FPL

L-2016-101
10 CFR 52.3
10 CFR 52 Appendix D

May 6, 2016

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

Re: Florida Power & Light Company
Proposed Turkey Point Units 6 and 7
Docket Nos. 52-040 and 52-041
Voluntary Submittal of Exemption Request and Design Change Description for Departure from AP1000 DCD Revision 19 to Address Main Control Room Habitability Analysis

References:

1. Florida Power & Light Company (FPL) Letter to Nuclear Regulatory Commission (NRC) dated April 14, 2016, Submittal of AP1000 Combined License Application Semi-Annual Departure Report
2. Letter from Christopher Fallon (DEF) to Nuclear Regulatory Commission (NRC), dated March 26, 2015, "Response to Request for Additional Information Letter No. 122 Related to SRP Section 6.4, Control Room Habitability", Serial: NPD-NRC-2015-003 [ML15089A193]
3. Letter from Christopher Fallon (DEF) to Nuclear Regulatory Commission (NRC), dated May 19, 2015, "Identification of Main Control Room Heat Load Calculation Files Supporting Levy Response to Request for Additional Information Letter No. 122 Related to SRP Section 6.4, Control Room Habitability", Serial: NPD-NRC-2015-021 [ML15146A096]
4. Letter from Christopher Fallon (DEF) to Nuclear Regulatory Commission (NRC), dated July 17, 2015, "Response to Request for Additional Information Letter No. 126 Related to SRP Sections 6.4, Control Room Habitability System, and 16, Technical Specifications, for the Levy Nuclear Plant, Units 1 and 2 Combined License Application", Serial: NPD-NRC-2015-024 [ML15201A540]
5. Letter from Christopher Fallon (DEF) to Nuclear Regulatory Commission (NRC), dated July 16, 2015, "Response to Request for Additional Information Letter No. 127 Related to SRP Section 7.3, Engineered Safety System Features, for the Levy Nuclear Plant, Units 1 and 2 Combined License Application", Serial: NPD-NRC-2015-025 [ML15201A542]

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6. Letter from Christopher Fallon (DEF) to Nuclear Regulatory Commission (NRC), dated July 1, 2015, "Transmittal of Supplemental Information for Request for Additional Information Letter No. 122 Related to SRP Section 6.4, Control Room Habitability Systems, for the Levy Nuclear Plant, Units 1 and 2 Combined License Application", Serial: NPD-NRC-2015-028 [ML15187A039]
7. Letter from Christopher Fallon (DEF) to Nuclear Regulatory Commission (NRC), dated August 5, 2015, "Response to Request for Additional Information Letter No. 128 Related to SRP Section 6.4, Control Room Habitability System, for the Levy Nuclear Plant, Units 1 and 2 Combined License Application", Serial: NPD-NRC-2015-037 [ML15219A202]
8. Letter from Christopher Fallon (DEF) to Nuclear Regulatory Commission (NRC), dated October 14, 2015, "Response to Request for Additional Information Letter No. 132 Related to SRP Section 9.4.1, Control Room Area Ventilation System, for the Levy Nuclear Plant, Units 1 and 2 Combined License Application", Serial: NPD-NRC-2015-044 [ML15289A237]
9. Letter from Christopher Fallon (DEF) to Nuclear Regulatory Commission (NRC), dated November 12, 2015, "Revised Response to Request for Additional Information Letter No. 122 and Letter No. 126 Related to SRP Sections 6.4, Control Room Habitability System, and 16, Technical Specifications, for the Levy Nuclear Plant, Units 1 and 2 Combined License Application", Serial: NPD-NRC-2015-049 [ML15322A009]
10. Letter from Christopher Fallon (DEF) to Nuclear Regulatory Commission (NRC), dated November 12, 2015, "Response to Request for Additional Information Letter No. 133 Related to SRP Section 7.1, Instrumentation and Controls, Introduction, for the Levy Nuclear Plant, Units 1 and 2 Combined License Application", Serial: NPD-NRC-2015-050 [ML15320A025]
11. Letter from Christopher Fallon (DEF) to Nuclear Regulatory Commission (NRC), dated November 12, 2015, "Response to Request for Additional Information Letter No. 134 Related to SRP Section 16, Technical Specifications, for the Levy Nuclear Plant, Units 1 and 2 Combined License Application", Serial: NPD-NRC-2015-051 [ML15320A028]
12. Letter from Christopher Fallon (DEF) to Nuclear Regulatory Commission (NRC), dated December 11, 2015, "Updated Response to Request for Additional Information Letter No. 122 and Letter No. 126 Related to SRP Sections 6.4, Control Room Habitability System, and 16, Technical Specifications, for the Levy Nuclear Plant, Units 1 and 2 Combined License Application", Serial: NPD-NRC-2015-052 [ML15349A952]
13. Letter from Christopher Fallon (DEF) to Nuclear Regulatory Commission (NRC), dated December 22, 2015, "Revised Response to Request for Additional Information Letter No. 132 Related to SRP Section 9.4.1, Control Room Area Ventilation System, for the Levy Nuclear Plant, Units 1 and 2 Combined License Application", Serial: NPD-NRC-2015-057 [ML15358A014]

14. Letter from Christopher Fallon (DEF) to Nuclear Regulatory Commission (NRC), dated February 9, 2016, "Voluntary Submittal of Exemption Request and Design Change Description for Departure from AP1000 DCD Revision 19 to Address Main Control Room Habitability Analysis" Ltr# WLG2016.02-04 (ML16043A123)

The Turkey Point Units 6 and 7 Combined License Application incorporates the AP1000 DCD by reference. In Reference 1, FPL discussed a departure related to changes in the AP1000 design certification information that was identified by Westinghouse which affects the calculated main control room heat-up following design basis accident scenarios for all AP1000 units that was submitted on the Levy COL Application. References 2 through 14 have been reviewed and found to be applicable to Turkey Point Units 6 & 7.

FPL hereby submits a technically identical request for exemption and associated design change description to address a design change to the AP1000 Design Control Document (DCD) Revision 19. This design change requires Nuclear Regulatory Commission (NRC) notification and review in accordance with Interim Staff Guidance DC/COL-ISG-011, "Finalizing Licensing-basis Information."

This letter incorporates information submitted by Duke Energy Florida, LLC (DEF) to address the standard design change for the Main Control Room in the DEF Levy COL application. Enclosure 1 of this letter identifies the applicable portions of the DEF submittals.

