the fuel in a safe and stable condition.

Implementing Guidance F.3

Perform Fire Area Assessments (Identify pinch points)

Identify locations where:

- o Fires may cause damage to the equipment (and cabling) credited above, or
- o KSFs are achieved solely by crediting recovery actions, e.g., alignment of gravity feed.

Fire modeling may be used to determine if postulated fires in a fire area are expected to damage equipment (and cabling) thereby eliminating a pinch point.

Review

The NPO fire area reviews conservatively assumed that the entire contents of a fire area would be lost. These reviews identified that there are fire areas where a single fire could result in a loss of all credited paths for a given KSF (i.e. pinch point). The review also identified that there are certain fire areas that are vulnerable to a loss of a KSF if certain system trains or components are taken out of service during a non-power operational mode and a fire were to occur. Fire Areas where a fire might cause damage to equipment required to support a KSF path are identified in a separate analysis (HNP-E/ELEC-0002, "NFPA 805 Transition - Non-Power Operational Modes Review").

The assessments that were performed as part of the NPO review conservatively assumed that all NPO components or component cables in the fire area may be lost due to a fire. Utilizing the review methodology outlined in this Table and the approaches that were developed to alleviate the identified "pinch points" precluded the need to utilize fire modeling in order to resolve a KSF concern.

Unit Applicability 1

Comments

Reference Document

Document Detail

Table F-1 - Non-Power Operational Modes Transition Report**NFPA 805 Section 1.3.1 Nuclear Safety Goal**

The nuclear safety goal is to provide reasonable assurance that a fire during any operational mode and plant configuration will not prevent the plant from achieving and maintaining the fuel in a safe and stable condition

Implementing Guidance F.4

Manage risks associated with fire-induced vulnerabilities during the outage

During those NPO evolutions where risk is relatively low:

The normal fire protection program defense-in-depth actions are credited for addressing the risk impact of those fires that potentially impact one or more trains of equipment that provide a KSF required during non-power operations, but would not be expected to cause the total loss of that KSF. The following actions are considered to be adequate to address minor losses of system capability or redundancy:

- o Control of Ignition Sources
 - o Hot Work (cutting, welding and/or grinding)
 - o Temporary Electrical Installations
 - o Electric portable space heaters
- o Control of Combustibles
 - o Transient fire hazards
 - o Modifications
 - o Flammable and Combustible liquids and gases
- o Compensatory Actions for fire protection system impairments
 - o Openings in fire barriers
 - o Inoperable fire detectors or detection systems
 - o Inoperable fire suppression systems
- o Housekeeping

During those NPO evolutions that are defined as HREs:

Additional fire protection defense in depth measures will be taken during HREs by:

- o Managing risk in fire areas that contain known pinch points.
- o Managing risk in fire areas the where pinch points may arise because of equipment taken out of service

NUMARC 91-06 discusses the development of outage plans and schedules. A key element of that process is to ensure the KSFs perform as needed during the various outage evolutions. During outage planning, the NPO Fire Area Assessment should be reviewed to identify areas of single-point KSF vulnerability during higher risk evolutions to develop any needed contingency plans/actions. For those areas consider combinations of the following options to reduce fire risk depending upon the significance of the potential damage.

- o Prohibition or limitation of hot work in fire areas during periods of increased vulnerability
- o Verification of operable detection and /or suppression in the vulnerable areas.
- o Prohibition or limitation of combustible materials in fire areas during periods of increased vulnerability
- o Plant lineup modifications (removing power from equipment once it is placed in its desired position)
- o Provision of additional fire patrols at periodic intervals or other appropriate compensatory measures (such as surveillance cameras) during increased vulnerability
- o Use of recovery actions to mitigate potential losses of key safety functions.
- o Identification and monitoring in-situ ignition sources for "fire precursors" (e.g., equipment temperatures).

In addition, for KSF Equipment removed from service during the HREs the impact should be evaluated based on KSF equipment status and the NPO Fire Area Assessment to develop needed contingency plans/actions.

Review

Table F-1 - Non-Power Operational Modes Transition Report

NFPA 805 Section 1.3.1 Nuclear Safety Goal

Approximately 20 generic pinch points were identified during the performance of the NPO fire area reviews. In order to preclude or mitigate these KSF failures, a number of strategies were developed. These strategies included revisions to plant shutdown and abnormal operating procedures. These planned procedural revisions make changes to plant equipment and electrical system line-ups as the plant is brought to cold shutdown conditions, and were made to preserve the KSF. Plant operational procedures were also revised to include recovery actions for those instances where operator actions would be necessary to ensure that a specific KSF can be maintained. Specific procedures to be updated are identified in the HNP E/ELEC 0002, "NFPA 805 Transition - Non-Power Operational Modes Review".

To address concerns associated with equipment being taken out of service during NPO modes, and the potential for a concurrent fire, the HNP outage management procedure (OMP-003) will be revised to provide instructions that will assist in mitigating the effects of a fire if one were to occur. This procedure revision will provide guidelines for actions to be taken in specific fire areas when components or system trains are taken out of service. For those fire areas where the credited KSF system or equipment has been taken out of service the following guidelines have been included in the outage management procedure:

- Prohibition or limitation of hot work.
- Prohibition or limitation of combustible materials, and/or
- Establishment of additional fire watches as appropriate.

Utilizing the above outlined approaches to alleviate the identified "pinch points" precluded the need to utilize fire modeling in order to resolve a KSF concern.

Unit Applicability 1

Comments

Reference Document

Document Detail

Attachment F-1A

Plant Operational States Reviewed

After reviewing the outage management procedure, and meeting with the Supervisor of Outage Management, it was agreed that the NPO Review for the HNP would consist of the following. The "higher risk evolution" to be reviewed would be when the POS meets the following conditions, thus constituting a higher risk condition:

- Fuel is in the reactor vessel, AND
- Thermal margin is low with time to core boil ≤ 40 minutes, OR
- The plant is in a reduced inventory condition (i.e. water level ≤ 36 inches below the reactor vessel flange)

It should be noted that the time to boil limitation provided in the HNP Outage Management Procedure, OMP-003, "Outage Shutdown Risk Management" is the reference point from which actions need to be taken, and is conservative and provides additional margin for risk since it does not include the time to core uncover. Maintaining the core covered with water is the ultimate goal of preventing fuel damage and preserving the nuclear safety performance criteria.

FAQ 07-0040, *Non-Power Operations Clarifications*, Revision 2 (draft) has identified those plant operating states with respect to NFPA 805 for pressurized water reactors that need to be considered and evaluated as part of the NPO review process. The guidance contained in this document has been used to supplement that contained in NEI-04-02.

1. **POS 1:** This POS considers the Reactor Coolant System (RCS) as being closed and pressurized; the pressurizer may or may not have a bubble, and the secondary side of the steam generators as being filled. It begins when the RHR system is placed in the shutdown cooling mode of operation, and ends when the RCS is vented. This will include Mode 4 (Hot Shutdown) and portions of Mode 5 (Cold Shutdown). For the purposes of the NPO review effort this POS has been identified with two variations (configurations POS 1A and POS 1B): one with steam generators available for heat removal, and the other where the steam generators are no longer available.
 - 1A. In the configuration where steam generators are available, FAQ 07-0040 has proposed to screen out the need to review and evaluate POS 1A. This proposal is based upon previously performed quantitative risk reviews where CDF was used as risk matrix in Low Power and Shutdown (LPSD) studies cited in FAQ 07-0040. The conclusion of these studies is that most outage configurations (or POS) are of relatively low risk and there are only a few configurations or POS that present a risk near or greater than at-power operations. This is because the availability of steam generators along with the Residual Heat Removal System provides sufficient redundancy and diversity to remove core decay heat such that risk to core damage is significantly low and does not warrant further review under this NPO review. **Therefore, this POS configuration has been screened from the NFPA 805 transition review for the HNP.**
 - 1B. The second variation of POS 1 is the case where the steam generators are no longer capable of being used to remove core decay heat. For the HNP evaluation this POS considered that the RCS has been cooled to the point where the steam generators are no longer capable of steaming and removing decay heat, and the RHR system is the sole means of maintaining the RCS temperature. At this point the RCS has not yet been vented, and may be in the process of being brought to solid plant conditions to remove steam and non-condensable gases from the Pressurizer. Once this short duration solid plant operation is completed, the RCS will be vented, and the plant will be in POS 2. **This POS configuration has been considered in the HNP NPO Review.**
2. **POS 2:** This POS begins when the RCS has been vented such that the steam generators cannot sustain core heat removal, and an adequate vent path exists to preclude the RCS from re-pressurizing to a point where the RHR system would need to be isolated and made unavailable. This operational state will include portions of Mode 5 (Cold Shutdown) and Mode 6 (Refueling). This POS includes reduced inventory operations and midloop operations with a vented RCS, and has been considered in the HNP NPO Review.
3. **POS 3:** This POS represents the shutdown condition when the refueling cavity water level is at or above the minimum level required for movement of irradiated fuel assemblies with containment as defined by HNP Technical Specifications. This POS occurs during Mode 6, and has been considered in the HNP NPO Review.

Attachment F-1B

Key Safety Functions

The following Key Safety Functions were considered during the HNP NPO Review and the systems and/or equipment, or flow paths that are considered for each Key Safety Function path.

Decay Heat Removal

1. Residual Heat Removal

- a. [REDACTED]
- b. [REDACTED]

2. Component Cooling Water

- a. [REDACTED]
- b. [REDACTED]
- c. [REDACTED]

3. Emergency Service Water

- a. [REDACTED]
- b. [REDACTED]

Electrical Distribution

4. 6.9 KV / 480 V Emergency Buses

- a. [REDACTED]
- b. [REDACTED]

5. Onsite Power Sources

- a. [REDACTED]
- b. [REDACTED]

6. Offsite Power Sources

- a. [REDACTED]
- b. [REDACTED]
- c. [REDACTED]

7. 120 VAC Uninterruptible Buses (Class 1E)

- a. [REDACTED]
- b. [REDACTED]
- c. [REDACTED]
- d. [REDACTED]

8. 125 VDC Emergency Buses (Class 1E)

- a. [REDACTED]
- b. [REDACTED]

9. 120 VAC Uninterruptible Buses (Non-Class 1E)

- a. [REDACTED]
- b. [REDACTED]
- c. [REDACTED]

10. 125 VDC Emergency Buses (Non-Class 1E)

- a. [REDACTED]

Attachment F-1B
Key Safety Functions

Pressure Control

11. Pressure Control

- a. [REDACTED]
- b. [REDACTED]
- c. [REDACTED]
- d. [REDACTED]

Inventory Control

12. Reactor Coolant System Inventory Makeup

- a. Path A: [REDACTED]
- b. Path B: [REDACTED]
- c. Path C: [REDACTED]
- d. Path D: [REDACTED]

13. Inventory Control – Diversion

- a. This KSF path included all paths from the RCS that could result in a loss of inventory.

Reactivity Control

14. Reactor Coolant System Makeup from borated sources

- a. Path E: [REDACTED]
- b. Path F: [REDACTED]
- c. Path G: [REDACTED]
- d. Path H: [REDACTED]

15. Charging Safety Injection Pumps

- a. CSIP A
- b. CSIP B
- c. CSIP C

16. Inadvertent Dilution

- a. This KSF path includes all credible means of making up to the RCS that would result in a dilution of the boron concentration in the RCS.

Attachment F-1B

Key Safety Functions

17. Nuclear Instrumentation

- a. This KSF takes credit for any one of six (6) source range nuclear instruments available in the MCR.

NOTE 1:

Paths F and H that utilize the contents of the BAT to provide borated water to the RCS and maintain reactivity were not considered in this NOP review. Since the RWST contents are significantly greater than that of the BAT, and the path to the CSIP from the RWST has fewer power operated valves that could be problematic, the decision was made to exclude this path as it would not provide any greater "defense in depth".

**Attachment J – Existing Engineering Equivalency Evaluation
Transition**

(Non-Security Sensitive)

38 Pages

<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
50;59 01-0730-1, [REDACTED]	Struct	Yes

Summary Evaluation concludes that [REDACTED] provide adequate fire separation in the [REDACTED] based on:

1. [REDACTED] are the only equipment within [REDACTED] of the [REDACTED]
2. [REDACTED] are located between the motors and the traveling screens
3. [REDACTED] covers are kept on the canal [REDACTED]

Evaluation Evaluation deemed adequate for transition based on Procedure FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process; is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

3.11.2 Fire Barriers.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	EMERGENCY SERVICE WATER INTAKE STRUCTURE (MAIN RESERVOIR)
1	[REDACTED]	EMERGENCY SERVICE WATER INTAKE STRUCTURE (MAIN RESERVOIR)
1	[REDACTED]	OUTSIDE YARD

<u>Fire Zone Name</u>	<u>Description</u>
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<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
50.59 01-0730-2, [REDACTED]	Struct	Yes

Summary Evaluation concludes that [REDACTED] provide adequate fire separation in the [REDACTED] structure based on:

1. [REDACTED] are the only equipment in the room
2. Alternate SSD equipment is available for a fire in this area
3. [REDACTED] are kept on the canal [REDACTED]
4. There are no fire hazards located next to the trash rack

Evaluation Evaluation deemed adequate for transition based on Procedure FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

3.11.2 Fire Barriers.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	AUXILIARY RESERVOIR SCREENING STRUCTURE
1	FPYARD	OUTSIDE YARD

<u>Fire Zone Name</u>	<u>Description</u>
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<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
AR 169637, MT steel supports		Yes

Summary Structural evaluation to demonstrate that steel supports associated with MT fire barriers can support the dead load for 3 hours without protection. The structural evaluation is contained in Calc LV-53.

Evaluation The evaluation is deemed appropriate to demonstrate that the subject MT fire barriers will provide the required 3 hour protection.

NFPA 805 Ch. 3 Ref.

3.11.5 Electrical Raceway Fire Barrier Systems (ERFBS).

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
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<u>Fire Zone Name</u>	<u>Description</u>
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<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
EC 48007, FHB/WPB [REDACTED], Inconsistent Fire Door Documentation, Rev. 1, 3/28/2002		Yes

Summary Fuel Handling Building/Waste Processing Building [REDACTED] floor are acceptable, based on the following:

1. Low combustibile load above and "Negligible" combustibile loading below
2. Adjacent areas free of exposed combustibles
3. No exposed SSD circuits or equipment in either fire area
4. Area above the hatches has ionization detection
5. Postulated fire is 30 minutes or less
6. The area adjacent to the floor hatches [REDACTED] is protected by an automatic operating, full area sprinkler system.

This evaluation addresses two separate [REDACTED] of the [REDACTED] Fuel Handling Building Fuel Pool Heat Exchangers area. [REDACTED] separates Fire Area [REDACTED] from Fire Area [REDACTED]. The [REDACTED] separates Fire Area [REDACTED].

Evaluation Evaluation deemed adequate for transition based on Procedure FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

3.11.2 Fire Barriers.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	FUEL HANDLING BUILDING BALANCE OF AREAS
1	[REDACTED]	FUEL HANDLING BUILDING FUEL POOL HEAT EXCHANGERS
1	[REDACTED]	WASTE PROCESSING BUILDING

<u>Fire Zone Name</u>	<u>Description</u>
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<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
EC 48019-1, Sprklr Obstruc, Zone [REDACTED]		Yes

Summary Sprinkler obstructions in fire zone [REDACTED] are evaluated as acceptable based on:
Lack of in-situ combustibles in the affected area, and that the area is designated a "No Storage Location"

Evaluation Evaluation deemed adequate for transition based on FPIP-0125:
The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A1

<u>Fire Zone Name</u>	<u>Description</u>
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<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
EC 48019-2, Sprklr Obstruc, Zone [REDACTED]		Yes

Summary Sprinkler obstructions in fire zone [REDACTED] are evaluated as acceptable based on:
Lack of in-situ combustibles in the affected area, coverage by adjacent sprinklers and that the area is "ordinary hazard"

Evaluation Evaluation deemed adequate for transition based on FPIP-0125.
The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A2
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A3

<u>Fire Zone Name</u>	<u>Description</u>
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<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
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EC 48019-3, Sprklr Obstruc, Zone [REDACTED]		Yes
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Summary Sprinkler obstructions in fire zone [REDACTED] are evaluated as acceptable based on:
Lack of in-situ combustibles in the affected area, and that the area is designated a "No Storage Location"

Evaluation Evaluation deemed adequate for transition based on FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B1
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B2

<u>Fire Zone Name</u>	<u>Description</u>
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<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
EC 48019-4, Sprklr Obstruc, Zone [REDACTED]		Yes

Summary Sprinkler obstructions in fire zone [REDACTED] are evaluated as acceptable based on:
Ductwork shields trays from floor based fire, and the area is designated a "No Storage Location"

Evaluation Evaluation deemed adequate for transition based on FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B2
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B3

<u>Fire Zone Name</u>	<u>Description</u>
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<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
EC 48019-5, Sprklr Obstruc, Zone [REDACTED]		Yes

Summary Sprinkler obstructions in fire zone [REDACTED] chiller area) are evaluated as acceptable based on 1) Establishment of a No Storage location in the area, 2) coverage by adjacent sprinklers.

Evaluation Evaluation deemed adequate for transition based on FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A3

<u>Fire Zone Name</u>	<u>Description</u>
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<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
EC 50804-1, [REDACTED] Hatches		Yes

Summary Fuel Handling Building [REDACTED] are acceptable, based on the following:

1. "Low" combustible load above and "Negligible" combustible loading below
2. Adjacent areas free of exposed combustibles
3. No exposed SSD circuits or equipment in either fire area
4. Area above has ionization detection
5. Postulated fire is 30 minutes or less

Evaluation Evaluation deemed adequate for transition based on Procedure FPIP-0125. It is an appropriate use of the engineering evaluation process, it is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	FUEL HANDLING BUILDING EMERGENCY EXHAUST
1	[REDACTED]	FUEL HANDLING BUILDING FUEL POOL HEAT EXCHANGERS

<u>Fire Zone Name</u>	<u>Description</u>
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<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
EC 50804-2, [REDACTED] Hatches		Yes

Summary Fuel Handling Building [REDACTED] are acceptable based on the following:

1. Fire Area below has "low" fixed combustible load and no transient loading
2. Fire Area above has "low" combustible loading
3. Adjacent areas maintained free of combustibles
4. No exposed SSD circuits or equipment in either fire area
5. Area below has ionization detection
6. Credible fire is 25 pounds of class A transient material

Evaluation Evaluation deemed adequate for transition based on Procedure FPIP-0125. It is an appropriate use of the engineering evaluation process, it is judged to be of acceptable quality, and reflects the current plant condition.

NFPA 805 Ch. 3 Ref.

