



APR 05 2010

Serial: HNP-10-040
10 CFR 50.90

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
RESPONSE TO THIRD ROUND OF REQUESTS FOR ADDITIONAL
INFORMATION REGARDING LICENSE AMENDMENT REQUEST TO
ADOPT NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 805,
"PERFORMANCE-BASED STANDARD FOR FIRE PROTECTION FOR
LIGHT WATER REACTOR GENERATING PLANTS" (TAC NO. MD8807)

- References:
1. Letter from C. L. Burton to the Nuclear Regulatory Commission (Serial: HNP-09-094), "Third Response to Request for Additional Information Regarding License Amendment Request to Adopt National Fire Protection Association Standard 805, 'Performance-Based Standard for Fire Protection for Light Water Reactor Generating Plants' (TAC NO. MD8807)", dated October 09, 2009
 2. Letter from C. L. Burton to the Nuclear Regulatory Commission (Serial: HNP-10-008), "Response to Second Request for Additional Information Regarding License Amendment Request to Adopt National Fire Protection Association Standard 805, 'Performance-Based Standard for Fire Protection for Light Water Reactor Generating Plants' (TAC NO. MD8807)", dated February 04, 2010

Ladies and Gentlemen:

The Harris Nuclear Plant (HNP) has received via email a third round of requests from the NRC for additional information needed by the NRC to facilitate review of HNP's License Amendment Request to Adopt National Fire Protection Association Standard 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Generating Plants."

Enclosure 1 provides HNP's responses to the NRC's requests for additional information.

As a result of these responses, certain parts of HNP's Transition Report Supplement 3 and 3a, as submitted via References 1 and 2, require revision. Enclosure 2 contains the updated portions as follows:

- Table 4-8-1, "Required AutomaticSuppressions Systems," entire Table replaced
- Table 4-8-2, "Required Automatic Fire Detection Systems," entire Table replaced

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NRR

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Page 2

- Attachment C, "Table B-3 Fire Area Transition," entire Attachment replaced – **Security Related Information**
- Attachment K, "Licensing Action Report," entire Attachment replaced - **Security Related Information**
- Attachment Y, "Fire PRA Insights," replacement page Y-24 - **Security Related Information**

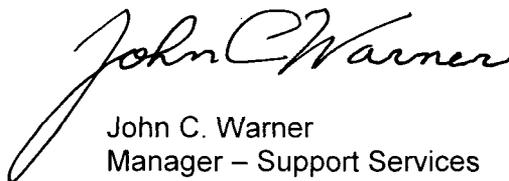
In accordance with 10 CFR 50.91(b), HNP is providing the state of North Carolina with a copy of this response.

This document contains no new or revised regulatory commitments.

Please refer any questions regarding this submittal to Mr. Dave Corlett, Supervisor – Licensing/Regulatory Programs, at (919) 362-3137.

I declare under penalty of perjury that the foregoing is true and correct. Executed on **APR 05, 2010**

Sincerely,



John C. Warner
Manager – Support Services
Harris Nuclear Plant

JCW/kms

- Enclosures:
1. Response to Third Round of Requests for Additional Information Regarding License Amendment Request to Adopt NFPA 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Generating Plants"
 2. Replacement Attachments for HNP Transition Report – **Portions contain Security Related Information**

Cc: Mr. J. D. Austin, NRC Sr. Resident Inspector, HNP
Mr. W. L. Cox, III, NC DENR
Mr. L. A. Reyes, NRC Regional Administrator, Region II
Ms. M. G. Vaaler, NRC Project Manager, HNP

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By letter dated May 29, 2008, as supplemented by letters dated November 14, 2008, December 11, 2008, August 13, 2009, August 28, 2009, October 9, 2009, and February 4, 2010, Carolina Power & Light Company (the licensee), now doing business as Progress Energy Carolinas, Inc., submitted a proposed amendment for the Shearon Harris Nuclear Power Plant, Unit 1 (HNP or Harris).

The proposed amendment would transition the fire protection program to a performance-based, risk-informed program based on the National Fire Protection Association Standard 805 (NFPA 805), "Performance-Based Standard for Fire Protection For Light Water Reactor Generating Plants," 2001 Edition, in accordance with Title 10 of the *Code of Federal Regulations*, Section 50.48(c) (10 CFR 50.48(c)). NFPA 805 allows the use of performance-based methods, such as fire modeling, and risk-informed methods, such as Fire Probabilistic Risk Assessment, to demonstrate compliance with the nuclear safety performance criteria.

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the licensee's submittals and determined that it needs responses to the following requests for additional information (RAIs), whose numbering corresponds to that found in the August 6, 2009, RAI letter (ML092170715).

Post MCR Abandonment Risk of Recovery Actions Away from Primary Control Station

For three fire scenarios in the main control room, a CCDP of 0.1 is applied which is to represent "... the CCDP associated with shutdown from outside the Main Control Room... [via the] combination of the HEP and random failures associated with the remaining plant capability" (this is identified as Note 2 in Table 10 of Attachment 4 to HNP-F/PSA-0079). No technical basis has been provided which demonstrates that a 0.1 probability is conservative for the combination of required recovery actions and random failures associated with alternate shutdown scenarios. The licensee needs to justify that, when the total human error probability of these actions is included with the random failures, the CCDP is bounded by the 0.1 value.

Response:

General Discussion

The Main Control Room (MCR) abandonment strategy for Harris was developed using the deterministic criteria. This criteria is based on having one train of equipment necessary for safe shutdown remaining free of fire damage along with no offsite power or feed and bleed. The procedure for alternate shutdown (ASD) was previously approved and has not been revised using more realistic MCR scenarios. Although the subject actions are deterministically classified as recovery actions, they may not be risk significant if more realistic fire scenarios are considered.

Because of the limited application of ASD in the risk analysis, the Fire PRA used a screening probability of 0.1 for the CCDP and did not develop a detailed probabilistic analysis of the equipment impacts and HEPs. Although the question is specific to the justification of CCDP for the subject actions, the response also addresses the overall risk of these actions in order to

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characterize the level of sensitivity of the CCDP to the acceptability of the overall risk of these actions.

Risk Evaluation Process

Because a detailed PRA analysis was not performed for ASD (including the subject actions), a qualitative approach is being used to justify the risks are acceptable and bounded by the CDF provided in the response to an earlier RAI (RAI 3.72). The table provided at the end of this response lists the recovery actions referenced in the question. For each action the following factors are considered and an "order of magnitude" estimate of the CCDP is provided. While the probabilities provided are not based on detailed analyses, they provide insights to justify the acceptability of the bounding values.

- **Success criteria**

Consequences of failing to perform an action are considered for the impact to core damage. In some cases, a basis for a determination that core damage would not be expected is supported, even though the action is still considered to be required for compliance purposes.

- **Scenario frequencies and NSP impacts**

For HNP, the MCR abandonment actions are only credited when the fire has not been suppressed prior to reaching the area habitability thresholds. Therefore, the likelihood of implementing these actions is a function of ignition frequency of a given panel section and the non-suppression probability. The values used in the HNP LAR (and those provided in the previous response to RAI 3.72) did not include the planned installation of incipient detection in the MCB, which will potentially reduce the ignition frequency for challenging fires and further reduce the risk. In addition, if the incipient fire detection system (IFDS) were to fail, the area is still continuously occupied, resulting in a high confidence in successful suppression. These factors indicate a very low likelihood that abandonment will occur.

- **Timing, complexity, and training impacts**

Manual Action Feasibility reviews have been performed for all of the actions to validate that they can be performed within the specified times. Thermal hydraulic insights are primarily based on qualitative assessment and internal events PRA information. The operators do not rely on cues and will perform the actions immediately based on the guidance in the fire procedures. Qualitative review indicates that there could be substantial time margin to complete the actions.

The actions are all in close proximity to the primary control station and each other, are clearly identified with special SSD high visibility tags and involve basic skills on which the operators are trained. The actions are relatively simple to perform and do not require any special tools. Training is conducted periodically to familiarize the operators with the requirements and steps for these actions.

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- **Related equipment failure impacts**

Several of the actions are only important if there are additional equipment failures beyond the specific fire related failures. If the equipment is not specifically protected, it is assumed to fail. Fires in the MCB are typically confined to one panel section. Since the MCB at Harris is particularly sparse in exposed cables, significant fire growth is difficult to postulate. Therefore, it is highly unlikely that there will be additional fire induced failures beyond that impacted by the panel where the fire starts. The additional failures contribute to reducing the CCDP of scenarios involving the subject actions.

Conclusions

Based on the individual assessment provided for each of the actions in the table below, it is reasonable to conclude that the CCDP estimate of 0.1 can be used to conservatively evaluate the risk of the subject recovery actions.

The total risk (CDF) associated with MCR abandonment was provided as 4.99E-07/yr based on a CCDP of 0.1 and the expected plant configuration at the time of the LAR. All of the subject recovery actions start from fires developing in the MCB. Considering the addition of incipient detection, and the discussions presented in the tables, this risk value is shown to be bounding for the set of recovery actions outside the ACP even if the HEPs for those actions are set to 1.0.

Component ID	Component Desc	Description of Action	Who ¹ (Tm)	PRA Discussion
1BD-37:009	S/G 1B BLOWDOWN FCV	De-energize 1BD-30 at PP-1A311 ckt 4, in fire zone 1-A-BAL-J in order to fail the valve closed. PP-1A311 is located in the penetration room (1-A-BAL-J) located directly behind 1-A-SWGRA where the Transfer Panel SA is located. This breaker is a small breaker similar to the breakers in a house electrical panel. 1-A-SWGRA is adjacent to 1-A-SWGRB which enclosed the ACP on three sides. This is a Required Action to insure that the decay heat is being removed through the SG PORVs, which are controlled from the ACP, and not being removed from Steam Generator Blowdown which the operator does not have control over as the decay heat load drops off. Cables/Controls in MCB Section 1B1	BOP (1m)	If this valve fails open there will be a higher flow demand on the TD AFW pump and a faster use of inventory. Failure to complete this action does not fail the PRA success criteria and the HEP is negligible. CCDP = epsilon (Note: MCR abandonment does not credit offsite power. If these valves are open following abandonment, then offsite power would be available allowing other potentially offsetting risk factors.)