The proposed change affects the COLA sections that address the safety-related Main Control Room Emergency Habitability System (VES). Because of design finalization and completion of calculations for the main control room envelope temperature response, design changes to the VES are necessary. These changes include impacts to DCD Tier 1 information and the generic Technical Specifications. Enclosure 2 contains the associated Turkey Point Units 6 & 7 exemption request and Enclosure 3 contains the revisions to the Turkey Point Units 6 & 7 COLA. Changes identified in Enclosure 3 will be included in a future update of the COLA.

If you have any questions, or need additional information, please contact me at 561–904–3794.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on May 6, 2016.

Sincerely,

William Maher
Senior Licensing Director – New Nuclear Projects

WMD/RFB

Enclosures:

1. Levy Docketed Requests for Additional Information Responses Main Control Room Habitability
2. Request for Exemption Regarding Main Control Room Habitability
3. Revisions to the Turkey Point Units 6 & 7 COL Application

cc:
PTN 6 & 7 Project Manager, AP1000 Projects Branch 1, USNRC DNRL/NRO
Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant 3 & 4

Enclosure 1

FPL Voluntary Submittal
Turkey Point Units 6 & 7 COL Application

Levy Docketed Requests for Additional Information
Responses Main Control Room Habitability

(5 Pages Including Cover Page)

Levy Nuclear Plant, Units 1 and 2
Responses to NRC Requests for Additional Information
Letter No. 122 Related to SRP Section 06.04, dated October 10, 2014,
Letter No. 126 Related to SRP Sections 06.04 and 16, dated May 13, 2015,
Letter No. 127 Related to SRP Section 07.03, dated May 20, 2015,
Letter No. 128 Related to SRP Section 06.04, dated June 29, 2015,
Letter No. 132 Related to SRP Section 9.4.1, dated September 14, 2015,
Letter No. 133 Related to SRP Section 7.1, dated October 1, 2015, and
Letter No. 134 Related to SRP Section 16, dated October 7, 2015

NRC RAI No.	Duke Energy RAI No.	Levy Nuclear Plant Response
06.04-4	L-1117	NPD-NRC-2015-003, dated March 26, 2015
16-3	L-1132	NPD-NRC-2015-024, dated July 17, 2015
07.03-1	L-1133	NPD-NRC-2015-025, dated July 16, 2015
18-2	L-1138	NPD-NRC-2015-037, dated August 5, 2015
06.04-6	L-1139	NPD-NRC-2015-037, dated August 5, 2015
06.04-5	L-1164 & L-1167	NPD-NRC-2015-049, dated November 12, 2015 & NPD-NRC-2015-052, dated December 11, 2015
16-4	L-1165	NPD-NRC-2015-051, dated November 12, 2015
07.01-1	L-1166	NPD-NRC-2015-050, dated November 12, 2015
09.04.01-1	L-1170	NPD-NRC-2015-057, dated December 22, 2015

NPD-NRC-2015-021, dated May 19, 2015, and NPD-NRC-2015-028, dated July 1, 2015 contain supplemental information addressing RAI 06.04-4.

The following Duke Energy Florida (DEF), Levy Nuclear Plant, Units 1 and 2, Docket Nos. 52-029 and 52-030, letters have been reviewed and found to be applicable to Turkey Point Units 6 & 7 for the Florida Power & Light Company (FPL) voluntary submittal of exemption request and design change description for departure from AP1000 DCD Revision 19 to address Main Control Room Habitability.

1. Duke Energy Florida, Levy Nuclear Plant, Units 1 and 2, Docket Nos. 52-029 and 52-030, Letter NPD-NRC-2015-003, dated March 26, 2015 (ADAMS Accession No. ML15089A193). Enclosures 1 and 3 are found to be applicable to Turkey Point Units 6 & 7. The referenced enclosures address RAI 06.04-4.

2. Duke Energy Florida, Levy Nuclear Plant, Units 1 and 2, Docket Nos. 52-029 and 52-030, Letter NPD-NRC-2015-021, dated May 19, 2015 (ADAMS Accession No. ML15146A096), is found to be applicable to Turkey Point Units 6 & 7. The referenced letter contains supplemental information addressing RAI 06.04-4.

3. Duke Energy Florida, Levy Nuclear Plant, Units 1 and 2, Docket Nos. 52-029 and 52-030, Letter NPD-NRC-2015-024, dated July 17, 2015 (ADAMS Accession No. ML15201A540). Enclosures 1, 2, 3, and 4 are found to be applicable to Turkey Point Units 6 & 7. The referenced enclosures address RAI 06.04-5 and 16-3 (contains proprietary information).

4. Duke Energy Florida, Levy Nuclear Plant, Units 1 and 2, Docket Nos. 52-029 and 52-030, Letter NPD-NRC-2015-025, dated July 16, 2015 (ADAMS Accession No. ML15201A542). Enclosures 1, 2, and 3 are found to be applicable to Turkey Point Units 6 & 7. The referenced enclosures address RAI 07.03-1 (contains proprietary information).

5. Duke Energy Florida, Levy Nuclear Plant, Units 1 and 2, Docket Nos. 52-029 and 52-030, Letter NPD-NRC-2015-028, dated July 1, 2015 (ADAMS Accession No. ML15187A039), is found to be applicable to Turkey Point Units 6 & 7. The referenced letter contains supplemental information addressing RAI 06.04-4 (contains proprietary information).

6. Duke Energy Florida, Levy Nuclear Plant, Units 1 and 2, Docket Nos. 52-029 and 52-030, Letter NPD-NRC-2015-037, dated August 5, 2015 (ADAMS Accession No. ML15219A202). Enclosures 1, 2, and 3 are found to be applicable to Turkey Point Units 6 & 7. The referenced enclosures address RAIs 18-2 and 06.04-6 (contains proprietary information).

7. Duke Energy Florida, Levy Nuclear Plant, Units 1 and 2, Docket Nos. 52-029 and 52-030, Letter NPD-NRC-2015-049, dated November 12, 2015 (ADAMS Accession No. ML15322A009). Enclosures 1, 2 and 3 are found to be applicable to Turkey Point Units 6 & 7. The referenced enclosure addresses RAI 06.04-5 (contains proprietary information).

8. Duke Energy Florida, Levy Nuclear Plant, Units 1 and 2, Docket Nos. 52-029 and 52-030, Letter NPD-NRC-2015-050, dated November 12, 2015 (ADAMS Accession No. ML15320A025). Enclosures 1, 2 and 3 are found to be applicable to Turkey Point Units 6 & 7. The referenced enclosure addresses RAI 07.01-1 (contains proprietary information).

