feasible and reliable OMAs that together demonstrate the licensee's ability to preserve or maintain safe shutdown capability in the event of a fire in the analyzed fire areas.

Authorized by Law

This exemption would allow PBAPS to rely on OMAs, in conjunction with the other installed fire protection features, to ensure that at least one means of achieving and maintaining hot shutdown remains available during and following a postulated fire event, as part of its FPP, in lieu of meeting the requirements specified in III.G.2 for a fire in the analyzed fire areas. As stated above, 10 CFR 50.12 allows the NRC to grant exemptions from the requirements of 10 CFR Part 50. The NRC staff has determined that granting of this exemption will not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations. Therefore, the exemption is authorized by law.

No Undue Risk to Public Health and Safety

The underlying purpose of 10 CFR Part 50, Appendix R, Section III.G is to ensure that at least one means of achieving and maintaining hot shutdown remains available during and following a postulated fire event. Based on the above, no new accident precursors are created by the use of the specific OMAs, in conjunction with the other installed fire protection features, in response to a fire in the analyzed fire areas. Thus, the probability of postulated accidents is not increased. Also, based on the above, the consequences of postulated accidents are not increased. Therefore, there is no undue risk to public health and safety.

Consistent with Common Defense and Security

The proposed exemption would allow PBAPS to credit the use of the specific OMAs, in conjunction with the other installed fire protection features, in response to a fire in the analyzed fire areas, discussed above, in lieu of meeting the requirements specified in III.G.2. This change, to the operation of the plant, has no relation to security issues. Therefore, the common defense and security is not diminished by this exemption.

Special Circumstances

Pursuant to 10 CFR 50.12(a)(2)(ii) special circumstances are present whenever application of the regulation in the particular circumstances is not necessary to achieve the underlying purpose of the rule. The underlying purpose of 10 CFR Part 50, Appendix R, Section III.G is to ensure that at least one means of achieving and maintaining hot shutdown remains available during and following a postulated fire event. Therefore, since the underlying purpose of Appendix R, Section III.G is achieved, the special circumstances for granting an exemption from 10 CFR Part 50, Appendix R, Section III.G exist, as required by 10 CFR 50.12(a)(2)(ii).

4.0 Conclusion

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12(a), the exemption is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security. Also, special circumstances are present. Therefore, the Commission hereby grants Exelon an exemption from the requirements of Section III.G.2 of Appendix R of 10 CFR Part 50, to utilize the OMAs discussed above at PBAPS.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will not have a significant effect on the quality of the human environment (75 FR 58445).

This exemption is effective upon issuance.

Dated at Rockville, Maryland, this 30th day of March 2011.

For The Nuclear Regulatory Commission.

Joseph G. Giitter,

Director, Division of Operating Reactor Licensing, Office of Nuclear Reactor Regulation.

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NUCLEAR REGULATORY COMMISSION

[Docket No. 50–219; NRC–2010–0200]

Exelon Generation Company, LLC, Oyster Creek Nuclear Generating Station; Exemption

1.0 Background

Exelon Generation Company, LLC (Exelon or the licensee) is the holder of Facility Operating License No. DPR–16 that authorizes operation of the Oyster Creek Nuclear Generating Station (Oyster Creek). The license provides, among other things, that the facility is subject to all rules, regulations, and orders of the U.S. Nuclear Regulatory Commission (NRC or the Commission) now or hereafter in effect.

The facility consists of a boiling-water reactor located in Ocean County, New Jersey.

2.0 Request/Action

Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Section 50.48 requires that nuclear power plants that were licensed before January 1, 1979, must satisfy the requirements of 10 CFR Part 50, Appendix R, Section III.G, "Fire protection of safe shutdown capability." Oyster Creek was licensed to operate prior to January 1, 1979. As such, the licensee's Fire Protection Program must provide the established level of protection as intended by Section III.G of 10 CFR Part 50, Appendix R.

By letter dated March 4, 2009, "Request for Exemption from 10 CFR 50, Appendix R, Section III.G, 'Fire Protection of Safe Shutdown Capability (Phase 2)'" available at Agencywide Documents Access and Management System (ADAMS), Accession No. ML090640225, and supplemented by letter dated April 2, 2010, "Response to Request for Additional Information Request for Exemption from 10 CFR Part 50, Appendix R, Section III.G, 'Fire Protection of Safe Shutdown Capability'" (ADAMS Accession No. ML100920370), the licensee requested an exemption for Oyster Creek from certain technical requirements of 10 CFR Part 50, Appendix R, Section III.G.2 (III.G.2) for the use of operator manual actions (OMAs) in lieu of meeting the circuit separation and protection requirements contained in III.G.2 for the following 22 plant areas: CW–FA–14, OB–FA–9, OB–FZ–6A, OB–FZ–6B, OB–FZ–8A, OB–FZ–8B, OB–FZ–8C, OB–FZ–10A, RB–FZ–1D, RB–FZ–1E, RB–FZ–1F3, RB–FZ–1F5, RB–FZ–1G, TB–FA–3A, TB–FA–26, TB–FZ–11B, TB–FZ–11C, TB–FZ–11D, TB–FZ–11E, TB–FZ–11F, TB–FZ–11H, and Yard. The 22 plant areas noted above are the subject of this exemption.

3.0 Discussion

Pursuant to 10 CFR 50.12, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR Part 50 when: (1) The exemptions are authorized by law, will not present an undue risk to public health or safety, and are consistent with the common defense and security; and (2) when special circumstances are present. The licensee has stated that special circumstances are present in that the application of the regulation in this particular circumstance is not necessary to achieve the underlying purpose of the rule, which is consistent with the language included in 10 CFR 50.12(a)(2)(ii).

In their March 4, 2009, and April 2, 2010, letters, the licensee discussed financial implications associated with plant modifications that may be necessary to comply with the regulation.

Section 50.12(a)2(iii) of 10 CFR states that if such costs have been shown to be significantly in excess of those contemplated at the time the regulation was adopted, or are significantly in excess of those incurred by others similarly situated, this may be considered a basis for considering an exemption request. However, financial implications were not considered in the regulatory review of their request since no substantiation was provided regarding such financial implications. Even though no financial substantiation was provided, the licensee did submit sufficient regulatory basis to support a technical review of their exemption request in that the application of the regulation in this particular circumstance is not necessary to achieve the underlying purpose of the rule.

In accordance with 10 CFR 50.48(b), nuclear power plants licensed before January 1, 1979, are required to meet Section III.G of 10 CFR Part 50, Appendix R. The underlying purpose of Section III.G of 10 CFR Part 50, Appendix R, is to ensure that the ability to achieve and maintain safe shutdown is preserved following a fire event. The regulation intends for licensees to accomplish this by extending the concept of defense-in-depth to:

(1) Prevent fires from starting;

(2) Rapidly detect, control, and extinguish promptly those fires that do occur;

(3) Provide protection for structures, systems, and components important to safety so that a fire that is not promptly extinguished by the fire suppression activities will not prevent the safe shutdown of the plant.

The stated purpose of 10 CFR Part 50, Appendix R, Section III.G.2 (III.G.2) is to ensure that one of the redundant trains necessary to achieve and maintain hot shutdown conditions remains free of fire damage in the event of a fire. Section III.G.2 requires one of the following means to ensure that a redundant train of safe shutdown cables and equipment is free of fire damage, where redundant trains are located in the same fire area outside of primary containment:

a. Separation of cables and equipment by a fire barrier having a 3-hour rating;

b. Separation of cables and equipment by a horizontal distance of more than 20 feet with no intervening combustibles or fire hazards and with fire detectors and an automatic fire suppression system installed in the fire area; or

c. Enclosure of cables and equipment of one redundant train in a fire barrier having a 1-hour rating and with fire detectors and an automatic fire suppression system installed in the fire area.

Exelon has requested an exemption from the requirements of III.G.2 for Oyster Creek to the extent that redundant trains of systems necessary to achieve and maintain hot shutdown are not maintained free of fire damage in accordance with one of the required means prescribed in III.G.2.

Each OMA included in this review consists of a sequence of tasks that occur in various fire areas. The OMAs are initiated upon confirmation of a fire in a particular fire area. Table 1 lists, in the order of the fire area of fire origin, the OMAs included in this review.

TABLE 1

	Area of fire origin	Area name	Actions	OMA #
1	CW–FA–14	Circulatory Water Intake	Provide makeup control air to the accumulator for V–11–34 for the Isolation Condenser makeup line due to the loss of instrument air.	17
2	OB–FA–9	Office Building (Bldg.) Elev. 23′-6″, 35′-0″, 46′-6″.	Provide makeup control air to the accumulator for V–11–34 for the Isolation Condenser makeup line due to the loss of instrument air.	17
3	OB–FZ–6A	Office Bldg. “A” 480V Switchgear (SWGR) Room Elev. 23′-6″.	Provide makeup control air to the accumulator for V–11–34 for the Isolation Condenser makeup line due to the loss of instrument air.	17
4	OB–FZ–6B	Office Bldg. “B” 480V SWGR Room Elev. 23′-6″.	Provide makeup control air to the accumulator for V–11–36 for the Isolation Condenser makeup line due to the loss of instrument air.	18
5	OB–FZ–8A	Office Bldg. Reactor Recirculation Motor Generator (MG) Set Room Elev. 23′-6″.	Provide makeup control air to the accumulator for V–11–34 for the Isolation Condenser makeup line due to the loss of instrument air.	17
6	OB–FZ–8B	Office Bldg. Mechanical Equipment Room Elev. 35′-0″.	Provide makeup control air to the accumulator for V–11–34 for the Isolation Condenser makeup line due to the loss of instrument air.	17
7	OB–FZ–8C	Office Bldg. A/B Battery Room, Tunnel and Electrical Tray Room Elev. 35′-0″.	Provide makeup control air to the accumulator for V–11–34 for the Isolation Condenser makeup line due to the loss of instrument air.	17
8	OB–FZ–10A	Office Bldg. Monitor and Change Room Area and Operations Support Area Elev. 35′-0″ & 46′-6″.	Provide makeup control air to the accumulator for V–11–36 for the Isolation Condenser makeup line due to the loss of instrument air.	18
9	RB–FZ–1D	Reactor Bldg. Elev. 51′-3″	Provide makeup control air to the accumulator for V–11–34 for the Isolation Condenser makeup line due to the loss of instrument air.	17
10	RB–FZ–1E	Reactor Building Elev. 23′-6″	Provide makeup control air to the accumulator for V–11–34 for the Isolation Condenser makeup line due to the loss of instrument air.	17
11	RB–FZ–1F3	Reactor Bldg. Northwest Corner Elev.-19′-6″.	Provide makeup control air to the accumulator for V–11–34 for the Isolation Condenser makeup line due to the loss of instrument air.	17
12	RB–FZ–1F5	Reactor Bldg. Torus Room Elev. -19′-6″.	Provide makeup control air to the accumulator for V–11–34 for the Isolation Condenser makeup line due to the loss of instrument air.	17

TABLE 1—Continued

	Area of fire origin	Area name	Actions	OMA #
13	RB–FZ–1G	Reactor Bldg. Shutdown Cooling Room Elev. 38′-0″ & 51′-3″.	Provide makeup control air to the accumulator for V–11–34 for the Isolation Condenser makeup line due to the loss of instrument air.	17
14	TB–FA–3A	Turbine Bldg. 4160V Emergency SWGR Vault 1C Elev. 23′-6″.	Provide makeup control air to the accumulator for V–11–34 for the Isolation Condenser makeup line due to the loss of instrument air.	17
15	TB–FA–26	Turbine Bldg. 125V DC Battery Room C Elev. 23′-6″.	Trip Field Breakers for Recirculation Pumps MG Set so that the Fuel Zone Level Indicators can be used.	1
			Provide Fire Water to Isolation Condenser shell by operating valves V–9–2099, V–11–49, V–11–63 and V–11–41 due to loss of power (contingency action).	2
			Manually control 480V USS 1B2 Breakers for control rod drive (CRD) Pump NC08B and 1B2M from Remote Shutdown Panel due to control circuit damage.	3
			Manually open V–11–36 to provide makeup to Isolation Condenser due to loss of power (contingency action).	7
			Check Isolation Condenser Shell level locally due to loss of power (contingency action).	8
			Provide makeup control air to the accumulator for V–11–36 for the Isolation Condenser makeup line due to the loss of instrument air.	18
16	TB–FZ–11B	Turbine Bldg. Lube Oil Storage, Purification and Pumping Area Elev. 0′-0″, 27′-0″, and 36′-0″.	Manually control 480V Unit Substation (USS) 1B2 Breakers for CRD Pump NC08B and 1B2M from Remote Shutdown Panel due to control circuit damage.	3
.....			Provide makeup control air to the accumulator for V–11–36 for the Isolation Condenser makeup line due to the loss of instrument air.	18
17	TB–FZ–11C	Turbine Bldg. SWGR Room 1A and 1B Elev. 23′-6″.	Trip Field Breakers for Recirculation Pumps MG Set so that the Fuel Zone Level Indicators can be used.	1
			Provide Fire Water to Isolation Condenser shell by operating valves V–9–2099, V–11–49, V–11–63 and V–11–41 due to loss of power (contingency action).	2
			Manually control 480V USS 1B2 Breakers for CRD Pump NC08B and 1B2M from Remote Shutdown Panel due to control circuit damage.	3
			Manually open V–11–36 to provide makeup to Isolation Condenser due to loss of power (contingency action).	7
			Check Isolation Condenser Shell level locally due to loss of power (contingency action).	8
			Provide makeup control air to the accumulator for V–11–36 for the Isolation Condenser makeup line due to the loss of instrument air.	18
18	TB–FZ–11D	Turbine Bldg. Basement Floor South End Elev. 3′-6″.	Trip Field Breakers for Recirculation Pumps MG Set so that the Fuel Zone Level Indicators can be used.	1
			Provide Fire Water to Isolation Condenser shell by operating valves V–9–2099, V–11–49, V–11–63 and V–11–41 due to loss of power (contingency action).	2
			Manually control 480V USS 1B2 Breakers for CRD Pump NC08B and 1B2M from Remote Shutdown Panel due to control circuit damage.	3
			Manually open V–11–36 to provide makeup to Isolation Condenser due to loss of power (contingency action).	7
			Check Isolation Condenser Shell level locally due to loss of power (contingency action).	8
			Provide makeup control air to the accumulator for V–11–36 for the Isolation Condenser makeup line due to the loss of instrument air.	18
19	TB–FZ–11E	Turbine Bldg. Condenser Bay Area Elev. 0′-0″.	Manually control 480V USS 1B2 Breakers for CRD Pump NC08B and 1B2M from Remote Shutdown Panel due to control circuit damage.	3
			Provide makeup control air to the accumulator for V–11–36 for the Isolation Condenser makeup line due to the loss of instrument air.	18
20	TB–FZ–11F	Turbine Bldg. Feedwater Pump Room Elev. 0′-0″ & 3′-6″.	Provide makeup control air to the accumulator for V–11–36 for the Isolation Condenser makeup line due to the loss of instrument air.	18
21	TB–FZ–11H	Turbine Bldg. Demineralizer Tank and Steam Jet Air Ejector Area Elev. 3′-6″ & 23′-6″.	Provide makeup control air to the accumulator for V–11–36 for the Isolation Condenser makeup line due to the loss of instrument air.	18

TABLE 1—Continued

	Area of fire origin	Area name	Actions	OMA #
22	Yard	Office Bldg. Roof, Turbine Bldg. Roof, and All Remaining Outside Areas.	Manually open V–15–237, throttle V–15–30 while monitoring flow at FI–225–2 and close V–15–52 to establish CRD flow to Reactor due to the loss of instrument air to the CRD Flow Control Valve.	9
			Provide makeup control air to the accumulator for V–11–34 for the Isolation Condenser makeup line due to the loss of instrument air.	17

In their submittals the licensee described elements of their fire protection program that provide their justification that the concept of defense-in-depth that is in place in the above fire areas is consistent with that intended by the regulation. To accomplish this, the licensee utilizes various protective measures to accomplish the concept of defense-in-depth. Specifically, the licensee stated that the purpose of their request was to credit the use of OMAs, in conjunction with other defense-in-depth features, in lieu of the separation and protective measures required by III.G.2 for a fire in the fire areas stated above.