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<p>1CH-116:002 1CH-126:002</p>	<p>VALVE CH-B4SB VALVE CX-B4SA</p>	<p>De-energize 1CH-116 and 1CH-125 at MCC power panel PP-1B211-SB, CKT 14, in fire zone 1-A-BAL-C to fail the valves closed.</p> <p>PP-1B211 is located in the penetration room (1-A-BAL-C) located directly behind 1-A-SWGRB where the Transfer Panel SB is located. This breaker is a small breaker similar to the breakers in a house electrical panel.</p> <p>This is a Required Action to insure the B chiller remains available in the event of a multiple spurious opening of two normally shut in-series cross connect valves</p> <p>Cables/Controls in AEP-1</p>	<p>BOP (2m)</p>	<p>If the cross connects are not closed there is a potential for pressure surging to challenge the relief valve. If the valve lifts and fails to close the CH system can fail to operate as desired. However, a loss of room cooling does not result in immediate consequences, particularly for a plant with minimal heat loads. Based on the internal events PRA, the limiting equipment is a fully loaded charging pump at 2 hours. The switchgear rooms do not reach temperature thresholds until well after 4 hours.</p> <p>Because the presence of pressure surging and a stuck open relief valve is not a certainty, it is not likely to result in significant consequences. This action is near the ACP and is simple and easy to perform.</p> <p>Considering these factors, an estimate of the CCDP is as follows:</p> <p>Pr-MSO ~ 0.6*0.6 = 0.36 Pr-Surging ~ 0.9 Pr-Stuck Open Relief ~ 0.1 Pr-HEP ~ 0.1</p> <p>CCDP = 0.36*0.9*0.1*0.1 = 0.003</p>
<p>1RC-RCPA:006 1RC-RCPB:006 1RC-RCPC:006</p>	<p>RCP A RCP B RCP C</p>	<p>Three actions to locally trip the affected RCPs per AOP-004 (RCP-A at Aux Bus 1A-5 in 1-A-SWGRA; RCP-B at Aux Bus 1B-9 or RCP-C at Aux Bus 1C-2 in 1-A-SWGRB).</p> <p>These breakers are located in 1-A-SWGRA and 1-A-SWGRB (6.9 KV Breakers) – there is a JPM strictly for tripping the B RCP Breaker.</p> <p>These will remain required actions since the CCW supply to the motor coolers is not analyzed/protected and the return is at risk (common with the Thermal Barrier cooling).</p>	<p>BOP (3m)</p>	<p>This action would only be necessary given a loss of seal cooling and seal injection. Because no credit is given for MCR abandonment if the fire is in the CCW section of the control board, this action also assumes failure of CCW and the Alternate Seal injection (ASI) pump. Tripping the RCPs remotely is a simple, straight forward action and is performed in the vicinity of the ACP.</p> <p>Considering these factors, an estimate of the CCDP is as follows:</p> <p>Pr-Loss of CCW ~ 0.01 Pr-Loss of ASI ~ 0.01 HEP~0.1 (for all three pumps)</p>

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		Cables/Controls in MCB Section 1C		CCDP = .01 * .01 * 0.1 = 1E-05 (Note: MCR abandonment does not credit offsite power. If the RCPs are running following abandonment, then offsite power would be available allowing other potentially offsetting risk factors.)
ESFAS-CS		<p>Remove control power fuses and open breaker for 1CT-E004 at 480V Emergency Bus 1A2-SA in Fire Area 1-A-SWGRA and remove control power fuses and open breaker for 1CT-E005 at 480V Emergency Bus 1B2-SB in Fire Area 1-A-SWGRB.</p> <p>These breakers are located in 1-A-SWGRA and 1-A-SWGRB (480 V Breakers) – there is a JPM for tripping the Rod Drive MG Set that is a similar breaker.</p> <p>This action is a DID action since an alternate source of makeup is available.</p> <p>Cables/Controls for Spray Pumps/discharge valves in MCB Section 1AA CNMT Spray Actuation Signal comes from MCB Section 1A1 (takes multiple spurious for either the CNMT Spray (2/4 switches, or the pump and discharge valve.)</p>	BOP (5m)	<p>This action is intended to mitigate or suspend a spurious containment spray actuation that could drain the RWST. Based on analysis, there is about 91 minutes before the RWST is drained, allowing over 60 minutes to stop the pumps and preserve charging inventory.</p> <p>If the RWST is lost the new ASI pump is capable of providing a source of RCP seal cooling and RCS makeup via the seals. Therefore this action would also need a failure of the ASI pump. This action is performed in the vicinity of the ACP and is simple and straight forward.</p> <p>Considering these factors, an estimate of the CCDP is as follows: Pr – Loss of ASI ~ 0.01 HEP ~ 0.1 CCDP = 0.01 * 0.1 = 0.001</p>
1D1-4D 1D2-5B	<p>PZR B/U HTR GPD POWER PANEL SUPPLY (PHPP-1D) PZR HTR GPC POWER PANEL SUPPLY (PHPP-1C)</p>	<p>Damage to these cables may cause associated heater groups to spuriously operate. Two actions remove control power fuses and open breaker 4D at 480V Auxiliary Bus 1D1 in Fire Area 1-A-SWGRA.</p> <p>These breakers are located in 1-A-SWGRA and 1-A-SWGRB (480 V Breakers – there is a JPM for tripping the Rod Drive MG Set that is a similar breaker.</p> <p>This is a Required Action to aid in operator control of RCS pressure.</p> <p>Pressurizer Backup Heater groups A and B (Which account for 861 of</p>	RO (3m)	<p>These heaters are not controllable at the ACP. If they were to spuriously actuate there is a potential for RCS pressure control problems over time. Because the majority of heater control (61.5%) is available and AFW can be used to offset the impact, this event does not have immediate consequences, if any. This action is performed in the vicinity of the ACP and is simple and straight forward.</p> <p>Considering these factors, an estimate of the CCDP is as follows: Pr-Loss of AFW ~ 0.01 HEP ~ 0.1</p>

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		<p>1400 KW of the installed heater capacity or 61.5%) are available on the ACP.</p> <p>Following a reactor trip, which is initiated from the MCR before abandonment, or occurs from the transfer to the ACP, RCS Pressure normally drops, since the secondary will be reducing RCS temperature from 588.8 (Average) to 557 degrees F. The pressure drop is due to RCS volume shrink. Normally, all four sets of pressurizer heaters energize to return pressure to normal. After pressure is returned to normal, the backup heaters de-energize and the control heaters modulate to maintain RCS pressure. Following transfer to the ACP, Backup (Pressurizer) Heater Group B will not automatically de-energize but is under operator control.</p> <p><u>Other Methods To Control RCS Pressure Indirectly</u></p> <p>Also under operator control is the ability to feed Steam Generators (cold water from the CST) which will tend to cool the RCS, and the ability to control RCS temperature by dumping steam using the SG PORVs (available from Loops A and B), and the usage of steam to power the TDAFW Pump.</p> <p>Cables/Controls in MCB Section 1A2</p>	<p>CCDP = 0.01 * 0.1 = 0.001</p>
<p>1FW-MFPA 1FW-MFPB</p>		<p>Two actions to remove control power and trip 1FW-MFPA at Aux Bus 1A-6 in 1-A-SWGRA and 1FW-MFPB at Aux Bus 1B-6 in 1-A-SWGRB.</p> <p>These breakers are located in 1-A-SWGRA and 1-A-SWGRB (6.9 KV Breakers) – there is a JPM for tripping the B RCP Breaker which is a similar breaker.</p> <p>These are required actions since</p>	<p>RO (6m)</p> <p>The MFWPs are not controllable at the ACP. There is some potential that flow control failures could lead to a SG overfill and a possible failure of the TD AFW pump. Both MD AFW pumps and potentially MFWP would still be able to provide core cooling. Based on these additionally needed failures, the risk of this action is determined to be well below 0.1, and thus be bounded by the current analysis. This action is performed in the</p>

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		the Main FW Reg valves are not transferred to the ACP. (The Main FW Pumps power was assumed lost since we had to postulate a loss of offsite power.) Cables/Controls in MCB Section 1B1		vicinity of the ACP and is simple and straight forward. Pr- Loss of AFP ~ 0.01 HEP ~ 0.1 (both MFPs) CCDP = 0.01 * 0.1 = 0.001 (Note: MCR abandonment does not credit offsite power or MFW. If the FWPs are running following abandonment, then offsite power would also be available and there will likely be potentially offsetting risk factors.)
1RH-66:002	HEAT EX B FLOW CONTROL (HCV-603B) ADDED BY: EDBR# 85-03-068	Manually control RHR flow by locally throttling 1RH-58 and 1RH-66 per existing station procedures. Cables/Controls in MCB Section 1A1, however the action is required based on a loss of instrument air resulting from a loss of offsite power	SSAO	This action is not needed to achieve a safe and stable condition, but only for cold shutdown. The Fire PRA risk will have a negligible impact on this analysis. CCDP = epsilon
1SI-359:002	LOW HEAD SI TRAINS A & B TO HOT LEG	De-energize 1SI-359:002 at MCC 1A31-SA, Compartment 4B, in fire zone 1-A-BAL-J to prevent potential diversion of core cooling flow path. Then verify closed for CSD or manually close 1SI-359:002 in fire zone 1-A-BAL-A2. Cables/Controls in MCB Section 1A1	SSAO	This action is not needed to achieve a safe and stable condition, but only for cold shutdown. The Fire PRA risk will have a negligible impact on this analysis. CCDP = epsilon
				Total CCDP of the recovery actions is estimated to be less than 0.01. If the actions are all assumed to fail (i.e. - HEPs = 1.0) the total CCDP is still bounded 0.1.