9. Duke Energy Florida, Levy Nuclear Plant, Units 1 and 2, Docket Nos. 52-029 and 52-030, Letter NPD-NRC-2015-051, dated November 12, 2015 (ADAMS Accession No. ML15320A028). Enclosure 1 is found to be applicable to Turkey Point Units 6 & 7. The referenced enclosure addresses RAI 16-4.

10. Duke Energy Florida, Levy Nuclear Plant, Units 1 and 2, Docket Nos. 52-029 and 52-030, Letter NPD-NRC-2015-052, dated December 11, 2015 (ADAMS Accession No. ML15349A952). Enclosures 1, 2 and 3 are found to be applicable to Turkey Point Units 6 & 7. The referenced enclosure addresses RAI 06.04-5 (contains proprietary information).

11. Duke Energy Florida, Levy Nuclear Plant, Units 1 and 2, Docket Nos. 52-029 and 52-030, Letter NPD-NRC-2015-057, dated December 22, 2015 (ADAMS Accession No. ML15358A014). Enclosures 1, 2 and 3 are found to be applicable to Turkey Point Units 6 & 7. The referenced enclosure addresses RAI 09.04.01-1 (contains proprietary information).

References:

1. Letter from Donald Habib (NRC) to Christopher M. Fallon (DEF), dated October 10, 2014, "Request for Additional Information Letter No. 122 Related to SRP Section 6.4 Control Room Habitability, for the Levy Nuclear Plant, Units 1 and 2, Combined License Application." [ML14283A522]

2. Letter from Donald Habib (NRC) to Christopher M. Fallon (DEF), dated May 13, 2015, "Request for Additional Information Letter No. 126 Related to SRP Section 6.4, Control Room Habitability and Section 16, Technical Specifications, for the Levy Nuclear Plant, Units 1 and 2, Combined License Application." [ML15133A302]

3. Letter from Donald Habib (NRC) to Christopher M. Fallon (DEF), dated May 20, 2015, "Request for Additional Information Letter No. 127 Related to SRP Section 7.3, Engineered Safety System Features, for the Levy Nuclear Plant, Units 1 and 2, Combined License Application." [ML15140A475]

4. Letter from Donald Habib (NRC) to Christopher M. Fallon (DEF), dated June 29, 2015, "Request for Additional Information Letter No. 128 Related to SRP Section 6.4, Control Room Habitability, for the Levy Nuclear Plant, Units 1 and 2, Combined License Application." [ML15180A275]

5. Letter from Donald Habib (NRC) to Christopher M. Fallon (DEF), dated September 14, 2015, "Request for Additional Information Letter No. 132 Related to SRP Section 9.4.1,

Control Room Area Ventilation System, for the Levy Nuclear Plant, Units 1 and 2, Combined License Application." [ML15257A186]

6. Letter from Donald Habib (NRC) to Christopher M. Fallon (DEF), dated October 1, 2015, "Request for Additional Information Letter No. 133 Related to SRP Section 7.1, Instrumentation and Controls, Introduction, for the Levy Nuclear Plant, Units 1 and 2, Combined License Application." [ML15275A000]

7. Letter from Donald Habib (NRC) to Christopher M. Fallon (DEF), dated October 7, 2015, "Request for Additional Information Letter No. 134 Related to SRP Section 16, Technical Specifications, for the Levy Nuclear Plant, Units 1 and 2, Combined License Application." [ML15280A353]

Enclosure 2
Turkey Point Units 6 & 7

Request for Exemption Regarding
Main Control Room Habitability

(14 Pages Including Cover Page)

1.0 Summary Description

The proposed changes affect the Combined License Application (COLA) concerning the safety-related Main Control Room Emergency Habitability System (VES). Because of design finalization and completion of calculations for main control room envelope (MCRE) temperature response, the following design changes to the VES are required:

1. An automatic, Class 1E, electrical load shed of some nonessential nonsafety-related equipment within the MCRE is added. Although not required, a manual load shed is added as well.

2. The descriptions of the VES and VES performance requirements are updated in the design and licensing basis to resolve inconsistencies, provide clarification, and align with the current Auxiliary Building heat-up analysis.

3. A description of the requirements for maintaining habitability of the MCRE beyond 72 hours following a design basis accident (DBA) is added to the design and licensing basis.

This exemption request proposes changes, requiring NRC approval, to plant-specific Design Control Document (DCD) Tier 1 information and generic Technical Specifications (TS).

2.0 Description of Licensing Basis Impacts

System Description

The safety-related VES provides a supply of breathable air for the main control room (MCR) occupants, maintains the MCRE as shown in DCD Figure 6.4-1 at a positive pressure with respect to the surrounding areas, and provides passive air filtration of the MCRE atmosphere, whenever ac power is not available to operate the nuclear island nonradioactive ventilation system (VBS) for more than 10 minutes or high iodine or particulate radioactivity is detected in the MCRE air supply. The VES also limits the heat-up of the MCRE, the 1E instrumentation and control (I&C) equipment rooms, and the Class 1E dc equipment rooms by using the passive heat capacity of surrounding structures.

Passive heat sinks including the walls, ceilings, and floors surrounding the MCRE (Room 12401), the 1E I&C equipment rooms (Rooms 12301, 12302, 12304, and 12305), and the Class 1E dc equipment rooms (Rooms 12201, 12202, 12203, 12204, 12205, and 12207), limit the heat-up of the rooms during the 72-hour period following a loss of the normal operating nonsafety-related VBS. The heat sinks consist primarily of the thermal mass of the concrete that makes up the ceilings and walls of these rooms. An assumption of the Auxiliary Building heat-up analysis is the initial temperature of the rooms surrounding the MCRE, the 1E I&C equipment rooms, and the Class 1E dc equipment rooms normally maintained by the VBS.

As described in DCD Tier 1 Subsection 2.2.5, the VES provides the following safety-related design functions:

a) The VES provides a 72-hour supply of breathable quality air for the occupants of the MCRE.

b) The VES maintains the MCRE pressure boundary at a positive pressure with respect to the surrounding areas. There is a discharge of air through the MCR vestibule.

c) The heat loads within the MCRE, the I&C equipment rooms, and the Class 1E dc equipment rooms are within design basis assumptions to limit the heat-up of the rooms.

d) The system provides a passive recirculation flow of MCRE air to maintain MCR dose rates below an acceptable level during VES operation.