In their April 2, 2010, letter the licensee provided an analysis that described how fire prevention is addressed for each of the fire areas for which the OMAs may be required. The licensee developed a Fire Hazards Analysis (FHA) for each fire area or zone identified in its exemption request. For each fire area or zone, the FHA describes the physical location and arrangement of equipment, combustible loading, ignition sources, fire protection features, and proximity of redundant safe shutdown equipment to in situ hazards and identifies deviations from fire protection codes and previously approved exemptions. In addition, for each fire area or zone, the licensee's response includes a tabulation of potential ignition sources as well as the equipment that may exhibit high energy arcing faults. For each fire area or zone, the FHA states that the fire protection configuration achieves a level of protection commensurate with that intended by III.G.2.

The 22 areas or zones identified in the request have administratively limited combustible fuel loading with fuel sources consisting primarily of cable insulation and limited floor based combustibles except areas OB–FZ–6A, OB–FZ–6B, and TB–FZ–11B, which contain quantities of transformer liquid or lubricating oil. Combustible fuel loading in most areas is classified as low by the licensee while Fire Areas OB–FZ–6A and OB–FZ–6B have been classified as having a moderate combustible fuel loading and TB–FZ–11B has been classified as having a high combustible fuel loading. In addition, the licensee has stated that they maintain a robust administrative program (e.g., hot work permits, fire watches for hot work, and supervisory controls) to limit and control transient combustible materials and ignition sources in the areas. The fire areas included in the exemption are not shop areas so hot work activities are infrequent and the administrative control programs are in place if hot work activities do occur.

The licensee also stated that 98% of the Oyster Creek cables are jacketed with Vulkene, which passes the horizontal flame test of the Underwriter's Laboratory, therefore reducing the likelihood of the cables themselves contributing to a fire hazard. Furthermore, the areas or zones are of noncombustible construction with typical utilities installed lighting, ventilation, etc., and 3-hour fire resistance-rated barriers normally used to provide fire resistive separation between adjacent fire areas. In some cases, barriers with a fire resistance rating of less than 3 hours are credited, but exemptions have been approved or the licensee has stated they have performed engineering evaluations in accordance with Generic Letter 86–10 to demonstrate that the barriers are sufficient for the hazard. Walls separating rooms and zones within fire areas are typically constructed of heavy concrete. This compartmentalization of the areas reduces the likelihood for fire events in a particular area to spread to or impact other adjacent areas.

Many fire areas included in this exemption have automatic detection systems installed, although the licensee indicated that not all systems are installed in accordance with a recognized standard with regard to spacing in all areas. In such cases, the licensee has stated that the detectors are located near equipment such that they are likely to detect a fire. Upon detecting smoke, the detectors initiate an alarm in the constantly staffed control room. In addition to the automatic suppression systems noted below, equipment operators are trained fire brigade members and may identify and manually suppress or extinguish a fire using the portable fire extinguishers and manual hose stations located throughout the fire areas if a fire is identified in its early stages of growth.

The licensee stated that the postulated fire events that may require the use of the OMAs would include multiple failures of various components or equipment. In most cases, it is considered unlikely that the sequence of events required to necessitate the OMAs would fully evolve because of the fire prevention, fire protection, and physical separation features in place. However, in the event that the sequence does evolve, the OMAs are available to provide assurance that safe shutdown can be achieved. For each of the fire areas included in this exemption, the postulated fire scenarios and pertinent details are summarized in Table 2 below.

Each of the fire areas or zones included in this exemption is analyzed below with regard to how the concept of defense-in-depth is achieved for each area or zone and the role of the OMAs in the overall level of safety provided for each area or zone.

3.1 CW–FA–14 Circulatory Water Intake

3.1.1 Fire Prevention

The licensee stated that combustible loading is not tracked in this area since it is an outside area. The licensee also stated that the primary combustible materials in the area are transformer liquid and electrical motors; although the amount is not quantified since the area is open to the atmosphere with no walls or ceiling to contain the heat or smoke that may be produced during a fire event. Additionally, the main combustible in this area that could result in the need for the OMAs is Dow Corning 561 Silicon transformer liquid, which the licensee states has characteristics that minimize the likelihood of a fire involving the insulating liquid itself.

3.1.2 Detection, Control, and Extinguishment

CW–FA–14 is not equipped with automatic fire detection or suppression systems but since it is an outdoor area with no walls or ceiling, it is not expected that such systems would enhance this element of defense-in-depth in this area since the area is open to the atmosphere with no walls or ceiling to contain the heat or smoke that may be produced during a fire event. However, the licensee stated that a security tower monitors this area continuously. Therefore, any fire of significance would likely be detected and responded to appropriately by the station fire brigade. Manual suppression is also provided by a fire hydrant and fire hose house located approximately 75 feet from the principal fire hazards.

3.1.3 Preservation of Safe Shutdown Capability

Since Fire Area CW–FA–14 is an outdoor space with no walls or ceiling, smoke and heat would not accumulate within the fire area to cause damage to components remote to the initiating fire or obstruct operator actions.

3.1.4 OMAs Credited for a Fire in This Area

3.1.4.1 OMA #17—Provide Makeup Air to Isolation Condenser Valve V–11–34 Accumulator

In order for OMA #17 to be necessary, a loss of instrument air to the isolation condenser valve V–11–34 would have to occur due to fire damage. The licensee stated that they conservatively assume that instrument air is lost for all Appendix R fires based on the fact that instrument air lines run throughout many areas of the plant. The licensee's analysis assumes that the air line could potentially fail in approximately 45 minutes when exposed to the postulated fire.

The licensee also stated that OMA #17 connects a high pressure air cylinder to the accumulator of Condensate Transfer System valve V–11–34 and that these air-operated valves are used to control makeup to the isolation condensers. Each valve is provided with an air accumulator that provides a minimum of six full cycles. As a result, this OMA is only necessary to ensure long-term operation of these valves and makeup to the isolation condensers. Further, this OMA would only be necessary if the plant had to remain in hot shutdown for an extended time.

In addition, the licensee stated that they maintain a fire support procedure (ABN–35, "Loss of Instrument Air") that provides guidance to perform this OMA if instrument air is lost and indicates that there are four annunciator alarm windows that monitor instrument air pressure, plus a pressure gauge on a panel in the control room for instrument air pressure. If all of these instruments are not available, then ABN–35 further indicates that the control rods will start to drift into the core and the main steam isolation valves (MSIVs) will close, as well as multiple air-operated valves changing state. Additionally, reactor pressure vessel (RPV) level indication is also available for all fire areas or zones. All of these indications would help the operator diagnose the loss of instrument air and initiate mitigating procedures.

In the unlikely event that a fire does occur and causes a loss of instrument air to the air-operated valves, OMA #17 is available to provide makeup control air to the accumulator for V–11–34 for the isolation condenser makeup line due to the loss of instrument air. If OMA #17 becomes necessary, the licensee stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 26 minutes, while the time available is 300 minutes, which provides a 244-minute margin.

3.1.5 Conclusion

Given the limited amount of combustible materials, ignition sources, and open nature of the area, it is unlikely that a fire would occur and go undetected or unsuppressed by the personnel, and damage the safe shutdown equipment. The low likelihood of damage to safe shutdown equipment due to a fire in this area, combined with the ability of OMA #17 to manipulate the plant in the event of a fire that damages safe shutdown equipment, provides adequate assurance that safe shutdown capability is maintained.

3.2 OB–FA–9 Office Bldg. Elev. 23′-6″, 35′-0″, 46′-6″,

3.2.1 Fire Prevention

The licensee has classified the fire loading in this fire area as low. The licensee also stated that the major combustibles in the multiplexer (MUX) corridor, which is within OC–FA–9, are cable insulation and a wood ceiling on top of the MUX enclosure, which is within the MUX corridor.

3.2.2 Detection, Control, and Extinguishment

The licensee stated that OB–FA–9 has a partial area coverage wet pipe sprinkler system installed. The licensee further stated that the area is not provided with a detection system but that there is an installed detection system in the main hallways and inside of the MUX corridor and that it is a high traffic area so a fire would likely be detected by personnel. The wet pipe sprinkler system, when actuated, will alarm in the control room to notify operators of a potential fire event. Extinguishment of a fire in the majority of this area will be accomplished by the plant fire brigade.

3.2.3 Preservation of Safe Shutdown Capability

The licensee stated that OB–FA–9 has a ceiling height of approximately 10′-6″, and an approximate floor area of 513 square feet in the MUX corridor where the safe shutdown equipment is located so it is unlikely that smoke and heat would accumulate at the height of the safe shutdown equipment and cause a failure due to fire damage.

3.2.4 OMAs Credited for a Fire in this Area

3.2.4.1 OMA #17—Provide Makeup Air to Isolation Condenser Valve V–11–34 Accumulator

In order for OMA #17 to be necessary, a loss of instrument air to the isolation condenser valve V–11–34 would have to occur due to fire damage. The licensee stated that they conservatively assume that instrument air is lost for all Appendix R fires based on the fact that instrument air lines run throughout many areas of the plant. The licensee's analysis assumes that the air line could potentially fail in approximately 45 minutes when exposed to the postulated fire.

The licensee also stated that OMA #17 connects a high pressure air cylinder to the accumulator of Condensate Transfer System valve V–11–34 and that these air-operated valves are used to control makeup to the isolation condensers. Each valve is provided with an air accumulator that provides a minimum of six full cycles. As a result, this OMA is only necessary to ensure long-term operation of these valves and makeup to the isolation condensers. Further, this OMA would only be necessary if the plant had to remain in hot shutdown for an extended time. This scenario is unlikely for this particular area since the plant would likely reach cold shutdown before the action is required.

In addition, the licensee stated that they maintain a fire support procedure (ABN–35, "Loss of Instrument Air") that provides guidance to perform this OMA if instrument air is lost and indicates that there are four annunciator alarm windows that monitor instrument air pressure, plus a pressure gauge on a

panel in the control room for instrument air pressure. If all of these instruments are not available, then ABN–35 further indicates that the control rods will start to drift into the core and the MSIVs will close, as well as multiple air-operated valves changing state. Additionally, RPV level indication will not be compromised by a fire in any zone or area. All of these indications would help the operator diagnose the loss of instrument air and initiate mitigating procedures.

In the unlikely event that a fire does occur and causes a loss of instrument air to the air-operated valves, OMA #17 is available to provide makeup control air to the accumulator for V–11–34 for the isolation condenser makeup line due to the loss of instrument air. If OMA #17 becomes necessary, the licensee stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 26 minutes, while the time available is 300 minutes, which provides a 244-minute margin.

3.2.5 Conclusion

Given the limited amount of combustible materials, ignition sources, and volume of the space, it is unlikely that a fire would occur and go undetected or unsuppressed by the sprinkler system noted above, or personnel, and damage the safe shutdown equipment. The low likelihood of damage to safe shutdown equipment due to a fire in this area, combined with the ability of OMA #17 to manipulate the plant in the event of a fire that damages safe shutdown equipment, provides adequate assurance that safe shutdown capability is maintained.

3.3 OB–FZ–6A Office Bldg. "A" 480V Switchgear (SWGR) Room Elev. 23′-6″,

3.3.1 Fire Prevention

The licensee stated that the fire loading in this zone is moderate and that there is an administrative controls program in place to limit additional combustible materials and sources of ignition. The licensee also stated that the main combustibles in this area are cable insulation (approximately 81% of loading) and Dow Corning 561 Silicon transformer liquid (approximately 15% of loading). The transformer liquid has characteristics that minimize the likelihood of a fire involving the insulating liquid itself.

3.3.2 Detection, Control, and Extinguishment

The licensee stated that OB–FZ–6A has an automatic smoke detection system, a total flooding automatic Halon 1301 System, and manual fire fighting capabilities (portable extinguishers and hose stations).

3.3.3 Preservation of Safe Shutdown Capability

The licensee stated that OB–FA–6A has a ceiling height of approximately 10′-8″, and an approximate floor area of 1157 square feet so it is unlikely that smoke and heat would accumulate at the height of the safe shutdown equipment and cause a failure due to fire damage.

3.3.4 OMAs Credited for a Fire in this Zone

3.3.4.1 OMA #17—Provide Makeup Air to Isolation Condenser Valve V–11–34 Accumulator

In order for OMA #17 to be necessary, a loss of instrument air to the isolation condenser valve V–11–34 would have to occur due to fire damage. The licensee stated that they conservatively assume that instrument air is lost for all Appendix R fires based on the fact that instrument air lines run throughout many areas of the plant. The licensee's analysis assumes that the air line could potentially fail in approximately 45 minutes when exposed to the postulated fire.

The licensee also stated that OMA #17 connects a high pressure air cylinder to the accumulator of Condensate Transfer System valve V–11–34 and that these air-operated valves are used to control makeup to the isolation condensers. Each valve is provided with an air accumulator that provides a minimum of six full cycles. As a result, this OMA is only necessary to ensure long-term operation of these valves and makeup to the isolation condensers. Further, this OMA would only be necessary if the plant had to remain in hot shutdown for an extended time.

In addition, the licensee stated that they maintain a fire support procedure (ABN–35, "Loss of Instrument Air") that provides guidance to perform this OMA if instrument air is lost and indicates that there are four annunciator alarm windows that monitor instrument air pressure, plus a pressure gauge on a panel in the control room for instrument air pressure. If all of these instruments are not available, then ABN–35 further indicates that the control rods will start to drift into the core and the MSIVs will close, as well as multiple air-operated valves changing state. Additionally, RPV level indication will not be compromised by a fire in any zone or area. All of these indications would help the operator diagnose the loss of instrument air and initiate mitigating procedures.

In the unlikely event that a fire does occur and causes a loss of instrument air to the air-operated valves, OMA #17 is available to provide makeup control air to the accumulator for V–11–34 for the isolation condenser makeup line due to the loss of instrument air. If OMA #17 becomes necessary, the licensee stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 26 minutes, while the time available is 300 minutes, which provides a 244-minute margin.

3.3.5 Conclusion

Given the limited amount of combustible materials, ignition sources, and the volume of the space, it is unlikely that a fire would occur and go undetected or unsuppressed by the smoke detection or Halon system noted above, or personnel, and damage the safe shutdown equipment. The low likelihood of damage to safe shutdown equipment due to a fire in this zone, combined with the ability of OMA #17 to manipulate the plant in the event of a fire that damages safe shutdown equipment, provides adequate assurance that safe shutdown capability is maintained.

3.4 OB–FZ–6B Office Building "B" 480V SWGR Room Elev. 23′-6″,

3.4.1 Fire Prevention

The licensee stated that the fire loading in this zone is moderate and that there is an administrative controls program in place to limit additional combustible materials and sources of ignition. The licensee also stated that the main combustibles in this area are cable insulation (approximately 28% of loading), Thermo-Lag (approximately 29% of loading) and Dow Corning 561 Silicon transformer liquid (approximately 31% of loading). The transformer liquid has characteristics that minimize the likelihood of a fire involving the insulating liquid itself.

3.4.2 Detection, Control, and Extinguishment

The licensee stated that OB–FZ–6B has an automatic smoke detection system, a total flooding Halon 1301 System, and manual fire fighting capabilities (portable extinguishers and hose stations).

3.4.3 Preservation of Safe Shutdown Capability

The licensee stated that OB–FA–6B has a ceiling height of approximately 10′-8″ and an approximate floor area of 679 square feet so it is unlikely that

smoke and heat would accumulate at the height of the safe shutdown equipment and cause a failure due to fire damage.