3.11.2 Fire Barriers.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	FUEL HANDLING BUILDING BALANCE OF AREAS
1	[REDACTED]	FUEL HANDLING BUILDING EMERGENCY EXHAUST

<u>Fire Zone Name</u>	<u>Description</u>
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Engineering Evaluation ID

Doc. Detail

Include in LAR/TR

EC 50804-3, [REDACTED] Hatches

Yes

Summary

RAB [REDACTED] are acceptable based on the following:
 1. Fire zones above and below have "moderate" fixed combustible load
 2. Fire area above has "low" combustible loading
 3. Heat detection is provided for charcoal exhaust units above and below
 4. Fire zone above also has ionization detection and sprinkler protection
 5. Adjacent floor areas are free of exposed combustibles
 6. Credible fire is transient charcoal in lower fire zone

Evaluation

The evaluation is deemed adequate for transition based on Procedure FPIP-0125.
 It is an appropriate use of the engineering evaluation process, it is judged to be of acceptable quality, and it reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

3.11.2 Fire Barriers.

Unit

Fire Area Name

Description

1

[REDACTED]

REACTOR AUXILIARY BUILDING UNITS 1 AND 2 BALANCE
 REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA
 A4

1

Fire Zone Name

Description

<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
EC 50804-4, Thermolag mullions and pen seals		Yes

Summary The evaluation of thermolag type mullions and penetration seals adjacent to 11 fire doors concludes that they provide equivalent three hour protection to tested configurations.

Evaluation The evaluation is deemed appropriate to demonstrate that the subject mullions and penetration seal designs are equivalent to tested configurations.

NFPA 805 Ch. 3 Ref.

3.11.3 Fire Barrier Penetrations.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNITS 1 AND 2 BALANCE
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A1
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A2
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A3
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A4
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B1
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B4
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA D
1	[REDACTED]	FUEL HANDLING BUILDING EMERGENCY EXHAUST
1	[REDACTED]	FUEL HANDLING BUILDING FUEL POOL HEAT EXCHANGERS
1	[REDACTED]	WASTE PROCESSING BUILDING

<u>Fire Zone Name</u>	<u>Description</u>
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Engineering Evaluation ID

Doc. Detail

Include in LAR/TR

EC 50804-5, T-lag Transom at Door 0808

Yes

Summary

The evaluation of thermolag type transom panels adjacent to fire door 1FP-D0808 concludes that it is adequate based on:

1. Areas around the assembly free of in-situ combustibles and ignition sources
2. Cable tray concentrations are in adjacent corridor
3. The portion of the fire zone with significant cable tray concentrations is protected by automatic suppression
4. No transient combustibles adjacent to door
5. The installations are in close proximity to [REDACTED] y point
6. The fire duration is less than 2 hours (transoms good for 172 minutes)

Evaluation

Evaluation deemed adequate for transition based on FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

Unit

Fire Area Name

Description

1

[REDACTED]

REACTOR AUXILIARY BUILDING UNIT 1 - UPPER ELEVATIONS

1

[REDACTED]

WASTE PROCESSING BUILDING

Fire Zone Name

Description

Engineering Evaluation ID

Doc. Detail

Include in LAR/TR

EC 50804-6, T-lag transoms at three fire doors

Yes

Summary

The evaluation of thermolag type transoms adjacent to fire doors [REDACTED] concludes that they are adequate based on:

1. Areas around the assembly free of in-situ combustibles and ignition sources
2. No transient combustibles adjacent to door
3. The installations are in close proximity to [REDACTED] point
4. The fire duration is less than 2 hours (transoms good for 172 minutes)

Evaluation

Evaluation deemed adequate for transition based on Procedure FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

Unit

Fire Area Name

Description

1

[REDACTED]

REACTOR AUXILIARY BUILDING UNIT 1 - LOWER ELEVATIONS

1

[REDACTED]

WASTE PROCESSING BUILDING

Fire Zone Name

Description

<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
EC 50804-7, Fire dampers outside plane of fire barrier		Yes

Summary The evaluation of 10 fire dampers installed outside the plane of the fire barrier concludes that they provide protection equivalent to the required 3 hour rating.

Evaluation The evaluation is deemed appropriate to demonstrate that the subject fire damper installations provide the required protection equivalent to tested configurations.

NFPA 805 Ch. 3 Ref.

3.11.3 Fire Barrier Penetrations.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	CONTROL ROOM, REACTOR AUXILIARY BUILDING
1	[REDACTED]	CONTROL ROOM COMPLEX
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A3
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A4
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA J
1	[REDACTED]	ELECTRICAL PENETRATION AREA A IN REACTOR AUXILIARY BUILDING
1	[REDACTED]	SWITCHGEAR ROOM B IN REACTOR AUXILIARY BUILDING
1	[REDACTED]	FUEL HANDLING BUILDING EMERGENCY EXHAUST
1	[REDACTED]	OUTSIDE YARD

<u>Fire Zone Name</u>	<u>Description</u>
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<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
EC 52769, Pen Seal for [REDACTED], Rev. 22	Attachment 5	Yes

Summary Within the 50.59 Attach 5 for this EC Rev 22, penetration seal E215 is evaluated as a non-rated feature acceptable for the hazards in the area. This is based on low in-situ and negligible transient combustible loading on either side of the penetration, smoke detection on both sides of the barrier, and sprinkler protection on one side.

Evaluation The evaluation of penetration seal E215 is deemed adequate for transition based on Procedure FPIP-0125. It is an appropriate use of the engineering evaluation process, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - UPPER ELEVATIONS
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA E

<u>Fire Zone Name</u>	<u>Description</u>
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Engineering Evaluation ID

Doc. Detail

Include in LAR/TR

EC 60257, Manual Transfer of C CSIP, Rev. 007

Yes

Summary

Penetrations containing HVAC ductwork for [REDACTED] have been evaluated as adequate for the hazards without the installation of fire dampers [REDACTED] based on combinations of robust duct design, duct length, detection, suppression, fixed fire hazards and transient fire hazards as evaluated for each damper case.

[REDACTED] is non-rated and adequate for the hazards based on lack of transients on either side, raised curb around top side, enhanced welded supports added by EC, lack of SSD equipment/circuits near hatch on top side, ionization detection both sides, suppression on bottom side.

Evaluation

Evaluation deemed adequate for transition based on Procedure FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

3.11.3 Fire Barrier Penetrations.

Unit

Fire Area Name

Description

1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A2
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A3
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA G
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA H

Fire Zone Name

Description

[REDACTED] REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A2

<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
EC 60434-1, Fire Doors [REDACTED]		Yes

Summary Fire doors [REDACTED] are evaluated as acceptable based on their similarity to others that were approved in an SER, and that there are "no significant quantities of combustibles in the immediate vicinity".

Evaluation Evaluation deemed adequate for transition based on FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B1
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B2
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA K

<u>Fire Zone Name</u>	<u>Description</u>
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<u>Engineering Evaluation ID.</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
ESR 01-00144, Fire Door Warping		Yes

Summary Evaluation of four warped fire doors [REDACTED] concludes that performance of [REDACTED] will be equivalent to the tested configuration. The evaluation is based on comparison to fire test data and input from the door manufacturer regarding the performance impact of warping. The evaluation of [REDACTED] is based on the use of the door, and the lack of a fire rating for the subject stairwell(s).

Evaluation The evaluation of [REDACTED] is deemed appropriate to demonstrate that fire doors with the described variance will perform equivalent to the tested configuration. The evaluation of [REDACTED] removes the doors from the FP program therefore they are no longer a rated FP feature and the evaluation is not performance based.

NFPA 805 Ch. 3 Ref.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNITS 1 AND 2 BALANCE
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A3
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA D
1	[REDACTED]	ELECTRICAL PENETRATION AREA B IN REACTOR AUXILIARY BUILDING
1	[REDACTED]	DIESEL GENERATOR 1B

<u>Fire Zone Name</u>	<u>Description</u>
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<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
ESR 99-00395, Def-in-Depth Pen Seal Eval		Yes

Summary

Defense-in-depth evaluation of penetration seal designs that do not meet one or more of the limiting parameters detailed in ESR 99-00296. The five seal deficiency types were evaluated as acceptable on the following bases:

1. Max seal area and/or free area limit exceeded is acceptable due to linear dimensions of the openings, metal cabinets on top of seals, and/or no continuity of combustibles on top
2. Reduction sleeve size exceeded is evaluated as acceptable due to lack of combustible loading on either side
3. Seal size exceeded is evaluated as acceptable based on existence of steel angle supports on bottom of seal
4. Minimum seal depth not met is evaluated as acceptable based on lower combustible loading in the area
5. Seal installed outside the barrier is evaluated as acceptable based on lower combustible loading in the area

The evaluations for all five type deficiencies take credit for "defense-in-depth features" applicable to the affected area (fire detection, fire suppression, combustible loading, transient exposures) as detailed in Attachment A of the ESR.

Evaluation

Evaluation deemed adequate for transition based on Procedure FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
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<u>Fire Zone Name</u>	<u>Description</u>
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<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
HNP-M/BMRK-0001-1, NFPA 72E Compliance Calc		Yes

Summary Evaluation concludes that lack of complete fire detector coverage in [REDACTED] is acceptable due to the lack of overhead and adjacent combustibles.

Evaluation Evaluation deemed adequate for transition based on FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	[REDACTED]
1	[REDACTED]	[REDACTED]

<u>Fire Zone Name</u>	<u>Description</u>
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Engineering Evaluation ID	Doc. Detail	Include in LAR/TR
HNP-M/BMRK-0001-2, NFPA 72E Compliance Calc		Yes

Summary Evaluation concludes that lack of complete fire detector coverage in [REDACTED] is acceptable due to the lack of intervening combustibles.

Evaluation Evaluation deemed adequate for transition based on FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

Unit	Fire Area Name	Description
1	[REDACTED]	[REDACTED]
1	[REDACTED]	[REDACTED]

Fire Zone Name	Description
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<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAB/TR</u>
HNP-M/BMRK-0001-3, NFPA 72E Compliance Calc		Yes

Summary Evaluation concludes that lack of complete fire detector coverage in a corridor of the [REDACTED] is acceptable due to the lack of combustibles in the corridor.

Evaluation Evaluation deemed adequate for transition based on FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	WASTE PROCESSING BUILDING

<u>Fire Zone Name</u>	<u>Description</u>
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<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
HNP-M/BMRK-0001-4, NFPA 72E Compliance Calc		Yes

Summary Evaluation concludes that lack of complete fire detector coverage in the [REDACTED] is acceptable due to the low combustibile loading and the fact that there is no safety related equipment in the area.

Evaluation Evaluation deemed adequate for transition based on FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNITS 1 AND 2 BALANCE

<u>Fire Zone Name</u>	<u>Description</u>
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<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
HNP-M/BMRK-0001-5, NFPA 72E Compliance Calc		Yes

Summary The evaluation states that lack of complete fire detector coverage in two specific areas of [REDACTED] was acceptable based on NRC approval in the SER Supplement 2 (requested in [REDACTED])

Evaluation Evaluation deemed adequate for transition based on FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - LOWER ELEVATIONS

<u>Fire Zone Name</u>	<u>Description</u>
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<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
HNP-M/BMRK-0002-2, NFPA 72D Compliance Calc		Yes

Summary Evaluation of NFPA 72D deviation related to the [REDACTED] sprinkler flow alarm being only local concludes that this configuration is acceptable based on there being smoke detection in the same area which reports to the site fire alarm system.

Evaluation Evaluation deemed adequate for transition based on FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	CONTROL ROOM, REACTOR AUXILIARY BUILDING

<u>Fire Zone Name</u>	<u>Description</u>
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Engineering Evaluation ID

Doc. Detail

Include in LAR/TR

HNP-M/BMRK-0002-3, NFPA 72D Compliance Calc

Yes

Summary

This NFPA 72D evaluation addresses the lack of circuit supervision between the MFDIC and the MCR alarm by describing the power supplies to the MCR annunciators and credits periodic verification of the circuit.

Evaluation

Evaluation deemed adequate for transition based on FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

3.8.1 Fire Alarm.

Unit

Fire Area Name

Description

Fire Zone Name

Description

<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
HNP-M/BMRK-0002-5, NFPA 72D Compliance Calc		Yes

Summary Evaluation of sprinkler loop supervision circuit wiring in the local fire panels which is not in accordance with manufacturer instructions. The evaluation explains how the current configuration will electrically function as intended.

Evaluation Evaluation deemed adequate for transition based on FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

3.8.1 Fire Alarm.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
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<u>Fire Zone Name</u>	<u>Description</u>
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<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
HNP-M/BMRK-0002-6, NFPA 72D Compliance Calc		Yes

Summary This NFPA 72D evaluation addresses the lack of circuit supervision for the fire pump signals based on compliance with NFPA 20 requirements for transmitted signals.

Evaluation Evaluation deemed adequate for transition based on FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

3.8.1 Fire Alarm.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1		OUTSIDE YARD

<u>Fire Zone Name</u>	<u>Description</u>
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<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
HNP-M/BMRK-0003-1, NFPA 80 Compliance Calc		Yes

Summary Evaluation concludes that a variety of deviations from NFPA 80 in several plant areas do not affect the doors ability to perform as required 3 hour rated assemblies.
The evaluation is based on a review of procurement documents, manufacturer input and a comparison to UL test data.

Evaluation The evaluation is deemed appropriate to demonstrate that fire doors with the described deviations will perform equivalent to the tested configuration.

NFPA 805 Ch. 3 Ref.

3.11 Passive Fire Protection Features

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
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<u>Fire Zone Name</u>	<u>Description</u>
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<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
HNP-M/BMRK-0004-1, NFPA 90A Compliance Calc		Yes

Summary Evaluation of NFPA 90A deviations related to fire dampers installed outside the plane of the barrier and lacking UL labels attached to the equipment. Eval concludes that the existing configuration provides protection equivalent to the required 3hour rating. Also see EEEE item # EC 50804-07.

Evaluation The evaluation is deemed appropriate to demonstrate that the subject fire damper installations provide the required protection equivalent to tested configurations.

NFPA 805 Ch. 3 Ref.

3.11.3 Fire Barrier Penetrations.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
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<u>Fire Zone Name</u>	<u>Description</u>
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Engineering Evaluation ID

HNP-M/BMRK-0005-1, NFPA 10 Compliance Calc

Doc. Detail

Include in LAR/TR

Yes

Summary

Evaluation of deviations from NFPA 10 regarding fire extinguisher rating and/or spacing in the RCB, RAB and DGB concludes that the existing provisions are adequate with the following basis:

".... there are sufficient fire extinguishers located in the plant such that the ability to achieve and maintain safe shut down in the event of a fire is not adversely affected. Fire extinguishers are located in all safety related areas of the plant. The plant fire brigade is trained to utilize installed hose stations for manual fire fighting. Should an extinguisher be necessary the fire brigade can obtain one within the travel path to the fire scene."

Evaluation

Evaluation deemed adequate for transition based on FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - LOWER ELEVATIONS
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - UPPER ELEVATIONS
1	[REDACTED]	CONTAINMENT BUILDING, ALL LEVELS
1	[REDACTED]	DIESEL GENERATOR 1B

<u>Fire Zone Name</u>	<u>Description</u>
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<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
HNP-M/BMRK-0007-1, NFPA 20 Compliance Calc		Yes

Summary
 Evaluation of NFPA 20 deviation related, to fire pump engine horsepower not having the required margin. The evaluation concludes that the engine horsepower is adequate based on the plant's ability to identify any reduction in performance via the fire pump testing program and system engineering monitoring. Routine testing is performed to demonstrate the pump meets all design basis flow requirements. Monitoring by the system engineer ensures that reductions in system water flow performance are identified. The reduction in the margin required and actual horse power is acceptable based on the monitoring.

Evaluation
 Evaluation deemed adequate for transition based on FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

3.5.3 [Water Supply Pump Code Requirements]

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	██████████	OUTSIDE YARD

<u>Fire Zone Name</u>	<u>Description</u>
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<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
HNP-M/BMRK-0007-2, NFPA 20 Compliance Calc		Yes

Summary Evaluation of NFPA 20 deviation related to monthly start tests of the fire pumps versus the required weekly frequency. The evaluation concludes that the monthly starts are adequate based on the documented performance of the equipment and the routine inspection program that is in place. Operations personnel inspect the engine and motor driven pumps each shift.

Evaluation The evaluation regarding monthly start tests versus the required weekly (Attachment 6, Item 3) is adequate.

NFPA 805 Ch. 3 Ref.

3.5.3 [Water Supply Pump Code Requirements]

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	██████████	OUTSIDE YARD

<u>Fire Zone Name</u>	<u>Description</u>

<u>Engineering Evaluation ID</u>	<u>Doc. Detail</u>	<u>Include in LAR/TR</u>
HNP-M/BMRK-0007-3, NFPA 20 Compliance Calc		Yes

Summary The evaluation concludes that access to the fire pumps is [REDACTED] to meet the intent of NFPA 20 for [REDACTED].

Evaluation Evaluation deemed adequate for transition based on FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.
3.5.3 [Water Supply Pump Code Requirements]

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	OUTSIDE YARD

Fire Zone Name Description

Engineering Evaluation ID

Doc. Detail

Include in LAR/TR

HNP-M/BMRK-0009-1, NFPA 13 Compliance Calc

Yes

Summary

Evaluation of various deviations from NFPA 13 in the [REDACTED] related to area of coverage, obstructions, and spacing concludes the existing installation is adequate based on the following:

Sprinkler system on [REDACTED] exceeds the max floor area for an extra hazard design - acceptable due to actual area hazards being "ordinary" versus the design spec of "extra".

The area per sprinkler on [REDACTED] exceeds the max allowed for extra hazard design - acceptable due to actual area hazards being "ordinary" versus the design spec of "extra".

The lack of sprinklers in the [REDACTED] is acceptable based on the 2 hour fire rating of the enclosures, and there being "negligible" combustibles therein.

The obstruction of sprinklers by structural supports [REDACTED] - acceptable based on coverage by adjacent sprinkler(s) and that there are "no significant fire hazards" in the area.

The obstruction of sprinklers by Hemyc [REDACTED] - acceptable based on coverage by adjacent sprinkler(s) and that there are "no significant fire hazards" in the area.

The obstruction of sprinklers by ducts [REDACTED] - acceptable based on coverage by adjacent sprinkler(s) and that the only "hazards" in the area are located above the obstruction.

Evaluation

Evaluation deemed adequate for transition based on FPIP-0125. The evaluation is an appropriate use of the engineering evaluation process, is judged to be of acceptable quality, and reflects current plant conditions.

NFPA 805 Ch. 3 Ref.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - LOWER ELEVATIONS
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - UPPER ELEVATIONS

<u>Fire Zone Name</u>	<u>Description</u>
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Attachment K – Existing Licensing Action Transition

(Non-Security Sensitive)
69 Pages

Licensing Action Report

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Attachment K

HNP NFPA 805 Transition Report

Licensing Action

Deviation from BTP 9.5-1, Section C.5.b(2) of NUREG-0800 from having to provide 20 feet of separation between redundant MCCs.

Basis Date: 5/1/1986

Transitioned? Yes

Basis: The deviation was approved based on the installed automatic suppression system and the physical separation between the two MCCs [REDACTED].

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B3
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B4
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B5

Reference Document

Doc. Detail

Evaluation

[REDACTED]

Deviation B

From the submittal:

"SUMMARY

A deviation is requested from BTP 9.5-1, Section C.5.b(2) of NUREG-0800 from having to provide 20 feet of horizontal separation with no intervening combustibles between Motor Control Center (MCC)

[REDACTED]

DISCUSSION

The Motor Control Centers identified above are separated by approximately 16 feet and an automatic fire detection and suppression system has been provided at this location. A one-hour partial height fire wall has been constructed between the equipment and intervening combustibles have been eliminated by the application of a one-hour fire wrap system on the cable tray. This fire zone has a low combustible loading as detailed in the FSAR Fire Hazards Analysis Section 9.5A.3, page 9.5A-31. Additional information for this area is available in licensee submittal [REDACTED]

CONCLUSION

CP&L believes that this deviation is justified for the following reasons:

1. Separation of approximately 16 feet is provided.
2. Low combustible loading.
3. Intervening combustibles have been wrapped with a one-hour fire barrier.
4. Suppression and detection systems are provided in the area.
5. Partial height wall is provided between the equipment.