Supporting Technical Details

Design changes for the VES are required to control the heat-up of the MCRE following VES actuation to meet the licensing basis requirements for equipment qualification and human factors engineering in the MCRE. Design finalization and completion of calculations for MCRE temperature response determined the following:

1. The temperature response of the MCRE exceeds the current licensing basis maximum within 72 hours.

2. The MCRE heat load values during operation with, and without, normal ac power sources exceed the values in the current licensing basis.

3. The MCRE heat-up profile exceeds the current licensing basis profile.

4. The MCRE temperature exceeds the equipment qualification limit for some safety-related components within 72 hours of VES actuation.

5. The MCRE temperature exceeds the equipment qualification limit for Class 1E I&C equipment in the MCRE at some time after 72 hours of VES actuation if additional actions are not taken.

6. The capability to support operation of the VES and to maintain MCRE temperature within limits after seven days of VES actuation is not clearly identified in the design.

Tier 1 changes:

1. Table 2.5.2-3 and Table 2.5.2-4 are revised to reflect the VES design changes for an automatic and manual, Class 1E, electrical load shed of some nonessential nonsafety-related equipment within the MCRE.

2. Table 2.2.5-4 is revised to update the heat loads in the MCRE, the 1E I&C equipment rooms, and the Class 1E dc equipment rooms, to reflect the VES design changes, and to reflect the initial conditions and VES performance requirements described in the current Auxiliary Building heat-up analysis.

3. Table 2.2.5-1 is revised to designate and provide requirements for valves VES-PL-V018 (Temporary Instrument Isolation Valve A) and VES-PL-V019 (Temporary Instrument Isolation Valve B) as active valves required for providing clean, breathable replenishment air to the VES for maintaining habitability of the MCRE beyond 72 hours following a DBA.

Technical Specification (TS) changes:

1. "Electrical Load De-energization" will be added to the required action verifications of Technical Specification (TS) 3.3.2, and to the Engineered Safeguards Actuation System Instrumentation of TS Table 3.3.2-1. The Bases for TS 3.3.2 will be revised to address electrical load de-energization.

2. TS 3.7.6 for the VES will be revised to add required actions for inoperability of the MCR Load Shed Panels, for the maintenance of required air temperature limits and to ensure the quality of air in the VES storage tanks. A new TS surveillance requirement (SR) 3.7.6.3 will be added to ensure that MCRE exterior temperatures do not exceed values assumed in supporting calculations. TS SR 3.7.6.6 will be revised to ensure that the air quality in the VES storage tanks will meet its design function. In addition, periodic surveillance testing of the new electrical load shed equipment will be added as TS SR 3.7.6.12. The order that the requirements are listed was changed based on the required surveillance frequency. The existing air quality surveillance was modified to include a dew point requirement. The Bases for TS 3.7.6 will be revised accordingly.

3.0 Technical Evaluation

These proposed changes do not change the VES safety-related design requirements and design functions, as described further below.

The VES design function to maintain heat loads within the MCRE within design basis assumptions to limit the heat-up of the room is met by the modified design of the VES as follows:

- Two redundant MCR Load Shed Panels (APP-VES-EP-01 and APP-VES-EP-02) containing Class 1E equipment are added to automatically or manually de-energize some nonessential nonsafety-related electrical loads in the MCRE to ensure heat loads within the MCRE are within design basis assumptions to limit the heat-up of the room.
- Automatic actuation of the MCR Load Shed Panels is added to the existing Protection and Safety Monitoring System (PMS) VES system actuation signal for VES MCRE isolation, pressurization, and filtration on a high iodine or particulate MCRE air supply radioactivity signal or a loss of all ac power for > 10 minutes signal (low Class 1E battery charger input voltage). In addition, the existing manual actuation signal for VES MCRE isolation, pressurization, and filtration is added to the MCR Load Shed Panels.
- Component interface modules (CIMs) in PMS Divisions A and C are provided to de-energize loads powered by the two MCR Load Shed Panels. Either PMS division is capable of de-energizing the two MCR Load Shed Panels. Each panel de-energizes separate nonessential nonsafety-related electrical loads from both Stage 1 and Stage 2.
- De-energized loads are separated into Stage 1 and Stage 2 to maximize the availability of the nonsafety-related wall panel information system, which is de-energized with Stage 2 loads. Timers that control the Stage 1 and Stage 2 load de-energization are internal to each MCR Load Shed Panel and actuate relays to de-energize the loads. Stage 1 loads are de-energized by both panels immediately after

the timers in each panel receive the PMS VES system actuation signal. Stage 2 loads are de-energized by both panels within 180 minutes after the timers in each panel receive the PMS VES system actuation signal.

- Each MCR Load Shed Panel contains redundant load shed relays and timers actuated by the two PMS divisions such that actuation of either division de-energizes all required loads to meet single failure criterion.

In addition to the proposed change to add MCR Load Shed Panels, the design basis assumptions regarding insulating walls, ceilings, and floors surrounding the MCRE to limit the heat-up of the room by the surrounding passive heat sinks are revised in the Auxiliary Building heat-up analysis. Sensitivity studies demonstrate that this assumption has little effect on the heat-up of the MCRE. Instead, ensuring the initial average air temperature of the 1E I&C equipment rooms, the Class 1E dc equipment rooms, and other rooms that surround the MCRE, in addition to the average air temperature of 75°F for the MCRE, is critical to ensuring operability of the passive heat sinks. The heat sinks consist primarily of the thermal mass of the concrete that makes up the ceilings and walls of the room. Surrounding rooms are normally maintained at temperatures below the temperatures assumed in the Auxiliary Building heat-up analysis. To ensure that these initial conditions of the analysis are met, changes to the TS are proposed to ensure the following:

- The initial average air temperature in rooms 12201, 12202, 12203, 12204, 12205, 12207, 12300, 12301, 12302, 12303, 12304, 12305, 12313, and 12412, which includes the 1E I&C equipment rooms, the Class 1E dc equipment rooms, and other rooms that surround the MCRE, is verified to be ≤ 85°F.
- The initial average air temperature in room 12501 above the MCRE is verified to be ≤ 85°F.
- Temperature control of the other rooms adjacent to the MCRE is not required.

These changes ensure that the temperature/relative humidity values calculated during the 72 hours following a DBA equate to a Maximum Average Wet Bulb Globe Temperature index of less than 90°F. In addition, these changes ensure that heat loads in the zones containing safety-related equipment within the MCRE, the 1E I&C equipment rooms, and the Class 1E dc equipment rooms are maintained less than the limits used in qualifying the equipment for their required operating times following a DBA, in compliance with General Design Criterion (GDC) 4, as stated in the DCD.