3.4.4 OMAs Credited for a Fire in This Zone

3.4.4.1 OMA #18—Provide Makeup Air to Isolation Condenser Valve V–11–36 Accumulator

In order for OMA #18 to be necessary, a loss of instrument air to the isolation condenser valve V–11–36 would have to occur due to fire damage. The licensee stated that they conservatively assume that instrument air is lost for all Appendix R fires based on the fact that instrument air lines run throughout many areas of the plant. The licensee's analysis assumes that the air line could potentially fail in approximately 45 minutes when exposed to the postulated fire.

The licensee also stated that OMA #18 connects a high pressure air cylinder to the accumulator of Condensate Transfer System valve V–11–36 and that these air-operated valves are used to control makeup to the isolation condensers. Each valve is provided with an air accumulator that provides a minimum of six full cycles. As a result, this OMA is only necessary to ensure long-term operation of these valves and makeup to the isolation condensers. Further, this OMA would only be necessary if the plant had to remain in hot shutdown for an extended time.

In addition, the licensee stated that they maintain a fire support procedure (ABN–35, "Loss of Instrument Air") that provides guidance to perform this OMA if instrument air is lost and indicates that there are four annunciator alarm windows that monitor instrument air pressure, plus a pressure gauge on a panel in the control room for instrument air pressure. If all of these instruments are not available, then ABN–35 further indicates that the control rods will start to drift into the core and the MSIVs will close, as well as multiple air-operated valves changing state. Additionally, RPV level indication will not be compromised by a fire in any zone or area. All of these indications would help the operator diagnose the loss of instrument air and initiate mitigating procedures.

In the unlikely event that a fire does occur and causes a loss of instrument air to the air-operated valves, OMA #18 is available to provide makeup control air to the accumulator for V–11–36 for the isolation condenser makeup line due to the loss of instrument air. If OMA #18 becomes necessary, the licensee stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 26 minutes, while the time available is 300 minutes, which provides a 244-minute margin.

3.4.5 Conclusion

Given the limited amount of combustible materials, ignition sources, and the volume of the space, it is unlikely that a fire would occur and go undetected or unsuppressed by the smoke detection or Halon system noted above, or personnel, and damage the safe shutdown equipment. The low likelihood of damage to safe shutdown equipment due to a fire in this area, combined with the ability of OMA #18 to manipulate the plant in the event of a fire that damages safe shutdown equipment, provides adequate assurance that safe shutdown capability is maintained.

3.5 OB–FZ–8A Office Bldg. Reactor Recirculation MG Set Room & OB–FZ–8B Mechanical Equipment Room Elev. 23′-6″ & 35′-0″

3.5.1 Fire Prevention

Fire Zones OB–FZ–8A and 8B are evaluated together for the combustible loading and fire safe shutdown analysis. The licensee stated that the fire loading in this zone is low and that there is an administrative controls program in place to limit additional combustible materials and sources of ignition. The licensee also stated that there are minimal combustibles in Fire Zone OB–FZ–8B. The major combustibles in Fire Zone OB–FZ–8A are lubricating oil (approximately 83% of loading) and cable insulation (approximately 13% of loading).

3.5.2 Detection, Control, and Extinguishment

The licensee stated that OB–FZ–8A has a partial wet-pipe sprinkler system with a flow alarm that notifies the control room and that the area does not have a smoke detection system however, a duct smoke detector is located in the exhaust duct of fan EF–1–20. Since operation of the sprinkler system will alarm in the control room, prompt notification of and response by, the fire brigade for any required manual fire fighting activities is expected.

3.5.3 Preservation of Safe Shutdown Capability

The licensee stated that OB–FZ–8A has a ceiling height of approximately 10′-10″ and an approximate floor area of 2128 square feet and OB–FZ–8B has a ceiling height of approximately 11′-0″ and an approximate floor area of 479 square feet so it is unlikely that smoke and heat would accumulate at the height of the safe shutdown equipment and cause a failure due to fire damage.

3.5.4 OMAs Credited for a Fire in This Area

3.5.4.1 OMA #17—Provide Makeup Air to Isolation Condenser Valve V–11–34 Accumulator

In order for OMA #17 to be necessary, a loss of instrument air to the isolation condenser valve V–11–34 would have to occur due to fire damage. The licensee stated that they conservatively assume that instrument air is lost for all Appendix R fires based on the fact that instrument air lines run throughout many areas of the plant. The licensee's analysis assumes that the air line could potentially fail in approximately 45 minutes when exposed to the postulated fire.

The licensee also stated that OMA #17 connects a high pressure air cylinder to the accumulator of Condensate Transfer System valve V–11–34 and that these air-operated valves are used to control makeup to the isolation condensers. Each valve is provided with an air accumulator that provides a minimum of six full cycles. As a result, this OMA is only necessary to ensure long-term operation of these valves and makeup to the isolation condensers. Further, this OMA would only be necessary if the plant had to remain in hot shutdown for an extended time. This scenario is unlikely for this particular area since the plant would likely reach cold shutdown before the action is required.

In addition, the licensee stated that they maintain a fire support procedure (ABN–35, "Loss of Instrument Air") that provides guidance to perform this OMA if instrument air is lost and indicates that there are four annunciator alarm windows that monitor instrument air pressure, plus a pressure gauge on a panel in the control room for instrument air pressure. If all of these instruments are not available, then ABN–35 further indicates that the control rods will start to drift into the core and the MSIVs will close, as well as multiple air-operated valves changing state. Additionally, RPV level indication will not be compromised by a fire in any zone or area. All of these indications would help the operator diagnose the loss of instrument air and initiate mitigating procedures.

In the unlikely event that a fire does occur and causes a loss of instrument air to the air-operated valves, OMA #17 is available to provide makeup control air to the accumulator for V–11–34 for the isolation condenser makeup line due to the loss of instrument air. If OMA #17

becomes necessary, the licensee stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 26 minutes, while the time available is 300 minutes, which provides a 244-minute margin.

3.5.5 Conclusion

Given the limited amount of combustible materials, ignition sources, and the large volume of the space, it is unlikely that a fire would occur and go undetected or unsuppressed by the smoke detection or sprinkler systems noted above, or personnel, and damage the safe shutdown equipment. The low likelihood of damage to safe shutdown equipment in this zone, combined with the ability of OMA #17 to manipulate the plant in the event of a fire that damages safe shutdown equipment, provides adequate assurance that safe shutdown capability is maintained.

3.6 OB–FZ–8C Office Bldg. A/B Battery Room, Tunnel and Electrical Tray Room Elev. 35′-0″

3.6.1 Fire Prevention

The licensee stated that the fire loading in this zone is low and that there is an administrative controls program in place to limit additional combustible materials and sources of ignition. The licensee also stated that the major combustibles in Fire Zone OB–FZ–8C are electrolyte-filled plastic battery cases and racks (approximately 56% of loading) and cable insulation (approximately 39% of loading).

3.6.2 Detection, Control, and Extinguishment

The licensee stated that OB–FZ–8C has a fixed, total-flooding, Halon 1301 extinguishing system, area-wide smoke detection that is installed at the ceiling level and cross-zoned to sound a local alarm, and an alarm in the control room upon actuation of one detector. Actuation of a second detector will sound a local alarm, discharge the Halon system, trip supply and exhaust fans, and close dampers.

3.6.3 Preservation of Safe Shutdown Capability

The licensee stated that OB–FZ–8C has a ceiling height of approximately 11′-0″ and an approximate floor area of 1292 square feet so it is unlikely that smoke and heat would accumulate at the height of the safe shutdown equipment and cause a failure due to fire damage.

3.6.4 OMAs Credited for a Fire in This Zone

3.6.4.1 OMA #17—Provide Makeup Air to Isolation Condenser Valve V–11–34 Accumulator

In order for OMA #17 to be necessary, a loss of instrument air to the isolation condenser valve V–11–34 would have to occur due to fire damage. The licensee stated that they conservatively assume that instrument air is lost for all Appendix R fires based on the fact that instrument air lines run throughout many areas of the plant. The licensee's analysis assumes that the air line could potentially fail in approximately 45 minutes when exposed to the postulated fire.

The licensee also stated that OMA #17 connects a high pressure air cylinder to the accumulator of Condensate Transfer System valve V–11–34 and that these air-operated valves are used to control makeup to the isolation condensers. Each valve is provided with an air accumulator that provides a minimum of six full cycles. As a result, this OMA is only necessary to ensure long-term operation of these valves and makeup to the isolation condensers. Further, this OMA would only be necessary if the plant had to remain in hot shutdown for an extended time. This scenario is unlikely for this particular area since the plant would likely reach cold shutdown before the action is required.

In addition, the licensee stated that they maintain a fire support procedure (ABN–35, "Loss of Instrument Air") that provides guidance to perform this OMA if instrument air is lost and indicates that there are four annunciator alarm windows that monitor instrument air pressure, plus a pressure gauge on a panel in the control room for instrument air pressure. If all of these instruments are not available, then ABN–35 further indicates that the control rods will start to drift into the core and the MSIVs will close, as well as multiple air-operated valves changing state. Additionally, RPV level indication will not be compromised by a fire in any zone or area. All of these indications would help the operator diagnose the loss of instrument air and initiate mitigating procedures.

In the unlikely event that a fire does occur and causes a loss of instrument air to the air-operated valves, OMA #17 is available to provide makeup control air to the accumulator for V–11–34 for the isolation condenser makeup line due to the loss of instrument air. If OMA #17 becomes necessary, the licensee stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 26 minutes, while the time available is 300 minutes, which provides a 244-minute margin.

3.6.5 Conclusion

Given the limited amount of combustible materials, ignition sources, and the large volume of the space, it is unlikely that a fire would occur and go undetected or unsuppressed by the smoke detection or Halon systems noted above, or personnel, and damage the safe shutdown equipment. The low likelihood of damage to safe shutdown equipment due to a fire in this zone, combined with the ability of OMA #17 to manipulate the plant in the event of a fire that damages safe shutdown equipment, provides adequate assurance that safe shutdown capability is maintained.

3.7 OB–FZ–10A Office Bldg. Monitor and Change Room and Operations Support Area Elev. 35′-0″ & 46′-6″

3.7.1 Fire Prevention

The licensee stated that the fire loading in this zone is low and that there is an administrative controls program in place to limit additional combustible materials and sources of ignition. The licensee also stated that the major combustibles in this area are cable insulation (approximate 27% of loading), rubber flooring (approximately 31% of loading), miscellaneous plastics (approximately 17% of loading) and protective clothing supplies (approximately 20% of loading). However, since the protective clothing have been placed in metal cans with self-closing lids they are no longer considered a contribution to the combustibles in this area.

3.7.2 Detection, Control, and Extinguishment

The licensee stated that OB–FZ–10A has an area-wide smoke detection system and a wet-pipe automatic sprinkler system installed throughout the area. In addition, a hose station located nearby, outside the control room, provides manual suppression capability.

3.7.3 Preservation of Safe Shutdown Capability

The licensee stated that OB–FZ–10A has a ceiling height of approximately 13′-0″ and an approximate floor area of 2019 square feet so it is unlikely that smoke and heat would accumulate at the height of the safe shutdown equipment and cause a failure due to fire damage.

3.7.4 OMAs Credited for a Fire in This Area

3.7.4.1 OMA #18—Provide Makeup Air to Isolation Condenser Valve V–11–36 Accumulator

In order for OMA #18 to be necessary, a loss of instrument air to the isolation condenser valve V–11–36 would have to occur due to fire damage. The licensee stated that they conservatively assume that instrument air is lost for all Appendix R fires based on the fact that instrument air lines run throughout many areas of the plant. The licensee's analysis assumes that the air line could potentially fail in approximately 45 minutes when exposed to the postulated fire.

The licensee also stated that OMA #18 connects a high pressure air cylinder to the accumulator of Condensate Transfer System valve V–11–36 and that these air-operated valves are used to control makeup to the isolation condensers. Each valve is provided with an air accumulator that provides a minimum of six full cycles. As a result, this OMA is only necessary to ensure long-term operation of these valves and makeup to the isolation condensers. Further, this OMA would only be necessary if the plant had to remain in hot shutdown for an extended time. This scenario is unlikely for this particular area since the plant would likely reach cold shutdown before the action is required.

In addition, the licensee stated that they maintain a fire support procedure (ABN–35, "Loss of Instrument Air") that provides guidance to perform this OMA if instrument air is lost and indicates that there are four annunciator alarm windows that monitor instrument air pressure, plus a pressure gauge on a panel in the control room for instrument air pressure. If all of these instruments are not available, then ABN–35 further indicates that the control rods will start to drift into the core and the MSIVs will close, as well as multiple air-operated valves changing state. Additionally, RPV level indication will not be compromised by a fire in any zone or area. All of these indications would help the operator diagnose the loss of instrument air and initiate mitigating procedures.

In the unlikely event that a fire does occur and causes a loss of instrument air to the air-operated valves, OMA #18 is available to provide makeup control air to the accumulator for V–11–36 for the isolation condenser makeup line due to the loss of instrument air. If OMA #18 becomes necessary, the licensee stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 29 minutes, while the time available is 300 minutes, which provides a 241-minute margin.

3.7.5 Conclusion

Given the limited amount of combustible materials, ignition sources, and the large volume of the space, it is unlikely that a fire would occur and go undetected or unsuppressed by the smoke detection or sprinkler systems noted above, or personnel, and damage the safe shutdown equipment. The low likelihood of damage to safe shutdown equipment due to a fire in this zone, combined with the ability of OMA #18 to manipulate the plant in the event of a fire that damages safe shutdown equipment, provides adequate assurance that safe shutdown capability is maintained.

3.8 RB–FZ–1D Reactor Bldg. Elev. 51′-3″

3.8.1 Fire Prevention

The licensee stated that the fire loading in this zone is low and that there is an administrative controls program in place to limit additional combustible materials and sources of ignition. The licensee also stated that the main combustible in this area is attributed to cable insulation (approximately 84% of loading).

3.8.2 Detection, Control, and Extinguishment

The licensee stated that RB–FZ–1D has an area-wide smoke detection system and an automatic fixed deluge water spray system installed over cable trays and open hatches. The deluge suppression system protecting safety related cable trays is automatically activated by a cross-zoned detection system consisting of linear heat detection wire located on top of the cables in each original safety related cable tray and smoke detectors are located in each beam pocket at the ceiling.

3.8.3 Preservation of Safe Shutdown Capability

The licensee stated that RB–FZ–1D has a ceiling height of approximately 21′-0″ and an approximate floor area of 9,100 square feet so it is unlikely that smoke and heat would accumulate at the height of the safe shutdown equipment and cause a failure due to fire damage.

3.8.4 OMAs Credited for a Fire in This Area

3.8.4.1 OMA #17—Provide Makeup Air to Isolation Condenser Valve V–11–34 Accumulator

In order for OMA #17 to be necessary, a loss of instrument air to the isolation condenser valve V–11–34 would have to occur due to fire damage. The licensee stated that they conservatively assume that instrument air is lost for all Appendix R fires based on the fact that instrument air lines run throughout many areas of the plant. The licensee's analysis assumes that the air line could potentially fail in approximately 45 minutes when exposed to the postulated fire.

The licensee also stated that OMA #17 connects a high pressure air cylinder to the accumulator of Condensate Transfer System valve V–11–34 and that these air-operated valves are used to control makeup to the isolation condensers. Each valve is provided with an air accumulator that provides a minimum of six full cycles. As a result, this OMA is only necessary to ensure long-term operation of these valves and makeup to the isolation condensers. Further, this OMA would only be necessary if the plant had to remain in hot shutdown for an extended time.

In addition, the licensee stated that they maintain a fire support procedure (ABN–35, "Loss of Instrument Air") that provides guidance to perform this OMA if instrument air is lost and indicates that there are four annunciator alarm windows that monitor instrument air pressure, plus a pressure gauge on a panel in the control room for instrument air pressure. If all of these instruments are not available, then ABN–35 further indicates that the control rods will start to drift into the core and the MSIVs will close, as well as multiple air-operated valves changing state. Additionally, RPV level indication will not be compromised by a fire in any zone or area. All of these indications would help the operator diagnose the loss of instrument air and initiate mitigating procedures.