- 1 Tm is the estimated manipulation time for the action
 BOP (Balance Of Plant operator)
 RO (Reactor Operator)
 SSAO (Safe Shutdown Auxiliary Operator)

RAI 2-2, Required Systems LAR Table 4-8-1 and 4-8-2 Update

For Fire Area 5-F-FPP, fire zones 5-F-2-FPV1 and 5-F-2-FPV2 indicate that the areas are covered by automatic suppression systems. Based on a review of fire hazard analysis drawing CPL-2166 S-2112, this appears to be in error. The drawing does not show any suppression systems present for these fire zones.

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In addition, fire zone 5-F-FPC lists a "Yes" for "Suppression a Required System?," a "Yes" under "By Exemption or Deviation," and a "No" under "By EEEE/GL 86-10 Evaluation." Based on the information provided in Attachment C to the Transition Report (NEI 04-02 B-3 Table), it would appear that the suppression systems for these areas are required because of EC 48007 and not due to a deviation. This fire area only credits a deviation for special purpose doors that does not involve any suppression or detection systems.

For Fire Area 5-F-FPP, Attachment C identifies that engineering equivalency evaluation EC 48007 is credited to demonstrate the acceptability of the metal hatches between the 216' and 236' elevations. This evaluation addresses two separate floor hatches located in the 236' EI floor of the 5-F-FPP, Fuel Handling Building Fuel Pool Heat Exchangers area. One hatch (south end) separates Fire Area 5-F-FPP from Fire Area 5-W-BAL; the fire zone surrounding the south end hatch is 5-F-2-FPV1. The second hatch (north end) separates Fire Area 5-F-FPP from Fire Area 5-F-BAL; the fire zone surrounding the north end hatch is 5-F-2-FPV2. Items cited in EC 48007 for determining the acceptability of the hatches are items "4. Area above the hatches has ionization detection" and "6. The area adjacent to the floor hatches (fuel pool heat exchanger area on 236 EI) is protected by an automatic operating, full area sprinkler system."

The entries for Fire Area 5-F-FPP in table 4-8-2 for fire zones 5-F-2-FPV1 and 5-F-2-FPV2 indicate that the areas are covered by automatic detection systems, but list a "No" answer for "Detection a Required System?" Since EC 48007 credits these detection systems, the entries should be corrected to make them required and reference EC 48007.

In addition, fire zone 5-F-2-FPC lists a "Yes" answer for "Suppression a Required System?" and includes a "Yes" answer for "Exemption or Deviation" but a "No" answer for "By EEEE/GL 86-10 Evaluation." Based on the information provided in Attachment C of the Transition Report, it would appear that the detection systems for these areas are required because of EC 48007 and not due to a deviation. This fire area only credits a deviation for special purpose doors that does not involve any suppression or detection systems.

Please provide a response that addresses these discrepancies and clearly states which detection and suppression systems are required and why for fire zones 5-F-2-FPC, 5-F-2-FPV1 and 5-F-2-FPV2 in fire area 5-F-FPP.

Response:

These questions address suppression and/or detection systems in three adjacent fire zones in the Fuel Handling Building which are being considered as "Required Systems" as a result of the crediting of metal floor/ceiling hatches which have been evaluated in EC 48007 and EC 50804.

For Fire Zones 5-F-2-FPV1 and 5-F-2-FPV2 in Fire Area 5-F-FPP, Table 4-8-1 has been revised to correct the as-built arrangement to indicate these zones as not provided with automatic suppression systems.

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The basis for requiring the Fire Zone 5-F-2-FPC suppression system in Table 4-8-1 is both a fire door deficiency discussed in NLS-84-471 as well as two non-rated floor/ceiling hatches evaluated in EC 48007. As such, both the "By Exemption or Deviation" and the "By EEEE/GL 86-10 Evaluation" columns have been checked as "Yes" with the reference EEEE provided in the "EEEE Source" column along with the supporting note in the "EEEE Notes" column.

Since the suppression system in Fire Zone 5-F-2-FPC in Table 4-8-2 is required as discussed above, the actuation detection system is also required to support that system performance. As such, the "By EEEE/GL 86-10 Evaluation" column has been checked as "Yes" and the reference EEEE is provided in the "EEEE Source" column along with the supporting note in the "EEEE Notes" column. Since the "By Exemption or Deviation" column was previously checked "Yes" to satisfy the Deviation associated with NLS-84-471 for Fire Zone 5-F-2-FPC, this requires no change.

The non-rated metal hatch evaluations in EC 48007 and EC 50804 state in the Justification Basis, Item 4 and Item 5, respectively, that Fire Zones 5-F-2-FPV1 and 5-F-2-FPV2 on the 236' Elevation of the Fuel Handling Building have ionization detection. This referenced ionization detection is part of the Fuel Handling Building Ventilation System, Smoke Control System. These detectors and this control system were originally installed to meet NFPA 90A requirements and not NFPA 72D and 72E requirements.

As stated in the HNP Fire Detection Design Basis Document – DBD-315: "Air duct detectors are provided within HVAC duct systems to indicate presence of smoke. These detectors are part of the Smoke Control System and provide automatic trip of ventilation systems as required. Indication of the air duct detectors is connected to the LFDCP [Local Fire Detection Control Panel] and transmitted to the MFDIC [Main Fire Detection Information Center – i.e. Main Fire Control Panel]." The DBD further states: "Upon detection of smoke in the ventilation system, the supply fans will automatically be tripped to prevent the spread of smoke and reduce the supply of air to the fire in accordance with NFPA 90A."

The in-duct ionization detection is located in the supply ductwork near the main air supply fans as well as in the exhaust ducts. The detectors located in the exhaust duct for Fire Zones 5-F-2-FPV1 and 2 are Detector Instruments FAD-1FP-8657A02 and B02 respectively. Therefore, the in-duct detectors will provide indication of fires to the LFDCP and then transmitted to the MFDIC in the areas served by the exhaust ductwork.

The credit taken in the EC 48007 and 50804 evaluations for the ionization detection in Fire Zones 5-F-2-FPV1 and 5-F-2-FPV2 is based on ionization detection which is not part of a NFPA 72 conforming detection system. However, smoke detection via the in-duct detectors will provide some level of early warning fire detection. Therefore, the basis for the non-rated metal hatches discussed in EC 48007 and EC 50804 being acceptable is still valid based on this non-code confirming detection installation. However, the other evaluation features, not considering the in-duct detection, provide a robust mitigating situation. These other features are 1) low or negligible combustible loading, 2) no safe shutdown circuits or equipment in the area, 3) low

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT NO. 1
DOCKET NO. 50-400/RENEWED LICENSE NO. NPF-63
RESPONSE TO THIRD ROUND OF REQUESTS FOR ADDITIONAL
INFORMATION REGARDING LICENSE AMENDMENT REQUEST TO
ADOPT NFPA 805, "PERFORMANCE-BASED STANDARD FOR FIRE
PROTECTION FOR LIGHT WATER REACTOR GENERATING PLANTS"

postulated fire durations which will not challenge the structural ability of the metal hatches to perform as barrier separation components and, in the case of EC 48007, 4) the automatic operating fire suppression system provided in Fire Zone 5-F-2-FPC.

Based on the discussion above, the in-duct ionization detection previously associated with Fire Zones 5-F-2-FPV1 and 5-F-2-FPV2, will not be considered as "Required Detection" while being maintained as part of the NFPA 90A system design. Table 4-8-2 will continue to show that no detection exists for these zones. The Engineering Equivalency Evaluation that addresses the non-rated metal hatches on the 236' elevation of the Fuel Handling Building will be revised to eliminate credit for the in-duct ionization detection. This will be performed as part of the implementation of the NFPA 805 Program at HNP.

Following a final review of Deviation NLS-84-471, LAR Table 4-8-2 has also been revised to show three Fire Zones (12-A-5-CHF, 1-G-261 and 1-G-286) requiring the detection system to satisfy NLS-84-471.

Replacement Tables 4-8-1 and 4-8-2 reflecting the above updates are included with this submittal.

Additionally, during the review of these questions, it was noted that reference to the HNP Licensing Deviation NLS-84-471 was not summarized completely in LAR Attachment C and Attachment K. The Basis statement does not refer to suppression and/or detection systems which were discussed as supporting the overall deviation request. Therefore, the summary Basis statement for this Deviation has been revised to note that certain suppression and/or detection systems were a basis for original acceptance of the Deviation, as follows:

Replace the Existing statement:

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

With the New statement:

"Deviation was approved based on the door's substantial construction, multiple-point locking mechanism, the lack of fire exposure threat to the doors, and, where listed in the table attached to this Deviation, installed suppression and/or detection systems."

This change impacted the following Fire Areas in Attachment C (B-3 Table):

12-A-BAL, 12-A-CR, 12-A-CRC1, 12-A-HV&IR, 1-A-BAL-A2, 1-A-BAL-B1, 1-A-BAL-J,
1-A-SWGRB, 5-F-BAL, 5-F-FPP, FPYARD and TURBINE

The associated evaluation in Attachment K was also impacted by this change.

This submittal provides replacements for both Attachments C and K in their entirety.

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT NO. 1
DOCKET NO. 50-400/RENEWED LICENSE NO. NPF-63
RESPONSE TO THIRD ROUND OF REQUESTS FOR ADDITIONAL
INFORMATION REGARDING LICENSE AMENDMENT REQUEST TO
ADOPT NFPA 805, "PERFORMANCE-BASED STANDARD FOR FIRE
PROTECTION FOR LIGHT WATER REACTOR GENERATING PLANTS"

HNP 5-49, Request for Additional Information relating to a key assumption made in the Harris Fire PRA:

In Section Y.1.5, Sources of Uncertainty in Attachment Y of the Harris Transition Report, provided on December 11, 2008, under the category of "Quantification," Table Y-7 had an entry "Credit for conceptual modification." Under the category of "Conservatism," the table states: "No. The actual modification details are not finalized."