The proposed changes to the VES, including the addition of the MCR Load Shed Panels, continue to meet the same regulatory acceptance criteria, electrical codes, and industry standards specified in the DCD. The proposed changes comply with the requirements for equipment separation, environmental qualification, and seismic qualification, as stated in the DCD. The proposed changes are consistent with the existing inspection and testing requirements, and comply with GDC 18, as stated in the DCD.

The VES design functions to provide a 72-hour supply of breathable quality air for the occupants of the MCRE, maintain the MCRE pressure boundary at a positive pressure with respect to the surrounding areas with a discharge of air through the MCR vestibule, and provide a passive recirculation flow of MCRE air to maintain MCR dose rates below an acceptable level during VES operation, remain met with the proposed changes. In addition, the proposed change to reclassify as active, existing safety-related valves for providing

clean, breathable replenishment air to the VES provides a method for ensuring continuing MCRE habitability by meeting these design functions beyond 72 hours following a DBA. Therefore, the VES with the proposed changes complies with GDC 19, as stated in the DCD.

The VES with proposed changes ensures a 72-hour supply of breathable quality air for the occupants of the MCRE, maintains the MCRE pressure boundary at a positive pressure with respect to the surrounding areas with a discharge of air through the MCR vestibule, and provides a passive recirculation flow of MCRE air to maintain MCR dose rates below an acceptable level during VES operation. The VES is automatically or manually actuated to minimize unfiltered in-leakage by maintaining the MCRE at a slightly positive pressure, which protects the plant operators from accidental releases of toxic and radioactive gases. Therefore, the VES with the proposed changes continues to comply with Generic Safety Issue B-66, as stated in the DCD.

The proposed changes do not require a change to procedures or method of control that adversely affect the performance of the VES safety-related and non-safety related design functions as described in the DCD. The proposed changes to add the MCR Load Shed Panels ensure that the MCRE remains habitable following a DBA with loss of all ac power, with both automatic and manual actuation controls. The manual actions are simple steps that may be taken by the MCR operators in the event the automatic actuation fails.

The proposed changes to the design and licensing basis of the VES including addition of the MCR Load Shed Panels, updates of the design and licensing basis descriptions for the VES, and addition of the requirements for maintaining habitability of the MCRE beyond 72 hours following a DBA, do not change the VES safety-related design functions. These proposed design modifications and licensing basis updates result in the following changes to plant-specific Tier 1 DCD information:

1. Table 2.5.2-3 and Table 2.5.2-4 are revised to reflect the VES design changes for an automatic and manual, Class 1E, electrical load shed of some nonessential nonsafety-related equipment within the MCRE.

2. Table 2.2.5-4 is revised to update the heat loads in the MCRE to reflect the VES design changes, and to reflect the initial conditions and VES performance requirements described in the current Auxiliary Building heat-up analysis.

3. Table 2.2.5-1 is revised to designate and provide requirements for valves VES-PL-V018 (Temporary Instrument Isolation Valve A) and VES-PL-V019 (Temporary Instrument Isolation Valve B) as active valves required for providing clean, breathable replenishment air to the VES for maintaining habitability of the MCRE beyond 72 hours following a DBA.

As addressed in the Design Description for Subsection 2.5.2, Tables 2.5.2-3 and 2.5.2-4 identify the PMS automatically actuated engineered safety features and manually actuated features, respectively. The purpose of providing the information in these tables is to identify the information to be confirmed during construction by the Subsection 2.5.2 ITAAC in Table 2.5.2-8, that refer to the above tables.

As addressed in the Design Description for Subsection 2.2.5, Table 2.2.5-4 identifies the heat loads assumed in the Auxiliary Building heat-up analysis that ensure the VES design function to maintain heat loads within the MCRE within design basis assumptions to limit the heat-up of the room is met, and Table 2.2.5-1 identifies the safety-related components of the VES required to meet the design functions of the VES. The purpose of providing the information in these tables is to identify the information to be confirmed during construction by the Subsection 2.2.5 ITAAC in Table 2.2.5-5, that refer to the above tables.

The proposed changes to the design information presented in Tables 2.5.2-3, 2.5.2-4, 2.2.5-4, and 2.2.5-1 are at a level of detail that is consistent with the other information currently presented in these tables. As previously stated, the proposed changes neither adversely affect the ability to meet the design functions of the VES, or involve a significant decrease in the level of safety provided by the VES. The changes to information provided in the Subsections 2.5.2 and 2.2.5 Design Description tables continue to meet the DCD Section 14.3 Certified Design Material (CDM) criteria and provide the detail necessary to implement the corresponding ITAAC that address these tables.

An impact review determined that these proposed changes do not affect or require any change to the AP1000 Probabilistic Risk Assessment (PRA) presented in DCD Chapter 19, including the Fire PRA, results and insights (e.g., core damage frequency (CDF) and large release frequency (LRF)). There are no existing failures included in the PRA model, and no new postulated failures of the VES are required in the PRA model. Therefore, there are no changes required to initiating event frequencies and system logic models of the PRA. The existing PRA risk significance investment protection determination for VES is not affected.

The post-accident monitoring (PAM) parameters are revised to add the status of the MCR Load Shed Panels as shown in DCD Table 7.5-1. This ensures that the MCR operators have the capability to monitor the status of the de-energization of the MCR loads following a DBA in order to take manual actions if necessary to ensure continued habitability of the MCRE.

There are no fire area or radiation zone changes required because of these proposed changes. The MCR Load Shed Panels are made of non-combustible materials, and are located in rooms that contain no radioactive materials.

As described in the fire protection analysis in DCD Appendix 9A, MCRE habitability is not a required function in the event of a fire. As described in the fire protection analysis, if the fire occurs in the main control room, control may be transferred to the remote shutdown workstation, depending on the extent of the fire. Therefore, a fire which affects either MCR Load Shed Panel during a loss of offsite power may require the operators to shut down the plant from the remote shutdown workstation since not all MCRE loads will be automatically shed (if a hot short of the panels is assumed). Therefore, there is no impact on the fire protection analysis and no impact on the capability of the operators to shut down the plant in the event of a fire affecting the MCR Load Shed Panels.

The Design Reliability Assurance Program (D-RAP) identifies all "Risk-Significant SSCs within the Scope of D-RAP" in DCD Table 17.4-1. The proposed changes do not require revision of the table.

- VBS SSCs are included in the table as risk-significant, but are not changed.
- No VES SSCs are included in the table and the changes to VES do not meet the criteria to be designated as risk-significant.
- The new MCR Load Shed Panels are part of PMS, but do not meet the criteria to be designated as risk-significant.