In the unlikely event that a fire does occur and causes a loss of instrument air to the air-operated valves, OMA #17 is available to provide makeup control air to the accumulator for V–11–34 for the isolation condenser makeup line due to the loss of instrument air. If OMA #17 becomes necessary, the licensee stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 26 minutes, while the time available is 300 minutes, which provides a 244-minute margin.

3.8.5 Conclusion

Given the limited amount of combustible materials, ignition sources, and the large volume of the space, it is unlikely that a fire would occur and go undetected or unsuppressed by the smoke detection or localized water deluge systems noted above, or personnel, and damage the safe shutdown equipment. The low likelihood of damage to safe shutdown equipment due to a fire in this area, combined with the ability of OMA #17 to manipulate the plant in the event of a fire that damages safe shutdown equipment, provides adequate assurance that safe shutdown capability is maintained.

3.9 RB–FZ–1E Reactor Bldg. Elev. 51′-3″

3.9.1 Fire Prevention

The licensee stated that the fire loading in this zone is low and that there is an administrative controls program in place to limit additional combustible materials and sources of ignition. The licensee also stated that the main combustible in this area is attributed to cable insulation (approximately 84% of loading).

3.9.2 Detection, Control, and Extinguishment

The licensee stated that RB–FZ–1E has an area-wide smoke detection system and an automatic fixed deluge water spray system installed over cable trays and open hatches. The deluge suppression system protecting safety related cable trays is automatically activated by a cross-zoned detection system consisting of linear heat detection wire located on top of the cables in each original safety related cable tray and smoke detectors are located in each beam pocket at the ceiling.

3.9.3 Preservation of Safe Shutdown Capability

The licensee stated that RB–FZ–1E has a ceiling height of approximately 26′-9″ and an approximate floor area of 12,140 square feet so it is unlikely that smoke and heat would accumulate at the height of the safe shutdown equipment and cause a failure due to fire damage.

3.9.4 OMAs Credited for a Fire in This Zone

3.9.4.1 OMA #17—Provide Makeup Air to Isolation Condenser Valve V–11–34 Accumulator

In order for OMA #17 to be necessary, a loss of instrument air to the isolation condenser valve V–11–34 would have to occur due to fire damage. The licensee stated that they conservatively assume that instrument air is lost for all Appendix R fires based on the fact that instrument air lines run throughout many areas of the plant. The licensee's analysis assumes that the air line could potentially fail in approximately 45 minutes when exposed to the postulated fire.

The licensee also stated that OMA #17 connects a high pressure air cylinder to the accumulator of Condensate Transfer System valve V–11–34 and that these air-operated valves are used to control makeup to the isolation condensers. Each valve is provided with an air accumulator that provides a minimum of six full cycles. As a result, this OMA is only necessary to ensure long-term operation of these valves and makeup to the isolation condensers. Further, this OMA would only be necessary if the plant had to remain in hot shutdown for an extended time.

In addition, the licensee stated that they maintain a fire support procedure (ABN–35, "Loss of Instrument Air") that provides guidance to perform this OMA if instrument air is lost and indicates that there are four annunciator alarm windows that monitor instrument air pressure, plus a pressure gauge on a panel in the control room for instrument air pressure. If all of these instruments are not available, then ABN–35 further indicates that the control rods will start to drift into the core and the MSIVs will close, as well as multiple air-operated valves changing state. Additionally, RPV level indication will not be compromised by a fire in any zone or area. All of these indications would help the operator diagnose the loss of instrument air and initiate mitigating procedures.

In the unlikely event that a fire does occur and causes a loss of instrument air to the air-operated valves, OMA #17 is available to provide makeup control air to the accumulator for V–11–34 for the isolation condenser makeup line due to the loss of instrument air. If OMA #17 becomes necessary, the licensee stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 26 minutes, while the time available is 300 minutes, which provides a 244-minute margin.

3.9.5 Conclusion

Given the limited amount of combustible materials, ignition sources, and the large volume of the space, it is unlikely that a fire would occur and go undetected or unsuppressed by the smoke detection or localized water deluge systems noted above, or personnel, and damage the safe shutdown equipment. The low likelihood of damage to safe shutdown equipment due to a fire in this zone, combined with the ability of OMA #17 to manipulate the plant in the event of a fire that damages safe shutdown equipment, provides adequate assurance that safe shutdown capability is maintained.

3.10 RB–FZ–1F3 Reactor Bldg. Northwest Corner Elev. -19′-6″

3.10.1 Fire Prevention

The licensee stated that the fire loading in this zone is low and that there is an administrative controls program in place to limit additional combustible materials and sources of ignition. The licensee also stated that the major combustibles in this area are cable insulation (approximately 58% of loading), ladders (approximately 16% of loading) and lubricating oil in pumps (approximately 16% of loading).

3.10.2 Detection, Control, and Extinguishment

The licensee stated that RB–FZ–1F3 has smoke detectors which alarm locally and in the control room installed over hazards rather than mounted at the ceiling. Fire extinguishers are also provided for manual fire fighting backup. Hose lines are available from outside hydrants and hose houses.

3.10.3 Preservation of Safe Shutdown Capability

The licensee stated that RB–FZ–1F3 has a ceiling height of approximately 41′-6″ and an approximate floor area of 560 square feet so it is unlikely that smoke and heat would accumulate at the height of the safe shutdown equipment and cause a failure due to fire damage.

3.10.4 OMAs Credited for a Fire in This Zone

3.10.4.1 OMA #17—Provide Makeup Air to Isolation Condenser Valve V–11–34 Accumulator

In order for OMA #17 to be necessary, a loss of instrument air to the isolation condenser valve V–11–34 would have to occur due to fire damage. The licensee stated that they conservatively assume that instrument air is lost for all Appendix R fires based on the fact that instrument air lines run throughout many areas of the plant. The licensee's analysis assumes that the air line could potentially fail in approximately 45 minutes when exposed to the postulated fire.

The licensee also stated that OMA #17 connects a high pressure air cylinder to

the accumulator of Condensate Transfer System valve V–11–34 and that these air-operated valves are used to control makeup to the isolation condensers. Each valve is provided with an air accumulator that provides a minimum of six full cycles. As a result, this OMA is only necessary to ensure long-term operation of these valves and makeup to the isolation condensers. Further, this OMA would only be necessary if the plant had to remain in hot shutdown for an extended time. This scenario is unlikely for this particular area since the plant would likely reach cold shutdown before the action is required.

In addition, the licensee stated that they maintain a fire support procedure (ABN–35, "Loss of Instrument Air") that provides guidance to perform this OMA if instrument air is lost and indicates that there are four annunciator alarm windows that monitor instrument air pressure, plus a pressure gauge on a panel in the control room for instrument air pressure. If all of these instruments are not available, then ABN–35 further indicates that the control rods will start to drift into the core and the MSIVs will close, as well as multiple air-operated valves changing state. Additionally, RPV level indication will not be compromised by a fire in any zone or area. All of these indications would help the operator diagnose the loss of instrument air and initiate mitigating procedures.

In the unlikely event that a fire does occur and causes a loss of instrument air to the air-operated valves, OMA #17 is available to provide makeup control air to the accumulator for V–11–34 for the isolation condenser makeup line due to the loss of instrument air. If OMA #17 becomes necessary, the licensee stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 26 minutes, while the time available is 300 minutes, which provides a 244-minute margin.

3.10.5 Conclusion

Given the limited amount of combustible materials, ignition sources, and large volume of the space, it is unlikely that a fire would occur and go undetected or unsuppressed by the smoke detection system or personnel and damage the safe shutdown equipment. The low likelihood of damage to safe shutdown equipment due to a fire in this area, combined with the ability of OMA #17 to manipulate the plant in the event of a fire that damages safe shutdown equipment, provides adequate assurance that safe shutdown capability is maintained.

3.11 RB–FZ–1F5 Reactor Bldg. Torus Room Elev. -19′-6″

3.11.1 Fire Prevention

The licensee stated that the fire loading in this zone is low and that there is an administrative controls program in place to limit additional combustible materials and sources of ignition. The licensee also stated that the major combustibles in this area are cable insulation (approximately 19% of loading) and gratings (approximately 76% of loading). The grating, which is the largest plastic material in this area, has a low flame spread rating (less than 25).

3.11.2 Detection, Control, and Extinguishment

The licensee stated that RB–FZ–1F5 does not have detection or suppression systems. However, due to the limited combustible loading and the nature of the combustibles, a fire in this zone is not expected to be of significant size or duration.

3.11.3 Preservation of Safe Shutdown Capability

The licensee stated that RB–FZ–1F5 is a voluminous area with an approximate floor area of 11,450 square feet and a ceiling height of approximately 41′-6″ therefore, it is unlikely that smoke and heat from a fire in the area would accumulate at the location of the instrument air line and cause a loss of instrument air.

3.11.4 OMAs Credited for a Fire in This Zone

3.11.4.1 OMA #17—Provide Makeup Air to Isolation Condenser Valve V–11–34 Accumulator

In order for OMA #17 to be necessary, a loss of instrument air to the isolation condenser valve V–11–34 would have to occur due to fire damage. The licensee stated that they conservatively assume that instrument air is lost for all Appendix R fires based on the fact that instrument air lines run throughout many areas of the plant. The licensee's analysis assumes that the air line could potentially fail in approximately 45 minutes when exposed to the postulated fire.

The licensee also stated that OMA #17 connects a high pressure air cylinder to the accumulator of Condensate Transfer System valve V–11–34 and that these air-operated valves are used to control makeup to the isolation condensers. Each valve is provided with an air accumulator that provides a minimum of six full cycles. As a result, this OMA is only necessary to ensure long-term operation of these valves and makeup to the isolation condensers. Further, this OMA would only be necessary if the plant had to remain in hot shutdown for an extended time. This scenario is unlikely for this particular area since the plant would likely reach cold shutdown before the action is required.

In addition, the licensee stated that they maintain a fire support procedure (ABN–35, "Loss of Instrument Air") that provides guidance to perform this OMA if instrument air is lost and indicates that there are four annunciator alarm windows that monitor instrument air pressure, plus a pressure gauge on a panel in the control room for instrument air pressure. If all of these instruments are not available, then ABN–35 further indicates that the control rods will start to drift into the core and the MSIVs will close, as well as multiple air-operated valves changing state. Additionally, RPV level indication will not be compromised by a fire in any zone or area. All of these indications would help the operator diagnose the loss of instrument air and initiate mitigating procedures.

In the unlikely event that a fire does occur and causes a loss of instrument air to the air-operated valves, OMA #17 is available to provide makeup control air to the accumulator for V–11–34 for the isolation condenser makeup line due to the loss of instrument air. If OMA #17 becomes necessary, the licensee stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 26 minutes, while the time available is 300 minutes, which provides a 244-minute margin.

3.11.5 Conclusion

Given the limited amount of combustible materials, ignition sources, and the large volume of the area, it is unlikely that a fire would occur and go undetected or unsuppressed by personnel, and damage the safe shutdown equipment. The low likelihood of damage to safe shutdown equipment due to a fire in this area, combined with the ability of OMA #17 to manipulate the plant in the event of a fire that damages safe shutdown equipment, provides adequate assurance that safe shutdown capability is maintained.

3.12 RB–FZ–1G Reactor Bldg. Shutdown Cooling Room Elev. 38′-0″ & 51′-3″

3.12.1 Fire Prevention

The licensee stated that the fire loading in this zone is low and that there is an administrative controls program in place to limit additional

combustible materials and sources of ignition. The licensee also stated that the main combustibles in this area are cable insulation (approximately 12% of loading), plastic (approximately 57% of loading) and Class A combustibles (approximately 14% of loading). The grating, which is the majority of the plastic material in this area, has a low flame spread rating (less than 25).

3.12.2 Detection, Control, and Extinguishment

The licensee stated that RB–FZ–1G is provided with a smoke detection system that alarms locally and in the control room to provide prompt notification of a potential fire event.

3.12.3 Preservation of Safe Shutdown Capability

The licensee stated that RB–FZ–1G has a ceiling height of approximately 21′, measured from the 51′-3″ elevation, and an approximate floor area of 1,609 square feet so it is unlikely that smoke and heat would accumulate at the height of the safe shutdown equipment and cause a failure due to fire damage.

3.12.4 OMAs Credited for a Fire in This Area

3.12.4.1 OMA #17—Provide Makeup Air to Isolation Condenser Valve V–11–34 Accumulator

In order for OMA #17 to be necessary, a loss of instrument air to the isolation condenser valve V–11–34 would have to occur due to fire damage. The licensee stated that they conservatively assume that instrument air is lost for all Appendix R fires based on the fact that instrument air lines run throughout many areas of the plant. The licensee's analysis assumes that the air line could potentially fail in approximately 45 minutes when exposed to the postulated fire.

The licensee also stated that OMA #17 connects a high pressure air cylinder to the accumulator of Condensate Transfer System valve V–11–34 and that these air-operated valves are used to control makeup to the isolation condensers. Each valve is provided with an air accumulator that provides a minimum of six full cycles. As a result, this OMA is only necessary to ensure long-term operation of these valves and makeup to the isolation condensers. Further, this OMA would only be necessary if the plant had to remain in hot shutdown for an extended time. This scenario is unlikely for this particular area since the plant would likely reach cold shutdown before the action is required.

In addition, the licensee stated that they maintain a fire support procedure (ABN–35, "Loss of Instrument Air") that provides guidance to perform this OMA if instrument air is lost and indicates that there are four annunciator alarm windows that monitor instrument air pressure, plus a pressure gauge on a panel in the control room for instrument air pressure. If all of these instruments are not available, then ABN–35 further indicates that the control rods will start to drift into the core and the MSIVs will close, as well as multiple air-operated valves changing state. Additionally, RPV level indication will not be compromised by a fire in any zone or area. All of these indications would help the operator diagnose the loss of instrument air and initiate mitigating procedures.

In the unlikely event that a fire does occur and causes a loss of instrument air to the air-operated valves, OMA #17 is available to provide makeup control air to the accumulator for V–11–34 for the isolation condenser makeup line due to the loss of instrument air. If OMA #17 becomes necessary, the licensee stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 26 minutes, while the time available is 300 minutes, which provides a 244-minute margin.

3.12.5 Conclusion

Given the limited amount of combustible materials, ignition sources, and large volume of the space, it is unlikely that a fire would occur and go undetected or unsuppressed by the smoke detection system or personnel and damage the safe shutdown equipment. The low likelihood of damage to safe shutdown equipment due to a fire in this area, combined with the ability of OMA #17 to manipulate the plant in the event of a fire that damages safe shutdown equipment, provides adequate assurance that safe shutdown capability is maintained.

3.13 TB–FA–3A Turbine Bldg. 4160V Emergency Switchgear Vault 1C Elev. 23′-6″

3.13.1 Fire Prevention

The licensee stated that the fire loading in this area is low and that there is an administrative controls program in place to limit additional combustible materials and sources of ignition. The licensee also stated that there are minimal amounts of cable insulation (approximately 5% of loading) miscellaneous plastic (approximately 73% of loading) and class A combustibles such as paper for procedures (approximately 20% of loading) in this area.

3.13.2 Detection, Control, and Extinguishment

The licensee stated that TB–FA–3A is provided with an area-wide smoke detection system and a total-flooding, manually actuated CO2 system.

3.13.3 Preservation of Safe Shutdown Capability

The licensee stated that TB–FA–3A has a ceiling height of approximately 21′ and an approximate floor area of 336 square feet so it is unlikely that smoke and heat would accumulate at the height of the safe shutdown equipment and cause a failure due to fire damage.