The entry provided in the table does not provide any justification that the modification(s) being installed will not adversely impact the fire PRA results and its identification as a key uncertainty implies that such an impact could be significant. This key uncertainty should either be removed (since the design of the modifications should be complete enough to show that the PRA is not impacted) or a sensitivity analysis provided to include whatever uncertainty the modifications could bring to the results (revise the PRA to include the uncertainty).

Response:

Assumptions associated with the Fire PRA results are maintained during the NFPA 805 modification design and implementation phases through use of the risk screening processes similar to those which are applied in the post transition NFPA 805 change process. This process will flag any change impacting the risk results within the PRA assumptions. If a modification or change were proposed during implementation that could potentially adversely increase fire PRA risk, it would be identified as such and submitted to the NRC for approval. Based on this, HNP has not allowed changes during modification implementation that would trip this threshold. All modifications, planned and proposed, will be reviewed prior to achieving full compliance with 10 CFR 50.48(c).

The following change has been made to the Harris Transition Report provided on October 9, 2009, Attachment Y, Section Y.1.5 ("Sources of Uncertainty"), Table Y-7: for the category "Quantification," item "Credit for conceptual modification," the "Conservatism" entry has been revised to indicate "Yes, Actual modification details were not finalized at the time of the LAR. Any changes will be processed using an NFPA 805 Change Process, consistent with what will be utilized post-transition."

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT NO. 1
DOCKET NO. 50-400/RENEWED LICENSE NO. NPF-63
RESPONSE TO SECOND REQUEST FOR ADDITIONAL INFORMATION
REGARDING THE LICENSE AMENDMENT REQUEST TO ADOPT
NFPA 805, "PERFORMANCE-BASED STANDARD FOR FIRE
PROTECTION FOR LIGHT WATER REACTOR GENERATING PLANTS"

UPDATED PAGES FOR HNP TRANSITION REPORT
Portions contain Security Related Information

Table 4-8-1 Required Automatic Suppression Systems												
FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Suppression Provided? ⁶	Suppression a Required System?	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)		
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁷	By Credit Taken in Change Evaluation	
											ERFBS	Other CE Item
12-A-BAL	12-A-5-CHF	RAB Units 1 And 2 Balance of Plant Areas	Yes	Yes	No	No	Yes	EC-50804-3 Attachment B, ESR 99-00395	EC-50804 Support 3-hour barrier for two hatches in the area, ESR 99-00395 - Supports Pen Seal Deficiency	No	No	No
12-A-BAL	12-A-5-DIH	RAB Units 1 And 2 Balance of Plant Areas	No	No	No	No	No	N/A	N/A	No	No	No
12-A-BAL	12-A-6-CHF1	RAB Units 1 And 2 Balance of Plant Areas	Yes	No	No	No	No	N/A	N/A	No	No	No
12-A-BAL	12-A-6-CHF2	RAB Units 1 And 2 Balance of Plant Areas	Yes	No	No	No	No	N/A	N/A	No	No	No
12-A-BAL	12-A-7-HV	RAB Units 1 And 2 Balance of Plant Areas	No	No	No	No	No	N/A	N/A	No	No	No
12-A-BAL	1-A-4-COMC	RAB Units 1 And 2 Balance of Plant Areas	No	No	No	No	No	N/A	N/A	No	No	No
12-A-CR	12-A-6-CR1	Control Room, RAB	No	No	No	No	No	N/A	N/A	No	No	No
12-A-CR	12-A-6-RT1	Control Room, RAB	Yes	Yes	No	Yes	No	N/A	N/A	No	No	No
12-A-CRC1	12-A-6-ARP1	Control Room Complex	No	No	No	No	No	N/A	N/A	No	No	No
12-A-CRC1	12-A-6-CR	Control Room Complex	No	No	No	No	No	N/A	N/A	No	No	No
12-A-CRC1	12-A-6-PICR1	Control Room Complex	No	No	No	No	No	N/A	N/A	No	No	No

Table 4-8-1 Required Automatic Suppression Systems												
FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Suppression Provided? ⁶	Suppression a Required System?	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)		
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁷	By Credit Taken in Change Evaluation	
											ERFBS	Other CE Item
12-A-CRC1	12-A-6-RCC1	Control Room Complex	No	No	No	No	No	N/A	N/A	No	No	No
12-A-HVIR	12-A-6-HV7	Heating, Ventilating, and Instrument Repairs, RAB	Yes**	No	No	No	No	N/A	N/A	No	No	No
12-A-HVIR	12-A-6-IRR	Heating, Ventilating, and Instrument Repairs, RAB	No	No	No	No	No	N/A	N/A	No	No	No
12-I-ESWPA	12-I-ESWPA	Emergency Service Water Pump 1A	No	No	No	No	No	N/A	N/A	No	No	No
12-I-ESWPB	12-I-ESWPB	Emergency Service Water Pump 1B	No	No	No	No	No	N/A	N/A	No	No	No
12-O-TA	12-O-TA	Diesel Fuel Oil Storage Tank A	No	No	No	No	No	N/A	N/A	No	No	No
12-O-TB	12-O-TB	Diesel Fuel Oil Storage Tank B	No	No	No	No	No	N/A	N/A	No	No	No
1-A-ACP	1-A-ACP	Auxiliary Control Panel Room	No	No	No	No	No	N/A	N/A	No	No	No
1-A-BAL-A	1-A-3-TA	RAB - EL 231	No	No	No	No	No	N/A	N/A	No	No	No
1-A-BAL-A	1-A-4-TA	RAB - EL 231	No	No	No	No	No	N/A	N/A	No	No	No
1-A-BAL-A	1-A-1-FD	RAB - EL 190	No	No	No	No	No	N/A	N/A	No	No	No
1-A-BAL-A	1-A-1-PA	RAB - EL 190	Yes**	Yes	Yes	Yes	No	N/A	N/A	No	No	No

**Table 4-8-1
Required Automatic Suppression Systems**

FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Suppression Provided? ⁶	Suppression a Required System?	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)		
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁷	By Credit Taken in Change Evaluation	
											ERFBS	Other CE Item
1-A-BAL-A	1-A-2-MP	RAB - EL 216	Yes**	Yes	Yes	Yes	No	N/A	N/A	No	No	No
1-A-BAL-A	1-A-2-PT	RAB - EL 216	No	No	No	No	No	N/A	N/A	No	No	No
1-A-BAL-A	1-A-34-RHXA	RAB - EL 236-261	No	No	No	No	No	N/A	N/A	No	No	No
1-A-BAL-A	1-A-3-COR	RAB - EL 236	Yes**	Yes	Yes	Yes	No	N/A	N/A	No	Yes	No
1-A-BAL-A	1-A-3-MP	RAB - EL 236	Yes**	Yes	Yes	Yes	Yes	EC 60257	Supports HVAC duct w/o fire damper	No	Yes	No
1-A-BAL-A	1-A-3-PB	RAB - EL 236	Yes**	Yes	Yes	Yes	Yes	EC 60257	Supports HVAC duct w/o fire damper	No	Yes	No
1-A-BAL-A	1-A-1-ED	RAB - EL 190	No	No	No	No	No	N/A	N/A	No	No	No
1-A-BAL-A	1-A-1-PB	RAB - EL 190	Yes**	Yes	Yes	Yes	No	N/A	N/A	No	No	No
1-A-BAL-A	1-A-34-RHXB	RAB - EL 236-261	No	No	No	No	No	N/A	N/A	No	No	No
1-A-BAL-A	1-A-3-COMB	RAB - EL 236	Yes**	Yes	Yes	Yes	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency	Yes	Yes	No
1-A-BAL-A	1-A-3-COME	RAB - EL 236	Yes**	Yes	Yes	Yes	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency	No	Yes	No
1-A-BAL-A	1-A-3-COMI	RAB - EL 236	Yes**	Yes	Yes	Yes	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency	No	No	No
1-A-BAL-A	1-A-4-CHFA	RAB - EL 261	Yes**	Yes	Yes	Yes	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency	Yes	No	No
1-A-BAL-A	1-A-4-CHFB	RAB - EL 261	Yes**	Yes	Yes	Yes	No	N/A	N/A	No	No	No

Table 4-8-1 Required Automatic Suppression Systems												
FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Suppression Provided? ⁶	Suppression a Required System?	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)		
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁷	By Credit Taken in Change Evaluation	
											ERFBS	Other CE Item
1-A-BAL-A	1-A-4-CHFC	RAB - EL 261	No	No	No	No	No	N/A	N/A	No	No	No
1-A-BAL-A	1-A-4-COMI	RAB - EL 261	Yes**	Yes	Yes	Yes	No	N/A	N/A	Yes	No	No
1-A-BAL-B	1-A-4-CHLR	RAB - EL 261	Yes**	Yes	Yes	Yes	Yes	EC 52769, R22, EC 63858, ESR 99-00395	EC 52769 - This EC credits the sprinkler system in 1-A-BAL-B for justification of a penetration seal in the barrier to FA 1-A-BAL-E. EC-63858 – Credits suppression for HVAC duct penetration in ceiling w/o fire damper. ESR 99-00395 - Supports Pen Seal Deficiency	Yes	Yes	No
1-A-BAL-B	1-A-4-COR	RAB - EL 261	No	No	No	No	No	N/A	N/A	No	No	No
1-A-BAL-B	1-A-4-COMB	RAB - EL 261	Yes**	Yes	Yes	Yes	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency	No	Yes	No
1-A-BAL-B	1-A-4-COME	RAB - EL 261	Yes**	Yes	Yes	Yes	No	N/A	N/A	No	Yes	No
1-A-BAL-C	1-A-5-HVB	RAB Unit 1 – Analysis Area C	No	No	No	No	No	N/A	N/A	No	No	No
1-A-BAL-D	1-A-3-COMC	RAB Unit 1, Analysis Area D	Yes**	No	No	No	No	N/A	N/A	No	No	No
1-A-BAL-D	1-A-4-COMC	RAB Unit 1, Analysis Area D	No	No	No	No	No	N/A	N/A	No	No	No