The VES provides no Defense-in-Depth (DID) (Investment Protection) function.

The proposed changes do not affect the containment, control, channeling, monitoring, processing or releasing of radioactive and non-radioactive materials. No effluent release path is affected. The types and quantities of expected effluents are not changed. Therefore, radioactive or non-radioactive material effluents are not affected.

The proposed changes do not affect plant radiation zones, controls under 10 CFR 20, and expected amounts and types of radioactive materials. Therefore, individual and cumulative radiation exposures do not change.

Summary

Although there are plant-specific DCD Tier 1 and generic TS changes, the resulting reduction in standardization caused by these changes does not cause a decrease in safety.

The proposed changes ensure the VES design functions to maintain heat loads within the MCRE within design basis assumptions to limit the heat-up of the room, and to ensure a 72 hour supply of breathable quality air for the occupants of the MCRE, maintain the MCRE pressure boundary at a positive pressure with respect to the surrounding areas with a discharge of air through the MCR vestibule, and provide a passive recirculation flow of MCRE air to maintain MCR dose rates below an acceptable level during VES operation, are met. The proposed changes include the following design and licensing basis changes for the VES:

1. An automatic and manual, Class 1E, electrical load shed of some nonessential nonsafety-related equipment within the MCRE is added.

2. The descriptions of the VES and VES performance requirements are updated in the design and licensing basis to resolve inconsistencies, provide clarification, and align with the current Auxiliary Building heat-up analysis.

3. A description of the requirements for maintaining habitability of the MCRE beyond 72 hours following a DBA is added to the design and licensing basis.

The proposed changes do not adversely affect any safety-related equipment or function, design function, radioactive material barrier or safety analysis.

4.0 Regulatory Evaluation

4.1 Exemption Justification

Pursuant to 10 CFR §52.63(b)(1), an exemption from 10 CFR Part 52, Appendix D, Section III.B. requirements is requested. According to 10 CFR Part 52, Appendix D, Section VIII.A.4,

10 CFR §50.12, 10 CFR §52.7 and 10 CFR §52.63, the NRC may grant exemptions from the requirements of the regulations provided the following six conditions are met: 1) the exemption is authorized by law [§50.12(a)(1)]; 2) the exemption will not present an undue risk to the health and safety of the public [§50.12(a)(1)]; 3) the exemption is consistent with the common defense and security [§50.12(a)(1)]; 4) special circumstances are present [§50.12(a)(2)]; 5) the special circumstances outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption [§52.63(b)(1)]; and 6) the design change will not result in a significant decrease in the level of safety [Part 52, Appendix D, VIII.A.4]. The requested exemption satisfies the criteria for granting specific exemptions, as described below.

4.1.1 This exemption is authorized by law.

The NRC has authority under 10 CFR §§ 50.12, 52.7, and 52.63 to grant exemptions from the requirements of NRC regulations. Specifically, 10 CFR §§50.12 and 52.7 state that the NRC may grant exemptions from the requirements of 10 CFR Part 52 upon a proper showing. No law exists that would preclude the changes covered by this exemption request. Additionally, granting of the proposed exemption does not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations. Accordingly, this requested exemption is "authorized by law," as required by 10 CFR §50.12(a)(1).

4.1.2 This exemption will not present an undue risk to the health and safety of the public.

The proposed exemption from the requirements of 10 CFR 52, Appendix D, Section III.B would allow changes to elements of the plant-specific DCD Tier 1 design information and generic TS. The plant-specific Tier 1 DCD will continue to reflect the approved licensing basis for the applicant, and will maintain a consistent level of detail with that which is currently provided elsewhere in Tier 1 of the plant-specific DCD. Because the change to the VES system description and associated TS changes maintain VES design functions, the changed design will ensure the protection of the health and safety of the public.

Therefore, no adverse safety impact which would present any additional risk to the health and safety of the public is present. The affected Design Description in the plant-specific Tier 1 DCD will continue to provide the detail necessary to support the performance of the associated ITAAC. Therefore, the requested exemption from 10 CFR 52, Appendix D, Section III.B would not present an undue risk to the health and safety of the public.

4.1.3 The exemption is consistent with the common defense and security.

The exemption from the requirements of 10 CFR 52, Appendix D, Section III.B would change elements of the plant-specific DCD Tier 1 design information relating to the operation of the VES and the generic TS. The exemption does not alter the design, function, or operation of any structures or plant equipment that are necessary to maintain a secure status of the plant. The proposed exemption has no impact on plant security or safeguards procedures. Therefore, the requested exemption is consistent with the common defense and security.

4.1.4 Special circumstances are present.

10 CFR §50.12(a)(2) lists six "special circumstances" for which an exemption may be granted. Pursuant to the regulation, it is necessary for one of these special circumstances to be present in order for the NRC to consider granting an exemption request. The requested exemption meets the special circumstances of 10 CFR §50.12(a)(2)(ii). That Section defines special circumstances as when "Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule."

The rule under consideration in this request for exemption from Tier 1 Subsections 2.2.5 and 2.5.2, and the generic TS is 10 CFR 52, Appendix D, Section III.B, which requires that an applicant referencing the AP1000 Design Certification Rule (10 CFR Part 52, Appendix D) shall incorporate by reference and comply with the requirements of Appendix D, including Tier 1 information and generic TS. The Turkey Point Units 6 & 7 COLA references the AP1000 Design Certification Rule and incorporates by reference the requirements of 10 CFR Part 52, Appendix D, including Tier 1 information and generic TS. The underlying purpose of Appendix D, Section III.B is to describe and define the scope and contents of the AP1000 design certification, and to require compliance with the design certification information in Appendix D to maintain the level of safety in the design.

The proposed changes maintain the design functions of the VES. This change does not impact the ability of any structures, systems, or components to perform their functions or negatively impact safety. Accordingly, this exemption from the certification information in Tier 1 Subsections 2.2.5 and 2.5.2 and from generic TS will enable the applicant to safely construct and operate the AP1000 facility consistent with the design certified by the NRC in 10 CFR 52, Appendix D.

Therefore, special circumstances are present, because application of the current generic certified design information in Tier 1 and the generic TS as required by 10 CFR Part 52, Appendix D, Section III.B, in the particular circumstances discussed in this request is not necessary to achieve the underlying purpose of the rule.