3.13.4 OMAs Credited for a Fire in This Area

3.13.4.1 OMA #17—Provide Makeup Air to Isolation Condenser Valve V–11–34 Accumulator

In order for OMA #17 to be necessary, a loss of instrument air to the isolation condenser valve V–11–34 would have to occur due to fire damage. The licensee stated that they conservatively assume that instrument air is lost for all Appendix R fires based on the fact that instrument air lines run throughout many areas of the plant. The licensee's analysis assumes that the air line could potentially fail in approximately 45 minutes when exposed to the postulated fire.

The licensee also stated that OMA #17 connects a high pressure air cylinder to the accumulator of Condensate Transfer System valve V–11–34 and that these air-operated valves are used to control makeup to the isolation condensers. Each valve is provided with an air accumulator that provides a minimum of six full cycles. As a result, this OMA is only necessary to ensure long-term operation of these valves and makeup to the isolation condensers. Further, this OMA would only be necessary if the plant had to remain in hot shutdown for an extended time. This scenario is unlikely for this particular area since the plant would likely reach cold shutdown before the action is required.

In addition, the licensee stated that they maintain a fire support procedure (ABN–35, "Loss of Instrument Air") that provides guidance to perform this OMA if instrument air is lost and indicates that there are four annunciator alarm windows that monitor instrument air pressure, plus a pressure gauge on a panel in the control room for instrument air pressure. If all of these instruments are not available, then ABN–35 further indicates that the control rods will start to drift into the core and the MSIVs will close, as well as multiple air-operated valves changing state. Additionally,

RPV level indication will not be compromised by a fire in any zone or area. All of these indications would help the operator diagnose the loss of instrument air and initiate mitigating procedures.

In the unlikely event that a fire does occur and causes a loss of instrument air to the air-operated valves, OMA #17 is available to provide makeup control air to the accumulator for V–11–34 for the isolation condenser makeup line due to the loss of instrument air. If OMA #17 becomes necessary, the licensee stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 26 minutes, while the time available is 300 minutes, which provides a 244-minute margin.

3.13.5 Conclusion

Given the limited amount of combustible materials, ignition sources, and large volume of the space, it is unlikely that a fire would occur and go undetected or unsuppressed by the smoke detection or CO2 systems, or personnel, and damage the safe shutdown equipment. The low likelihood of damage to safe shutdown equipment due to a fire in this area, combined with the ability of OMA #17 to manipulate the plant in the event of a fire that damages safe shutdown equipment, provides adequate assurance that safe shutdown capability is maintained.

3.14 TB–FA–26 Turbine Bldg. 125V DC Battery Room C Elev. 23′-6″

3.14.1 Fire Prevention

The licensee stated that the fire loading in this area is moderate and that there is an administrative controls program in place to limit additional combustible materials and sources of ignition. The licensee also stated that the major combustibles in this area are plastic, which is contributed by the battery cases (approximately 92% of loading) and cable insulation (approximately 6% of loading).

3.14.2 Detection, Control, and Extinguishment

The licensee stated that TB–FA–26 has an area-wide automatic pre-action sprinkler system and an area-wide smoke detection system installed.

3.14.3 Preservation of Safe Shutdown Capability

The licensee stated that there are no specific cables in this fire area associated with the OMAs identified for Fire Area TB–FA–26 and that the only fire safe shutdown component and cable located in this fire area is associated with the "C" battery.

3.14.4 OMAs Credited for a Fire in This Area

The licensee stated that this fire area is wholly contained within Fire Zone TB–FZ–11C (A and B 4160V Room) and that all cables to TB–FA–26 must traverse TB–FZ–11C. Therefore, TB–FA–26 and TB–FZ–11C were analyzed together for safe shutdown purposes and the OMAs are duplicated for these two plant areas. Refer to Section 3.16 below for the discussion of OMAs #1, #2, #3, #7, #8, and #18.

3.14.5 Conclusion

Given the limited amount of combustible materials, ignition sources, and lack of multiple safe shutdown trains in this area, it is unlikely that a fire would occur and go undetected or unsuppressed by the smoke detection or sprinkler systems, or personnel, and damage the safe shutdown equipment. The low likelihood of damage to safe shutdown equipment due to a fire in this area, combined with the ability of OMAs #1, #2, #3, #7, #8, and #18 to manipulate the plant in the event of a fire that damages safe shutdown equipment, provides adequate assurance that safe shutdown capability is maintained.

3.15 TB–FZ–11B Turbine Bldg. Lube Oil Storage, Purification and Pumping Area Elev. 0′-0″, 27′-0″, and 36′-0″

3.15.1 Fire Prevention

The licensee stated that the fire loading in this zone is high and that there is an administrative controls program in place to limit additional combustible materials and sources of ignition. The licensee also stated that the major combustibles in this area are lubricating oil (approximately 99% of loading) and cable insulation (approximately 0.3% of loading).

3.15.2 Detection, Control, and Extinguishment

The licensee stated that TB–FZ–11B has automatic suppression systems installed over principal combustibles and a rate of rise/fixed temperature fire detection system installed at the lube oil tank. A closed head automatic sprinkler system protects cable trays and open head water spray deluge system protects oil handling equipment and the oil storage tank. Thermal detectors are located in close proximity to the lube oil tank so that a lube oil fire would be quickly detected, which in turn would activate the deluge system for extinguishment. Additionally, the licensee stated that there are fire extinguishers provided throughout the zone and that aqueous film-forming foam (AFFF) is staged in the Fire Brigade van for use if necessary.

3.15.3 Preservation of Safe Shutdown Capability

The licensee stated that the ceiling heights in the area are approximately 9′-0″ in the basement hallway, approximately 19′-0″ in the basement stairs, approximately 26′-0″ on the first floor of the area, and approximately 42′-0″ on the second floor of the area. Additionally, the licensee stated that the floor area, measured at the 0′-0″ elevation is approximately 3175 square feet.

3.15.4 OMAs Credited for a Fire in This Zone

3.15.4.1 OMA #3—Manually Control 480V USS 1B2 Breakers for CRD Pump at Remote Shutdown Panel

In order for OMA #3 to be necessary, the credited and redundant cables would have to be damaged due to a fire. The licensee stated that these cables are located in the same tray with additional cables and are generally located approximately 14 feet above the floor. The licensee also stated that the cables pass over the top of potential ignition sources MCC 1A12 and MCC 1B12 and that the cables are located approximately 6 feet above these ignition sources. Additionally, the lube oil tanks are located below the cables, although not directly below, with a distance of approximately 26 feet separating the cables and the tanks. The cables are also located approximately 20 feet from ignition sources MCC 1A12A and 1B12A.

In the unlikely event that a fire does occur and damages the credited and redundant cables, OMA #3 is available to manually control the 480V USS 1B2 Breakers for CRD Pump NC08B and 1B2M from the Remote Shutdown Panel due to control circuit damage. The licensee also stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 8 minutes while the time available is 180 minutes, which provides a 142-minute margin.

3.15.4.2 OMA #18—Provide Makeup Air to Isolation Condenser Valve V–11–36 Accumulator

In order for OMA #18 to be necessary, a loss of instrument air to the isolation condenser valve V–11–36 would have to occur due to fire damage. The licensee stated that they conservatively assume that instrument air is lost for all Appendix R fires based on the fact that instrument air lines run throughout

many areas of the plant. The licensee's analysis assumes that the air line could potentially fail in approximately 45 minutes when exposed to the postulated fire.

The licensee also stated that OMA #18 connects a high pressure air cylinder to the accumulator of Condensate Transfer System valve V–11–36 and that these air-operated valves are used to control makeup to the isolation condensers. Each valve is provided with an air accumulator that provides a minimum of six full cycles. As a result, this OMA is only necessary to ensure long-term operation of these valves and makeup to the isolation condensers. Further, this OMA would only be necessary if the plant had to remain in hot shutdown for an extended time. This scenario is unlikely for this particular area since the plant would likely reach cold shutdown before the action is required.

In addition, the licensee stated that they maintain a fire support procedure (ABN–35, "Loss of Instrument Air") that provides guidance to perform this OMA if instrument air is lost and indicates that there are four annunciator alarm windows that monitor instrument air pressure, plus a pressure gauge on a panel in the control room for instrument air pressure. If all of these instruments are not available, then ABN–35 further indicates that the control rods will start to drift into the core and the MSIVs will close, as well as multiple air-operated valves changing state. Additionally, RPV level indication will not be compromised by a fire in any zone or area. All of these indications would help the operator diagnose the loss of instrument air and initiate mitigating procedures.

In the unlikely event that a fire does occur and causes a loss of instrument air to the air-operated valves, OMA #18 is available to provide makeup control air to the accumulator for V–11–36 for the isolation condenser makeup line due to the loss of instrument air. If OMA #18 becomes necessary, the licensee stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 26 minutes, while the time available is 300 minutes, which provides a 244-minute margin.

3.15.5 Conclusion

Although the fire loading is high, the limited ignition sources, large volume of the space, and the detection and suppression system make it unlikely that a fire would occur and go undetected or unsuppressed and damage the safe shutdown equipment. Additionally, the availability of fire extinguishers and AFFF, which is effective against oil based fires, provides an augmented ability to suppress a fire prior to damaging safe shutdown equipment. The low likelihood of damage to safe shutdown equipment due to a fire in this zone, combined with the ability of OMAs #3 and #18 to manipulate the plant in the event of a fire that damages safe shutdown equipment, provides adequate assurance that safe shutdown capability is maintained.

3.16 TB–FZ–11C Turbine Bldg. 4160V SWGR Room 1A and 1B Elev. 23′-6″

3.16.1 Fire Prevention

The licensee stated that the fire loading in this zone is low and that there is an administrative controls program in place to limit additional combustible materials and sources of ignition. The licensee also stated that the main combustible loading is attributed to cable insulation (approximately 73% of loading) and plastic (approximately 17% of loading).

3.16.2 Detection, Control, and Extinguishment

The licensee stated that TB–FZ–11C has an area-wide smoke detection system and an area-wide automatic fixed pre-action sprinkler system (except in the small caged area located to the east of Fire Area TB–FA–3A) installed.

3.16.3 Preservation of Safe Shutdown Capability

The licensee stated that TB–FZ–11C has a ceiling height of approximately 21′-8″ and an approximate floor area of 2666 square feet so it is unlikely that smoke and heat would accumulate at the height of the safe shutdown equipment and cause a failure due to fire damage.

3.16.4 OMAs Credited for a Fire in This Area

3.16.4.1 OMA #1—Trip Field Breakers for Recirculation Pumps MG Set

In order for OMA #1 to be necessary, damage to the 1A and 1B 4160V Switchgear Cabinets and the "C" Battery distribution panel, or the associated control wiring, would have to occur due to a fire and prevent tripping of the 4160V motor-generator set breakers. The licensee stated that these cables are located in the same tray with additional cables and are generally located at least 17 feet above the floor. The licensee also stated that the tray passes over the top of potential ignition source "B" 4160V switchgear and that the cables are located approximately 9 feet above this ignition source and 3 feet above the iso-phase bus duct at their closest point.

In the unlikely event that a fire does occur and damages the credited and redundant equipment, OMA #1 is available to trip the field breakers for the recirculation pumps motor-generator set so that the Fuel Zone Level Indicators can be used. The licensee also stated that they have assumed a 10-minute diagnosis period and that the required time to perform the action is 8 minutes while the time available is 30 minutes, which provides a 12-minute margin.

3.16.4.2 OMA #2—Align Fire Water to Isolation Condenser

In order for OMA #2 to be necessary, loss of the "B" train of power would have to occur due to a fire causing a loss of both condensate transfer pumps. The licensee stated that this OMA is dependent on the LSP–1D OMA, which was included in the licensee's Phase 1 request, and would not be required unless the OMA at the LSP–1D is required and access is not immediately available. As such, this OMA is considered a contingency action. The licensee also stated that these cables are located in the same tray with additional cables and are generally located at least 17 feet above the floor and that the tray passes over the top of potential ignition source "B" 4160V switchgear and that the cables are located approximately 9 feet above this ignition source and 3 feet above the iso-phase bus duct at their closest point.

In the unlikely event that a fire does occur and damages the credited and redundant cables, OMA #2 is available to provide fire water to the isolation condenser shell by operating valves V–9–2099, V–11–49, V–11–63, and V–11–41 due to loss of power. The licensee also stated that they have assumed a 10-minute diagnosis period and that the required time to perform the action is 13 minutes while the time available is 45 minutes, which provides a 22-minute margin.

3.16.4.3 OMA #3—Manually Control 480V USS 1B2 Breakers for CRD Pump at Remote Shutdown Panel

In order for OMA #3 to be necessary, the credited and redundant cables would have to be damaged due to a fire. The licensee stated that these cables are located in the same tray with additional cables and are generally located at least 17 feet above the floor. The licensee also stated that the tray passes over the top of potential ignition source "B" 4160V switchgear and that the cables are located approximately 9 feet above this

ignition source and 3 feet above the iso-phase bus duct at their closest point.

In the unlikely event that a fire does occur and damages the credited and redundant cables, OMA #3 is available to manually control the 480V USS 1B2 Breakers for CRD Pump NC08B and 1B2M from the Remote Shutdown Panel due to control circuit damage. The licensee also stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 8 minutes while the time available is 180 minutes, which provides a 142-minute margin.

3.16.4.4 OMA #7—Provide Makeup to Isolation Condenser via V–11–36

In order for OMA #7 to be necessary, loss of the "B" train of power would have to occur due to a fire causing a loss of both condensate transfer pumps. The licensee stated that this OMA is dependent on the LSP–1D OMA, which was included in the licensee's Phase 1 request, and would not be required unless the OMA at the LSP–1D is required and access is not immediately available. As such, this OMA is considered a contingency action. The licensee also stated that these cables are located in the same tray with additional cables and are generally located at least 17 feet above the floor and that the tray passes over the top of potential ignition source "B" 4160V switchgear and that the cables are located approximately 9 feet above this ignition source and 3 feet above the iso-phase bus duct at their closest point.

In the unlikely event that a fire does occur and damages the credited and redundant cables, OMA #7 is available to manually open V–11–36 to provide makeup to Isolation Condenser due to loss of power. The licensee also stated that they have assumed a 10-minute diagnosis period and that the required time to perform the action is 16 minutes while the time available is 45 minutes, which provides a 19-minute margin.

3.16.4.5 OMA #8—Locally Check Isolation Condenser Shell Level

In order for OMA #8 to be necessary, loss of the "B" train of power would have to occur due to a fire causing a loss of both condensate transfer pumps. The licensee stated that this OMA is dependent on the LSP–1D OMA, which was included in the licensee's Phase 1 request, and would not be required unless the OMA at the LSP–1D is required and access is not immediately available. As such, this OMA is considered a contingency action. The licensee also stated that these cables are located in the same tray with additional cables and are generally located at least 17 feet above the floor and that the tray passes over the top of potential ignition source "B" 4160V switchgear and that the cables are located approximately 9 feet above this ignition source and 3 feet above the iso-phase bus duct at their closest point.

In the unlikely event that a fire does occur and damages the credited and redundant cables, OMA #8 is available to check the isolation condenser shell level locally due to loss of power. The licensee also stated that they have assumed a 10-minute diagnosis period and that the required time to perform the action is 16 minutes while the time available is 45 minutes, which provides a 19-minute margin.

3.16.4.6 OMA #18—Provide Makeup Air to Isolation Condenser Valve V–11–36 Accumulator

In order for OMA #18 to be necessary, a loss of instrument air to the isolation condenser valve V–11–36 would have to occur due to fire damage. The licensee stated that they conservatively assume that instrument air is lost for all Appendix R fires based on the fact that instrument air lines run throughout many areas of the plant. The licensee's analysis assumes that the air line could potentially fail in approximately 45 minutes when exposed to the postulated fire.