Table 4-8-1 Required Automatic Suppression Systems												
FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Suppression Provided? ⁶	Suppression a Required System?	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)		
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁷	By Credit Taken in Change Evaluation	
											ERFBS	Other CE Item
1-A-BAL-D	1-A-5-COMA	RAB Unit 1, Analysis Area D	No	No	No	No	No	N/A	N/A	No	No	No
1-A-BAL-D	1-A-6-COMA	RAB Unit 1, Analysis Area D	No	No	No	No	No	N/A	N/A	No	No	No
1-A-BAL-E	1-A-BAL-E	RAB Unit 1 - Analysis Area	No	No	No	No	No	N/A	N/A	No	No	No
1-A-BAL-F	1-A-BAL-F	RAB Unit 1 - Analysis Area F	No	No	No	No	No	N/A	N/A	No	No	No
1-A-BAL-G	1-A-BAL-G	RAB Unit 1 - Analysis Area G	No	No	No	No	No	N/A	N/A	No	No	No
1-A-BAL-H	1-A-BAL-H	RAB Unit 1 - Analysis Area H	Yes**	Yes	No	No	Yes	EC-60257	Supports HVAC Pen w/o damper	No	No	No
1-A-BAL-J	1-A-5-BATN	RAB Unit 1 - Analysis Area J	No	No	No	No	No	N/A	N/A	No	No	No
1-A-BAL-J	1-A-5-CEH	RAB Unit 1 - Analysis Area J	No	No	No	No	No	N/A	N/A	No	No	No
1-A-BAL-J	1-A-5-HV3	RAB Unit 1 - Analysis Area J	No	No	No	No	No	N/A	N/A	No	No	No
1-A-BAL-J	1-A-5-HVA	RAB Unit 1 - Analysis Area J	No	No	No	No	No	N/A	N/A	No	No	No
1-A-BAL-K	1-A-46-ST	RAB Unit 1 - Analysis Area K	No	No	No	No	No	N/A	N/A	No	No	No
1-A-BATA	1-A-BATA	Battery Room A	No	No	No	No	No	N/A	N/A	No	No	No
1-A-BATB	1-A-BATB	Battery Room B	No	No	No	No	No	N/A	N/A	No	No	No
1-A-CSRA	1-A-5-PICA	Cable Spreading Room A	No	No	No	No	No	N/A	N/A	No	No	No

Table 4-8-1 Required Automatic Suppression Systems												
FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Suppression Provided? ⁶	Suppression a Required System?	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)		
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁷	By Credit Taken in Change Evaluation	
											ERFBS	Other CE Item
1-A-CSRA	1-A-CSRA	Cable Spreading Room A	Yes**	Yes	No	No	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency	Yes	Yes	No
1-A-CSR B	1-A-5-PICB	Cable Spreading Room B	No	No	No	No	No	N/A	N/A	No	No	No
1-A-CSR B	1-A-CSR B	Cable Spreading Room B	Yes**	Yes	No	No	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency	Yes	Yes	No
1-A-EPA	1-A-EPA	Electrical Penetration Area A	Yes**	Yes	No	No	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency	Yes	Yes	No
1-A-EPB	1-A-EPB	Electrical Penetration Area B	Yes**	Yes	No	No	No	N/A	N/A	No	Yes	No
1-A-SWGRA	1-A-SWGRA	Switchgear Room A	No	No	No	No	No	N/A	N/A	No	No	No
1-A-SWGRB	1-A-SWGRB	Switchgear Room B	No	No	No	No	No	N/A	N/A	No	No	No
1-C	1-C-1-BAL	Containment Building, All Levels	Yes**	Yes	Yes	Yes	No	N/A	N/A	No	No	No
1-C	1-C-1-CHFA	Containment Building, EI 221'	Yes**	Yes	Yes	Yes	No	N/A	N/A	No	No	No
1-C	1-C-1-CHFB	Containment Building, EI 221'	Yes**	Yes	Yes	Yes	No	N/A	N/A	No	No	No
1-C	1-C-1-RCP-1A	Containment Building, All Levels	No	No	No	Yes	No	N/A	N/A	No	No	No

Table 4-8-1 Required Automatic Suppression Systems												
FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Suppression Provided? ⁶	Suppression a Required System?	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)		
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁷	By Credit Taken in Change Evaluation	
											ERFBS	Other CE Item
1-C	1-C-1-RCP-1B	Containment Building, All Levels	Yes**	Yes	Yes	Yes	No	N/A	N/A	No	No	No
1-C	1-C-1-RCP-1C	Containment Building, All Levels	No	No	No	Yes	No	N/A	N/A	No	No	No
1-C	1-C-3-EPA	Containment Building, EI 261'	Yes**	Yes	Yes	Yes	No	N/A	N/A	No	No	No
1-C	1-C-3-EPB	Containment Building, EI 261'	Yes**	Yes	Yes	Yes	No	N/A	N/A	No	No	No
1-D-DGA	1-D-1-DGA-ASU	Diesel Generator 1A	No	No	No	No	No	N/A	N/A	No	No	No
1-D-DGA	1-D-1-DGA-ER	Diesel Generator 1A	No	No	No	No	No	N/A	N/A	No	No	No
1-D-DGA	1-D-1-DGA-RM	Diesel Generator 1A	Yes**	Yes	No	No	No	N/A	N/A	Yes	No	No
1-D-DGA	1-D-2-DGA-HVD	Diesel Generator 1A	No	No	No	No	No	N/A	N/A	No	No	No
1-D-DGA	1-D-3-DGA-ES	Diesel Generator 1A	No	No	No	No	No	N/A	N/A	No	No	No
1-D-DGA	1-D-3-DGA-HVR	Diesel Generator 1A	No	No	No	No	No	N/A	N/A	No	No	No
1-D-DGB	1-D-1-DGB-ASU	Diesel Generator 1B	No	No	No	No	No	N/A	N/A	No	No	No
1-D-DGB	1-D-1-DGB-ER	Diesel Generator 1B	No	No	No	No	No	N/A	N/A	No	No	No
1-D-DGB	1-D-1-DGB-RM	Diesel Generator 1B	Yes**	Yes	No	No	No	N/A	N/A	Yes	No	No
1-D-DGB	1-D-2-DGB-HVD	Diesel Generator 1B	No	No	No	No	No	N/A	N/A	No	No	No

Table 4-8-1 Required Automatic Suppression Systems												
FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Suppression Provided? ⁶	Suppression a Required System?	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)		
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁷	By Credit Taken in Change Evaluation	
											ERFBS	Other CE Item
1-D-DGB	1-D-3-DGB-ES	Diesel Generator 1B	No	No	No	No	No	N/A	N/A	No	No	No
1-D-DGB	1-D-3-DGB-HVR	Diesel Generator 1B	No	No	No	No	No	N/A	N/A	No	No	No
1-D-DTA	1-D-DTA	Diesel Generator Fuel Oil Day Tank A Enclosure	Yes**	Yes	No	No	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency	No	No	No
1-D-DTB	1-D-DTB	Diesel Generator Fuel Oil Day Tank B Enclosure	Yes**	Yes	No	No	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency	No	No	No
1-G	1-G-240	Turbine Generator Building	Yes**	No ¹	No	No	No	N/A	N/A	No	No	No
1-G	1-G-261	Turbine Generator Building	Yes**	Yes ²	No	Yes	No	N/A	N/A	No	No	No
1-G	1-G-286	Turbine Generator Building	Yes**	Yes ³	No	Yes	No	N/A	N/A	Yes	No	No
1-G	1-G-314	Turbine Generator Building	Yes**	No ⁴	No	No	No	N/A	N/A	No	No	No
1-O-PA	1-O-PA	Diesel Oil Pump Room A	Yes**	No	No	No	No	N/A	N/A	No	No	No
1-O-PB	1-O-PB	Diesel Oil Pump Room B	Yes**	No	No	No	No	N/A	N/A	No	No	No
5-F-BAL	5-F-1-TK	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No
5-F-BAL	5-F-23-CLP	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No

Table 4-8-1 Required Automatic Suppression Systems												
FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Suppression Provided? ⁶	Suppression a Required System?	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)		
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁷	By Credit Taken in Change Evaluation	
											ERFBS	Other CE Item
5-F-BAL	5-F-23-FTC1	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No
5-F-BAL	5-F-23-FTC2	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No
5-F-BAL	5-F-23-NFP1	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No
5-F-BAL	5-F-23-NFP2	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No
5-F-BAL	5-F-23-SFP1	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No
5-F-BAL	5-F-23-SFP2	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No
5-F-BAL	5-F-2-DEC	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No
5-F-BAL	5-F-3-CHG	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No
5-F-BAL	5-F-3-DE	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No
5-F-BAL	5-F-3-DEC	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No

Table 4-8-1 Required Automatic Suppression Systems												
FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Suppression Provided? ⁶	Suppression a Required System?	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)		
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁷	By Credit Taken in Change Evaluation	
											ERFBS	Other CE Item
5-F-BAL	5-F-3-HV	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No
5-F-BAL	5-F-3-MFTC	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No
5-F-BAL	5-F-3-NF	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No
5-F-BAL	5-F-3-SC	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No
5-F-BAL	5-F-3-STR	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No
5-F-BAL	5-F-4-BAL	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No
5-F-CHF	5-F-3-CHFA	Fuel Handling Building Emergency Exhaust	Yes**	No	No	No	No	N/A	N/A	No	No	No
5-F-CHF	5-F-3-CHFB	Fuel Handling Building Emergency Exhaust	Yes**	No	No	No	No	N/A	N/A	No	No	No
5-F-CHF	5-F-3-CHF-BAL	Fuel Handling Building Emergency Exhaust	Yes	No	No	No	No	N/A	N/A	No	No	No
5-F-CHF	5-F-3-DMNZ1	Fuel Handling Building Emergency Exhaust	Yes	No	No	No	No	N/A	N/A	No	No	No