Based on the above, a commensurate level of protection in lieu of the 20 feet separation has been provided for this area."

[REDACTED] which includes portions of safe shutdown areas [REDACTED]

Licensing Action

Deviation from BTP 9.5-1, Section C.5.b(2) of NUREG-0800 from having to provide 20 feet of separation between redundant MCCs.

[REDACTED]

Under Safe Shutdown Capability, the [REDACTED] states:

"By letter dated [REDACTED], the applicant identified the following plant locations where redundant shutdown-related systems are not separated and protected against fire damage in accordance with Section C.5.b.(2) of BTP CMEB 9.5.1:

- (1) reactor auxiliary building [REDACTED]
- (2) reactor auxiliary building [REDACTED]

The redundant systems are separated by a horizontal distance of at least 16 ft. The locations are protected by fire detection and suppression systems as delineated in the [REDACTED] letter. If a fire were to occur in any of these locations, it would be detected before significant flame propagation or room temperature rise occurred. The fire brigade would then extinguish the fire, using manual fire fighting equipment. If rapid fire propagation occurred before the arrival of the brigade, one would expect the fire suppression system to actuate and limit fire spread, reduce room temperatures, and protect vulnerable systems. Pending actuation of the suppression system, the physical separation of redundant systems is sufficient to provide reasonable assurance that one shutdown division would remain free of fire damage. The staff concludes, therefore, that the existing level of fire protection for the systems identified in the applicants' [REDACTED] letter is an acceptable deviation from Section C.5.b(2) of BTP CMEB 9.5-1."

[REDACTED]

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Licensing Action

Deviation from BTP 9.5-1, Section C.5.b(2) of NUREG-0800 from having to provide a three-hour rated enclosure between electrical pull boxes.

Basis Date: 10/1/1986

Transitioned? Yes

Basis: The deviation was approved based on the separation between the required components, the installed partial suppression system, and other fire protection features of the area.

Unit	Fire Area Name	Description
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B1

Reference Document

Doc. Detail

Evaluation

[REDACTED]

Deviation D

DEVIATION D
SUMMARY
A deviation is requested from BTP 9.5-1, Section C.5.b(2) of NUREG-0800 from having to provide a three-hour rated enclosure between electrical pull boxes [REDACTED].

AREA DESCRIPTION
Plant Location: Reactor Auxiliary Building [REDACTED]
Fire Area: [REDACTED]
Other [REDACTED]

1. Chilled Water Pumps
2. Condenser Water Circulating Pumps (Chilled Water Systems)
3. Closed Expansion Tanks (Chilled Water Systems)
4. HVAC Chillers
5. Air Handling Units
6. Cable for Safe Shutdown Systems Listed in the SSA, Table 9.SB-4f (Both SA and SB Trains)

DISCUSSION

Electrical pull box [REDACTED] located in [REDACTED] and electrical pull box [REDACTED] located in [REDACTED] are physically separated by approximately 21 feet of distance. These pull boxes are utilized for cables that support the Emergency Service Water Intake Structure HVAC System. Ionization detectors are provided in the zone where the electrical boxes are located. Partial automatic suppression system actuated by thermal detectors is installed in the fire zone over electrical pull box [REDACTED]. The partial suppression deviation was granted for the area in [REDACTED] to the Safety Evaluation Report. Intervening combustibles present are in the form of fire resistant IEEE-383 cables. Both fire zones under consideration have moderate combustible loadings as described in the SHNPP FSAR Fire Hazard Analysis, [REDACTED]. Additional information for this area is available in the licensee submittal [REDACTED].

CONCLUSION

CP&L believes that this deviation is justified for the following reasons:

1. The equipment is separated by a distance of approximately 21 feet.
2. Detection is provided in the zone where the boxes are located.
3. Partial suppression is provided in the fire zone over pull box [REDACTED].
4. Intervening combustibles are fire resistant IEEE-383 cables.

Based on the fire prevention features provided, CP&L concludes that further consideration of three-hour rated enclosures for the equipment would not greatly enhance fire protection in the zones and provides an acceptable deviation to NUREG-0800, Section C.5.b(2).

Licensing Action

Deviation from BTP 9.5-1, Section C.5.b(2) of NUREG-0800 from having to provide a three-hour rated enclosure between electrical pull boxes.



By letter dated [REDACTED], the applicant identified the following plant locations where redundant shutdown-related systems are not separated and protected against fire damage in accordance with Section C.5.b.(2) of BTP CMEB 9.5.1:

- (1) reactor auxiliary building, [REDACTED]
- (2) reactor auxiliary building, [REDACTED]

The redundant systems are separated by a horizontal distance of at least 16 ft. The locations are protected by fire detection and suppression systems as delineated in the [REDACTED], letter. If a fire were to occur in any of these locations, it would be detected before significant flame propagation or room temperature rise occurred. The fire brigade would then extinguish the fire, using manual fire fighting equipment. If rapid fire propagation occurred before the arrival of the brigade, one would expect the fire suppression system to actuate and limit fire spread, reduce room temperatures, and protect vulnerable systems. Pending actuation of the fire suppression system, the physical separation of redundant systems is sufficient to provide reasonable assurance that one shutdown division would remain free of fire damage. The staff concludes, therefore, that the existing level of fire protection for the systems identified in the applicants' [REDACTED], letter is an acceptable deviation from Section C.5.b.(2) of BTP CMEB 9.5-1.

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Licensing Action

Deviation from BTP 9.5-1, Section C.7.i of NUREG-0800 for the east wall.

Basis Date: 10/1/1986

Transitioned? Yes

Basis: The east wall was considered to be an equivalent three hour fire barrier despite the HVAC opening based on it being an exterior wall.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	DIESEL GENERATOR 1A
1	[REDACTED]	DIESEL GENERATOR 1B

Reference Document

Doc. Detail

Evaluation

[REDACTED]

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The diesel generators are located within the diesel generator building separated from each other and from other plant structures and components by barriers having a minimum fire resistance rating of three hours. The East wall has an opening for the air intake which is considered equivalent to 3-hour fire resistance rating, based on physical separation from other structures.

[REDACTED]

[REDACTED]

The [REDACTED] does not specifically address the diesel generator rooms, but does reference the applicable submittal. No exceptions were taken, and the submittal did state that the barrier was considered to be equivalent to a 3-hour fire barrier.

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HNP NFPA 805 Transition Report

Licensing Action

Deviation from BTP CMEB 9.5-1, Section C.5.a, in that not all penetrations are sealed with equivalently rated fire damper assemblies, door assemblies, or seals.

Basis Date: 10/1/1986

Transitioned? Yes

Basis: Deviation was approved based on the conditions on either side of the penetrations, the installed fire protection features, and the physical separation of redundant safe shutdown equipment.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNITS 1 AND 2 BALANCE
1	[REDACTED]	CONTROL ROOM COMPLEX
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A2
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A3
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A4
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B1
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B2
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B5
1	[REDACTED]	SWITCHGEAR ROOM A IN REACTOR AUXILIARY BUILDING
1	[REDACTED]	SWITCHGEAR ROOM B IN REACTOR AUXILIARY BUILDING
1	[REDACTED]	FUEL HANDLING BUILDING BALANCE OF AREAS
1	[REDACTED]	FUEL HANDLING BUILDING EMERGENCY EXHAUST
1	[REDACTED]	TURBINE GENERATOR BUILDING

Reference Document

Doc. Detail

Evaluation

Licensing Action Report

Licensing Action

Deviation from BTP CMEB 9.5-1, Section C.5.a, in that not all penetrations are sealed with equivalently rated fire damper assemblies, door assemblies, or seals.



Page 1

From the submittal:

"SUMMARY

A deviation has been identified from BTP-9.5-1, Section C.5.a (1, 2, 4 and 5) of NUREC-0800 from having fire-rated dampers, doors, and penetration seals in walls and floors designated as 3-hour rated.

AREA DESCRIPTION

See Tables 1, 2, and 3 for area description.

DISCUSSION

Tables 1, 2 and 3 identify the location of the doors. HVAC and bus duct penetrations. For those penetrations and doors where safe shutdown equipment is within 20 feet, automatic suppression and detection has been provided on at least one side of the door or penetration. The combustible loading in the areas are considered low to moderate. The doors are manufactured to the same engineering specification as would a 3-hour rated door. The SSA equipment identified within 20 feet radius of the doors or penetrations do not have their redundant counterpart within 20 feet

CONCLUSION

CP&L believes that this deviation is justified for the following:

1. Low to moderate combustible loading in the zone.
2. Suppression and detection systems are provided on at least one side of the door or penetration.
3. The SSA equipment identified within 20 feet radius of the doors or penetrations do not have their redundant counterpart within 20 feet except as noted above.

Based on the fire prevention features provided, CP&L concluded that the addition of fire dampers and rated doors would not greatly enhance the fire protection in these zones and provides an acceptable deviation to NUREG-0800, Section C.5.1 (1, 2, 4, and 5)."

Licensing Action

Deviation from BTP CMEB 9.5-1, Section C.5.a, in that not all penetrations are sealed with equivalently rated fire damper assemblies, door assemblies, or seals.

The [REDACTED] states:

"The guidelines of Section C.5.a of BTP CMEB 9.5-1 state that fire barriers with a minimum fire resistance rating of 3 hours should be provided to separate redundant divisions of safety-related equipment. By letter dated [REDACTED], the applicant requested a deviation from these guidelines for certain penetration openings through fire barriers for ventilation systems, doors, and bus ducts to the extent that the penetrations are not protected with equivalently rated fire damper assemblies, door assemblies, or seals, respectively. The locations of the penetrations are identified in Tables 1, 2, and 3 which are appended to the [REDACTED] letter.

Within 20 feet of each penetration and door where safe shutdown equipment is located, automatic suppression and detection has been provided on at least one side of the penetration or door. In addition, redundant safe-shutdown-related components are separated by at least 20 feet.

The staff was concerned that a fire originating in one fire area would spread through an unprotected fire barrier penetration into an adjacent fire area, damage redundant safe-shutdown systems, and adversely affect the plant's safe shutdown capabilities. However, the staff reviewed and evaluated conditions on each side of each penetration and found no significant unmitigated fire hazards that pose a credible threat to redundant safe-shutdown systems.

Because of the fire detectors provided, the staff expects any fire to be detected before redundant safe-shutdown-related systems are threatened. The fire brigade would then take action to extinguish the fire. In the unlikely event that the fire spreads from one area to another through one of the penetrations, the automatic suppression system will actuate and control the spread of fire. Until the fire suppression system operates, the physical separation of redundant systems is sufficient to provide reasonable assurance that one shutdown division would remain free of fire damage. On the basis of its review, the staff concludes that upgrading the subject fire barrier penetrations to achieve a 3-hour fire resistance rating would not significantly increase the level of fire safety. The fire barrier penetrations identified in the applicant's [REDACTED] letter are, therefore, an acceptable deviation from Section C.5.a of BTP CMEB 9.5-1."

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HNP NFPA 805 Transition Report

Licensing Action

Deviation from C.5.b for not providing 3-hr fire barrier (doors) between the intake structures.

Basis Date: 6/1/1985

Transitioned? Yes

Basis: The deviation was based on the exterior doors to the Train A and Train B cubicles being installed in [REDACTED] and the doors [REDACTED]

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	EMERGENCY SERVICE WATER INTAKE STRUCTURE (MAIN RESERVOIR)
1	[REDACTED]	EMERGENCY SERVICE WATER INTAKE STRUCTURE (MAIN RESERVOIR)

Reference Document

Doc. Detail

Evaluation

[REDACTED]

Pages 69-73

For [REDACTED]

Request exemption from providing 3 hour rated fire doors at the exterior of the ESW Intake Structure. Present plant doors [REDACTED] provide the degree of fire resistance required for the described occupancy and hazard [REDACTED]

For [REDACTED]

Request exemption from providing 3 hour rated fire doors at the exterior of the ESW Intake Structure. Present plant doors [REDACTED] provide the degree of fire resistance required for the described occupancy and hazard. They will be [REDACTED] in closed position [REDACTED]

[REDACTED]

[REDACTED]

The [REDACTED] A deviation is requested from providing 3-hour-rated fire doors in the exterior building walls. The A-train and B-train equipment is each provided with a [REDACTED]. The [REDACTED] are installed in [REDACTED]. The minimum separation between the doors is more than 20 ft. On the basis of its review, the staff concludes that the separation provided between the doorways, the lack of significant fire exposure exterior to the doorways, and the non-rated-doors ensure a level of protection equivalent to that specified in Section C.5.b of the staff's guidelines.

Licensing Action Report

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Attachment K

HNP NFPA 805 Transition Report

Licensing Action

Deviation from installing seismic hose stations in safety related areas per NUREG-0800, BTP CMEB 9.5-1, Section C.6.c.

Basis Date: 10/31/1986

Transitioned? Yes

Basis: Deviation was approved based on the separation of redundant safe shutdown equipment by 3-hour rated seismic category 1 fire barriers and alternative means of manual fire fighting.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	EMERGENCY SERVICE WATER INTAKE STRUCTURE (MAIN RESERVOIR)
1	[REDACTED]	EMERGENCY SERVICE WATER INTAKE STRUCTURE (MAIN RESERVOIR)
1	[REDACTED]	DIESEL FUEL OIL STORAGE TANK A IN DIESEL FUEL OIL STORAGE TANK BUILDING, UNIT 1
1	[REDACTED]	DIESEL FUEL OIL STORAGE TANK B IN DIESEL FUEL OIL STORAGE TANK BUILDING, UNIT 1
1	[REDACTED]	DIESEL GENERATOR 1A
1	[REDACTED]	DIESEL GENERATOR 1B
1	[REDACTED]	DIESEL GENERATOR FUEL OIL DAY TANK 1A
1	[REDACTED]	DIESEL GENERATOR FUEL OIL DAY TANK 1B
1	[REDACTED]	DIESEL OIL PUMP A ROOM
1	[REDACTED]	DIESEL OIL PUMP B ROOM
1	[REDACTED]	DIESEL FUEL OIL STORAGE AREA BALANCE

Reference Document

[REDACTED]

Doc. Detail

Attachments 1 & 2

Evaluation

The Company requests approval of a deviation from the requirements to provide [REDACTED] in the following plant areas:

Plant Location:

- a) [REDACTED]
- b) Diesel [REDACTED]
- c) Emergency [REDACTED]

Fire Area:

- a) [REDACTED]

SSA Area:

- a) [REDACTED]

- a) Diesel Generator, Diesel Generator Day Tanks, and Diesel Control Panels
- b) Diesel Generator Fuel Oil Transfer Pumps, Diesel Generator Storage Tanks
- c) Emergency Service Water Pumps and Controls

The Company considers this deviation justified because:
 * the above redundant safe shutdown equipment is separated from each other by three-hour rated barriers, which are Seismic Class I structures,
 * these areas are provided with non-seismic fire protection systems, and
 * the combustible loading in these areas is considered low, except in the case of the [REDACTED] are Seismic Class I or ASME Section III

CONCLUSION

Based on the fire protection provided and described above, CP&L believes that a commensurate level of protection has been provided in lieu of [REDACTED] as described in Section C.6.c(4) of NUREG-0800.

Licensing Action

Deviation from installing seismic hose stations in safety related areas per NUREG-0800, BTP CMEB 9.5-1, Section C.6.c.

[REDACTED]

[REDACTED]

In the [REDACTED] the staff stated that [REDACTED] piping for hose stations protecting safe shutdown equipment has been analyzed for safe-shutdown earthquake (SSE) loading and is provided with seismic supports in accordance with Section C.6.c of BTP CMEB 9.5-1. In fact, this is not the case for the [REDACTED], the [REDACTED] storage building, and the [REDACTED]. By letter dated [REDACTED] the applicant justified this deviation from staff guidelines.

On the basis of its review of the applicant's justification, which is based on the separation of the redundant safe-shutdown equipment located in the [REDACTED] by seismic Category I 3-hour fire rated barriers, and the provision of alternative means of manual firefighting, the staff concludes that the [REDACTED] system is acceptable. The lack of seismically qualified hose stations in the [REDACTED] [REDACTED] is an acceptable deviation from Section C.6.c of BTP CMEB 9.5-1.

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HNP NFPA 805 Transition Report

Licensing Action

Deviation from NUREG-0800 BTP CMEB 9.5-1, Section C.5.b(2) from providing full area wide suppression and detection.

Basis Date: 6/1/1985

Transitioned? Yes

Basis: The deviation was approved based on low combustible loading, the lack of concentrations of cable trays, and the existing protection provided for safe shutdown equipment.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA J

Reference Document

Doc. Detail

Evaluation

[REDACTED]

Page 30

The following is taken from the submittal. The listed zones, which were then part of [REDACTED]

Request exemption from provision of automatic fire detection and suppression system throughout the entire Area [REDACTED]. Justification, by fire zone, is listed below:

[REDACTED] No automatic fire detection or suppression is provided based on negligible combustible loading [REDACTED] BTU/SF). A manual alarm station is provided in this fire zone. Hose stations, portable fire extinguishers, and manual alarm stations are available in the adjacent fire zone.

[REDACTED] Early warning ionization detection is provided throughout the fire zone. The combustible loading in this area is low [REDACTED] BTU/SF). Hose stations, portable fire extinguishers, and manual alarm stations are available in, and adjacent to, the fire zone.

[REDACTED] is provided based on negligible combustible loading [REDACTED] BTU/SF). Hose stations, portable fire extinguishers, and manual alarm stations are available in, and adjacent to, the fire zone.

[REDACTED] Early warning ionization detection is provided in this fire zone. The fire zone is enclosed with 3 hour fire rated barriers, and the combustible loading is low [REDACTED] BTU/SF). Hose stations, portable fire extinguishers, and manual alarm stations are available in the adjacent fire zone.

In some areas the fire protection for safe shutdown capability deviates from the staff's guidelines. The staff has reviewed the applicants' fire protection measures in these areas to determine if a level of safety equivalent to the technical requirements of Section C.5.b of the staff's guidelines has been provided:

(1) Partial Suppression and Detection

Fire Area [REDACTED]
This fire area consists of various portions of the reactor auxiliary building on elevations [REDACTED]. The applicants' letter dated [REDACTED] identifies various zones within fire area [REDACTED]

[REDACTED] The staff has evaluated the fire protection features of these zones and concludes that, because of the low combustible loading, lack of concentrations of cable trays, and existing protection provided for safe shutdown equipment, the addition or extension of automatic suppression and/or detection systems into these zones would not greatly enhance fire protection.

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Licensing Action

Deviation from NUREG-0800 BTP CMEB 9.5-1, Section C.5.b(2) from providing full area wide suppression and detection.

Basis Date: 6/1/1985

Transitioned? Yes

Basis: The deviation was approved based on low combustible loading, the lack of concentrations of cable trays, and the existing protection provided for safe shutdown equipment.