The licensee also stated that OMA #18 connects a high pressure air cylinder to the accumulator of Condensate Transfer System valve V–11–36 and that these air-operated valves are used to control makeup to the isolation condensers. Each valve is provided with an air accumulator that provides a minimum of six full cycles. As a result, this OMA is only necessary to ensure long-term operation of these valves and makeup to the isolation condensers. Further, this OMA would only be necessary if the plant had to remain in hot shutdown for an extended time. This scenario is unlikely for this particular area since the plant would likely reach cold shutdown before the action is required.

In addition, the licensee stated that they maintain a fire support procedure (ABN–35, "Loss of Instrument Air") that provides guidance to perform this OMA if instrument air is lost and indicates that there are four annunciator alarm windows that monitor instrument air pressure, plus a pressure gauge on a panel in the control room for instrument air pressure. If all of these instruments are not available, then ABN–35 further indicates that the control rods will start to drift into the core and the main MSIVs will close, as well as multiple air-operated valves changing state. Additionally, RPV level indication will not be compromised by a fire in any zone or area. All of these indications would help the operator diagnose the loss of instrument air and initiate mitigating procedures.

In the unlikely event that a fire does occur and causes a loss of instrument air to the air-operated valves, OMA #18 is available to provide makeup control air to the accumulator for V–11–36 for the isolation condenser makeup line due to the loss of instrument air. If OMA #18 becomes necessary, the licensee stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 26 minutes, while the time available is 300 minutes, which provides a 244-minute margin.

3.16.5 Conclusion

Given the limited amount of combustible materials, ignition sources, and large volume of the space, it is unlikely that a fire would occur and go undetected or unsuppressed by the smoke detection or sprinkler systems noted above, or personnel, and damage the safe shutdown equipment. The low likelihood of damage to safe shutdown equipment due to a fire in this area, combined with the ability of OMAs #1, #2, #3, #7, #8, and #18 to manipulate the plant in the event of a fire that damages safe shutdown equipment, provide adequate assurance that safe shutdown capability is maintained.

3.17 TB–FZ–11D Turbine Bldg. Basement Floor South End Elev. 3′-6″

3.17.1 Fire Prevention

The licensee stated that the fire loading in this zone is low and that there is an administrative controls program in place to limit additional combustible materials and sources of ignition. The licensee also stated that the major combustibles in this area are cable insulation (approximately 29% of loading), Dow Corning 561 Silicon transformer liquid (approximately 15% of loading) and lubricating oil (approximately 40% of loading).

3.17.2 Detection, Control, and Extinguishment

The licensee stated that an automatic wet-pipe sprinkler system and an automatic water spray system located at the hydrogen seal oil unit are installed in the area.

3.17.3 Preservation of Safe Shutdown Capability

The licensee stated that TB–FZ–11D has a ceiling height of approximately 19′ and an approximate floor area of 9668 square feet so it is unlikely that smoke and heat would accumulate at the

height of the safe shutdown equipment and cause a failure due to fire damage.

3.17.4 OMAs Credited for a Fire in This Zone

3.17.4.1 OMA #1—Trip Field Breakers for Recirculation Pumps MG Set

In order for OMA #1 to be necessary, damage to the 1A and 1B 4160V Switchgear Cabinets and the "C" Battery distribution panel, or the associated control wiring, would have to occur due to a fire and prevent tripping of the 4160V MG set breakers. The licensee stated that these cables are located in the same tray with additional cables and are generally located at least 15 feet above the floor. The primary combustible fuel load in the area is the cables themselves and storage of transient combustibles is limited due to a sump and abandoned acid/caustic tanks located in the area.

The licensee also stated that the primary ignition sources in the area near the cable trays are the Turbine Building Closed Cooling Water Pumps and USS 1A1 and its associated transformer (4160V to 480V transformer). However, the Turbine Building Closed Cooling Water Pumps contain less than 5 gallons of oil and are enclosed in metal casings and the cable tray containing the cables is approximately 13 feet from the top of the pumps/motors. The top of USS 1A1 and its associated transformer are located approximately 30 feet diagonally from the credited cables and approximately 15 feet diagonally from the redundant cables. Additionally, there is a concrete ceiling beam, with a water curtain sprinkler system attached, which would provide some shielding for the cables from potential products of combustion generated by this ignition source. Sprinkler heads are also located in a ceiling pocket between the concrete ceiling beam and the USS 1A1 and transformer.

In the unlikely event that a fire does occur and damages the credited and redundant equipment, OMA #1 is available to trip the field breakers for the recirculation pumps MG Set so that the fuel zone level indicators can be used. The licensee also stated that they have assumed a 10-minute diagnosis period and that the required time to perform the action is 8 minutes while the time available is 30 minutes, which provides a 12-minute margin.

3.17.4.2 OMA #2—Align Fire Water to Isolation Condenser

In order for OMA #2 to be necessary, loss of the "B" train of power would have to occur due to a fire causing a loss of both condensate transfer pumps. The licensee stated that this OMA is dependent on the LSP–1D OMA, which was included in the licensee's Phase 1 request, and would not be required unless the OMA at the LSP–1D is required and access is not immediately available. As such, this OMA is considered a contingency action. In addition, the licensee stated that these cables are located in the same tray with additional cables and are generally located at least 15 feet above the floor. The primary combustible fuel load in the area is the cables themselves and storage of transient combustibles is limited due to a sump and abandoned acid/caustic tanks located in the area.

The licensee also stated that the primary ignition sources in the area near the cable trays are the Turbine Building Closed Cooling Water Pumps and USS 1A1 and its associated transformer (4160V to 480V transformer). However, the Turbine Building Closed Cooling Water Pumps contain less than 5 gallons of oil and are enclosed in metal casings and the cable tray containing the cables is approximately 13 feet from the top of the pumps/motors. The top of USS 1A1 and its associated transformer are located approximately 30 feet diagonally from the credited cables and approximately 15 feet diagonally from the redundant cables. Additionally, there is a concrete ceiling beam, with a water curtain sprinkler system attached, which would provide some shielding for the cables from potential products of combustion generated by this ignition source. Sprinkler heads are also located in a ceiling pocket between the concrete ceiling beam and the USS 1A1 and transformer.

In the unlikely event that a fire does occur and damages the credited and redundant cables, OMA #2 is available to provide fire water to the isolation condenser shell by operating valves V–9–2099, V–11–49, V–11–63, and V–11–41 due to loss of power. The licensee also stated that they have assumed a 10-minute diagnosis period and that the required time to perform the action is 13 minutes while the time available is 45 minutes, which provides a 22-minute margin.

3.17.4.3 OMA #3—Manually Control 480V USS 1B2 Breakers for CRD Pump at Remote Shutdown Panel

In order for OMA #3 to be necessary, the credited and redundant cables would have to be damaged due to a fire. The licensee stated that these cables are located in the same tray with additional cables and are generally located at least 15 feet above the floor. The primary combustible fuel load in the area is the cables themselves and storage of transient combustibles is limited due to a sump and abandoned acid/caustic tanks located in the area.

The licensee also stated that the primary ignition sources in the area near the cable trays are the Turbine Building Closed Cooling Water Pumps and USS 1A1 and its associated transformer (4160V to 480V transformer). However, the Turbine Building Closed Cooling Water Pumps contain less than 5 gallons of oil and are enclosed in metal casings and the cable tray containing the cables is approximately 13 feet from the top of the pumps/motors. The top of USS 1A1 and its associated transformer are located approximately 30 feet diagonally from the credited cables and approximately 15 feet diagonally from the redundant cables. Additionally, there is a concrete ceiling beam, with a water curtain sprinkler system attached, which would provide some shielding for the cables from potential products of combustion generated by this ignition source. Sprinkler heads are also located in a ceiling pocket between the concrete ceiling beam and the USS 1A1 and transformer.

In the unlikely event that a fire does occur and damages the credited and redundant cables, OMA #3 is available to manually control the 480V USS 1B2 Breakers for CRD Pump NC08B and 1B2M from the Remote Shutdown Panel due to control circuit damage. The licensee also stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 8 minutes while the time available is 180 minutes, which provides a 142-minute margin.

3.17.4.4 OMA #7—Provide Makeup to Isolation Condenser via V–11–36

In order for OMA #7 to be necessary, loss of the "B" train of power would have to occur due to a fire causing a loss of both condensate transfer pumps. The licensee stated that this OMA is dependent on the LSP–1D OMA, which was included in the licensee's Phase 1 request, and would not be required unless the OMA at the LSP–1D is required and access is not immediately available. As such, this OMA is considered a contingency action. In addition, the licensee stated that these cables are located in the same tray with additional cables and are generally located at least 15 feet above the floor. The primary combustible fuel load in the area is the cables themselves and storage of transient combustibles is limited due to a sump and abandoned acid/caustic tanks located in the area.

The licensee also stated that the primary ignition sources in the area near the cable trays are the Turbine Building

Closed Cooling Water Pumps and USS 1A1 and its associated transformer (4160V to 480V transformer). However, the Turbine Building Closed Cooling Water Pumps contain less than 5 gallons of oil and are enclosed in metal casings and the cable tray containing the cables is approximately 13 feet from the top of the pumps/motors. The top of USS 1A1 and its associated transformer are located approximately 30 feet diagonally from the credited cables and approximately 15 feet diagonally from the redundant cables. Additionally, there is a concrete ceiling beam, with a water curtain sprinkler system attached, which would provide some shielding for the cables from potential products of combustion generated by this ignition source. Sprinkler heads are also located in a ceiling pocket between the concrete ceiling beam and the USS 1A1 and transformer.

In the unlikely event that a fire does occur and damages the credited and redundant cables, OMA #7 is available to manually open V–11–36 to provide makeup to Isolation Condenser due to loss of power. The licensee also stated that they have assumed a 10-minute diagnosis period and that the required time to perform the action is 16 minutes while the time available is 45 minutes, which provides a 19-minute margin.

3.17.4.5 OMA #8—Locally Check Isolation Condenser Shell Level

In order for OMA #8 to be necessary, loss of the "B" train of power would have to occur due to a fire causing a loss of both condensate transfer pumps. The licensee stated that this OMA is dependent on the LSP–1D OMA, which was included in the licensee's Phase 1 request, and would not be required unless the OMA at the LSP–1D is required and access is not immediately available. As such, this OMA is considered a contingency action. In addition, the licensee stated that these cables are located in the same tray with additional cables and are generally located at least 15 feet above the floor. The primary combustible fuel load in the area is the cables themselves and storage of transient combustibles is limited due to a sump and abandoned acid/caustic tanks located in the area.

The licensee also stated that the primary ignition sources in the area near the cable trays are the Turbine Building Closed Cooling Water Pumps and USS 1A1 and its associated transformer (4160V to 480V transformer). However, the Turbine Building Closed Cooling Water Pumps contain less than 5 gallons of oil and are enclosed in metal casings and the cable tray containing the cables is approximately 13 feet from the top of the pumps/motors. The top of USS 1A1 and its associated transformer are located approximately 30 feet diagonally from the credited cables and approximately 15 feet diagonally from the redundant cables. Additionally, there is a concrete ceiling beam, with a water curtain sprinkler system attached, which would provide some shielding for the cables from potential products of combustion generated by this ignition source. Sprinkler heads are also located in a ceiling pocket between the concrete ceiling beam and the USS 1A1 and transformer.

In the unlikely event that a fire does occur and damages the credited and redundant cables, OMA #8 is available to check the isolation condenser shell level locally due to loss of power. The licensee also stated that they have assumed a 10-minute diagnosis period and that the required time to perform the action is 16 minutes while the time available is 45 minutes, which provides a 19-minute margin.

3.17.4.6 OMA #18—Provide Makeup Air to Isolation Condenser Valve V–11–36 Accumulator

In order for OMA #18 to be necessary, a loss of instrument air to the isolation condenser valve V–11–36 would have to occur due to fire damage. The licensee stated that they conservatively assume that instrument air is lost for all Appendix R fires based on the fact that instrument air lines run throughout many areas of the plant. The licensee's analysis assumes that the air line could potentially fail in approximately 45 minutes when exposed to the postulated fire.

The licensee also stated that OMA #18 connects a high pressure air cylinder to the accumulator of Condensate Transfer System valve V–11–36 and that these air-operated valves are used to control makeup to the isolation condensers. Each valve is provided with an air accumulator that provides a minimum of six full cycles. As a result, this OMA is only necessary to ensure long-term operation of these valves and makeup to the isolation condensers. Further, this OMA would only be necessary if the plant had to remain in hot shutdown for an extended time. This scenario is unlikely for this particular area since the plant would likely reach cold shutdown before the action is required.

In addition, the licensee stated that they maintain a fire support procedure (ABN–35, "Loss of Instrument Air") that provides guidance to perform this OMA if instrument air is lost and indicates that there are four annunciator alarm windows that monitor instrument air pressure, plus a pressure gauge on a panel in the control room for instrument air pressure. If all of these instruments are not available, then ABN–35 further indicates that the control rods will start to drift into the core and the MSIVs will close, as well as multiple air-operated valves changing state. Additionally, RPV level indication will not be compromised by a fire in any zone or area. All of these indications would help the operator diagnose the loss of instrument air and initiate mitigating procedures.

In the unlikely event that a fire does occur and causes a loss of instrument air to the air-operated valves, OMA #18 is available to provide makeup control air to the accumulator for V–11–36 for the isolation condenser makeup line due to the loss of instrument air. If OMA #18 becomes necessary, the licensee stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 26 minutes, while the time available is 300 minutes, which provides a 244-minute margin.

3.17.5 Conclusion

Given the limited amount of combustible materials, ignition sources and the volume of the space, it is unlikely that a fire would occur and go undetected or unsuppressed by the suppression systems noted above, or personnel, and damage the safe shutdown equipment. The low likelihood of damage to safe shutdown equipment due to a fire in this zone, combined with the ability of OMAs #1, #2, #3, #7, #8, and #18 to manipulate the plant in the event of a fire that damages safe shutdown equipment, provides adequate assurance that safe shutdown capability is maintained.

3.18 TB–FZ–11E Turbine Bldg. Condenser Bay Area Elev. 0′-″0

3.18.1 Fire Prevention

The licensee stated that the fire loading in this zone is low and that there is an administrative controls program in place to limit additional combustible materials and sources of ignition. The licensee also stated that the major combustibles in this area are cable insulation (approximately 40% of loading) and plastic (approximately 59% of loading). The grating, which is the largest plastic material in this area, is dispersed throughout this fire zone (not concentrated) and has a low flame spread (less than 25). The licensee also stated that this Fire Zone is procedurally controlled as a transient combustible free area while the plant is operating and that this area is a high

radiation area during plant operation and is not normally accessed.

3.18.2 Detection, Control, and Extinguishment

The licensee stated that a closed head automatic sprinkler and spray systems protect the south end basement area and the hydrogen seal oil unit. An exemption was granted from the requirements of Appendix R Section III.G.2 in safety evaluations dated March 24, 1986, and June 25, 1990, for not having fixed fire detection in this area. The primary basis for this exemption was the presence of the automatic wet pipe sprinkler system and low fire loading. The Condenser Bay is procedurally controlled as a transient combustible free area in while the plant is operating. If a fire did occur, the flow alarm would notify the control room of any sprinkler system activation. Extinguishment of a fire can be accomplished by the automatic fixed suppression system and the plant fire brigade. A closed head automatic sprinkler system was recently expanded to provide fire suppression over the cables in cable trays in the northeast side of the condenser bay.

3.18.3 Preservation of Safe Shutdown Capability

The licensee stated that TB–FZ–11E has a ceiling height of at least 40′ and an approximate floor area of 26,427 square feet so it is unlikely that smoke and heat would accumulate at the height of the safe shutdown equipment and cause a failure due to fire damage.

3.18.4 OMAs Credited for a Fire in This Zone

3.18.4.1 OMA #3—Manually Control 480V USS 1B2 Breakers for CRD Pump at Remote Shutdown Panel

In order for OMA #3 to be necessary, the credited and redundant cables would have to be damaged due to a fire. The licensee stated that these cables are located in the same tray with additional cables and are generally located approximately 40 feet above the floor. With the exception of the cables themselves, there are no other ignition sources or combustibles located near the cables.