Table 4-8-1 Required Automatic Suppression Systems												
FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Suppression Provided? ⁶	Suppression a Required System?	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)		
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁷	By Credit Taken in Change Evaluation	
											ERFBS	Other CE Item
5-F-CHF	5-F-3-DMNZ2	Fuel Handling Building Emergency Exhaust	Yes	No	No	No	No	N/A	N/A	No	No	No
5-F-FPP	5-F-2-FPC	Fuel Handling Building Fuel Pool Heat Exchangers	Yes**	Yes	No	Yes	Yes	EC 48007	Supports 3-hour barrier for two floor hatches in the area	No	No	No
5-F-FPP	5-F-2-FPV1	Fuel Handling Building Fuel Pool Heat Exchangers	No	No	No	No	No	N/A	N/A	No	No	No
5-F-FPP	5-F-2-FPV2	Fuel Handling Building Fuel Pool Heat Exchangers	No	No	No	No	No	N/A	N/A	No	No	No
5-O-BAL	5-O-BAL	Diesel Fuel Oil Storage Area Balance	No	No	No	No	No	N/A	N/A	No	No	No
5-S-BAL	5-S-BAL	Auxiliary Reservoir Screening Structure	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	1-A-2-COR	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-1-C1	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-1-FDTK	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-1-HCHTK	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-1-LCHTK	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-1-SW	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No

Table 4-8-1 Required Automatic Suppression Systems												
FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Suppression Provided? ⁶	Suppression a Required System?	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)		
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁷	By Credit Taken in Change Evaluation	
											ERFBS	Other CE Item
5-W-BAL	5-W-1-TK	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-1-TKS	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-1-VG 2	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-1-VG-1	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-1-WHTK1	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-1-WHTK2	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-2-CMPT	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-2-COND	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-2-CR	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-2-DMNZ	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-2-EVAP	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-2-HTR	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-2-HVAC	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-2-LCHTK-1	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No

Table 4-8-1 Required Automatic Suppression Systems												
FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Suppression Provided? ⁶	Suppression a Required System?	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)		
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁷	By Credit Taken in Change Evaluation	
											ERFBS	Other CE Item
5-W-BAL	5-W-2-LCHTK2	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-2-LHSTK	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-2-RPIR	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-2-TKS1	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-2-TKS2	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-2-TLHSTK	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-34-CWHE1	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-34-CWHE-2	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-34-CWP	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-34-DRM	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-34-IC	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-3-MLR	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-3-STR	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-4-DRM	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No

Table 4-8-1 Required Automatic Suppression Systems												
FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Suppression 6 Provided?	Suppression a Required System?	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)		
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert 7 Panel	By Credit Taken in Change Evaluation	
											ERFBS	Other CE Item
5-W-BAL	5-W-4-HL	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-4-LAL	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-4-SWG1	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-4-SWG2	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-4-WRK	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-5-CHF	Waste Processing Building	Yes**	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-5-FA	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-5-FAN	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-5-HV	Waste Processing Building	Yes**	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-5-SLD	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
5-W-BAL	5-W-5-CHL	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No
FPYARD	FPYARD	Outside Yard	Yes	Yes ⁵	No	No	No	N/A	N/A	Yes	No	No

Footnotes:

- 1 - No Required Systems on this elevation. Non-Required Systems include: Condensate Pumps Deluge, Charcoal Filter Pre-Action, and Cable Vault Pre-Action.
- 2 - Required Systems include: Condensate Booster Pump Deluge, Steam Generator Feed Pumps Deluge, and Turbine Lube Oil Reservoir (one system required for PMG). All other suppression on this elevation is not required.
- 3 - General Area Mezzanine Pre-Action Systems - Below Operating Floor (two systems required - North and South area systems). These systems also supply the turbine bearing protection.
- 4 - No Required Systems on this elevation. Non-Required system is the Turbine Storage Building Wet Pipe Sprinkler system.
- 5 - Transformer suppression system(s) required by PMG.
- 6 - For fire zones provided with more than one automatic suppression system, the table will indicate via a footnote if there are only certain systems being credited as required. If there is no notation in this column for a zone where the suppression is noted as required, all suppression systems in that zone are considered as "required" systems.
- 7 - This information is draft only. Review by the PMG Expert Panel is still in process

** System Actuated by Thermal Detectors

Table 4-8-2 Required Automatic Fire Detection Systems														
FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Detection Provided?	Detection a Required System? (System Types Required) ¹	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)				
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁹	By Credit Taken in Change Evaluation for:			
											ERFBS	Recovery Action	Incipient Detection	Other CE Item
12-A-BAL	12-A-5- CHF	RAB Units 1 And 2 Balance of Plant Areas	Yes	Yes (T,I)	No	Yes	Yes	EC-50804-3 Attachment B, ESR 99- 00395	EEEE - EC-50804- 3 - Supports 3-hour barrier for two hatches in the area, ESR 99-00395 - Supports Pen Seal Deficiency.	No	No	No	No	No
12-A-BAL	12-A-5-DIH	RAB Units 1 And 2 Balance of Plant Areas	Yes	Yes (I)	No	Yes	No	N/A	N/A	No	Yes	No	No	No
12-A-BAL	12-A-6- CHF1	RAB Units 1 And 2 Balance of Plant Areas	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
12-A-BAL	12-A-6- CHF2	RAB Units 1 And 2 Balance of Plant Areas	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
12-A-BAL	12-A-7-HV	RAB Units 1 And 2 Balance of Plant Areas	Yes	Yes (I)	No	Yes	No	N/A	N/A	No	No	No	No	No
12-A-BAL	1-A-4- COMC	RAB Units 1 And 2 Balance of Plant Areas	No	No	No	No	No	N/A	N/A	No	No	No	No	No
12-A-CR	12-A-6- CR1	Control Room, RAB	Yes	Yes (I,AS)	No	Yes	No	N/A	N/A	Yes	No	Yes	Yes	No
12-A-CR	12-A-6- RT1	Control Room, RAB	Yes	Yes (I,AS)	No	Yes	No	N/A	N/A	Yes	No	Yes	Yes	No

Table 4-8-2 Required Automatic Fire Detection Systems														
FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Detection Provided?	Detection a Required System? (System Types Required) ¹	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)				
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁹	By Credit Taken in Change Evaluation for:			
											ERFBS	Recovery Action	Incipient Detection	Other CE Item
12-A-CRC1	12-A-6-ARP1	Control Room Complex	Yes	Yes (I,AS)	No	Yes	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency	Yes	No	Yes	Yes	No
12-A-CRC1	12-A-6-CR	Control Room Complex	Yes	Yes (I,AS)	No	Yes	No	N/A	N/A	Yes	No	Yes	No	No
12-A-CRC1	12-A-6-PICR1	Control Room Complex	Yes	Yes (I,AS)	No	Yes	No	N/A	N/A	Yes	No	Yes	Yes	No
12-A-CRC1	12-A-6-RCC1	Control Room Complex	Yes	Yes (I)	No	Yes	No	N/A	N/A	Yes	No	Yes	No	No
12-A-HVIR	12-A-6-HV7	Heating, Ventilating, and Instrument Repairs, RAB	Yes	Yes (I)	No	Yes	No	N/A	N/A	No	No	Yes	No	No
12-A-HVIR	12-A-6-IRR	Heating, Ventilating, and Instrument Repairs, RAB	Yes	Yes (I)	No	No	No	N/A	N/A	No	No	Yes	No	No
12-I-ESWPA	12-I-ESWPA	Emergency Service Water Pump 1A	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
12-I-ESWPB	12-I-ESWPB	Emergency Service Water Pump 1B	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
12-O-TA	12-O-TA	Diesel Fuel Oil Storage Tank A	No	No	No	No	No	N/A	N/A	No	No	No	No	No
12-O-TB	12-O-TB	Diesel Fuel Oil Storage Tank B	No	No	No	No	No	N/A	N/A	No	No	No	No	No

**Table 4-8-2
Required Automatic Fire Detection Systems**

FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Detection Provided?	Detection a Required System? (System Types Required) ¹	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)				
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁹	By Credit Taken in Change Evaluation for:			
											ERFBS	Recovery Action	Incipient Detection	Other CE Item
1-A-ACP	1-A-ACP	Auxiliary Control Panel Room	Yes	Yes (I,AS)	No	No	No	N/A	N/A	Yes	No	Yes	Yes	No
1-A-BAL-A	1-A-3-TA	RAB - EL 231	No	No	No	No	No	N/A	N/A	No	No	No	No	No
1-A-BAL-A	1-A-4-TA	RAB - EL 231	No	No	No	No	No	N/A	N/A	No	No	No	No	No
1-A-BAL-A	1-A-1-FD	RAB - EL 190	Yes	Yes (I)	Yes	Yes	No	N/A	N/A	Yes	No	Yes	No	No
1-A-BAL-A	1-A-1-PA	RAB - EL 190	Yes	Yes (I)	Yes	Yes	No	N/A	N/A	No	No	No	No	No
1-A-BAL-A	1-A-2-MP	RAB - EL 216	Yes	Yes (T,I)	Yes	Yes	No	N/A	N/A	No	No	Yes	No	No
1-A-BAL-A	1-A-2-PT	RAB - EL 216	No	No	No	No	No	N/A	N/A	No	No	No	No	No
1-A-BAL-A	1-A-34- RHXA	RAB - EL 236-261	No	No	No	No	No	N/A	N/A	No	No	No	No	No
1-A-BAL-A	1-A-3-COR	RAB - EL 236	Yes	Yes (T)	Yes	Yes	No	N/A	N/A	No	Yes	No	No	No
1-A-BAL-A	1-A-3-MP	RAB - EL 236	Yes	Yes (T)	Yes	Yes	Yes	EC 60257	Supports HVAC duct w/o fire damper	No	Yes	No	No	No
1-A-BAL-A	1-A-3-PB	RAB - EL 236	Yes	Yes (T,I)	Yes	Yes	Yes	EC 60257	Supports HVAC duct w/o fire damper	No	Yes	Yes	No	No
1-A-BAL-A	1-A-1-ED	RAB - EL 190	Yes	Yes (I)	Yes	Yes	No	N/A	N/A	Yes	No	Yes	No	No
1-A-BAL-A	1-A-1-PB	RAB - EL 190	Yes	Yes (T)	Yes	Yes	No	N/A	N/A	No	No	Yes	No	No
1-A-BAL-A	1-A-34- RHXB	RAB - EL 236-261	No	No	No	No	No	N/A	N/A	No	No	No	No	No