Unit	Fire Area Name	Description
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B1

Reference Document

Doc. Detail

Evaluation

[REDACTED]

Page 29-30

Request exemption from provision of automatic fire detection and suppression system throughout the entire Area [REDACTED]. Justification, by fire zone, is listed below:

[REDACTED] Early warning ionization detection is provided throughout the fire zone. Multi-cycle sprinklers actuated by thermal detection are provided throughout the fire zone, except in the [REDACTED] and [REDACTED] areas. The combustible loading in this fire zone is moderate [REDACTED] BTU/SF). Hose stations, portable fire extinguishers, and manual alarm stations are provided in, and adjacent to, the fire zone.

[REDACTED] Early warning ionization detection is provided throughout the entire fire zone. The combustible loading in the fire zone is moderate [REDACTED] BTU/SF). A manual alarm station is located in the fire zone, and portable fire extinguishers, and hose stations are available in adjacent fire zones.

In some areas the fire protection for safe shutdown capability deviates from the staff's guidelines. The staff has reviewed the applicants' fire protection measures in these areas to determine if a level of safety equivalent to the technical requirements of Section C.5.b of the staff's guidelines has been provided:

(1) Partial Suppression and Detection

Fire Area [REDACTED] This fire area consists of various portions of the reactor auxiliary building on elevations [REDACTED]. The applicants' letter dated [REDACTED], identifies various zones within fire area [REDACTED].

The staff has evaluated the fire protection features of these zones and concludes that, because of the low combustible loading, lack of concentrations of cable trays, and existing protection provided for safe shutdown equipment, the addition or extension of automatic suppression and/or detection systems into these zones would not greatly enhance fire protection.

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Licensing Action

Deviation from NUREG-0800 BTP CMEB 9.5-1, Section C.5.b(2) from providing full area wide suppression and detection.

Basis Date: 6/1/1985

Transitioned? Yes

Basis: The deviation was approved based on low combustible loading, the lack of concentrations of cable trays, and the existing protection provided for safe shutdown equipment.

Unit	Fire Area Name	Description
1.	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B2

Reference Document

Doc. Detail

Evaluation

[REDACTED]

Page 29-30

Request exemption from provision of automatic fire detection and suppression system throughout the entire Area [REDACTED]. Justification, by fire zone, is listed below:

[REDACTED] Early warning ionization detection is provided throughout the fire zone. Multi-cycle sprinklers actuated by thermal detection are provided throughout the fire zone, except in the [REDACTED] and [REDACTED] areas. The combustible loading in this fire zone is moderate [REDACTED] BTU/SF). Hose stations, portable fire extinguishers, and manual alarm stations are provided in, and adjacent to, the fire zone.

[REDACTED] Early warning ionization detection is provided throughout the fire zone except in the [REDACTED]. Multi-cycle sprinklers actuated by thermal detection are provided over the corridor and hazardous areas, both areas together comprising about 80 per cent of the fire zone. The combustible loading in this fire zone is low [REDACTED] BTU/SF). A manual alarm station is provided in this fire zone, and portable fire extinguishers, and hose stations are available in adjacent fire zones.

In some areas the fire protection for safe shutdown capability deviates from the staff's guidelines. The staff has reviewed the applicants' fire protection measures in these areas to determine if a level of safety equivalent to the technical requirements of Section C.5.b of the staff's guidelines has been provided:

(1) Partial Suppression and Detection

Fire Area [REDACTED] This fire area consists of various portions of the reactor auxiliary building on elevations [REDACTED]. The applicants' letter dated [REDACTED], identifies various zones within fire area [REDACTED]. The staff has evaluated the fire protection features of these zones and concludes that, because of the low combustible loading, lack of concentrations of cable trays, and existing protection provided for safe shutdown equipment, the addition or extension of automatic suppression and/or detection systems into these zones would not greatly enhance fire protection.

Licensing Action

Deviation from NUREG-0800 BTP CMEB 9.5-1, Section C.5.b(2) from providing full area wide suppression and detection.

Basis Date: 6/1/1985

Transitioned? Yes

Basis: The deviation was approved based on low combustible loading, the lack of concentrations of cable trays, and the existing protection provided for safe shutdown equipment.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B4

Reference Document

Doc. Detail

Evaluation

[REDACTED]

Page 30

Request exemption from provision of automatic fire detection and suppression system throughout the entire Area [REDACTED]. Justification, by fire zone, is listed below:

[REDACTED] Early warning ionization detection is provided throughout the entire fire zone. Multi-cycle sprinklers actuated by thermal detection are provided over the cable tray runs located in the corridor. The combustible loading in this fire zone is low [REDACTED] BTU/SF). A manual alarm station is provided in this fire zone, and portable fire extinguishers, and hose stations are available in adjacent fire zones.

[REDACTED]

[REDACTED]

In some areas the fire protection for safe shutdown capability deviates from the staff's guidelines. The staff has reviewed the applicants' fire protection measures in these areas to determine if a level of safety equivalent to the technical requirements of Section C.5.b of the staff's guidelines has been provided:

(1) Partial Suppression and Detection

Fire Area [REDACTED]
This fire area consists of various portions of the reactor auxiliary building on elevations [REDACTED]. The applicants' letter dated [REDACTED], identifies various zones within fire area [REDACTED]. The staff has evaluated the fire protection features of these zones and concludes that, because of the low combustible loading, lack of concentrations of cable trays, and existing protection provided for safe shutdown equipment, the addition or extension of automatic suppression and/or detection systems into these zones would not greatly enhance fire protection.

Licensing Action Report

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Licensing Action

Deviation from NUREG-0800 BTP CMEB 9.5-1, Section C.5.b(2) from providing full area wide suppression and detection.

Basis Date: 6/1/1985

Transitioned? Yes

Basis: The deviation was approved based on low combustible loading, the lack of concentrations of cable trays, and the existing protection provided for safe shutdown equipment.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B3

Reference Document

Doc. Detail

Evaluation

[REDACTED]

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Request exemption from provision of automatic fire detection and suppression system throughout the entire Area [REDACTED]. Justification, by fire zone, is listed below:

[REDACTED]) Early warning ionization detection is provided throughout the fire zone except in the [REDACTED]. Multi-cycle sprinklers actuated by thermal detection are provided over the corridor and hazardous areas, both areas together comprising about 80 per cent of the fire zone. The combustible loading in this fire zone is low [REDACTED] BTU/SF). A manual alarm station is provided in this fire zone, and portable fire extinguishers, and hose stations are available in adjacent fire zones.

[REDACTED]) Early warning ionization detection is provided throughout the entire fire zone. Multi-cycle sprinklers actuated by thermal detection are provided over the cable tray runs located in the corridor. The combustible loading in this fire zone is low [REDACTED] BTU/SF). A manual alarm station is provided in this fire zone, and portable fire extinguishers, and hose stations are available in adjacent fire zones.

[REDACTED]

[REDACTED]

In some areas the fire protection for safe shutdown capability deviates from the staff's guidelines. The staff has reviewed the applicants' fire protection measures in these areas to determine if a level of safety equivalent to the technical requirements of Section C.5.b of the staff's guidelines has been provided:

(1) Partial Suppression and Detection

Fire Area [REDACTED]
This fire area consists of various portions of the reactor auxiliary building on elevations [REDACTED]. The applicants' letter dated [REDACTED], identifies various zones within fire area [REDACTED].

[REDACTED] The staff has evaluated the fire protection features of these zones and concludes that, because of the low combustible loading, lack of concentrations of cable trays, and existing protection provided for safe shutdown equipment, the addition or extension of automatic suppression and/or detection systems into these zones would not greatly enhance fire protection.

Licensing Action Report

Progress Energy

Attachment K

HNP NFPA 805 Transition Report

Licensing Action

Deviation from NUREG-0800 BTP CMEB 9.5-1, Section C.5.b.2 from having to consider intervening combustibles between power and control cables for the [REDACTED] and the [REDACTED] and related cables.

Basis Date: 10/31/1986

Transitioned? Yes

Basis: The deviation was approved based on the separation between the redundant components, the installed automatic detection and suppression systems, and the installation of IEEE-383 cables in the intervening cable trays.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A2
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A3

Reference Document

[REDACTED]

Doc. Detail

Pages 2 and 3

Evaluation

SUMMARY

A deviation has been identified from BTP-9.5-1, Section C.5.b(2) NUREG-0800 from having to consider intervening combustibles between the following: 1) the power and control cable feeding the [REDACTED], and 2) the [REDACTED] and related cables.

AREA DESCRIPTION

- Plant Location: Reactor Auxiliary Building Elevation [REDACTED]
 Fire Area: [REDACTED]
 SSA Area: [REDACTED]
 Fire Zone: [REDACTED]
 Other [REDACTED]:
1. Air Handler [REDACTED]
 2. Motor Control Centers [REDACTED]
 3. [REDACTED] Pumps [REDACTED]
 6. Air Handler [REDACTED]
 5. Air Handler [REDACTED]
 6. Air Handler [REDACTED]
 7. [REDACTED] Exchangers [REDACTED]
 8. [REDACTED] Exchanger [REDACTED]
 9. [REDACTED] Pumps [REDACTED]
 10. [REDACTED] Pumps [REDACTED]
 11. Air Handler [REDACTED]
 12. Air Handler [REDACTED]
 13. [REDACTED] Pumps [REDACTED]

Discussion

The power and control cable is routed in conduit from [REDACTED] to cable tray raceway which is approximately 100 feet from the [REDACTED] and related cable.

Intervening combustibles are present between these components in the form of IEEE-383 cables located in cable trays approximately 8 feet away (see Figure 1). The location is provided with an automatic suppression system actuated by thermal detection. [REDACTED] are also provided in this location for fire detection. This zone has low combustible loading as described in the [REDACTED]. Additional information for this area is available in licensee submittal [REDACTED].

CONCLUSION

CP&L believes that this deviation is justified for the following reasons:

1. Low combustible loading in the area,
2. Suppression and detection systems are provided in the area,
3. Physically separated by approximately 100 feet.

Based on the fire prevention features provided, CP&L concluded that further consideration of intervening combustibles would not greatly enhance fire protection in this zone and provides an acceptable deviation to NUREG-0800, Section C.5.b(2).

Licensing Action

Deviation from NUREG-0800 BTP CMEB 9.5-1, Section C.5.b.2 from having to consider intervening combustibles between power and control cables for the [REDACTED] and the [REDACTED] and related cables.

[REDACTED]

By the [REDACTED], letter, the applicant also requested a deviation from Section C.5.b of BTP CMEB 9.5-1 to the extent that the intervening space between [REDACTED] and [REDACTED] and their related cables is not free of intervening combustibles.

The [REDACTED] which are located on the [REDACTED] elevation of the reactor auxiliary building (fire area [REDACTED]), are separated by more than 100 feet. The intervening combustibles located between the pumps consists of IEEE Std 383 cables in cable trays. The general arrangement of the pumps and cable trays is shown in [REDACTED] of the [REDACTED], letter. The [REDACTED] is located 11 feet from [REDACTED] and 8 feet from the [REDACTED]. The [REDACTED] is located about 20 feet from [REDACTED]. The location is provided with automatic fire detection and suppression capabilities. The staff was concerned that a fire could spread to redundant divisions via the intervening cable trays. However, for a fire to damage the [REDACTED], an exposure fire in the vicinity of [REDACTED] for example, would have to damage [REDACTED] and its power or control cables, ignite the intervening cable trays, propagate more than 100 feet along the intervening trays, and then damage [REDACTED] or its power or control cables. In the staff's opinion, this scenario is unlikely because the ignition and flame spread resistances of the IEEE Std 383-qualified cables installed at Shearon Harris and the presence of automatic detection and suppression capabilities. The staff concludes, therefore, that there is reasonable assurance the intervening cables will not contribute to the loss of safe-shutdown capability in the event of a fire in fire area [REDACTED]. This is, therefore, an acceptable deviation from Section C.5.b of BTP CMEB 9.5-1.

Licensing Action Report

Progress Energy

Attachment K

HNP NFPA 805 Transition Report

Licensing Action

Deviation from NUREG-0800, BTP 9.5-1, Section C.5.b(2) for intervening combustibles.

Basis Date: 5/1/1986

Transitioned? Yes

Basis: The deviation was approved based on the existing separation, the automatic detection and suppression systems, and the on-site fire brigade.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A2
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A3

Reference Document

Doc. Detail

Evaluation

Licensing Action

Deviation from NUREG-0800, BTP 9.5-1, Section C.5.b(2) for intervening combustibles.



Deviation E

A deviation is requested from BTP 9.5-1, Section C.5.b(2) of NUREG-0800 from having to consider intervening combustibles between the following equipment: 1) instrument rack [redacted] and its related cable [redacted] and [redacted] and its related cable [redacted] and 2) instrument rack [redacted] and its alternate [redacted].

AREA DESCRIPTION

Plant Location: Reactor Auxiliary Building Elevation [redacted]
Fire Area: [redacted] SSA Area [redacted] Fire Zone: [redacted]
Other Safe Shutdown Equipment in the [redacted]:

- 1. Air Handler [redacted]
- 2. Motor Control Centers [redacted]
- 3. [redacted] Pumps
- 4. Air Handler [redacted]
- 5. Air Handler [redacted]
- 6. Air Handler [redacted]
- 7. [redacted] Exchangers
- 8. [redacted] Exchangers
- 9. [redacted] Pumps
- 10. [redacted] Pumps
- 11. Air Handler [redacted]
- 12. Air Handler [redacted]
- 13. [redacted] Pumps

DISCUSSION

1. Instrument rack [redacted] is physically separated from [redacted] by approximately 21 feet of distance. Power cable [redacted] is routed in embedded conduit except at the pump where exposed conduit is routed into the termination box for the motor. This termination point is in excess of the 21 feet of separation.

2. Instrument rack [redacted] provides the suction pressure for the Safe Shutdown Division II [redacted] Pump. This is the alternate indication provided for the [redacted] level [redacted] which is assigned to Safe Shutdown Division I. These cables are separated by approximately 50 feet of distance.

Intervening combustibles are present between these components in the form of IEEE-383 cables. This location is provided with an [redacted] [redacted] system actuated by thermal detection. Ionization detectors are also provided in this location for fire detection. This zone has low combustible loading as described in the [redacted]. Additional information for this area is available in licensee submittal [redacted].

CONCLUSION

CP&L believes that this deviation is justified for the following reasons:

- 1. Low combustible loading in the areas.
- 2. Suppression and detection systems are provided in the areas.
- 3. Instrument rack [redacted] are physically separated from [redacted] by approximately 21 feet.
- 4. Intervening combustibles are fire resistant IEEE-383 cables.
- 5. The power cable, [redacted] is routed in embedded conduit.

Based on the fire prevention features provided, CP&L concludes that further consideration of intervening combustibles would not greatly enhance fire protection in this zone and provides an acceptable deviation to NUREG-0800, Section C.5.b(2).

Licensing Action

Deviation from NUREG-0800, BTP 9.5-1, Section C.5.b(2) for intervening combustibles.



By letter dated [REDACTED], the applicant identified the following plant locations where redundant shutdown-related systems are not separated and protected against fire damage in accordance with Section C.5.b.(2) of BTP CMEB 9.5.1:

- (1) reactor auxiliary building, elevation [REDACTED]
- (2) reactor auxiliary building, elevation [REDACTED]

The redundant systems are separated by a horizontal distance of at least 16 ft. The locations are protected by [REDACTED] and [REDACTED] as delineated in the [REDACTED], letter. If a fire were to occur in any of these locations, it would be detected before significant flame propagation or room temperature rise occurred. The fire brigade would then extinguish the fire, using manual fire fighting equipment. If rapid fire propagation occurred before the arrival of the brigade, one would expect the fire suppression system to actuate and limit fire spread, reduce room temperatures, and protect vulnerable systems. Pending actuation of the fire suppression system, the physical separation of redundant systems is sufficient to provide reasonable assurance that one shutdown division would remain free of fire damage. The staff concludes, therefore, that the existing level of fire protection for the systems identified in the applicants' [REDACTED], letter is an acceptable deviation from Section C.5.b.(2) of BTP CMEB 9.5-1.

Licensing Action Report

Progress Energy

Attachment K

HNP NFPA 805 Transition Report

Licensing Action

Deviation from NUREG-0800, BTP CMEB 9.5-1 Section C.5.b.2(c) for providing a one-hour enclosure of the [REDACTED]

Basis Date: 6/1/1985

Transitioned? Yes

Basis: Deviation was approved based on the installed features, which include separate cubicles separated by 3-hour barriers, automatic suppression and detection installed in and adjacent to the [REDACTED], and the distance between the pumps.

Note that EC 60257 established two new fire areas [REDACTED] that were originally part of [REDACTED] respectively. [REDACTED] contains the [REDACTED] for the [REDACTED] Pump, and [REDACTED]

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A2
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A3

Reference Document

Doc. Detail

Evaluation

[REDACTED]

Page 25

Exemption is requested from providing a one-hour rated enclosure of the [REDACTED] Pumps [REDACTED] located in Fire Zone [REDACTED]. The pumps are located approximately 17 feet apart with a three-hour rated 11 foot concrete wall between them. The pumps have a concrete ceiling at elevation [REDACTED]. Multi-cycle sprinklers actuated by thermal detection is provided in each [REDACTED] and at Elevation [REDACTED]. Ionization smoke detection is provided throughout the entire fire zone. Hose stations, portable extinguishers, and manual alarm stations are available in and adjacent to the fire zone. Fire loading in the fire zone is low at [REDACTED] BTU/SF. Access into the [REDACTED] is through seismically-designed air-tight doors which have a four to [REDACTED]. Also, access to Elevation [REDACTED] is limited to only a permanent [REDACTED].

[REDACTED]

[REDACTED]

The [REDACTED] are also located in fire zone [REDACTED]. The pumps are separated by approximately 17 ft and are located within individual [REDACTED] that are 3-hour-rated fire barriers. The [REDACTED] to each pump room is [REDACTED]. [REDACTED] and [REDACTED] are provided in each [REDACTED] and in adjacent areas. On the basis of its review, the staff concludes that this combination of protection provides a level of protection equivalent to that specified in Section C.5.b of the staff's guidelines.

Licensing Action Report

Progress Energy

Attachment K

HNP NFPA 805 Transition Report

Licensing Action

Deviation from NUREG-0800, BTP CMEB 9.5-1, C.5.b.(2)(b) from consideration of intervening combustibles.

Basis Date: 6/1/1985

Transitioned? Yes

Basis: Deviation was approved based on a combination of separation (greater than 20 feet between redundant components), automatic sprinkler coverage in the zones under consideration, and the use of IEEE-383 cable.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A2
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A3

Reference Document

Doc. Detail

Evaluation

Licensing Action

Deviation from NUREG-0800, BTP CMEB 9.5-1, C.5.b.(2)(b) from consideration of intervening combustibles.