4.1.5 The special circumstances outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption.

Based on the nature of the changes to the plant-specific DCD Tier 1 information and generic TS and the understanding that these changes support the design function of the VES, it is likely that other AP1000 applicants and licensees will request this exemption. However, if this is not the case, the special circumstances continue to outweigh any decrease in safety from the reduction in standardization because the key design functions of the VES associated with this request will continue to be maintained. This exemption request and the associated DCD and TS changes demonstrate that the VES function continues to be maintained following implementation of the change from the generic AP1000 DCD, thereby minimizing the safety impact resulting from any reduction in standardization.

Therefore, the special circumstances associated with the requested exemption outweigh any decrease in safety that may result from the reduction in standardization

caused by the exemption. In fact, as described in 4.1.6 below, the exemption will not result in a reduction in the level of safety.

4.1.6 The design change will not result in a significant decrease in the level of safety.

The exemption revises the plant-specific DCD Tier 1 information by enabling the VES to more effectively perform its design functions. This exemption also revises the generic TS to ensure equipment operability and temperature conditions are maintained. Because the VES design functions are met, there is no reduction in the level of safety.

Therefore, the design change and change to the TS will not result in a significant decrease in the level of safety.

As demonstrated above, this exemption request satisfies NRC requirements for an exemption to the design certification rule for the AP1000.

4.2 Significant Hazards Consideration

The proposed changes revise the COLA because of design changes to the VES. Because of design finalization and completion of calculations for MCRE temperature response: 1) an automatic and manual, Class 1E, electrical load shed of some nonessential nonsafety-related equipment within the MCRE is added; 2) the descriptions of the VES and VES performance requirements are updated in the design and licensing basis to resolve inconsistencies, provide clarification, and align with the current Auxiliary Building heat-up analysis; and 3) a description of the requirements for maintaining habitability of the MCRE beyond 72 hours following a DBA is added to the design and licensing basis. This activity involves departures from plant-specific DCD Tier 1 information and changes to generic TS.

Whether or not a significant hazards consideration is involved with the proposed exemption was determined by evaluating the three criteria set forth in 10 CFR 50.92, as discussed below:

4.2.1 Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

The proposed changes do not affect the operation of any systems or equipment that initiate an analyzed accident or alter any structures, systems, and components (SSC) accident initiator or initiating sequence of events. The VES design changes involve: 1) addition of an automatic and manual, Class 1E, electrical load shed of some nonessential nonsafety-related equipment within the MCRE; 2) updating the descriptions of the VES and VES performance requirements in the design and licensing basis to resolve inconsistencies, provide clarification, and align with the current Auxiliary Building heat-up analysis; and 3) adding a description of the requirements for maintaining habitability of the MCRE beyond 72 hours following a DBA to the design and licensing basis. Neither planned or inadvertent operation nor failure of the VES is an accident initiator or part of an initiating sequence of events for an accident previously evaluated. The proposed changes do not have an adverse impact on the ability of the VES to perform its design functions. The design of the VES continues to meet the same

regulatory acceptance criteria, codes, and standards as referenced in the DCD. In addition, the changes ensure that the capability of the VES to mitigate the consequences of an accident meets the applicable regulatory acceptance criteria, and there is no adverse effect on any safety-related SSC or function used to mitigate an accident. The changes do not affect the prevention and mitigation of other abnormal events, e.g., anticipated operational occurrences, earthquakes, floods and turbine missiles, or their safety or design analyses. Therefore, the probability or consequences of an accident previously evaluated are not affected.

4.2.2 Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

The proposed changes do not affect the operation of any systems or equipment that may initiate a new or different kind of accident, or alter any SSC such that a new accident initiator or initiating sequence of events is created. The VES design changes involve: 1) addition of an automatic and manual, Class 1E, electrical load shed of some nonessential nonsafety-related equipment within the MCRE; 2) updating the descriptions of the VES and VES performance requirements in the design and licensing basis to resolve inconsistencies, provide clarification, and align with the current Auxiliary Building heat-up analysis; and 3) adding a description of the requirements for maintaining habitability of the MCRE beyond 72 hours following a DBA to the design and licensing basis. Although a new failure mode of the VES is created by the addition of the MCR Load Shed Panels, neither planned nor inadvertent operation nor failure of the VES is an accident initiator or part of an initiating sequence of events for a new or different kind of accident. In addition, these proposed changes do not adversely affect any other VES or SSC design functions or methods of operation in a manner that results in a new failure mode, malfunction, or sequence of events that affect safety-related or non-safety-related equipment. Therefore, this activity does not allow for a new fission product release path, result in a new fission product barrier failure mode, or create a new sequence of events that result in significant fuel cladding failures. Thus, the proposed changes do not create the possibility of a new or different kind of accident from any previously evaluated.

4.2.3 Does the proposed change involve a significant reduction in a margin of safety?

The proposed changes maintain existing safety margins. The proposed changes ensure that VES design requirements and design functions are met. The proposed changes maintain existing safety margin through continued application of the existing requirements of the DCD, while adding additional design features and controls to ensure the VES performs the design functions required to meet the existing safety margins. Therefore, the proposed changes satisfy the same design functions in accordance with the same codes and standards as stated in the DCD. These changes do not adversely affect any design code, function, design analysis, safety analysis input or result, or design/safety margin. Because no safety analysis or design basis acceptance limit/criterion is challenged or exceeded by these changes, no margin of safety is reduced. Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

Having arrived at negative declarations with regard to the criteria of 10 CFR 50.92, this assessment determined that the requested change does not involve a Significant Hazards Consideration.

4.3 Applicable Regulatory Requirements/Criteria

10 CFR 52, Appendix D, Section VIII.B.5.a allows an applicant who references this appendix to depart from Tier 2 information, without prior NRC approval, unless the proposed departure involves a change to or departure from Tier 1 information, Tier 2* information, or the generic TS. This exemption request proposes changes to plant-specific DCD Tier 1 information and generic TS.

10 CFR 50 Appendix A, General Design Criteria 4, *Environmental and dynamic effects design bases*, states: "Structures, systems, and components important to safety shall be designed to accommodate the effects of and to be compatible with the environmental conditions associated with normal operation, maintenance, testing, and postulated accidents, including loss-of-coolant accidents." The proposed changes ensure that heat loads in the zones containing safety-related equipment within the MCRE, the 1E I&C equipment rooms, and the Class 1E dc equipment rooms are maintained less than the limits used in qualifying the equipment for their required operating times following a DBA. Therefore, this criterion remains satisfied.