In the unlikely event that a fire does occur and damages the credited and redundant cables, OMA #3 is available to manually control the 480V USS 1B2 Breakers for CRD Pump NC08B and 1B2M from the Remote Shutdown Panel due to control circuit damage. The licensee also stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 8 minutes while the time available is 180 minutes, which provides a 142-minute margin.

3.18.4.2 OMA #18—Provide Makeup Air to Isolation Condenser Valve V–11–36 Accumulator

In order for OMA #18 to be necessary, a loss of instrument air to the isolation condenser valve V–11–36 would have to occur due to fire damage. The licensee stated that they conservatively assume that instrument air is lost for all Appendix R fires based on the fact that instrument air lines run throughout many areas of the plant. The licensee's analysis assumes that the air line could potentially fail in approximately 45 minutes when exposed to the postulated fire.

The licensee also stated that OMA #18 connects a high pressure air cylinder to the accumulator of Condensate Transfer System valve V–11–36 and that these air-operated valves are used to control makeup to the isolation condensers. Each valve is provided with an air accumulator that provides a minimum of six full cycles. As a result, this OMA is only necessary to ensure long-term operation of these valves and makeup to the isolation condensers. Further, this OMA would only be necessary if the plant had to remain in hot shutdown for an extended time. This scenario is unlikely for this particular area since the plant would likely reach cold shutdown before the action is required.

In addition, the licensee stated that they maintain a fire support procedure (ABN–35, "Loss of Instrument Air") that provides guidance to perform this OMA if instrument air is lost and indicates that there are four annunciator alarm windows that monitor instrument air pressure, plus a pressure gauge on a panel in the control room for instrument air pressure. If all of these instruments are not available, then ABN–35 further indicates that the control rods will start to drift into the core and the MSIVs will close, as well as multiple air-operated valves changing state. Additionally, RPV level indication will not be compromised by a fire in any zone or area. All of these indications would help the operator diagnose the loss of instrument air and initiate mitigating procedures.

In the unlikely event that a fire does occur and causes a loss of instrument air to the air-operated valves, OMA #18 is available to provide makeup control air to the accumulator for V–11–36 for the isolation condenser makeup line due to the loss of instrument air. If OMA #18 becomes necessary, the licensee stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 26 minutes, while the time available is 300 minutes, which provides a 244-minute margin.

3.18.5 Conclusion

Given the limited amount of combustible materials, ignition sources, and large volume of the space, it is unlikely that a fire would occur and go undetected or unsuppressed by the suppression system noted above or personnel, and damage the safe shutdown equipment. The low likelihood of damage to safe shutdown equipment due to a fire in this zone, combined with the ability of OMAs #3 and #18 to manipulate the plant in the event of a fire that damages safe shutdown equipment, provides adequate assurance that safe shutdown capability is maintained.

3.19 TB–FZ–11F Turbine Bldg. Feedwater Pump Room Elev. 0′-0″ & 3′-6″

3.19.1 Fire Prevention

The licensee stated that the fire loading in this zone is low and that there is an administrative controls program in place to limit additional combustible materials and sources of ignition. The licensee also stated that the major combustible load consists of cable insulation (approximately 15% of loading), lubricating oil (approximately 39% of loading), rubber (approximately 21% of loading) and plastics (approximately 17% of loading). The licensee states that the majority of the combustible loading attributed to rubber and plastic was due to the storage of hoses that are now no longer in the area.

3.19.2 Detection, Control, and Extinguishment

The licensee stated that TB–FZ–11F has an area-wide thermal fire detection system. Extinguishment of the fire will be accomplished by the plant fire brigade.

3.19.3 Preservation of Safe Shutdown Capability

The licensee stated that TB–FZ–11F has a ceiling height of approximately 16′ in approximately 70% of the area and approximately 19′-6″ in the remainder of the area. With an approximate floor area of 5650 square feet, it is unlikely that smoke and heat would accumulate at the height of the safe shutdown equipment and cause a failure due to fire damage.

3.19.4 OMAs Credited for a Fire in This Zone

3.19.4.1 OMA #18—Provide Makeup Air to Isolation Condenser Valve V–11–36 Accumulator

In order for OMA #18 to be necessary, a loss of instrument air to the isolation condenser valve V–11–36 would have to occur due to fire damage. The licensee stated that they conservatively assume that instrument air is lost for all Appendix R fires based on the fact that instrument air lines run throughout many areas of the plant. The licensee's analysis assumes that the air line could potentially fail in approximately 45 minutes when exposed to the postulated fire.

The licensee also stated that OMA #18 connects a high pressure air cylinder to the accumulator of Condensate Transfer System valve V–11–36 and that these air-operated valves are used to control makeup to the isolation condensers. Each valve is provided with an air accumulator that provides a minimum of six full cycles. As a result, this OMA is only necessary to ensure long-term operation of these valves and makeup to the isolation condensers. Further, this OMA would only be necessary if the plant had to remain in hot shutdown for an extended time. This scenario is unlikely for this particular area since the plant would likely reach cold shutdown before the action is required.

In addition, the licensee stated that they maintain a fire support procedure (ABN–35, "Loss of Instrument Air") that provides guidance to perform this OMA if instrument air is lost and indicates that there are four annunciator alarm windows that monitor instrument air pressure, plus a pressure gauge on a panel in the control room for instrument air pressure. If all of these instruments are not available, then ABN–35 further indicates that the control rods will start to drift into the core and the MSIVs will close, as well as multiple air-operated valves changing state. Additionally, RPV level indication will not be compromised by a fire in any zone or area. All of these indications would help the operator diagnose the loss of instrument air and initiate mitigating procedures.

In the unlikely event that a fire does occur and causes a loss of instrument air to the air-operated valves, OMA #18 is available to provide makeup control air to the accumulator for V–11–36 for the isolation condenser makeup line due to the loss of instrument air. If OMA #18 becomes necessary, the licensee stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 26 minutes, while the time available is 300 minutes, which provides a 244-minute margin.

3.19.5 Conclusion

Given the limited amount of combustible materials, ignition sources, and large volume of the space, it is unlikely that a fire would occur and go undetected or unsuppressed by the thermal detection system noted above or personnel, and damage the safe shutdown equipment. The low likelihood of damage to safe shutdown equipment due to a fire in this zone, combined with the ability of OMA #18 to manipulate the plant in the event of a fire that damages safe shutdown equipment, provides adequate assurance that safe shutdown capability is maintained.

3.20 TB–FZ–11H Turbine Bldg. Demineralizer Tank and Steam Jet Air Ejector Area Elev. 3′-6″ & 23′-6″

3.20.1 Fire Prevention

The licensee stated that the fire loading in this zone is low and that there is an administrative controls program in place to limit additional combustible materials and sources of ignition. The licensee also stated that the major combustibles are cable insulation (approximately 23% of loading), ladders and other miscellaneous plastics (approximately 55% of loading) and miscellaneous ordinary combustibles.

3.20.2 Detection, Control, and Extinguishment

The licensee stated that TB–FZ–11H has a partial area thermal fire detector system. The system alarms locally and in the control room. Manual extinguishment of fire will be accomplished by the plant fire brigade.

3.20.3 Preservation of Safe Shutdown Capability

The licensee stated that TB–FZ–11H has a ceiling height of approximately 7′-0″, measured at the 3′-6″ elevation, and approximately 19′-0″, measured at the 23′-6″ elevation with an approximate floor area of 3,944 square feet and 4,366 square feet, respectively, so it is unlikely that smoke and heat would accumulate at the height of the safe shutdown equipment and cause a failure due to fire damage.

3.20.4 OMAs Credited for a Fire in This Area

3.20.4.1 OMA #18—Provide Makeup Air to Isolation Condenser Valve V–11–36 Accumulator

In order for OMA #18 to be necessary, a loss of instrument air to the isolation condenser valve V–11–36 would have to occur due to fire damage. The licensee stated that they conservatively assume that instrument air is lost for all Appendix R fires based on the fact that instrument air lines run throughout many areas of the plant. The licensee's analysis assumes that the air line could potentially fail in approximately 45 minutes when exposed to the postulated fire.

The licensee also stated that OMA #18 connects a high pressure air cylinder to the accumulator of Condensate Transfer System valve V–11–36 and that these air-operated valves are used to control makeup to the isolation condensers. Each valve is provided with an air accumulator that provides a minimum of six full cycles. As a result, this OMA is only necessary to ensure long-term operation of these valves and makeup to the isolation condensers. Further, this OMA would only be necessary if the plant had to remain in hot shutdown for an extended time. This scenario is unlikely for this particular area since the plant would likely reach cold shutdown before the action is required.

In addition, the licensee stated that they maintain a fire support procedure (ABN–35, "Loss of Instrument Air") that provides guidance to perform this OMA if instrument air is lost and indicates that there are four annunciator alarm windows that monitor instrument air pressure, plus a pressure gauge on a panel in the control room for instrument air pressure. If all of these instruments are not available, then ABN–35 further indicates that the control rods will start to drift into the core and the MSIVs will close, as well as multiple air-operated valves changing state. Additionally, RPV level indication will not be compromised by a fire in any zone or area. All of these indications would help the operator diagnose the loss of instrument air and initiate mitigating procedures.

In the unlikely event that a fire does occur and causes a loss of instrument air to the air-operated valves, OMA #18 is available to provide makeup control air to the accumulator for V–11–36 for the isolation condenser makeup line due to the loss of instrument air. If OMA #18 becomes necessary, the licensee stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 26

minutes, while the time available is 300 minutes, which provides a 244-minute margin.

3.20.5 Conclusion

Given the limited amount of combustible materials, ignition sources, and large volume of the space, it is unlikely that a fire would occur and go undetected or unsuppressed by the thermal detection system noted above or personnel, and damage the safe shutdown equipment. The low likelihood of damage to safe shutdown equipment due to a fire in this zone, combined with the ability of OMA #18 to manipulate the plant in the event of a fire that damages safe shutdown equipment, provides adequate assurance that safe shutdown capability is maintained.

3.21 Yard

3.21.1 Fire Prevention

The licensee stated that no specific quantification of fire loading was considered necessary for the Yard area since it is an outdoor area with no ceiling or physical boundaries to contain heat and smoke from a fire event.

3.21.2 Detection, Control, and Extinguishment

The licensee stated that there is no fire detection or fixed fire suppression systems installed in this area but that manual suppression is provided by a hose station from the office building and by fire hydrants located throughout the Yard area.

3.21.3 Preservation of Safe Shutdown Capability

Since the Yard area is an outdoor space with no walls or ceiling, smoke and heat would not accumulate within the fire area to cause damage to components remote to the initiating fire or obstruct operator actions.

3.21.4 OMAs Credited for a Fire in This Area

3.21.4.1 OMA #12—Establish CRD Flow to Reactor

In order for OMA #12 to be necessary, a loss of instrument air to the CRD flow control valve would have to occur due to fire damage. The licensee stated that the normal CRD flow control valve is a single component without a redundant counterpart. Because of this, a manual bypass is provided to maintain flow around the CRD flow control valves that fail closed upon loss of instrument air or control cable damage.

In the unlikely event that a fire does occur and causes the normal flow control valve to be unavailable due to a loss of instrument air or cable damage, OMA #12 is available to manually open V–15–237, throttle V–15–30 while monitoring flow at FI–225–2, and close V–15–52 to establish CRD flow to the reactor. Furthermore, OMA #12 would only be necessary if the Isolation Condenser/CRD systems are utilized for hot shutdown. If OMA #12 becomes necessary, the licensee stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 15 minutes, while the time available is 204 minutes, which provides a 159-minute margin.

3.21.4.2 OMA #17—Provide Makeup Air to Isolation Condenser Valve V–11–34 Accumulator

In order for OMA #17 to be necessary, a loss of instrument air to the isolation condenser valve V–11–34 would have to occur due to fire damage. The licensee stated that they conservatively assume that instrument air is lost for all Appendix R fires based on the fact that instrument air lines run throughout many areas of the plant. The licensee's analysis assumes that the air line could potentially fail in approximately 45 minutes when exposed to the postulated fire.

The licensee also stated that OMA #17 connects a high pressure air cylinder to the accumulator of Condensate Transfer System valve V–11–34 and that these air-operated valves are used to control makeup to the isolation condensers. Each valve is provided with an air accumulator that provides a minimum of six full cycles. As a result, this OMA is only necessary to ensure long-term operation of these valves and makeup to the isolation condensers. Further, this OMA would only be necessary if the plant had to remain in hot shutdown for an extended time. This scenario is unlikely for this particular area since the plant would likely reach cold shutdown before the action is required.

In addition, the licensee stated that they maintain a fire support procedure (ABN–35, "Loss of Instrument Air") that provides guidance to perform this OMA if instrument air is lost and indicates that there are four annunciator alarm windows that monitor instrument air pressure, plus a pressure gauge on a panel in the control room for instrument air pressure. If all of these instruments are not available, then ABN–35 further indicates that the control rods will start to drift into the core and the MSIVs will close, as well as multiple air-operated valves changing state. Additionally, RPV level indication will not be compromised by a fire in any zone or area. All of these indications would help the operator diagnose the loss of instrument air and initiate mitigating procedures.

In the unlikely event that a fire does occur and causes a loss of instrument air to the air-operated valves, OMA #17 is available to provide makeup control air to the accumulator for V–11–34 for the isolation condenser makeup line due to the loss of instrument air. If OMA #17 becomes necessary, the licensee stated that they have assumed a 30-minute diagnosis period and that the required time to perform the action is 26 minutes, while the time available is 300 minutes, which provides a 244-minute margin.

3.21.5 Conclusion

Given the limited amount of combustible materials, ignition sources, and large volume of the space, it is unlikely that a fire would occur and go undetected or unsuppressed by the thermal detection system noted above or personnel, and damage the safe shutdown equipment. The low likelihood of damage to safe shutdown equipment due to a fire in this area, combined with the ability of OMAs #12 and #17 to manipulate the plant in the event of a fire that damages safe shutdown equipment, provides adequate assurance that safe shutdown capability is maintained.

3.22 Feasibility and Reliability of the Operator Manual Actions

This analysis postulates that OMAs may be needed to assure safe shutdown capability in addition to the traditional fire protection features described above. NUREG–1852, "Demonstrating the Feasibility and Reliability of Operator Manual Actions in Response to Fire," provides criteria and associated technical bases for evaluating the feasibility and reliability of post-fire OMAs in nuclear power plants. The following provides the Oyster Creek analysis of these criteria for justifying the OMAs specified in this exemption.

3.22.1 Bases for Establishing Feasibility and Reliability

Using NUREG–1852, the NRC staff has evaluated the feasibility and reliability review provided by the licensee in the April 2, 2010, Response to Request for Additional Information. For an OMA to be considered feasible, the required actions must be proceduralized, any equipment that is needed to implement the OMA is available, the environments in which the OMA is to be performed must permit the action, and the time taken to diagnose the need for the OMA and implement it (time required) must be

less than the time in which the OMA must be completed (time available).

3.22.2 Feasibility

The feasibility review provided by the licensee documents that procedures are in place, in the form of fire response procedures, to ensure that clear and accessible instructions on how to perform the manual actions are available to the operators. All of the requested OMAs are directed by plant procedures, and the operators are trained in the use of the procedures. Specifically, the licensee stated that procedure ABN–29, Plant Fires, is entered whenever a fire or indication of a fire occurs on the main fire alarm panel in the control room or at any local fire alarm panel. In addition to dispatching a radio-equipped operator to the alarming location, ABN–29 also directs that the fire brigade be dispatched whenever a fire suppression system has actuated (sprinkler, deluge, Halon, or CO_2) or a fire is confirmed. In addition, the licensee stated that ABN–29 directs immediate entry into the Fire Support Procedure (FSP) for the affected fire area as soon as the existence of a fire is confirmed. The licensee states that the following indications or symptoms are considered examples of a confirmed fire:

- Fire detection alarm and equipment malfunction indication or alarms within the same area;
- Fire pump start and either sprinkler flow alarm or deluge flow alarm;
- Gaseous suppression system actuation;
- Report from the field of an actual smoke condition or actual fire condition; or
- Fire detection alarm with follow up confirmation by field operator.