[REDACTED]

Pages 23-24

From the submittal:

Exemptions are requested from consideration of intervening combustibles in the case of IEEE-383 qualified cable insulation running in ladder type open cable trays near ceiling level between the following pieces of equipment listed by fire zone below:

[REDACTED]. The cable trays run in excess of 14 feet vertical distance from the [REDACTED]. The [REDACTED] are located approximately [REDACTED] and are separated by [REDACTED] walls. These walls extend [REDACTED] perpendicular from the west wall at column B. See modification 14a) for description of location of fire breaks in cable trays. Multi-cycle sprinklers, actuated by thermal detectors are installed in the fire zone over all safety related equipment. Ionization detection is provided throughout the fire zone. Hose stations, portable extinguishers and manual alarm stations are available in and adjacent to the fire zone. Fire loading in the fire zone is low at [REDACTED] BTU/SF. Floor drains are installed.

[REDACTED]. The cable trays run in excess of 14 feet vertical distance from the pumps. [REDACTED] is required to operate during maintenance outage of [REDACTED]. These pumps are located more than 100 feet apart horizontally. Train cable trays [REDACTED] are located approximately 10 feet horizontally to the west and over [REDACTED]. All other cables are run in conduit. See modification 14.b) for description of location of fire breaks in cable trays.

Multi-cycle sprinklers, actuated by thermal detectors are installed in the fire zone over all safety related equipment. Ionization detection is provided throughout the fire zone. Hose stations, portable extinguishers and manual alarm stations are available in and adjacent to the fire zone. Fire loading in the fire zone is [REDACTED] BTU/SF. Floor drains are installed.

[REDACTED]. The cable tray described in the [REDACTED] above are also between the [REDACTED]. The [REDACTED] are also over 100 feet apart.

[REDACTED] the latter pump is located in Fire Zone [REDACTED].

The cable trays run in excess of 14 feet vertical distance from the pumps. These pumps are located about 180 feet apart but each has less than 20 feet horizontal distance from cable trays running in the area. See modification 14.c) for description of location of fire breaks in cable trays.

Multi-cycle sprinklers actuated by thermal detectors are installed over safety-related equipment in Fire Zone [REDACTED] where [REDACTED] is located and Fire Zone [REDACTED] where [REDACTED] is located. Ionization smoke detection is provided throughout both fire zones.

Fire loading in Fire Zone [REDACTED] is low at [REDACTED] BTU/SF and in Fire Zone [REDACTED] is low at [REDACTED] BTU/SF. Hose stations, portable extinguishers, and manual alarm stations are available in and adjacent to the fire zones. Floor drains are installed.

[REDACTED]. The cable trays run in excess of 14 feet vertical distance from the [REDACTED] and are located approximately 17 feet to the east. These trays are also located outside the [REDACTED]. See Modification 14d for a description of the location of fire breaks in the cable trays.

Multi-cycle sprinklers actuated by the thermal detectors are installed in almost the entire fire zone. Ionization smoke detection is provided throughout the fire zone. Hose stations, portable extinguishers, and manual alarm stations are available in and adjacent to the fire zone. Fire loading in the fire zone is low at [REDACTED] BTU/SF.

Licensing Action

Deviation from NUREG-0800, BTP CMEB 9.5-1, C.5.b.(2)(b) from consideration of intervening combustibles.

From the Modifications section of the submittal:

14. Cable trays acting as a source of intervening combustibles between redundant safety related equipment will be provided with fire breaks. The cable trays so equipped are listed below for Fire Zone [REDACTED].

a) Between Auxiliary [REDACTED] Trays [REDACTED] and [REDACTED] pass within 20 ft of [REDACTED] in the North-South and East-West directions. Since they do not run between redundant equipment they are not provided with firebreaks.

b) Between component [REDACTED]

c) Between [REDACTED] Pump [REDACTED] Trays [REDACTED] pass within 20 ft of [REDACTED] in the North-South and East-West directions. Since they cannot convey a fire between the redundant units, they are not provided with fire breaks.

d) Between [REDACTED]

DEVIATIONS REQUESTED:

1. Partial suppression and detection within the fire area.
 2. Deviation from providing one-hour rated enclosures.
 3. Deviation from considering IEEE-383 cable as an intervening combustible.
 4. Deviation from considering [REDACTED] as an intervening combustible.
 5. Deviation from providing 20-ft. separation.
- (For details of the deviations, refer to CP&L's [REDACTED] Attachment 1, Pages 20, 21, 22, 23, 24, & 25 except for Item 4 which is described below).

Deviation from considering IEEE-383 cable and pump lubricating oil as an Intervening combustible:

Auxiliary [REDACTED] The cable trays run in excess of 14 feet vertical distance from the pumps. The [REDACTED] are located approximately 30 feet apart and are separated by [REDACTED] walls. These walls extend [REDACTED] perpendicular from the west wall at [REDACTED] see Modification 14a for description of location of fire breaks in cable trays). Multi-cycle sprinklers actuated by thermal detectors are installed in the fire zone over all safety-related equipment. Ionization detection is provided throughout the fire zone. Hose stations, portable extinguishers, and manual alarm stations are available in and adjacent to the fire zone. Fire loading in the fire zone is low at [REDACTED] BTU/sq. ft. Floor drains are installed.

[REDACTED] is located approximately 15 feet between [REDACTED] This pump contains [REDACTED] of [REDACTED] with a [REDACTED]. This oil is contained within the pump and motor housing. If a spill did occur, adequate floor drains have been provided. The same protection and detection as stated above is also provided above this pump.

Note that the lube oil is not specifically addressed in the [REDACTED] but was clearly part of the submitted information.

Licensing Action

Deviation from NUREG-0800, BTP CMEB 9.5-1, C.5.b.(2)(b) from consideration of intervening combustibles.



From the [redacted] (items in {} do not apply to this area):

(3) Intervening Combustible Material

Fire Zones [redacted]

These zones are located in fire area [redacted]. Deviations are requested from the requirement to provide 20 ft of separation, free of intervening combustible materials, for the following equipment:

- auxiliary [redacted]
- component [redacted]
- component [redacted]
- service [redacted]
- charging [redacted]
- {- [redacted]
- chilled water [redacted]
- condenser [redacted]

Each of the above listed pieces of equipment is separated from the redundant train by more than 20 ft; however, there are intervening cable trays that contain Institute of Electrical and Electronics Engineers (IEEE) 383-rated cables. Fire stops consisting of noncombustible materials such as 1-hour-rated fire barriers or penetration seals are provided in the intervening cable trays. The fire stops serve to prevent the spread of flame along the cable trays between the redundant equipment. Full automatic sprinkler coverage is provided in all of the zones. On the basis of its review, the staff concludes that the full automatic sprinkler coverage in addition to the cable tray fire stops will provide a level of protection equivalent to that specified in Section C.5.b of the staff's guidelines.

Licensing Action Report

Progress Energy

Attachment K

HNP NFPA 805 Transition Report

Licensing Action

Deviation from NUREG-0800, BTP CMEB 9.5-1, Section C:5.a for Special Purpose Doors.

Basis Date: 6/1/1985

Transitioned? Yes

Basis: Deviation was approved based on the door's substantial construction, multiple-point locking mechanism, and the lack of a fire exposure threat to the doors.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNITS 1 AND 2 BALANCE
1	[REDACTED]	CONTROL ROOM, REACTOR AUXILIARY BUILDING
1	[REDACTED]	CONTROL ROOM COMPLEX
1	[REDACTED]	HEATING, VENTILATING, AND INSTRUMENT REPAIRS, REACTOR AUXILIARY BUILDING
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A2
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B1
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA J
1	[REDACTED]	SWITCHGEAR ROOM B IN REACTOR AUXILIARY BUILDING
1	[REDACTED]	FUEL HANDLING BUILDING BALANCE OF AREAS
1	[REDACTED]	FUEL HANDLING BUILDING FUEL POOL HEAT EXCHANGERS
1	[REDACTED]	OUTSIDE YARD
1	[REDACTED]	TURBINE GENERATOR BUILDING

Reference Document

Doc. Detail

Evaluation

[REDACTED]

Attachment

Carolina Power & Light Company hereby submits additional information concerning fire doors at the Shearon Harris Nuclear Power plant (SHNPP). The attached information is submitted in response to [REDACTED] Open Item Number 8 concerning Fire Protection.

Carolina Power & Light Company will provide doors with a 1-1/2 or 3 hour rating having been tested by a nationally recognized testing laboratory except in those areas where design requirements specify the use of special doors. These special doors are listed in the attached table. These doors have specialty functions such as tornado/missile shield required for non-fire protection plant design requirements. As such, these doors have not been documented by the manufacturers as concerns hourly fire rating.

Details of specific door designs are also attached. In conjunction with the designs, the attached table outlines specific door locations and provides plant features and conditions which mitigate the need for tested or listed doors. It is our position that the door details and the attached table combine to justify the doors as adequate to maintain the integrity of the fire barriers in which they are installed and do not have an adverse effect on the ability to safely shutdown the plant in the event of a fire.

Licensing Action

Deviation from NUREG-0800, BTP CMEB 9.5-1, Section C.5.a for Special Purpose Doors.

[REDACTED] In the [REDACTED] the staff stated that door openings in fire-rated barriers were not provided with Underwriters Laboratory (UL)-listed fire door assemblies that have ratings commensurate with the fire ratings of the walls in which they are installed. The staff considered this issue unresolved.

By letter dated [REDACTED], the applicant committed to provide doors with a 1-1/2-hour or 3-hour fire rating as determined by the test method of American Society for Testing and Materials (ASTM) Standard E-119 when conducted by a nationally recognized independent testing laboratory. This commitment applies to all door openings in fire-rated barriers, as delineated by the applicants, except where plant design requirements specify the use of special-purpose doors. Where UL-listed doors are installed, the protection of doorways in fire-rated walls complies with Section C.5.a of BTP CMEB 9.5-1 (NUREG-0800) and is, therefore, acceptable.

The doorways [REDACTED] are delineated in the applicants' letter of [REDACTED]. The [REDACTED] are doors such as [REDACTED] ones that serve functions other than solely fire protection. The staff has reviewed the design and construction of the doors and their respective locations within the plant to determine their fire resisting capability on the basis of the relative fire hazard in the area where they are installed. The doors are constructed of [REDACTED]

The latching mechanisms utilize multiple-point steel locking pins. If a fire occurred in the vicinity of one of the special-purpose doors, the mass of the door would provide a thermal heat sink that would require a significant fire exposure to raise the temperature of the steel to its yield point. Unequal thermal expansion of the door and its frame which could cause warping of the door will be prevented by the multiple-point steel locking pins. The locations within the plant where the special-purpose doors are installed do not contain significant amounts of combustible material that, in the staff's opinion, would provide a fire exposure capable of causing failure of the doors.

On the basis of its evaluation, the staff concludes that the applicants' special purpose fire doors are an acceptable deviation from Section C.5.a of the fire protection guidelines contained in BTP CMEB 9.5-1.

Licensing Action Report

Progress Energy

Attachment K

HNP NFPA 805 Transition Report

Licensing Action

Deviation from NUREG-0800, BTP CMEB 9.5-1, Section C.5.b(2) from having to provide a one-hour barrier between redundant instrument racks.

Basis Date: 5/31/1986

Transitioned? Yes

Basis: The deviation was approved based on the physical separation between the instrument racks, the installed automatic detection and suppression systems, the embedment of the cables except at the instrument racks, and other features noted in the submittal.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B1
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B2

Reference Document

Doc. Detail

Evaluation

[REDACTED]

Deviation C

The submittal states:

SUMMARY

A deviation is requested from BTP 9.5-1, Section C.5.b(2) of NUREG-0800 from having to provide a one-hour fire rated barrier between [REDACTED]

AREA DESCRIPTION

Plant Location: Reactor Auxiliary Building Elevation [REDACTED]
Fire Area: [REDACTED] SSA Area: [REDACTED] Fire Zone: [REDACTED]
Other Safe Shutdown Equipment within the [REDACTED]
1. Chilled Water Pumps
2. Condenser Water Circulating Pumps (Chilled Water Systems)
3. Closed Expansion Tanks (Chilled Water Systems)
4. HVAC Chillers
5. Air Handling Units
6. Cable for Safe Shutdown Systems Listed in the [REDACTED]

DISCUSSION

Multi-cycle sprinklers actuated by thermal detection are provided above the instrument racks. Ionization-type smoke detection is provided above the instrument racks. Hose stations, portable fire extinguishers, and manual alarm stations are provided in and adjacent to the fire zone. Intervening combustibles presently are in the form of fire resistant IEEE-383 cables with fire breaks between the racks. The combustible loading in this fire zone is moderate and is described in the [REDACTED]. Additional information for this area is available in licensee submittal [REDACTED] dated [REDACTED].

The instrument racks identified above initiate [REDACTED] isolation signals. The instrument racks are separated by approximately 18 feet of distance. Their related cables, identified above, are routed in embedded conduit within the zone in question with the only exposed portions at the terminal box connection on each rack.

CONCLUSION

CP&L believes that this deviation is justified for the following reasons:
1. Suppression and detection systems are provided in the area.
2. Hose stations, portable fire extinguishers, and manual alarm stations are provided in and adjacent to the fire.
3. Separation of approximately 18 feet is provided.
4. Related cables are routed in embedded conduits.
5. Intervening combustibles are IEEE-383 cables with fire breaks between the racks.

Based on the above, a commensurate level of protection in lieu of the one-hour fire rated barrier has been provided for this area.

Licensing Action

Deviation from NUREG-0800, BTP CMEB 9.5-1, Section C.5.b(2) from having to provide a one-hour barrier between redundant instrument racks.



The [redacted] states:

Safe Shutdown Capability

By letter dated [redacted], the applicant identified the following plant locations where redundant shutdown-related systems are not separated and protected against fire damage in accordance with Section C.5.b.(2) of BTP CMEB 9.5.1:

- (1) reactor auxiliary building, elevation [redacted]
- (2) reactor auxiliary building, elevation [redacted]

The redundant systems are separated by a horizontal distance of at least 16 ft. The locations are protected by fire detection and suppression systems as delineated in the [redacted] letter. If a fire were to occur in any of these locations, it would be detected before significant flame propagation or room temperature rise occurred. The fire brigade would then extinguish the fire, using manual fire fighting equipment. If rapid fire propagation occurred before the arrival of the brigade, one would expect the fire suppression system to actuate and limit fire spread, reduce room temperatures, and protect vulnerable systems. Pending actuation of the fire suppression system, the physical separation of redundant systems is sufficient to provide reasonable assurance that one shutdown division would remain free of fire damage. The staff concludes, therefore, that the existing level of fire protection for the systems identified in the applicants [redacted] letter is an acceptable deviation from Section C.5.b.(2) of BTP CMEB 9.5-1.

Note that [redacted] elevation of [redacted] noted above in the [redacted].

Licensing Action Report

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Attachment K

HNP NFPA 805 Transition Report

Licensing Action

Deviation from NUREG-0800, BTP CMEB 9.5-1, Section C.5.b(2)(a) for not providing a 3-hour fire barrier between redundant equipment.

Basis Date: 6/1/1985

Transitioned? Yes

Basis: The deviation was approved based on low fuel loading and limited access to the area.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA K

<u>Reference Document</u>	<u>Doc. Detail</u>	<u>Evaluation</u>
[REDACTED]	Page 30-31	<p>Request exemption from providing 3 hour fire rated enclosure for the following equipment in the Main Steam Tunnel, Fire Zone [REDACTED]:</p> <p>[REDACTED]</p> <p>Conduits [REDACTED]</p> <p>Junction Boxes [REDACTED]</p> <p>The exemption request is based on negligible in-situ and transient combustibles in the Main Steam Tunnel, Fire Zone [REDACTED]. The [REDACTED] is open to the atmosphere, and the heat from a postulated fire would dissipate into the atmosphere. In addition, access to the [REDACTED] and [REDACTED] is by stairs which makes introduction of additional transient combustibles, such as a drum of oil, very unlikely.</p> <p>Main Steam Tunnel (Fire Zone [REDACTED])</p> <p>The main steam tunnel is open to the atmosphere. Redundant equipment consists of several air- and motor-operated valves. The redundant equipment is separated by less than 20 ft. The in situ fuel loading is negligible. Because of the low fuel loading and limited access to the steam tunnel, the staff concludes that the addition of 3-hour-rated fire barriers to separate the redundant valves would not greatly enhance fire protection.</p>

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HNP NFPA 805 Transition Report

Licensing Action

Deviation from NUREG-0800, BTP CMEB 9.5-1, Section C.5.b(2)(c)

Basis Date: 6/1/1985

Transitioned? Yes

Basis: The deviation was approved based on the installed automatic suppression systems and that the air-handlers only provide local cooling.

Unit	Fire Area Name	Description
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A2
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A3

Reference Document

Doc. Detail

Evaluation

[REDACTED]

Pages 22-23

Request exemption from providing 1 hour fire rated barriers in the following fire zones:

[REDACTED] - Exemption is requested from 1 hour separation of air handlers [REDACTED] based on negligible combustible load. The redundant counterparts are 9 feet apart and a 6 inch curb is provided to prevent oil spills. Multi-cycle sprinklers, actuated by thermal detection were added in the zone because of other redundant air handling units more than 20 feet apart. Manual alarm stations, hose stations and portable extinguishers are available in and adjacent to the fire zone. Fireloading in the fire zone is low at [REDACTED] BTU/SF.

[REDACTED] - Exemption from separation by 1 hour rated enclosure is requested of air handling units [REDACTED] located too close to meet separation criteria in sprinklered areas. These units are located approximately 10 feet apart from their redundant counterparts. There are intervening combustibles. Multi-cycle sprinklers, actuated by thermal detectors are provided in almost the entire fire zone. Early warning ionization smoke detection is provided throughout the entire fire zone. Hose stations, portable extinguishers and manual alarm stations are available in and adjacent to the fire zone. Fire loading in the fire zone is low at [REDACTED] BTU/SF. Floor drains will drain any oil spill from the units.

Form the [REDACTED]

(2) One-Hour-Rated Fire Barriers

Fire Zones [REDACTED]

These fire zones are located within fire area [REDACTED]. A deviation has been requested from providing 1-hour-rated fire barriers between redundant air handling units [REDACTED]. The redundant pairs of air handling units are located throughout fire area [REDACTED]. Each set of air handlers consists of redundant A and B units. There is adequate separation between pairs (A and B) of units to preclude the loss of more than one pair in a fire.

The redundant (A and B) air handling units are [REDACTED] approximately [REDACTED]. Automatic suppression and detection systems are provided over each set of redundant air handlers. The redundant air handling units function only as local coolers. On the basis of its evaluation, the staff concludes that, because of the automatic suppression systems and the fact that the air handling units provide only local cooling, a fire that would damage redundant air handling units would result only in the loss of local cooling. It, therefore, concludes that the addition of 1-hour-rated fire barriers between the redundant air handlers would not greatly enhance fire protection.

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HNP NFFPA 805 Transition Report

Licensing Action

Deviation from NUREG-0800, BTP CMEB 9.5-1, Section C.5.b.(2)(b) and (c) from providing 1-hour enclosures for the equipment listed, and from consideration of IEEE-383 cable as an intervening combustible.

Basis Date: 6/1/1985

Transitioned? Yes

Basis: The deviation was approved, but was granted from Section C.5.b.(2)(b) for intervening combustibles since greater than 20 feet existed between the redundant components and automatic suppression and detection was available for all applicable zones.