**Table 4-8-2
Required Automatic Fire Detection Systems**

FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Detection Provided?	Detection a Required System? (System Types Required) ¹	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)				
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁹	By Credit Taken in Change Evaluation for:			
											ERFBS	Recovery Action	Incipient Detection	Other CE Item
1-A-BAL-A	1-A-3-COMB	RAB - EL 236	Yes	Yes (T,I)	Yes	Yes	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency	Yes	Yes	Yes	No	No
1-A-BAL-A	1-A-3-COME	RAB - EL 236	Yes	Yes (T,I)	Yes	Yes	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency	No	Yes	Yes	No	No
1-A-BAL-A	1-A-3-COMI	RAB - EL 236	Yes	Yes (T,I)	Yes	Yes	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency	No	No	Yes	No	No
1-A-BAL-A	1-A-4-CHFA	RAB - EL 261	Yes	Yes (T,I)	Yes	Yes	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency	Yes	No	Yes	No	No
1-A-BAL-A	1-A-4-CHFB	RAB - EL 261	Yes	Yes (T,I)	Yes	Yes	No	N/A	N/A	No	No	Yes	No	No
1-A-BAL-A	1-A-4-CHFC	RAB - EL 261	No	No	No	No	No	N/A	N/A	No	No	No	No	No
1-A-BAL-A	1-A-4-COMI	RAB - EL 261	Yes	Yes (T,I)	Yes	Yes	No	N/A	N/A	Yes	No	Yes	No	No
1-A-BAL-B	1-A-4-CHLR	RAB - EL 261	Yes	Yes (T,I)	Yes	Yes	Yes	EC 52769, EC 63858 and ESR 99-00395	Supports Pen Seal Deficiencies	Yes	Yes	Yes	No	No
1-A-BAL-B	1-A-4-COR	RAB - EL 261	Yes	Yes (I)	Yes	Yes	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency	No	Yes	Yes	No	No
1-A-BAL-B	1-A-4-COMB	RAB - EL 261	Yes	Yes (T,I)	Yes	Yes	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency	No	Yes	Yes	No	No

**Table 4-8-2
Required Automatic Fire Detection Systems**

FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Detection Provided?	Detection a Required System? (System Types Required) ¹	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)				
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁹	By Credit Taken in Change Evaluation for:			
											ERFBS	Recovery Action	Incipient Detection	Other CE Item
1-A-BAL-B	1-A-4-COME	RAB - EL 261	Yes	Yes (T,I)	Yes	Yes	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency	No	Yes	Yes	No	No
1-A-BAL-C	1-A-5-HVB	RAB Unit 1 – Analysis Area C	Yes	Yes (I)	No	Yes	No	N/A	N/A	No	Yes	Yes	No	No
1-A-BAL-D	1-A-3-COMC	RAB Unit 1, Analysis Area D	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
1-A-BAL-D	1-A-4-COMC	RAB Unit 1, Analysis Area D	No	No	No	No	No	N/A	N/A	No	No	No	No	No
1-A-BAL-D	1-A-5-COMA	RAB Unit 1, Analysis Area D	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
1-A-BAL-D	1-A-6-COMA	RAB Unit 1, Analysis Area D	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
1-A-BAL-E	1-A-BAL-E	RAB Unit 1 - Analysis Area	Yes	Yes (I)	No	No	Yes	EC 52769 R22	EEEE - EC 52769 R22 Issue - This EC credits the detection system in 1-A-BAL-E for justification of a penetration seal in the barrier to FA 1-A-BAL-B2.	Yes	Yes	No	No	No
1-A-BAL-F	1-A-BAL-F	RAB Unit 1 – Analysis Area F	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
1-A-BAL-G	1-A-BAL-G	RAB Unit 1 - Analysis Area G	Yes	Yes (I)	No	Yes	Yes	EC-60257	Supports HVAC Pen w/o damper	No	No	No	No	No
1-A-BAL-H	1-A-BAL-H	RAB Unit 1 - Analysis Area H	Yes	Yes (T,I)	No	No	Yes	EC-60257	Supports HVAC Pen w/o damper	No	No	No	No	No

Table 4-8-2 Required Automatic Fire Detection Systems														
FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Detection Provided?	Detection a Required System? (System Types Required) ¹	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)				
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁹	By Credit Taken in Change Evaluation for:			
											ERFBS	Recovery Action	Incipient Detection	Other CE Item
1-A-BAL-J	1-A-5-BATN	RAB Unit 1 – Analysis Area J	Yes	Yes (I)	No	Yes	No	N/A	N/A	No	No	Yes	No	No
1-A-BAL-J	1-A-5-CEH	RAB Unit 1 – Analysis Area J	No	No	No	No	No	N/A	N/A	No	No	No	No	No
1-A-BAL-J	1-A-5-HV3	RAB Unit 1 – Analysis Area J	No	No	No	No	No	N/A	N/A	No	No	No	No	No
1-A-BAL-J	1-A-5-HVA	RAB Unit 1 – Analysis Area J	Yes	Yes (I)	No	Yes	No	N/A	N/A	No	Yes	Yes	No	No
1-A-BAL-K	1-A-46-ST	RAB Unit 1 – Analysis Area K	No	No	No	No	No	N/A	N/A	No	No	No	No	No
1-A-BATA	1-A-BATA	Battery Room A	Yes	Yes (I)	No	No	No	N/A	N/A	Yes	No	Yes	No	No
1-A-BATB	1-A-BATB	Battery Room B	Yes	Yes (I)	No	No	No	N/A	N/A	Yes	No	No	No	No
1-A-CSRA	1-A-5-PICA	Cable Spreading Room A	Yes	Yes (I)	No	No	No	N/A	N/A	No	No	Yes	No	No
1-A-CSRA	1-A-CSRA	Cable Spreading Room A	Yes	Yes (T,I,AS)	No	No	Yes	ESR 99- 00395	ESR 99-00395 - Supports Pen Seal Deficiency.	Yes	Yes	Yes	Yes	No
1-A-CSR B	1-A-5-PICB	Cable Spreading Room B	Yes	Yes (I)	No	No	No	N/A	N/A	No	No	Yes	No	No
1-A-CSR B	1-A-CSR B	Cable Spreading Room B	Yes	Yes (T,I,AS)	No	No	Yes	ESR 99- 00395	ESR 99-00395 - Supports Pen Seal Deficiency.	Yes	Yes	Yes	Yes	No
1-A-EPA	1-A-EPA	Electrical Penetration Area A	Yes	Yes (T)	No	No	Yes	ESR 99- 00395	ESR 99-00395 - Supports Pen Seal Deficiency.	Yes	Yes	Yes	No	No

**Table 4-8-2
Required Automatic Fire Detection Systems**

FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Detection Provided?	Detection a Required System? (System Types Required) ¹	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)				
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁹	By Credit Taken in Change Evaluation for:			
											ERFBS	Recovery Action	Incipient Detection	Other CE Item
1-A-EPB	1-A-EPB	Electrical Penetration Area B	Yes	Yes (T)	No	No	No	N/A	N/A	No	Yes	Yes	No	No
1-A-SWGRA	1-A-SWGRA	Switchgear Room A	Yes	Yes (I,AS)	No	Yes	No	N/A	N/A	Yes	No	Yes	Yes	No
1-A-SWGRB	1-A-SWGRB	Switchgear Room B	Yes	Yes (I,AS)	No	Yes	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency.	Yes	Yes	Yes	Yes	No
1-C	1-C-1-BAL	Containment Building, All Levels	Yes	Yes ² (T,I)	Yes	Yes	No	N/A	N/A	No	No	Yes	No	No
1-C	1-C-1-CHFA	Containment Building, EI 221'	Yes	Yes (T)	Yes	Yes	No	N/A	N/A	No	No	Yes	No	No
1-C	1-C-1-CHFB	Containment Building, EI 221'	Yes	Yes ³ (T)	Yes	Yes	No	N/A	N/A	No	No	Yes	No	No
1-C	1-C-1-RCP-1A	Containment Building, All Levels	Yes	Yes (T)	Yes	Yes	No	N/A	N/A	No	No	Yes	No	No
1-C	1-C-1-RCP-1B	Containment Building, All Levels	Yes	Yes (T)	Yes	Yes	No	N/A	N/A	No	No	Yes	No	No
1-C	1-C-1-RCP-1C	Containment Building, All Levels	Yes	Yes (T)	Yes	Yes	No	N/A	N/A	No	No	Yes	No	No
1-C	1-C-3-EPA	Containment Building, EI 261'	Yes	Yes (T,I)	Yes	Yes	No	N/A	N/A	No	No	Yes	No	No
1-C	1-C-3-EPB	Containment Building, EI 261'	Yes	Yes (T,I)	Yes	Yes	No	N/A	N/A	No	No	Yes	No	No