Entering the FSP means that the operator will review the FSP, identify equipment that could be affected, identify equipment that will be available, monitor plant equipment from the control room and communicate with the fire brigade leader. Based on the symptoms received in the control room and the feedback from the fire brigade leader, the operator will decide using the procedure what mitigating actions are necessary. In the event that a plant shutdown has occurred before the FSP is entered, the operator will still enter the FSP based on the fire and initiate the OMAs as appropriate. OMAs that are considered "prompt" (i.e., those that must be done within 45 minutes or less) are identified in both ABN–29 and in the applicable FSPs as an item requiring immediate attention. The operators are trained to perform prompt actions first and prioritize them based upon existing plant conditions. The FSPs are based on the worst-case loss considerations by assuming all fire damage occurs instantaneously and thus all operator manual actions will be required. The use of the Emergency Operating Procedures in conjunction with the applicable FSPs will permit the use of any mitigating system available first, and if a desired system is not available, the FSP provides a contingency action to restore the system or provide another means to perform the function. Operator training, including simulator demonstrations and plant walk downs, has been performed to ensure consistency in operator and team response for each OMA.

The licensee evaluated several potential environmental concerns, such as radiation levels, temperature/humidity conditions and the ventilation configuration and fire effects that the operators may encounter during certain emergency scenarios. The licensee's feasibility review concluded that the operators performing the manual actions would not be exposed to adverse or untenable conditions during any particular operator manual action procedure or during the time to perform the procedure. The licensee stated that OMAs required for achieving and maintaining hot shutdown conditions are not impacted by environmental conditions associated with fires in the fire area identified in the request. Each of the safe shutdown calculations that provide the technical basis for the FSPs contains a timeline for operator actions for the specific fire area. In addition, the licensee stated that the equipment needed to implement OMAs remains available and the fire areas remain accessible during or following the event.

The licensee's analysis demonstrates that, for the expected scenarios, the OMAs can be diagnosed and executed within the amount of time available to complete them. The licensee's analysis also demonstrates that various factors, as discussed above, have been considered to address uncertainties in estimating the time available. Therefore, the OMAs included in this review are feasible because there is adequate time available for the operator to perform the required OMAs to achieve and maintain hot shutdown following a postulated fire event. Table 2 summarizes the "required" verses "available" times for each OMA. The licensee has included any diagnosis time as part of the required time for performing a particular action. Where an action has multiple times or contingencies associated with the "available" completion time, the lesser time is used. This is approach is considered to represent a conservative approach to analyzing the timelines associated with each of the OMAs with regard to the feasibility and reliability of the actions included in this exemption. The licensee provided a discussion of the times and circumstances associated with each of the actions in their March 3, 2009, and April 2, 2010, correspondence.

TABLE 2

OMA	Fire area/zone of fire origin	OMA location	Required time (min)	Available time (min)	Margin (min)
1	TB–FA–26, TB–FZ–11C, and TB–FZ–11D	OB–FZ–8A	18	30	12
2	TB–FA–26, TB–FZ–11C, and TB–FZ–11D	RB–FZ–1E	23	45	22
3	TB–FA–26, TB–FZ–11B, TB–FZ–11C, TB–FZ–11D, and TB–FZ–11E	OB–FZ–6B	38	180	142
7	TB–FA–26, TB–FZ–11C, and TB–FZ–11D	RB–FZ–1B	26	45	19
8	TB–FA–26, TB–FZ–11C, and TB–FZ–11D	DG–FA–17	26	45	19
9	Yard	RB–FZ–1E	45	204	159
17	CW–FA–14, OB–FZ–6A, OB–FZ–8A, OB–FZ–8B, OB–FZ–8C, OB–FA–9, RB–FZ–1D, RB–FZ–1E, RB–FZ–1F3, RB–FZ–1F5, RB–FZ–1G, TB–FA–3A, and Yard.	RB–FZ–1B	56	300	244
18	OB–FZ–6B, TB–FA–26, TB–FZ–11B, TB–FZ–11C, TB–FZ–11D, TB–FZ–11E, TB–FZ–11F, and TB–FZ–11H.	RB–FZ–1B	56	300	244
	OB–FZ–10A	.....	38	60	22

The NRC staff reviewed the required operator manual action completion time limits versus the time before the action becomes critical to safely shutting down the unit as presented in the feasibility analyses. The NRC staff recognizes that, in some cases the time required neared the time available for an OMA. The NRC staff, however, also recognizes that there are conservatisms built in to these time estimates such as adding in the entire time assumed to diagnose the need for an OMA where in reality, the actual time take would likely be less.

The NRC staff notes that, in one case, an OMA must be completed within 30 minutes (i.e., it is considered a prompt action). This action is identified as OMA #1 and requires an operator to trip the field breakers for the recirculation pumps MG set so that the Fuel Zone Level Indicators can be used. The action may be required as a result of fire in TB–FA–26, TB–FZ–11C, or TB–FZ–11D. The symptom for this action is the inability to trip the Recirculation Pumps from the control room and this is detected using the associated pump breaker indicating lights, alarms and flow indications. The Fire Support Procedures direct the operator to trip the pumps using the pump control switches or the Recirculation Pump Trip circuitry (two trip coils for pumps). If both of these methods fail on one or more pumps, the guidance is given to trip the pumps from the 4160V Switchgear 1A and 1B located outside the control room in Fire Area TB–FZ–11C. Only one operator would be required and it would take approximately 13 minutes for access to the area and to perform the action of tripping the breakers. Given the low complexity of this action, the NRC staff finds that there is a sufficient amount of time available to complete the proposed operator manual actions.

3.23 Reliability

The completion times noted in the table above provide reasonable assurance that the OMAs can reliably be performed under a wide range of conceivable conditions by different plant crews. This is because the time margins associated with each action and other installed fire protection features, account for sources of uncertainty such as variations in fire and plant conditions, factors unable to be recreated in demonstrations and human-centered factors. Therefore, the OMAs included in this review are reliable because there is adequate time available to account for uncertainties not only in estimates of the time available, but also in estimates of how long it takes to diagnose a fire and execute the OMAs. This is based, in part, on a plant demonstration of the actions under non-fire conditions.

3.24 Summary of Defense-in-Depth and Operator Manual Actions

In summary, the defense-in-depth concept for a fire in the fire areas discussed above provides a level of safety that limits the occurrence of fires and results in rapid detection, control and extinguishment of fires that do occur and the protection of structures, systems and components important to safety. It should be understood that the OMAs are a fall back in the unlikely event that the fire protection defense-in-depth features are insufficient. In most cases, there is no credible fire scenario that would necessitate the performance of these OMAs. As discussed above, the licensee has provided preventative and protective measures in addition to feasible and reliable OMAs that together demonstrate the licensee's ability to preserve or maintain safe shutdown capability in the event of a fire in the analyzed fire areas.

3.25 Authorized by Law

This exemption would allow Oyster Creek to rely on OMAs, in conjunction with the other installed fire protection features, to ensure that at least one means of achieving and maintaining hot shutdown remains available during and following a postulated fire event, as part of its fire protection program, in lieu of meeting the requirements specified in 10 CFR Part 50, Appendix R, Section III.G.2 for a fire in the analyzed fire areas. As stated above, 10 CFR 50.12 allows the NRC to grant exemptions from the requirements of 10 CFR Part 50. The NRC staff has determined that granting of this exemption will not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations. Therefore, the exemption is authorized by law.

3.26 No Undue Risk to Public Health and Safety

The underlying purpose of 10 CFR Part 50, Appendix R, Section III.G is to ensure that at least one means of achieving and maintaining hot shutdown remains available during and following a postulated fire event. Based on the above evaluation, the NRC staff finds that the plant features, as described in the March 3, 2009, submittal, as supplemented by letter dated April 2, 2010, should limit the occurrence and impacts of any fire that may occur. This, combined with the ability of the OMAs to place and maintain the plant in a safe condition in the event of a fire that does damage safe shutdown equipment, provides adequate protection of public health and safety. Therefore, there is no undue risk to public health and safety.

3.27 Consistent With Common Defense and Security

This exemption would allow Oyster Creek to credit the use of the specific OMAs, in conjunction with the other installed fire protection features, in response to a fire in the analyzed fire areas, discussed above, in lieu of meeting the requirements specified in III.G.2. This change, to the operation of the plant, has no relation to security issues nor does it diminish the level of safety from what was intended by the requirements of III.G.2. Therefore, the common defense and security is not diminished by this exemption.

3.28 Special Circumstances

One of the special circumstances described in 10 CFR 50.12(a)(2)(ii) is that the application of the regulation is not necessary to achieve the underlying purpose of the rule. The underlying purpose of 10 CFR Part 50, Appendix R, Section III.G is to ensure that at least one means of achieving and maintaining hot shutdown remains available during and following a postulated fire event. While the licensee does not comply with the explicit requirements of III.G.2, specifically, they do meet the underlying purpose of 10 CFR Part 50, Appendix R, and Section III.G as a whole. Therefore, special circumstances exist that warrant the issuance of this exemption as required by 10 CFR 50.12(a)(2)(ii).

4.0 Conclusion

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12(a), the exemption is authorized by law, will not present an undue risk to the public health and safety, is consistent with the common defense and security and that special circumstances are present to warrant issuance of the exemption. Therefore, the Commission hereby grants Exelon an exemption from the requirements of Section III.G.2 of Appendix R of 10 CFR Part 50, to utilize the OMAs discussed above at Oyster Creek.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will not have a significant effect on the quality of the human environment (75 FR 33656).

This exemption is effective upon issuance.

Dated at Rockville, Maryland, this 30th day of March 2011.

For the Nuclear Regulatory Commission.

Robert A. Nelson,

Acting Director, Division of Operating Reactor Licensing, Office of Nuclear Reactor Regulation.

[FR Doc. 2011–8318 Filed 4–6–11; 8:45 am]

BILLING CODE 7590–01–P

NUCLEAR REGULATORY COMMISSION

[NRC–2011–0075]

Notice of Availability (NOA) of the Models For Plant-Specific Adoption of Technical Specifications Task Force (TSTF) Traveler TSTF–422, Revision 2, "Change In Technical Specifications End States (CE NPSD–1186)," For Combustion Engineering (CE) Pressurized Water Reactor (PWR) Plants Using the Consolidated Line Item Improvement Process (CLIIP)

AGENCY: U.S. Nuclear Regulatory Commission (NRC).

ACTION: Notice of Availability.

SUMMARY: The NRC is announcing the availability of the model application (with model no significant hazards consideration (NSHC) determination) and model safety evaluation (SE) for plant-specific adoption of TSTF Traveler TSTF–422, Revision 2, "Change in Technical Specifications End States (CE NPSD–1186)," for CE plants using the CLIIP. TSTF–422, Revision 2, is available in the Agencywide Documents Access and Management System (ADAMS) under Accession Number ML093570241. TSTF–422, Revision 2, modifies the Required Action with the preferred end state with the addition of a Note to prohibit the use of the provisions of Limiting Condition for Operation 3.0.4.a to enter the end state Mode within the Applicability during startup. The Bases of each Required Action is revised to describe the Note. This model SE will facilitate expedited approval of plant-specific adoption of TSTF–422, Revision 2. Please note, this NOA supersedes in its entirety the NOA for TSTF–422, Revision 1, published in the **Federal Register** on July 5, 2005 (70 FR 38729–38731, ADAMS Package Accession Number ML051650144).

You can access publicly available documents related to this notice using the following methods:

NRC's Public Document Room (PDR): The public may examine and have copied, for a fee, publicly available documents at the NRC's PDR, Public File Area O1 F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland.

NRC's Agencywide Documents Access and Management System (ADAMS): Publicly available documents created or received at the NRC are available electronically at the NRC's Electronic Reading Room at *http://www.nrc.gov/reading-rm/adams.html.* From this page, the public can gain entry into the ADAMS, which provides text and image files of NRC's public documents. If you do not have access to the ADAMS, or if there are problems in accessing the documents located in the ADAMS, contact the NRC's PDR reference staff at 1–800–397–4209, 301–415–4737, or by e-mail to *pdr.resource@nrc.gov.*

The model application (with model NSHC determination) and model SE for plant-specific adoption of TSTF–422, Revision 2, are available electronically under ADAMS Accession Number ML103270197. No comments were received to the Notice of Opportunity for Public Comment announced in the **Federal Register** on May 4, 2005 (70 FR 23238).

Federal Rulemaking Web site: Supporting materials related to this notice can be found at *http://www.regulations.gov* by searching on Docket ID: NRC–2011–0075.

FOR FURTHER INFORMATION CONTACT: Ravinder Grover, Technical Specifications Branch, Mail Stop: O–7 C2A, Division of Inspection and Regional Support, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001; *telephone:* 301–415–2166 or e-mail; *Ravinder.Grover@nrc.gov* or Ms. Michelle C. Honcharik, Senior Project Manager, Licensing Processes Branch, Mail Stop: O–12 D1, Division of Policy and Rulemaking, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001; *telephone:* 301–415–1774 or e-mail at: *Michelle.Honcharik@nrc.gov*.

SUPPLEMENTARY INFORMATION: TSTF–422, Revision 2, is applicable to all CE PWR plants. Licensees opting to apply for this TS change are responsible for reviewing the NRC staff's model SE, referencing the applicable technical justifications, and providing any necessary plant-specific information. The NRC will process each amendment application responding to this NOA according to applicable NRC rules and procedures.

The proposed models do not prevent licensees from requesting an alternate approach or proposing changes other than those proposed in TSTF–422, Revision 2. However, significant deviations from the approach recommended in this notice or the inclusion of additional changes to the license require additional NRC staff review. This may increase the time and resources needed for the review or result in NRC staff rejection of the license amendment request (LAR). Licensees desiring significant deviations or additional changes should instead submit an LAR that does not claim to adopt TSTF–422, Revision 2.

Dated at Rockville, Maryland, this 22nd day of March, 2011.

For the Nuclear Regulatory Commission.

John R. Jolicoeur,

Chief, Licensing Processes Branch, Division of Policy and Rulemaking, Office of Nuclear Reactor Regulation .

[FR Doc. 2011–8310 Filed 4–6–11; 8:45 am]

BILLING CODE 7590–01–P

PENSION BENEFIT GUARANTY CORPORATION

Proposed Submission of Information Collection for OMB Review; Comment Request; Disclosure of Termination Information

AGENCY: Pension Benefit Guaranty Corporation.

ACTION: Notice of intent to request extension of OMB approval.

SUMMARY: Pension Benefit Guaranty Corporation ("PBGC") intends to request that the Office of Management and Budget ("OMB") extend approval, under the Paperwork Reduction Act of 1995, of a collection of information on the disclosure of termination information under its regulations for distress terminations, 29 CFR part 4041, Subpart C, and for PBGC-initiated terminations under 29 CFR part 4042 (OMB control number 1212–0065; expires October 31, 2011). This notice informs the public of PBGC's intent and solicits public comment on the collection of information.

DATES: Comments should be submitted by June 6, 2011.

ADDRESSES: Comments may be submitted by any of the following methods:

- *Federal eRulemaking Portal: http://www.regulations.gov.* Follow the Web site instructions for submitting comments.
- *E-mail: paperwork.comments@pbgc.gov.*
- *Fax:* 202–326–4224.
- *Mail or Hand Delivery:* Legislative and Regulatory Department, Pension Benefit Guaranty Corporation, 1200 K Street, NW., Washington, DC 20005–4026.