Unit	Fire Area Name	Description
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B1
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B2

Reference Document

[REDACTED]

Doc. Detail

Page 31-32, Items 4 & 5

Evaluation

4. Request exemption from providing 1 hour fire rated enclosures for one train, either [REDACTED] of the following equipment located in Fire Zone [REDACTED]

[REDACTED]

In each case, [REDACTED] equipment is separated from the redundant [REDACTED] equipment by at least 135 ft. The exemption request is based on moderate combustible loading [REDACTED] BTU/SF) for Fire Zone [REDACTED] as well as provision of many active fire protection features. Active fire protection features in Fire Zone [REDACTED] include early warning ionization detection throughout the entire fire zone, multi-cycle sprinklers actuated by thermal detection throughout almost the entire fire zone, and provision of hose stations, portable fire extinguishers, and manual alarm stations in, and adjacent to the fire zone. Also, the floor drainage system layout would prevent the spread of combustible liquid resulting from an oil spill.

5. Exemption is requested from consideration of intervening combustibles in the case of IEEE-383 qualified cable insulation running in ladder type open cable trays near ceiling level. The cable trays involved are located between the following safety-related equipment:

[REDACTED]

See modification 11a for a description of the locations of fire breaks in cable trays.

Modification 11a-

11. Cable trays acting as a source of intervening combustibles between redundant safety related equipment will be provided with fire breaks.* The cable trays so equipped are listed below for Fire Zone [REDACTED]

a) Between the following redundant safety related equipment:

[REDACTED]

provide cable tray fire breaks in cable trays [REDACTED]

* Fire breaks are provided as described in the FSAR Section 9.5-1. As a minimum, at least one fire break will be provided between the redundant safety-related equipment.

Licensing Action

Deviation from NUREG-0800, BTP CMEB 9.5-1, Section C.5.b.(2)(b) and (c) from providing 1-hour enclosures for the equipment listed, and from consideration of IEEE-383 cable as an intervening combustible.



Intervening Combustible Material

Fire Zones

These zones are located in fire area [redacted]. Deviations are requested from the requirement to provide 20 ft of separation, free of intervening combustible materials, for the following equipment:

- heating ventilation, and air conditioning (HVAC) [redacted]
- chilled water pumps [redacted]
- condenser water circulation pumps [redacted]

Each of the above listed pieces of equipment is separated from the redundant train by more than 20 ft; however, there are intervening cable trays that contain Institute of Electrical and Electronics Engineers (IEEE) 383-rated cables. Fire stops consisting of noncombustible materials such as 1-hour-rated fire barriers or penetration seals are provided in the intervening cable trays. The fire stops serve to prevent the spread of flame along the cable trays between the redundant equipment. Full automatic sprinkler coverage is provided in all of the zones. On the basis of its review, the staff concludes that the full automatic sprinkler coverage in addition to the cable tray fire stops will provide a level of protection equivalent to that specified in Section C.5.b of the staff's guidelines.

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HNP NFPA 805 Transition Report

Licensing Action

Deviation from NUREG-0800, BTP CMEB 9.5-1, Section C.5.b.2(B) from providing 20-foot separation between the [REDACTED]

Basis Date: 6/1/1985

Transitioned? Yes

Basis: The deviation was approved based on the combination of fire protection features, which included a full automatic suppression and detection systems, and spatial separation.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A2

Reference Document

Doc. Detail

Evaluation

[REDACTED]

Pages 24 and 25

From the submittal:

Exemptions are requested from providing 20-foot separation between redundant equipment located in the fire zones below:

[REDACTED] - Component Cooling [REDACTED] and the [REDACTED] during maintenance outage of [REDACTED]. There is a 21-foot separation from the motor of each pump. The separation between the [REDACTED] with no intervening combustibles.

Multi-cycle sprinklers actuated by the thermal detectors are installed in almost the entire fire zone. Ionization smoke detection is provided throughout the fire zone. Hose stations, portable extinguishers; and manual alarm stations are available in and adjacent to the fire zone. Fire loading in the fire zone is low at [REDACTED] BTU/SF.

Floor drains are installed. A fire watch will be provided if [REDACTED] is out of service for more than seven days. Multi-cycle sprinklers actuated by the thermal detectors are installed in almost the entire fire zone. Ionization smoke detection is provided throughout the fire zone. Hose stations, portable extinguishers, and manual alarm stations are available in and adjacent to the fire zone. Fire loading in the fire zone is low at [REDACTED] BTU/SF.

The [REDACTED] are located in fire zone [REDACTED] within fire area [REDACTED]. The [REDACTED] is separated from the [REDACTED] by approximately 15 ft. The [REDACTED] is separated by more than 100 ft. Full automatic suppression and detection systems are provided in the area. If the [REDACTED] is out of service for more than 7 days, a fire watch will be established in the area. Separating the [REDACTED] pump by an additional 5 ft will not greatly enhance fire protection. On the basis of its review, the staff concludes that this combination of protection provides a level of protection equivalent to that specified in Section C.5.b of the staff's guidelines.

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HNP NFPA 805 Transition Report

Licensing Action

Deviation from NUREG-0800, BTP Section 9.5-1, Section C.6.a for detection in areas with safety related equipment.

Basis Date: 6/1/1985

Transitioned? Yes

Basis: The deviation was approved based on low-combustible loading and redundant equipment being located in a separate fire area.

Note that the submittal did not specify a section of the BTP. The separation guidelines of Section C.5.b do not require separation if a three hour barrier separates redundant equipment, which is true in this case. The area does contain safety-related equipment, and Section C.6.a required detection in such areas. In the [REDACTED] the conclusion of the section discussing this deviation (among several others) states that the requirements of Section C.5.b are met.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	AUXILIARY RESERVOIR SCREENING STRUCTURE

Reference Document

Doc. Detail

Evaluation

[REDACTED]

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Safety Train [REDACTED] equipment and cables in conduit could be exposed to a fire within this fire area. However, the set of equipment exposed to a fire is not required for shutdown.

Exemption Requests and Justification

1. Request exemption from providing detection for Fire Area [REDACTED]. Combustible loading in the fire area is negligible (less than BTU/SF).

[REDACTED]

In some areas the fire protection for safe shutdown capability deviates from the staff's guidelines. The staff has reviewed the applicants' fire protection measures in these areas to determine if a level of safety equivalent to the technical requirements of Section C.5.b of the staff's guidelines has been provided:

(9) Emergency [REDACTED]

The emergency [REDACTED] contains [REDACTED] pumps and non-safety-related [REDACTED]. A deviation is requested from providing fire detection in the area. In the event of a fire in this area, service water can be provided from the main reservoir through valves and piping located in another fire area. The combustible loading in the area is low. Because of the provision of redundant equipment in another fire area, the staff concludes that the addition of fire detectors to the emergency service water screening structure would not greatly enhance fire protection.

On the basis of its review, the staff concludes that the fire protection safe shutdown, with the approved deviations, meets the staff guidelines Section C.5.b of BTP CMEB 9.5-1, and is, therefore, acceptable.

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HNP NFPA 805 Transition Report

Licensing Action

Deviation from NUREG-0800, BTP Section C.5.a (4) for fire dampers in exterior walls.

Basis Date: 10/1/1986

Transitioned? Yes

Basis: Based on the barriers not being contiguous fire barriers, this was judged to be acceptable. The submittal letter was referenced in the [REDACTED], but this particular deviation from NFPA 90A was not noted in the [REDACTED]. It is being included here to ensure it remains part of the HNP licensing basis.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	EMERGENCY SERVICE WATER INTAKE STRUCTURE (MAIN RESERVOIR)
1	[REDACTED]	EMERGENCY SERVICE WATER INTAKE STRUCTURE (MAIN RESERVOIR)
1	[REDACTED]	SWITCHGEAR ROOM A IN REACTOR AUXILIARY BUILDING
1	[REDACTED]	SWITCHGEAR ROOM B IN REACTOR AUXILIARY BUILDING

Reference Document

Doc. Detail

Evaluation

[REDACTED]

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From the submittal:

C.5.a(4) Penetration openings for ventilation systems will be protected by fire dampers having a rating equivalent to that required of the barrier per NFPA-90A, "Air Conditioning and Ventilating Systems" with the following exceptions:

- i) Exhaust and intakes at exterior walls, stacks and roofs. Because these walls are not contiguous with fire areas it was not necessary to provide fire dampers.

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HNP NFPA 805 Transition Report

Licensing Action

Deviation from NUREG-0800, CMEB BTP 9.5-1, Section C.5.g., from the requirements to provide 8-hour emergency lights for cold shutdown actions, and to allow use of the lights backed by the security diesel for access to the diesel generator building.

Basis Date: 5/1/1986

Transitioned? Yes

Basis: Deviation from providing battery-backed lighting was approved on the basis that providing 8-hr battery backed lighting for cold shutdown actions would provide little to no benefit.

Deviation to use the security diesel backed lighting for access to the EDG rooms was based on no fire requiring access to these areas would also affect the security diesel.

Note that this is also listed among the "General Deviations" in HNP-E-ELEC-0001.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1		AUXILIARY CONTROL PANEL ROOM

<u>Reference Document</u>	<u>Doc. Detail</u>	<u>Evaluation</u>
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Licensing Action

Deviation from NUREG-0800, CMEB BTP 9.5-1, Section C.5.g, from the requirements to provide 8-hour emergency lights for cold shutdown actions, and to allow use of the lights backed by the security diesel for access to the diesel generator building.



Deviation A

The deviation request reads as follows:

SUMMARY

A deviation is requested from BTP 9.5-1, Section C.5.g of NUREG-0800 from having to provide self-contained emergency lights for access and egress routes (1) to perform cold shutdown operations and (2) in certain outdoor areas to safe shutdown equipment.

DESCRIPTION

1. There are plant areas (such as containment) which require eight-hour emergency lighting units for cold shutdown manual operations.

In our response to NRC question [REDACTED], CP&L showed that approach to cold shutdown could commence approximately four to eight hours subsequent to the fire. SHNPP contends that the benefits of eight-hour battery powered emergency lighting would be minimal for these cold shutdown activities. SHNPP proposes to provide dedicated portable emergency lighting for those areas which require cold shutdown manual operations and access and egress routes thereto which would occur approximately four hours or later after the fire started. The portable lights will be clearly marked "For Use During Cold Shutdown After a Fire Only." The capacity of the lights will be checked once every six months.

2. As part of our alternative shutdown steps, the controls for the emergency diesel must be verified. These controls are located away from the [REDACTED]. Fixed emergency lighting will be provided at the control panel. However, SHNPP believes that lighting powered by our [REDACTED] provide sufficient illumination for access and egress in the outdoor area from the power block to the diesel generator building.

CONCLUSION

1. CP&L believes that this deviation is justified for the following reasons:
 - a. The dedicated portable emergency lighting is not used to achieve hot shutdown.
 - b. The portable emergency lights are used for cold shutdown manual operations and access and egress thereto which would not be needed until four hours or later after the fire.

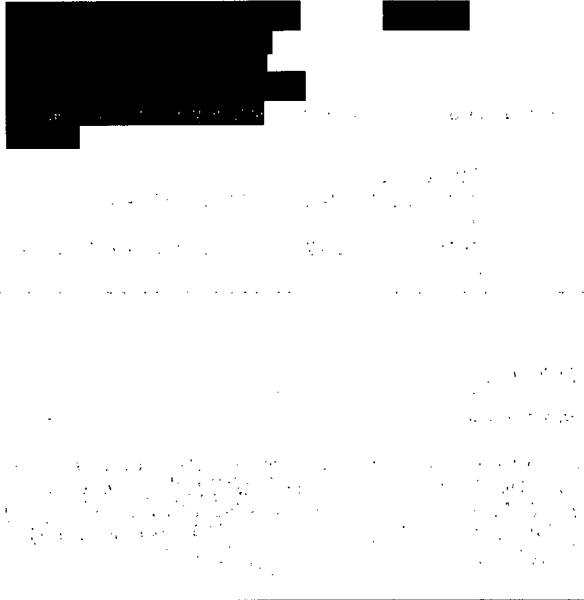
Based on the above, CP&L believes that the addition of eight-hour emergency lighting units in these areas would not enhance the safe shutdown capability of the plant, and the dedicated portable lighting units would provide greater flexibility and versatility.

2. CP&L believes that the use of emergency lights powered by the security diesels will provide sufficient lighting for the operator to transit from the power block to the Diesel Generator Building and is technically equivalent to the guidance provided in BTP 9.5-1, Section C.5.g of NUREG-0800.

Note that today these portable lights are marked for safe shutdown use only, and the cold shutdown stipulation is not included. This does not change the commitment to provided dedicated portable lights to complete these actions.

Licensing Action

Deviation from NUREG-0800, CMEB BTP 9.5-1, Section C.5.g, from the requirements to provide 8-hour emergency lights for cold shutdown actions, and to allow use of the lights backed by the security diesel for access to the diesel generator building.



By letter dated [REDACTED] the applicants requested approval of two deviations from Section C.5.g. of BTP CMEB 9.5-1, to the extent that it stated that 8-hour battery-powered lighting units should be installed in certain locations. The applicants propose to utilize portable lights in locations that must be traversed to perform cold-shutdown-related manual operations. These operations need not commence before 8 hours after onset of a fire, by which time the emergency lighting units' battery power supplies would be spent and normal plant lighting would be restored. The staff concludes that no benefit would be derived by installing 8-hour battery-powered emergency lighting units in these cold shutdown locations. The use of hand lights as a supplement to normal plant lighting in these locations, and in access routes thereto, is, therefore, an acceptable deviation from Section C.5.g. of BTP CMEB 9.5-1.

The applicants also requested approval to rely on the security perimeter lighting in the outdoor area from the power block to the diesel generator building. The security lights are powered from the dedicated security diesel. The applicants stated that the security lighting system provides sufficient illumination for an operator to traverse this area and that any postulated fire capable of requiring an operator to travel to the diesel generator building will not interrupt power from the security diesel. On these bases, the staff concludes that the absence of 8-hour battery-powered emergency lights in the yard area is an acceptable deviation from Section C.5.g of BTP CMEB 9.5-1.

Licensing Action Report

Licensing Action

Deviation from providing 1-hour fire rated enclosures for one train of HVAC equipment in [REDACTED]

Basis Date: 6/1/1985

Transitioned? Yes

Basis: The deviation was approved based on separation, installed sprinkler coverage, and that the redundant units only provide local area cooling.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B1
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B2

Reference Document

Doc. Detail

Evaluation

[REDACTED]

Page 31, Item 3

From the submittal:

Request exemption from providing 1 hour fire rated enclosures for one train, either [REDACTED], of the following [REDACTED] located in Fire Zone [REDACTED] air handling units [REDACTED]. These air handling units provide [REDACTED].

The exemption request is based on moderate combustable loading [REDACTED] BTU/SF) for Fire Zone [REDACTED] as well as provision of many active fire protection features. Active fire protection features in Fire Zone [REDACTED] include early warning ionization detection throughout the entire fire zone, multi-cycle sprinklers actuated by thermal detection throughout almost the entire fire zone, and provision of hose stations, portable fire extinguishers, and manual alarm station in, and adjacent to the fire zone. Also, the floor drainage system layout would prevent the spread of combustable liquid resulting from an oil spill.

[REDACTED]

[REDACTED]

From the [REDACTED] concerning an evaluation of whether the installed features provided a level of protection equivalent to that of Section C.5.b of NUREG-0800, BTP CMEB 9.5-1.

(2) One-Hour-Rated Fire Barriers

Fire Zones [REDACTED]. These fire zones are located within fire area [REDACTED]. A deviation has been requested from providing 1-hour-rated fire barriers between redundant air handling units [REDACTED].

The redundant pairs of air handling units are located throughout fire area [REDACTED]. Each set of air handlers consists of redundant [REDACTED]. There is adequate separation between [REDACTED] of units to preclude the loss of more than one pair in a fire. The redundant [REDACTED] air handling units are separated by approximately 10 ft. Automatic suppression and detection systems are provided over each set of redundant air handlers. The redundant air handling units function only as local coolers. On the basis of its evaluation, the staff concludes that, because of the automatic suppression systems and the fact that the air handling units provide only local cooling, a fire that would damage redundant air handling units would result only in the loss of local cooling. It, therefore, concludes that the addition of 1-hour-rated fire barriers between the redundant air handlers would not greatly enhance fire protection.

In the above [REDACTED] discussion, note that only Fire Zone [REDACTED] s within the current [REDACTED] Analysis Area.

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HNP NFPA 805 Transition Report

Licensing Action

Deviation from providing a 1-hr fire barrier for charging pumps, and for consideration of intervening combustibles.

Basis Date: 6/1/1985

Transitioned? Yes

Basis: The deviation was approved based on a combination of features determined to provide an equivalent level of protection. The features credited include 3-hr concrete barriers between the pumps, automatic suppression and detection, and 17 ft. of separation.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A3

Reference Document

Doc. Detail

Evaluation

[REDACTED]

Pages 24 and 25

Regarding a 1-hr fire barrier between [REDACTED], the submittal states the following [REDACTED]

"5. Exemption to requested from providing a one-hour rated enclosure of the [REDACTED] located in Fire Zone [REDACTED]. The pumps are located approximately 17 feet apart with a three-hour rated 11 foot concrete wall between them. The pumps have a [REDACTED] elevation [REDACTED]. Multi-cycle sprinklers actuated by thermal detection is provided in each pump room and at Elevation [REDACTED]. Ionization smoke detection is provided throughout the entire fire zone. Hose stations, portable extinguishers, and manual alarm stations are available in and adjacent to the fire zone. Fire loading in the fire zone is low at [REDACTED] BTU/SF. Access into the [REDACTED] is through seismically-designed air-tight doors which have a four to six-inch high step-up. Also, access to Elevation [REDACTED] is limited to only a [REDACTED]."

Regarding intervening combustibles, the submittal states the following:

3. Exemptions are requested from consideration of intervening combustibles in the case of IEEE-383 qualified cable insulation running in ladder type open cable trays near ceiling level between the following pieces of equipment listed by fire zone below:

[REDACTED] The cable trays run in excess of 14 feet vertical distance from the pumps and are located approximately 17 feet to the east. These trays are also located outside the pump rooms. See Modification 14a for a description of the location of fire breaks in the cable trays. Multi-cycle sprinklers actuated by the thermal detectors are installed in almost the entire fire zone. Ionization smoke detection is provided throughout the fire zone. Hose stations, portable extinguishers, and manual alarm stations are available in and adjacent to the fire zone. Fire loading in the fire zone is low at [REDACTED] BTU/SF."

Note that Modification 14d of the submittal discusses fire breaks in cable trays near the [REDACTED], not 14a as stated in the submittal.

Licensing Action Report

Licensing Action

Deviation from providing a 1-hr fire barrier for charging pumps, and for consideration of intervening combustibles.

[REDACTED]

[REDACTED]

Regarding the intervening combustibles, [REDACTED] states the following (Note that fire zones [REDACTED]):

"(3) Intervening Combustible Material

Fire Zones

These zones are located in fire area [REDACTED]. Deviations are requested from the requirement to provide 20 ft of separation, free of intervening combustible materials, for the following equipment:

- auxiliary feedwater pumps [REDACTED]
- component cooling water pumps [REDACTED]
- component cooling water heat exchangers [REDACTED]
- service water booster pumps [REDACTED]
- charging pumps [REDACTED]
- heating ventilation, and air conditioning (HVAC) chillers [REDACTED]
- [REDACTED]
- chilled water pumps [REDACTED]
- condenser water circulation pumps [REDACTED]

Each of the above listed pieces of equipment is separated from the redundant train by more than 20 ft; however, there are intervening cable trays that contain Institute of Electrical and Electronics Engineers (IEEE) 383-rated cables. Fire stops consisting of noncombustible materials such as 1-hour-rated fire barriers or penetration seals are provided in the intervening cable trays. The fire stops serve to prevent the spread of flame along the cable trays between the redundant equipment. Full automatic sprinkler coverage is provided in all of the zones. On the basis of its review, the staff concludes that the full automatic sprinkler coverage in addition to the cable tray fire steps will provide a level of protection equivalent to that specified in Section C.5.b of the staff's guidelines."