**Table 4-8-2
Required Automatic Fire Detection Systems**

FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Detection Provided?	Detection a Required System? (System Types Required) ¹	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)				
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁹	By Credit Taken in Change Evaluation for:			
											ERFBS	Recovery Action	Incipient Detection	Other CE Item
1-D-DGA	1-D-1-DGA-ASU	Diesel Generator 1A	Yes	Yes (T)	No	No	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency.	No	No	No	No	No
1-D-DGA	1-D-1-DGA-ER	Diesel Generator 1A	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
1-D-DGA	1-D-1-DGA-RM	Diesel Generator 1A	Yes	Yes ⁴ (T)	No	No	No	N/A	N/A	Yes	No	No	No	No
1-D-DGA	1-D-2-DGA-HVD	Diesel Generator 1A	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
1-D-DGA	1-D-3-DGA-ES	Diesel Generator 1A	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
1-D-DGA	1-D-3-DGA-HVR	Diesel Generator 1A	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
1-D-DGB	1-D-1-DGB-ASU	Diesel Generator 1B	Yes	Yes (T)	No	No	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency.	No	No	No	No	No
1-D-DGB	1-D-1-DGB-ER	Diesel Generator 1B	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
1-D-DGB	1-D-1-DGB-RM	Diesel Generator 1B	Yes	Yes ⁴ (T)	No	No	No	N/A	N/A	Yes	No	No	No	No
1-D-DGB	1-D-2-DGB-HVD	Diesel Generator 1B	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
1-D-DGB	1-D-3-DGB-ES	Diesel Generator 1B	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
1-D-DGB	1-D-3-DGB-HVR	Diesel Generator 1B	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
1-D-DTA	1-D-DTA	Diesel Generator Fuel Oil Day Tank A Enclosure	Yes	Yes (T)	No	No	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency.	No	No	No	No	No

Table 4-8-2 Required Automatic Fire Detection Systems														
FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Detection Provided?	Detection a Required System? (System Types Required) ¹	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)				
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁹	By Credit Taken in Change Evaluation for:			
											ERFBS	Recovery Action	Incipient Detection	Other CE Item
1-D-DTB	1-D-DTB	Diesel Generator Fuel Oil Day Tank B Enclosure	Yes	Yes (T)	No	No	Yes	ESR 99-00395	ESR 99-00395 - Supports Pen Seal Deficiency.	No	No	No	No	No
1-G	1-G-240	Turbine Generator Building	Yes	Yes ⁵ (I)	No	No	No	N/A	N/A	No	No	Yes	No	No
1-G	1-G-261	Turbine Generator Building	Yes	Yes ⁶ (T,I)	No	Yes	No	N/A	N/A	Yes	No	Yes	No	No
1-G	1-G-286	Turbine Generator Building	Yes	Yes ⁷ (T,I)	No	Yes	No	N/A	N/A	Yes	No	Yes	No	No
1-G	1-G-314	Turbine Generator Building	No	No	No	No	No	N/A	N/A	No	No	No	No	No
1-O-PA	1-O-PA	Diesel Oil Pump Room A	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
1-O-PB	1-O-PB	Diesel Oil Pump Room B	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-F-BAL	5-F-1-TK	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-F-BAL	5-F-23-CLP	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-F-BAL	5-F-23-FTC1	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-F-BAL	5-F-23-FTC2	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No	No	No

**Table 4-8-2
Required Automatic Fire Detection Systems**

FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Detection Provided?	Detection a Required System? (System Types Required) ¹	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)				
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁹	By Credit Taken in Change Evaluation for:			
											ERFBS	Recovery Action	Incipient Detection	Other CE Item
5-F-BAL	5-F-23- NFP1	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-F-BAL	5-F-23- NFP2	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-F-BAL	5-F-23- SFP1	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-F-BAL	5-F-23- SFP2	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-F-BAL	5-F-2-DEC	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-F-BAL	5-F-3-CHG	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-F-BAL	5-F-3-DE	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-F-BAL	5-F-3-DEC	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-F-BAL	5-F-3-HV	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-F-BAL	5-F-3- MFTC	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No	No	No

**Table 4-8-2
Required Automatic Fire Detection Systems**

FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Detection Provided?	Detection a Required System? (System Types Required) ¹	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)				
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁹	By Credit Taken in Change Evaluation for:			
											ERFBS	Recovery Action	Incipient Detection	Other CE Item
5-F-BAL	5-F-3-NF	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-F-BAL	5-F-3-SC	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-F-BAL	5-F-3-STR	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-F-BAL	5-F-4-BAL	Fuel Handling Building Balance of Areas	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-F-CHF	5-F-3-CHFA	Fuel Handling Building Emergency Exhaust	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-F-CHF	5-F-3-CHFB	Fuel Handling Building Emergency Exhaust	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-F-CHF	5-F-3-CHF-BAL	Fuel Handling Building Emergency Exhaust	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-F-CHF	5-F-3-DMNZ1	Fuel Handling Building Emergency Exhaust	Yes	Yes (I)	No	No	Yes	EC-50804-3 Attachment B	Support 3-hour barrier for two hatches in the area	No	No	No	No	No

Table 4-8-2 Required Automatic Fire Detection Systems														
FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Detection Provided?	Detection a Required System? (System Types Required) ¹	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)				
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁹	By Credit Taken in Change Evaluation for:			
											ERFBS	Recovery Action	Incipient Detection	Other CE Item
5-F-CHF	5-F-3-DMNZ2	Fuel Handling Building Emergency Exhaust	Yes	Yes (I)	No	No	Yes	EC-50804-3 Attachment B	Support 3-hour barrier for two hatches in the area,	No	No	No	No	No
5-F-FPP	5-F-2-FPC	Fuel Handling Building Fuel Pool Heat Exchangers	Yes	Yes (T)	No	Yes	Yes	EC 48007	Support 3-hour barrier for floor/ceiling hatches in the area,	No	No	No	No	No
5-F-FPP	5-F-2-FPV1	Fuel Handling Building Fuel Pool Heat Exchangers	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-F-FPP	5-F-2-FPV2	Fuel Handling Building Fuel Pool Heat Exchangers	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-O-BAL	5-O-BAL	Diesel Fuel Oil Storage Area Balance	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-S-BAL	5-S-BAL	Auxiliary Reservoir Screening Structure	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	1-A-2-COR	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-1-C1	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-1-FDTK	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-1-HCHTK	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No

Table 4-8-2 Required Automatic Fire Detection Systems														
FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Detection Provided?	Detection a Required System? (System Types Required) ¹	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)				
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁹	By Credit Taken in Change Evaluation for:			
											ERFBS	Recovery Action	Incipient Detection	Other CE Item
5-W-BAL	5-W-1-LCHTK	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-1-SW	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-1-TK	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-1-TKS	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-1-VG 2	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-1-VG- 1	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-1- WHTK1	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-1- WHTK2	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-2- CMPT	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-2- COND	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-2-CR	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-2- DMNZ	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-2- EVAP	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-2-HTR	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No

Table 4-8-2 Required Automatic Fire Detection Systems														
FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Detection Provided?	Detection a Required System? (System Types Required) ¹	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)				
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁹	By Credit Taken in Change Evaluation for:			
											ERFBS	Recovery Action	Incipient Detection	Other CE Item
5-W-BAL	5-W-2-HVAC	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-2-LCHTK-1	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-2-LCHTK2	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-2-LHSTK	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-2-RPIR	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-2-TKS1	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-2-TKS2	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-2-TLHSTK	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-34-CWHE1	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-34-CWHE-2	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-34-CWP	Waste Processing Building	Yes	Yes (I)	No	No	No	N/A	N/A	Yes	No	No	No	No
5-W-BAL	5-W-34-DRM	Waste Processing Building	Yes	Yes (I)	No	Yes	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-34-IC	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-3-MLR	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No	No	No

Table 4-8-2 Required Automatic Fire Detection Systems														
FSAR FIRE AREA	FIRE ZONE	Area Description	Automatic Detection Provided?	Detection a Required System? (System Types Required) ¹	For Deterministic Compliance (NFPA 805 § 4.2.3)					For Performance Based Compliance (NFPA 805 § 4.2.4)				
					By Chapter 4 Separation Criteria	By Exemption or Deviation	By EEEE/GL 86-10 Evaluation	EEEE Source	EEEE Notes	By PMG in Expert Panel ⁹	By Credit Taken in Change Evaluation for:			
											ERFBS	Recovery Action	Incipient Detection	Other CE Item
5-W-BAL	5-W-3-STR	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-4-DRM	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-4-HL	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-4-LAL	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-4-SWG1	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-4-SWG2	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-4-WRK	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-5-CHF	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-5-FA	Waste Processing Building	No	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-5-FAN	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-5-HV	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-5-SLD	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
5-W-BAL	5-W-5-CHL	Waste Processing Building	Yes	No	No	No	No	N/A	N/A	No	No	No	No	No
FPYARD	FPYARD	Outside Yard	Yes	Yes ⁸ (T)	No	No	No	N/A	N/A	Yes	No	No	No	No

Footnotes:

- 1 - Legend for Detection System Types Required in a Fire Zone:

T=Thermal, I=Ionization, AS=Air Sampling (Incipient), UV=Ultra-Violet Flame Detection

- 2- Detection Zone 1-120 for 1-C-1-BAL General Area. Detection Zone 1-7A for Elevator Equipment Room Ionization detection required. Thermal detection required to support the required suppression system actuation. This includes Sub-Zone 1-C-1-CFC which is Detection Zone 1-5A.
- 3- Detection Zones 1-5 & 1-5B. Thermal detection required to support the suppression system actuation. This includes Sub-Zone 1-C-1-PRZR (Detection Zone 1-5B).
- 4- Only Thermal detection required in this zone for PMG.
- 5- Detection Zones 1-58, 1-61 - Ionization Detection only for - Cable Vault and Cable Area (General Floor Area outside cable vault). No required suppression systems on this elevation so no thermal detection required for suppression system actuation.
- 6- Detection Zone 1-67 for Ionization Detection required for Switchgear Room. Thermal Detection required for actuation of all required suppression systems (Detection Zone 1-64 for Turbine L.O. System), (Detection Zone 1-65 for Condensate Booster Pumps), (Detection Zone 1-66 for Steam Generator Feed Pumps).
- 7- Detection Zone 1-7- for Ionization Detection required for the Electrical Room. Thermal Detection required for actuation of all required suppression systems (Detection Zone 1-71 for Mezzanine Floor South), (Detection Zone 1-72 for Mezzanine Floor North), (Detection Zones 1-69-1 & 2 for Turbine Bearing South & North).
- 8- Thermal Detection associated with Transformer suppression system(s) required by PMG.
- 9 - This information is draft only. Review by the PMG Expert Panel is still in process