For the Charging Pumps in particular, [REDACTED] states the following:

"(5) [REDACTED]

The charging pumps are also located in fire zone [REDACTED]. The pumps are separated by approximately 17 ft and are located within individual concrete cubicles that are 3-hour-rated fire barriers. The airtight door to each pump room is not a fire-rated door. Automatic suppression and detection systems are provided in each pump room and in adjacent areas. On the basis of its review, the staff concludes that this combination of protection provides a level of protection equivalent to that specified in Section C.5.b of the staff's guidelines."

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HNP NFPA 805 Transition Report

Licensing Action

Deviation from providing automatic fire detection and suppression system throughout the area [REDACTED]

Basis Date: 6/1/1985

Transitioned? Yes

Basis: The deviation was approved based on the low combustibile loading and existing fire protection features.

In the submittal and [REDACTED] which does not require area wide suppression. This was noted in [REDACTED]

Note that since the [REDACTED], the deviation may have been applicable to Section C.5.b(2)(b) of the BTP. However, the same submittal also requested a deviation from providing a 3-hour fire barrier between redundant components.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA K

Reference Document

[REDACTED]

Doc. Detail

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Evaluation

Request exemption from provision of automatic fire detection and suppression system throughout the entire Area [REDACTED]. Justification, by fire zone, is listed below:

[REDACTED] No automatic fire detection or suppression is provided based on negligible combustibile loading [REDACTED] 0 BTU/SF). Manual alarm stations, portable fire extinguishers, and hose stations are available in adjacent fire zones.

In some areas the fire protection for safe shutdown capability deviates from the staff's guidelines. The staff has reviewed the applicants' fire protection measures in these areas to determine if a level of safety equivalent to the technical requirements of Section C.5.b of the staff's guidelines has been provided:

(1) Partial Suppression and Detection

Fire Area [REDACTED]
This fire area consists of various portions of the reactor auxiliary building on elevations [REDACTED]. The applicants' letter dated [REDACTED] identifies various zones within fire area [REDACTED] that are not provided with complete automatic suppression and/or detection systems. The staff has evaluated the fire protection features of these zones and concludes that, because of the low combustibile loading, lack of concentrations of cable trays, and existing protection provided for safe shutdown equipment, the addition or extension of automatic suppression and/or detection systems into these zones would not greatly enhance fire protection.

Licensing Action Report

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Attachment K

HNP NFPA 805 Transition Report

Licensing Action

Deviation from providing full area suppression.

Basis Date: 6/1/1985

Transitioned? Yes

Basis: Deviations were granted based upon existing fire protection features such as detection, partial suppression, separation, and low in-situ combustibles per [REDACTED]

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	CONTAINMENT BUILDING, ALL LEVELS

Reference Document

Doc. Detail

Evaluation

[REDACTED]

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From the submittal:

As listed above, multi-cycle sprinklers are located over charcoal filters, cable trays and required equipment. An exemption from providing sprinklers throughout the entire fire area is requested.

The redundant cables, equipment and associated non-safety circuits necessary to achieve and maintain hot shutdown conditions in this fire area meet Appendix R to 10CFR50 Paragraph III.G.2.D separation criteria. Automatic multi-cycle sprinkler systems actuated by thermal detection are provided over cable penetration areas, Fire Zones [REDACTED]. Early warning ionization detection is also provided over all electrical cable tray.

[REDACTED]

[REDACTED]

From the [REDACTED]:

Fire Area [REDACTED]
This fire area consists of all levels within containment. All cables and equipment in this area needed for safe shutdown are provided with fire protection in accordance with Section C.5.b of the staff's guidelines. Sprinkler systems are provided for the electrical cable trays, electrical penetration areas, and the charcoal filter housings. The areas without sprinkler systems contain low combustible loadings. On the basis of its evaluation, the staff concludes that, because of the lack of in-situ combustible material and limited access, the addition of complete suppression and/or detection systems inside containment would not greatly enhance fire protection.

Licensing Action Report

Progress Energy

Attachment K

HNP NFFPA 805 Transition Report

Licensing Action

Deviation from Section C.7.b of NUREG-0800 Section 9.5-1 for conduit above the suspended ceiling and [REDACTED]

Basis Date: 11/1/1983

Transitioned? Yes

Basis: The bases for approval of the deviation included low fuel loading, installed smoke detectors, and the continual manning of the control room.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	CONTROL ROOM, REACTOR AUXILIARY BUILDING

<u>Reference Document</u>	<u>Doc. Detail</u>	<u>Evaluation</u>
[REDACTED]	Page 85	<p>The submittal states:</p> <p>"As stated in [REDACTED] all cables entering the control room terminate there. No cables are routed through the control room from one area to another. There are no raised floors in the control room. There is a [REDACTED]. The fire loading is low, less than [REDACTED] BTU/sq. ft. No suppression system is provided. There are redundant safety related radiation monitoring cables, installed in conduits and in accordance with Regulatory Guide 1.75, located above the suspended ceiling. As stated in the Fire Hazards Analysis, [REDACTED], the combustible loading in the Control Room is considered negligible. The 24 hour occupancy of the Control Room combined with the availability of fire extinguishers and hose stations mitigate the effects of an exposure fire.</p> <p>The Control Room suspended ceiling is aluminum luminous louver type, egg crate construction. A perforated duct located above the hung ceiling introduces air into the control room. The space above the hung ceiling does not contain any cable tray, only conduits.</p> <p>Conduits 4 inch and smaller in diameter run through this space. Smoke detectors will be provided on the south side of the Control Room reinforced concrete ceiling, as well as below the hung ceiling. The conduit will be sealed in accordance with NUREG-0800 criteria. Automatic suppression will not be provided, as there is no fire loading in the space between the hung ceiling and the concrete ceiling.</p> <p>The applicable section of the [REDACTED] states:</p> <p>"All cables entering the control room terminate there. No cables are routed through the control room from one area to another. There are no raised floors in the control room. [REDACTED]. There are redundant safety-related radiation monitoring cables installed in conduits above the suspended ceiling.</p> <p>The control room suspended ceiling is the aluminum luminous louver type, egg-crate construction. A perforated duct located above the hung ceiling introduces air into the control room. The space above the hung ceiling does not contain any cable tray, only conduits.</p> <p>Smoke detectors will be provided on the south side of the control room reinforced concrete ceiling, as well as below the hung ceiling.</p> <p>Because of the low fuel loading and the small size of the [REDACTED], combined with the installed early warning smoke detection and continuous manning of the control room, the staff finds the installation of conduits in the control room ceiling, the omission of a suppression system in the [REDACTED], [and the omission of a sprinkler system in the peripheral rooms] acceptable deviations from Section C.7.b of BTP CMEB 9.5-1."</p> <p>(The portion in brackets is not applicable to this particular deviation.)</p>

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HNP NFPA 805 Transition Report

Licensing Action

Deviation from Section C.7.b of NUREG-0800 Section 9.5-1 for conduit above the suspended ceiling and [REDACTED]

Licensing Action Report

Licensing Action

Deviation from Section C.7.b of NUREG-0800 Section 9.5-1 for the areas peripheral to the control room.

Basis Date: 5/1/1986

Transitioned? Yes

Basis: The peripheral areas to the control room are not separated from the control room by 1-hr rated fire barriers and an automatic water suppression system as required by Section C.7.b. The deviation was approved based on low fuel loading, the installed detection system, the continuous manning of the control room; and the installation of an automatic sprinkler in the office / kitchen area.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1		CONTROL ROOM, REACTOR AUXILIARY BUILDING

Reference Document Doc. Detail Evaluation

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HNP NFFPA 805 Transition Report

Licensing Action

Deviation from Section C.7.b of NUREG-0800 Section 9.5-1 for the areas peripheral to the control room.

Attachment 1

As detailed below, this letter was in response to a request for additional information concerning Section C.7.b for the Control Room Complex.

"Question:

BTP 9.5-1, Section C.7.b states: "Peripheral rooms in the control room complex should have automatic suppression and should be separated from the control room by noncombustible construction with a fire resistance rating of one hour. How does the SHNPP meet this guidance?"

Response:

SHNPP control room fire area as shown in FSAR figure 9.5.A-10, is not protected with an automatic suppression system. This was found acceptable by the NRC in Supplement [REDACTED]. As shown in FSAR [REDACTED] the wall between the Main Control Board (MCB) area and the Main Terminal Cabinet/living quarters (MTC) area is not shown as a rated barrier. In our comparison to BTP 9.5-1 (NUREG-0800), Section C.7.b, dated [REDACTED], CP&L addressed this area. The MTC area is an extension of the MCB area. It is an integral part of the main control room habitability envelope. This MTC area (like the control room) contains redundant safe shutdown equipment, therefore, a fire in this area would require the plant to proceed to alternate shutdown per BTP 9.5-1 Section C.5.c. It is noteworthy to realize that the MTC area is separated from the MCB area [REDACTED]. Additionally, the HVAC is heavy gauge [REDACTED]. The HVAC return from the MTC area passes through the MCB area but has no openings in the MCB area. The other areas (i.e., office, kitchen area), when in use, will be occupied by personnel trained and knowledgeable in fire protection. The control room complex is continuously manned with trained operators that are knowledgeable in emergency response, plant systems, and safe shutdown procedures. The walls that bound the office/kitchen from the MTC area are seismic block walls that provide equivalent one hour protection. (Penetrations, doors, etc., are not fire rated construction.) An automatic single sprinkler head will be provided in the office/kitchen area to provide additional protection. The following will be incorporated in the design of this sprinkler:

- 1) The source of water will be potable water.
- 2) One-inch copper tubing will be used.
- 3) Non-seismic rod and clevis will be used to support the copper piping.
- 4) A manual isolation globe valve and two check valves will be used.
- 5) A flow alarm will be provided.

In summary, CP&L provides adequate protection for the MTC and the office/kitchen areas of the main control room complex for the following reasons:

- 1) Alternate shutdown is provided for a disabling fire in the MTC area (regardless of the genesis of the fire).
- 2) The control room complex is continuously manned by licensed operators knowledgeable in fire protection and safe shutdown procedures.
- 3) A single, automatic sprinkler head will be provided in the office/kitchen area.
- 4) A hose station is located in the MTC area.
- 5) The wall between the MTC and office/kitchen is a seismic block wall which will aid in containing a fire.
- 6) HVAC return duct from the MTC area is heavy gauge seismic Category I duct work."

Licensing Action

Deviation from Section C.7.b of NUREG-0800 Section 9.5-1 for the areas peripheral to the control room.



The [redacted] Supplement states the following:

"In the [redacted], the staff stated that peripheral rooms to the control room complex are separated from the control room by 1-hour-fire-rated barriers. In fact, the peripheral rooms are neither separated by a fire barrier nor protected by an automatic sprinkler system as prescribed by Section C.7.b of BTP CMEB 9.5-1. The staff was concerned that, in the event of a fire in the office/kitchen area, smoke and hot gases would propagate into the main terminal cabinet and control room. By letter dated [redacted], the applicants proposed to install an automatic sprinkler head in the office/kitchen area. The details concerning the installation of this sprinkler are included in the above referenced letter. This modification provides reasonable assurance that the effects of a fire will be confined to the office/kitchen area. The staff considers the proposed protection an acceptable deviation from Section C.7.b of BTP CMEB 9.5-1.

[Faint, mostly illegible text, likely a continuation of the redacted content or a separate section.]

Licensing Action Report

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Attachment K

HNP NFPA 805 Transition Report

Licensing Action

Deviation from Section C.7.b of NUREG-0800 Section 9.5-1 in that cables are routed under the raised floor in the control room without an automatic suppression system.

Basis Date: 10/1/1986

Transitioned? Yes

Basis: The deviation was based on the negligible fuel loading under the raised floor in conjunction with the installed detection system and continuous manning of the control room.

Unit	Fire Area Name	Description
1	[REDACTED]	CONTROL ROOM, REACTOR AUXILIARY BUILDING

Reference Document

[REDACTED]

Doc. Detail

Page 84

Evaluation

The submittal states:

"Due to Human Factors considerations, a raised floor will be created. The raised floor section is located in front of the Main Control Panels and will have two (2) computer CRTs mounted on the raised section. Cabling consisting of seven (7) low-voltage signal cables and one (1) 120V AC power cable will be located under the raised section to support the computer CRTs. Ionization detection will be provided under the raised floor."

[REDACTED]

[REDACTED]

The [REDACTED] states:

"In [REDACTED] the staff stated that there are no raised floors in the control room. In Revision 3 to the comparison to BTP CMEB 9.5-1, the applicant informed the staff that a raised floor has been created in the control room. Section C.7.b of BTP CMEB 9.5-1 states that area automatic fire suppression should be installed under the raised floor. Area automatic suppression is not provided.

The raised floor section is located in front of the main control panels and has two computer cathode-ray tubes (CRTs) mounted on the raised section. Seven low-voltage signal cables and one 120-V power cable are located under the raised section. Ionization detectors are installed under the raised floor. Area automatic suppression is not provided.

Because of the negligible fuel loading under the raised floor in concert with the installed early-warning smoke-detection capability and continuous manning of the control room, the staff finds the omission of a suppression system in the raised section an acceptable deviation from Section C.7.b of BTP CMEB 9.5-1."

Note that since the time of this [REDACTED] Supplement, a small number of cables have been added to support additional monitors. The other supporting factors justifying this deviation remain in place, and the small number of additional cables are not judged to have adversely affected the conclusions of the [REDACTED].

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Attachment K

HNP NFPA 805 Transition Report

Licensing Action

Deviation from Section C.7.b of NUREG-0800 Section 9.5-1 that there be no carpeting in the Control Room.

Basis Date: 6/1/1985

Transitioned? Yes

Basis: The deviation was approved based on the carpeting being non-combustible in accordance with Section C.5.a(9) of BTP CMEB 9.5-1 (NUREG-0800).

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	CONTROL ROOM, REACTOR AUXILIARY BUILDING

Reference Document

Doc. Detail

Evaluation

[REDACTED]

Page 84a

The submittal states:

"Control Room carpet will be installed for Human Factors considerations and will meet the guidance of C.5.a(9)."

[REDACTED]

[REDACTED]

The [REDACTED] states:

"The applicant also informed that staff that carpeting will be installed in the control room. The carpeting will be noncombustible in accordance with Section C.5.a(9) of BTP CMEB 9.15-1. On this basis, the staff concludes that the installation of carpeting in the control room is an acceptable deviation from Section C.7.b of BTP 9.5-1."

Licensing Action Report

Progress Energy

Attachment K

HNP NFPA 805 Transition Report

Licensing Action

Deviation from the installation of fire detection and automatic suppression throughout area [REDACTED]

Basis Date: 6/1/1985

Transitioned? Yes

Basis: Deviation was approved based on the existing fire protection features and low combustibile loading.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A4

Reference Document

Doc. Detail

Evaluation

[REDACTED]

Pages 21 and 22

From the appropriate portions of the submittal:

[REDACTED] - A multi-cycle sprinkler system, actuated by thermal detection is installed over cable trays in the corridor, covering approximately 35 percent of the fire zone. Ionization detection is provided over the entire fire zone. Manual alarm stations are available in and adjacent to the fire zone. Hose stations and portable extinguishers are available and adjacent to the fire zone.

[REDACTED] - A multi-cycle sprinkler system actuated by thermal detectors is provided over cable tray runs in the corridor. Early warning ionization smoke detection is provided throughout the fire zone [REDACTED]. Hose stations, portable extinguishers and manual alarm stations are available in and adjacent to the fire zone.

Early warning ionization detection is provided throughout the entire fire zone. Multi-cycle sprinklers actuated by thermal detection are provided [REDACTED]. combustibile loading in this fire zone is low [REDACTED] BTU/SF). Manual alarm stations, portable fire extinguishers, and hose stations are available in, and adjacent to the fire zone.

[REDACTED] Early warning ionization detection is provided throughout the entire fire zone. Multi-cycle sprinklers actuated by thermal detection are provided over the corridor and safety related cable trays. The combustibile loading in this fire zone is low [REDACTED] BTU/SF). Manual alarm stations, portable fire extinguishers, and hose stations are available in, and adjacent to the fire zone.

Partial Suppression and Detection

[REDACTED]

[REDACTED]

This fire area consists of various portions of the reactor auxiliary building on elevations [REDACTED]. The applicants' letter dated [REDACTED], identifies various zones within fire area [REDACTED] that are not provided with complete automatic suppression and/or detection systems. The staff has evaluated the fire protection features of these zones and concludes that, because of the low combustibile loading, lack of concentrations of cable trays, and existing protection provided for safe shutdown equipment, the addition or extension of automatic suppression and/or detection systems into these zones would not greatly enhance fire protection.

Licensing Action Report

Progress Energy

Attachment K

HNP NFPA 805 Transition Report

Licensing Action

Deviation from the installation of fire detection and automatic suppression throughout area [REDACTED]

Basis Date: 6/1/1985

Transitioned? Yes

Basis: Deviation was approved based on the existing fire protection features and low combustibile loading.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A3

Reference Document

Doc. Detail

Evaluation

[REDACTED]

Pages 20-22

From the appropriate parts of the submittal:

[REDACTED] - Ionization detectors provided throughout the entire fire zone. Manual alarm stations, portable extinguishers and hose stations are available adjacent to the fire zone. The fire loadings in each zone are negligible.

[REDACTED] - A mutli cycle sprinkler system actuated by thermal detectors is provided in most of the fire zone over safety related equipment. Hose stations, portable extinguishers and manual alarm stations are provided in the fire zone. The fire loading is low at [REDACTED] BTU/SF.

[REDACTED] - Hose stations, portable extinguishers and manual alarm stations are available adjacent to the fire zone. The fire loading is negligible [REDACTED] BTU/SF).

[REDACTED] - A multi-cycle sprinkler system actuated by thermal detectors is installed in almost the entire fire zone over safety related equipment. Hose stations, portable extinguishers and manual alarm stations are available in and adjacent to the fire zone. The fire loading in this zone is low at [REDACTED] BTU/SF.

[REDACTED] - A multi-cycle sprinkler system actuated by thermal detectors is provided throughout most of the fire zone except for two small rooms along the west wall and a platform at elevation [REDACTED]. Ionization detection is provided throughout the entire fire zone. Hose stations, portable extinguishers and manual alarm stations are available in and adjacent to the fire zone. The fire loading in the fire zone is low at [REDACTED] BTU/SF.

[REDACTED] - A multi-cycle sprinkler system, actuated by thermal detection is installed over cable trays in the corridor, covering approximately 35 percent of the fire zone. Ionization detection is provided over the entire fire zone. Manual alarm stations are available in and adjacent to the fire zone. Hose stations and portable extinguishers are available and adjacent to the fire zone.

[REDACTED] - Multi-cycle sprinklers actuated by thermal detectors are provided over safety train A and B cable trays and most of the fire zone. A section between [REDACTED] Early warning ionization detection is provided throughout the fire zone. Manual alarm stations are available in and adjacent to the fire zone. Hose stations and portable extinguishers are available adjacent to the fire zone. The fire loading is low at [REDACTED] BTU/SF.

[REDACTED] - Hose stations, portable extinguishers and manual alarm stations are available adjacent to the fire zone. The fire loading is negligible (less than [REDACTED] BTU/SF).

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HNP NFPA 805 Transition Report

Licensing Action

Deviation from the installation of fire detection and automatic suppression throughout area [REDACTED]

[REDACTED]

Partial Suppression and Detection

Fire Area [REDACTED]

This fire area consists of various portions of the reactor auxiliary building on elevations [REDACTED]

The applicants letter dated [REDACTED], identifies various zones within fire area [REDACTED] that are not provided with complete automatic suppression and/or detection systems. The staff has evaluated the fire protection features of these zones and concludes that, because of the low combustible loading, lack of concentrations of cable trays, and existing protection provided for safe shutdown equipment, the addition or extension of automatic suppression and/or detection systems into these zones would not greatly enhance fire protection.

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HNP NFPA 805 Transition Report

Licensing Action

Deviation from the installation of fire detection and automatic suppression throughout area [REDACTED]

Basis Date: 6/1/1985

Transitioned? Yes

Basis: Deviation was approved based on the existing fire protection features and low combustible loading.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A1

Reference Document

Doc. Detail

Evaluation

[REDACTED]

Pages 20 & 22

[REDACTED] - No automatic suppression or detection is provided based on negligible combustible loading (less than [REDACTED] BTU/SF), low transient combustible loading and cables in conduit. Manual alarm stations are provided and hoseline backup from RAB stations or yard hydrants is available.

[REDACTED] - No automatic fire detection or suppression is provided based on negligible combustible loading (less than [REDACTED] BTU/SF). A manual alarm station is provided in this fire zone and portable fire extinguishers and hose stations are available in adjacent fire zones.

[REDACTED]

[REDACTED]

Partial Suppression and Detection

Fire Area [REDACTED]

This fire area consists of various portions of the reactor auxiliary building on elevations [REDACTED]. The applicants letter dated [REDACTED], identifies various zones within fire area [REDACTED] that are not provided with complete automatic suppression and/or detection systems. The staff has evaluated the fire protection features of these zones and concludes that, because of the low combustible loading, lack of concentrations of cable trays, and existing protection provided for safe shutdown equipment, the addition or extension of automatic suppression and/or detection systems into these zones would not greatly enhance fire protection.

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HNP NFPA 805 Transition Report

Licensing Action

Deviation from the installation of fire detection and automatic suppression throughout area [REDACTED]

Basis Date: 6/1/1985

Transitioned? Yes

Basis: Deviation was approved based on the existing fire protection features and low combustible loading.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA A2

Reference Document

Doc. Detail

Evaluation

[REDACTED]

Pages 20-22

From the submittal:

[REDACTED] - A multi-cycle sprinkler system actuated by thermal detectors is provided throughout the entire fire zone. Manual alarm stations are located inside the fire zone. Hose stations, portable extinguishers are available in and adjacent to the fire zone. The fire loading in [REDACTED]

[REDACTED] - Ionization detections provided throughout the entire fire zone. Manual alarm stations, portable extinguishers and hose stations are available adjacent to the fire zone. The fire loadings in each zone are negligible.

[REDACTED] - A multi cycle sprinklers system actuated by thermal detectors is provided in most of the fire zone over safety related equipment. Hose stations, portable extinguishers and manual alarm stations are provided in the fire zone. The fire loading is low at [REDACTED] BTU/SF.

[REDACTED] - Hose stations, portable extinguishers and manual alarm stations are available adjacent to the fire zone. The fire loading is negligible [REDACTED] BTU/SF).

[REDACTED] - A multi-cycle sprinkler system actuated by thermal detectors is installed in almost the entire fire zone over safety related equipment. Hose stations, portable extinguishers and manual alarm stations are available in and adjacent to the fire zone. The fire loading in this zone is low at [REDACTED] BTU/SF.

[REDACTED] - Approximately half the corridor is provided with multi-cycle sprinklers actuated by thermal detectors to protect safety related equipment. Hose stations, portable extinguishers and manual alarm stations are available in and adjacent to the fire zone. The fire loading in this zone is low at [REDACTED] BTU/SF.

[REDACTED] - A multi-cycle sprinkler system actuated by thermal detectors is provided throughout most of the fire zone except for two small rooms along the west wall and a [REDACTED] ionization detection is provided throughout the entire fire zone. Hose stations, portable extinguishers and manual alarm stations are available in and adjacent to the fire zone. The fire loading in the fire zone is low at [REDACTED] BTU/SF.

[REDACTED] - Hose stations, portable extinguishers and manual alarm stations are available adjacent to the fire zone. The fire loading is low at [REDACTED] BTU/SF.

Licensing Action Report

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HNP NFPA 805 Transition Report

Licensing Action

Deviation from the installation of fire detection and automatic suppression throughout area.

Basis Date: 6/1/1985

Transitioned? Yes

Basis: Deviation was approved based on the existing fire protection features and low combustible loading.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	WASTE PROCESSING BUILDING

Reference Document

Doc. Detail

Evaluation

[REDACTED]

Page 20

Request exemption from installation of fire detection and automatic sprinkler systems throughout the entire Fire Area [REDACTED]. Justifications for each fire zone are listed below.

[REDACTED] - A manual alarm station and hose station are provided inside the fire zone. The fire loading is negligible [REDACTED] BTU/SF).

Partial Suppression and Detection

Fire Area [REDACTED]
This fire area consists of various portions of the reactor auxiliary building on elevations [REDACTED].

The applicant's letter dated [REDACTED] identifies various zones within fire area [REDACTED] that are not provided with complete automatic suppression and/or detection systems. The staff has evaluated the fire protection features of these zones and concludes that, because of the low combustible loading, lack of concentrations of cable trays, and existing protection provided for safe shutdown equipment, the addition or extension of automatic suppression and/or detection systems into these zones would not greatly enhance fire protection.

Note that this zone was included with [REDACTED] in the submittal.

Licensing Action

NRC Approval of Communications Capabilities

Page 6

NRC QUESTION 410.48

In response to question 410.25, it is stated that sound powered telephones, portable radios and the normally installed PA and phone systems will be used for communication in the event of a fire requiring evacuation of the control room. Show that all of these systems are available in the event of a loss of off site power or that the systems remaining thereafter are capable of providing the necessary communication links between operators.

RESPONSE

COMMUNICATIONS CAPABILITIES FOR MAIN CONTROL ROOM AND AUXILIARY CONTROL ROOM

1. A telephone system is distributed throughout the Harris Site. The switching equipment is located in the Administration Building. Normal supply for this system is provided from the Administration Building transformer [REDACTED], but a back-up supply will be provided from Security [REDACTED] once this is operational. An automatic transfer switch will provide this transfer. The PABX is also provided with a back-up power source from a storage battery system which has a useful life of approximately one hour. A public address system is installed in all plant areas and is connected to the PABX system so that instructions can be issued from either the main control room or the auxiliary control room. The power for the PA system is provided by UPP 1-1 in the communications room which has a reliable backup source of power from the station battery.
2. An operations, maintenance, and security radio system is installed in the communications room on the [REDACTED] elevation. This system consists of base station equipment, four channel repeaters, two base stations for communication to the Sheriff's Department, and control stations in the main control room, auxiliary control room, waste process control room, central alarm station, and secondary alarm station. The power for this system is provided from the UPS system. That portion which is dedicated to security communications will be powered from the security UPS once it is operational. The signal distribution system consists of external antennas for communications off site and to outlying plant areas. Inside the power block a distributed antenna system has been installed to allow communications between control room areas and portable radios.
3. A sound-powered phone system has been installed in the power block of the Harris Plant. This system consists of multiple wiring circuits and jacks. This system does not require power. Master panels are located in the main control room, auxiliary control room, and waste processing control room. Loss of the main control room will not affect the sound power system in the auxiliary control room.

In the event of a shutdown, loss of off site power, evacuation of control room, loss of security diesel generator, or loss of the UPS system, the sound power system will still be operational and allow communications between plant areas and control points.

The major communication equipment is located in a separate room on the [REDACTED] of the Reactor Auxiliary Building adjacent to the [REDACTED] room. This room is [REDACTED] a day for security purposes and is also equipped with ionization detectors for early detection of fire-related problems. A hose station is located within 100 feet of this room. This room is serviced by a heating ventilation and air conditioning System [REDACTED] which would be free from fire damage in the rooms which house the [REDACTED]

Based on the above, CP&L has concluded that communications would be available in the unlikely event of a fire causing evacuation of the main control room.

Licensing Action

NRC Approval of Communications Capabilities



Communications

There are several communication systems available in the event of a fire. There is a telephone system with a backup power supply from a security motor control center (MCC), once the center is operational. Transfer to the MCC power supply will be provided automatically. A public address system is connected to the telephone system so that instructions can be issued from the main control room (MCR) or auxiliary control room (ACR). This system is powered by an uninterruptible power package with the station battery as a reliable backup power source. There is a radio system with control stations in the MCR, ACR, waste process control room, central alarm station, and secondary alarm station with power from the uninterruptible power supply (UPS).

A sound power system has been installed in the Shearon Harris plant consisting of multiple wiring circuits and jacks. Master panels are located in the MCR, ACR, and waste processing control room. Loss of all power will not affect availability of the sound power system because it requires no power for operation.

The staff concludes that the communication systems provided are acceptable for communication throughout the plant in the event of operation outside the MCR.

Licensing Action Report

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Attachment K

HNP NFPA 805 Transition Report

Licensing Action

NRC Approval of Meggitt Safety Systems Cable

Basis Date: 5/1/2006

Transitioned? Yes

Basis: NRC issued a license amendment approving the use of Meggitt Safety System fire resistive cable.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	CONTROL ROOM, REACTOR AUXILIARY BUILDING
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA B4
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1 - ANALYSIS AREA J
1	[REDACTED]	CABLE SPREADING ROOM A, REACTOR AUXILIARY BUILDING
1	[REDACTED]	CABLE SPREADING ROOM B, REACTOR AUXILIARY BUILDING
1	[REDACTED]	SWITCHGEAR ROOM A IN REACTOR AUXILIARY BUILDING
1	[REDACTED]	SWITCHGEAR ROOM B IN REACTOR AUXILIARY BUILDING

Reference Document Doc. Detail Evaluation

ML061140227, Issuance of
Amendment on use of Fire Resistive
Cable , 5/1/2006

NFPA 805 Ch. 3 Ref

3.11.5 Electrical Raceway Fire Barrier Systems (ERFBS).

Licensing Action Report

Progress Energy

Attachment K

HNP NFPA 805 Transition Report

Licensing Action

NUREG-0800, BTP 9.5-1, Deviation from C.7.i for Diesel Fuel Oil Day Tank Capacity

Basis Date: 11/30/1983

Transitioned? Yes

Basis: From [REDACTED]

The day tanks are sized to hold 3000 gallons of diesel fuel instead of the maximum of 1100 gallons recommended by the staff guidelines. Because each 3000-gallon diesel fuel oil day tank is located in a separate enclosure that is designed with walls, floor, and ceiling that have a 3-hour fire-resistive rating and is sized to contain 110% of the total contents of the tank, the staff finds this an acceptable deviation. The staff concludes that with the acceptable deviation, the protection provided for the diesel generator rooms meets Section C.7.i and is, therefore, acceptable.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	DIESEL-GENERATOR FUEL OIL DAY TANK 1A
1	[REDACTED]	DIESEL GENERATOR FUEL OIL DAY TANK 1B

Reference Document

Doc. Detail

Evaluation

[REDACTED]

[REDACTED]

The deviation determined to be acceptable on the basis of the following justification:

1. Each 3000 gallon day tank is housed in a separate enclosure designed with 3-hour fire-rated walls, floor, and ceiling.
2. The enclosure is sized to contain 110% of the total contents of the day tank.

There is not a corresponding guideline concerning the volume of the day tank in NFPA 805. The bulk storage of flammable liquids is required to be in accordance with NFPA 30, Flammable and Combustible Liquids Code. (NFPA 805, Section 3.3.8)

NFPA 805, Section E.2.14.4 states that a day tank is acceptable in the EDG room if the day tank is located in a diked enclosure that has sufficient capacity to hold 110% of the day tank's contents or is drained to a safe location.

NFPA 805, Section E.2.15.1 states that above ground diesel fuel oil storage tanks should be located at least 50 feet from any buildings or separated from any buildings by a fire barrier having a 3-hour rating.

The as-built fire protection features of Fire Areas 1-D-DTA and 1-D-DTB meet the requirements and guidelines of NFPA 805.

NFPA 805 Ch. 3 Ref

3.3.8 Bulk Storage of Flammable and Combustible Liquids.

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Attachment K

HNP NFPA 805 Transition Report

Licensing Action

NUREG-0800, Section C.5.a - Building Design - Switchgear Rooms

Basis Date: 11/1/1983

Transitioned? Yes

Basis: The design and protection of the switchgear rooms are in accordance with Section C.5.a of BTP CMEB 9.5-1, and are acceptable.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	SWITCHGEAR ROOM A IN REACTOR AUXILIARY BUILDING

Reference Document

Doc. Detail

Evaluation

[REDACTED]

[REDACTED]

[REDACTED], Subsection "Switchgear Rooms" on p. 9-54 documents that the Switchgear Rooms are bounded by wall and floor/ceiling assemblies rated at 3-hours, with automatic fire detection and manual hose stations/extinguishers. This section documents that floor drains are provided.

[REDACTED]

[REDACTED]

[REDACTED] "Summary of Deviations from CMEB 9.5-1" on p. 9-11 identifies a deviation (no. 7) that is incorrectly attributed to the Switchgear Room; it actually applies to the Cable Spreading Room. However this error was corrected in [REDACTED] on p. 9-18.

[REDACTED]

[REDACTED]

[REDACTED] "Summary of Deviations from CMEB 9.5-1" on p. 9-18 identifies a deviation in [REDACTED] that was incorrectly attributed to the Switchgear Room but actually applies to the Cable Spreading Room.

Licensing Action Report

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Attachment K

HNP NFPA 805 Transition Report

Licensing Action

NUREG-0800, Section C.5.a/b Deviation 12-A-BAL - Fire Area Boundaries

Basis Date: 6/1/1985

Transitioned? Yes

Basis: Requests per [redacted] provide the following justification for Fire Boundary deviations from BTP CMEB 9.5-1, Section C.5.a (1, 2, 4 and 5) of NUREG-0800 from having fire-rated dampers, doors, and penetration seals in walls and floors designated as 3-hour rated:

- For those penetrations and doors where safe shutdown equipment is within 20 feet, automatic suppression and detection has been provided on at least one side of the door or penetration. The combustible loading in the areas are considered low to moderate. The doors are manufactured to the same engineering specification as would a 3-hour rated door. The SSD equipment identified within a 20 feet radius of the doors or penetrations do not have their redundant counterpart within 20 feet [except for [redacted]]

Unit	Fire Area Name	Description
1	[redacted]	REACTOR AUXILIARY BUILDING UNITS 1 AND 2 BALANCE

Reference Document	Doc. Detail	Evaluation
[redacted]	Attachment 1	Enclosures 1 and 2 of Attachment 1 provides the justification for the request for Fire Damper deviation from Section C.5.a of BTP CMEB 9.5-1. Two penetrations between [redacted], and two penetrations between [redacted]. Justification remains valid.
[redacted]	Table 2	Table 2 provides the justification for the request for Fire Damper deviation from Section C.5.a of BTP CMEB 9.5-1. Several penetrations between [redacted] are involved. Justification remains valid.
[redacted]	[redacted]	[redacted] documents that the configuration described in letter dated [redacted] meets the staff guidelines of Section C.5.b of BTP CMEB 9.5-1, and is acceptable.
[redacted]	[redacted]	[redacted] finds that the fire barrier penetrations identified in Tables 1, 2 and 3 of the [redacted] are an acceptable deviation from Section C.5.a of BTP CMEB 9.5-1.

Licensing Action Report

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Attachment K

HNP NFPA 805 Transition Report

Licensing Action

NUREG-0800, Section C.5.c 12-A-BAL - Alternate or Dedicated Shutdown Capability

Basis Date: 5/1/1986

Transitioned? Yes

Basis: In the event of a fire in [REDACTED], the CR does not need to be evacuated; however the use of a non-safety-related dedicated HVAC unit to cool the PIC room is required. With the dedicated HVAC unit running, shutdown is otherwise normal.

Unit	Fire Area Name	Description
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNITS 1 AND 2 BALANCE
1	[REDACTED]	REACTOR AUXILIARY BUILDING UNIT 1- ANALYSIS AREA C
1	[REDACTED]	SWITCHGEAR ROOM B IN REACTOR AUXILIARY BUILDING

Reference Document

Doc. Detail

Evaluation

[REDACTED]

Section 9.5.1.4

[REDACTED] "Alternate or Dedicated Shutdown Capability," subsection (2), "Dedicated Shutdown" on p. 9-16: documents the use of a non-safety-related, dedicated HVAC unit that is required to cool the safety-related process instrumentation cabinet (PIC) room in the event of a fire in [REDACTED]

"In the event of a fire in fire areas [REDACTED] the control room does not need to be evacuated. However, a fire in any of these areas requires the use of a non-safety-related dedicated HVAC unit to cool the safety-related process instrumentation cabinet (PIC) room. In these cases, the control room would not be evacuated and safe shutdown would be effected with the equipment and in a manner similar to that described under "Safe Shutdown Capability" once the dedicated HVAC unit is started in an area separate from the areas started. The staff finds this acceptable for a fire in these areas."

The staff conclusion is that this approach is acceptable for safe shutdown per NUREG-0800, BTP CMEB 9.5-1, Section C.5.c.

Calculation NAI-1327-001, revision 1, analyzed the heatup of cable spreading rooms [REDACTED]

Licensing Action Report

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Attachment K

HNP NFPA 805 Transition Report

Licensing Action

NUREG-0800, Section C.7.e - Specific Plant Areas - Switchgear Rooms

Basis Date: 10/1/1986

Transitioned? Yes

Basis: The design of the switchgear rooms to prevent flooding due to water resulting from the use of a manual hose station complies with Section C.7.e of BTP CMEB 9.5-1, and is acceptable.

<u>Unit</u>	<u>Fire Area Name</u>	<u>Description</u>
1	[REDACTED]	SWITCHGEAR ROOM A IN REACTOR AUXILIARY BUILDING

Reference Document

Doc. Detail

Evaluation

[REDACTED]

Section 9.5.1.6

[REDACTED], Subsection "Switchgear Rooms" on p. 9-8, documents that, although floor drains have not been provided in the Switchgear Rooms, water resulting from the use of a manual hose station can migrate into adjacent areas that are equipped with floor drains. Also, curbing is installed to keep the redundant Switchgear Room from flooding. This meets Section C.7.e of BTP CMEB 9.5-1 and is acceptable.