10 CFR 50 Appendix A, General Design Criteria 18, *Inspection and testing of electric power systems*, states: "Electric power systems important to safety shall be designed to permit appropriate periodic inspections and testing of important areas and features, such as wiring, insulation, connections, and switchboards, to assess the continuity of the systems and the condition of their components. The systems shall be designed with a capability to test periodically (1) the operability and functional performance of the components of the systems, such as onsite power sources, relays, switches, and buses, and (2) the operability of the systems as a whole and, under conditions as close to design as practical, the full operation sequence that brings the systems into operation, including operation of applicable portions of the protection system." The proposed changes to the VES, including the addition of the MCR Load Shed Panels, continues to meet the same regulatory acceptance criteria, electrical codes, and industry standards specified in the DCD, and the inspection and testing requirements (e.g., IEEE-338, Regulatory Guide 1.41, and Regulatory Guide 1.118) are still met for the VES with the proposed changes. Therefore, this criterion remains satisfied.

10 CFR 50 Appendix A, General Design Criteria 19, *Control room*, states: "A control room shall be provided from which actions can be taken to operate the nuclear power unit safely under normal conditions and to maintain it in a safe condition under accident conditions, including loss-of-coolant accidents. Adequate radiation protection shall be provided to permit access and occupancy of the control room under accident conditions without personnel receiving radiation exposures in excess of 0.05 Sv (5 rem) total effective dose equivalent (TEDE) as defined in §50.2 for the duration of the accident." The VES with proposed changes do not result in a change to the radiological dose rates to the MCR operators for the duration of a DBA, and the MCRE remains habitable for the duration of a DBA. Therefore, this criterion remains satisfied.

Generic Safety Issue B-66 addresses the adequacy of control room area ventilation systems and control building layout to ensure that plant operators are adequately protected against the effects of accidental releases of toxic and radioactive gases. The

VES with proposed changes ensure a 72-hour supply of breathable quality air for the occupants of the MCRE, maintain the MCRE pressure boundary at a positive pressure with respect to the surrounding areas with a discharge of air through the MCR vestibule, and provide a passive recirculation flow of MCRE air to maintain MCR dose rates below an acceptable level during VES operation. The VES is automatically or manually actuated to minimize unfiltered in-leakage by maintaining the MCRE at a slightly positive pressure, which protects the plant operators from accidental releases of toxic and radioactive gases. Therefore, this regulatory guidance remains satisfied.

Enclosure 3

FPL Voluntary Submittal

Main Control Room Habitability

Revisions to the Turkey Point Units 6 & 7 COL Application

Attachment 1	**Revisions to Part 2, Final Safety Analysis Report**
Attachment 2	**Revisions to Part 4, Technical Specifications**
Attachment 3	**Revisions to Part 7, Departures and Exemption Requests**
Attachment 4	**Revisions to Part 10, Proposed License Conditions (Including ITAAC)**

Enclosure 3, Attachment 1

FPL Voluntary Submittal

Main Control Room Habitability

Turkey Point Units 6 & 7 COL Application

Revisions to Part 2, Final Safety Analysis Report

(28 Pages Including Cover Page)

1. COLA Part 2, FSAR Chapter 1, Table 1.8-201, Summary of FSAR Departures from the DCD, will be revised to add departure PTN DEP 6.4-2 as follows:

Departure Number	Departure Description Summary	FSAR Section or Subsection
PTN DEP 6.4-2	**Main Control Room Heatup The following are the departures from the DCD: Tier 1 Tables 2.2.5-1, 2.2.5-4, 2.5.2-3 and 2.5.2-4, Tier 2 Table 3.7.3-1 (Sheets 1 and 2 of 3), Table 3.9-12 (Sheet 6 of 7), Table 3.9-16 (Sheet 23 of 26), Table 3.9-17, Table 3.11-1 (Sheets 17, 30 and 47 of 51), Figure 3D.5-1 (Sheet 1 of 3), Table 3I.6-2 (Sheet 11 of 28), Table 3I.6-3 (Sheets 10 and 28 of 32), Subsections 6.4.2.2, 6.4.2.3, 6.4.3.2, 6.4.4, 6.4.5.1, 6.4.5.3 and 6.4.8, Table 6.4-3, Figure 7.2-1 (Sheet 13 of 21), Subsection 7.3.1.2.17, Table 7.3-1 (Sheet 7 of 9), Table 7.3-3 (Sheet 2 of 2), Table 7.5-1 (Sheet 11 of 12), Table 7.5-7 (Sheet 4 of 4), Subsections 9.3.1.1.2, 9.4.1.1.2, 9.4.1.2.3.1 and 14.2.9.1.6, Table 14.3-7 (Sheet 1 of 3), TS 3.3.2, TS 3.7.6, TS B 3.3.2, TS B 3.7.6, TS Figure B 3.7.6-2.**	**Table 3.7.3-1R Table 3.9-12R Table 3.9-16R Table 3.9-17R Table 3.11-1R (Sheets 2 to 4) Figure 3D.5-1R Table 3I.6-2R Table 3I.6-3R 6.4.2.2 6.4.2.3 6.4.3.2 6.4.4 6.4.5.1 6.4.5.3 6.4.8 Table 6.4-3R Figure 7.2-1R (Sheet 2 of 2) 7.3.1.2.17 Table 7.3-1R Table 7.3-3R Table 7.5-1R Table 7.5-7R 9.3.1.1.2 9.4.1.1.2 9.4.1.2.3.1 14.2.9.1.6 Table 14.3-7R Technical Specifications TS 3.3.2 and 3.7.6 Bases B 3.3.2 and B 3.7.6**

2. COLA Part 2, FSAR Chapter 3, Table 3.7.3-1R is added with left margin annotation PTN DEP 6.4-2 as follows (departure from DCD Table 3.7.3-1 (Sheets 1 and 2 of 3)):

TABLE 3.7.3-1R (SHEET 1 of 2)
SEISMIC CATEGORY I EQUIPMENT OUTSIDE CONTAINMENT
BY ROOM NUMBER

	Room No.	Room Name	Equipment Description
	12101	Division A battery room	Batteries
	12102	Division C battery room 1	Batteries
	12103	Spare battery room	Spare batteries
	12104	Division B battery room 1	Batteries
	12105	Division D battery room	Batteries
	12113	Spare battery charger room	
	12162	RNS pump room A	RNS pressure boundary
	12163	RNS pump room B	RNS pressure boundary
	12201	Division A dc equipment room	dc equipment
	12202	Division C battery room 2	Batteries
	12203	Division C dc equipment room	dc equipment
	12204	Division B battery room 2	Batteries
	12205	Division D dc equipment room	dc equipment
	12207	Division B dc equipment room	dc equipment
	12211	Corridor	Divisional cables
	12212	Division B RCP trip switchgear room	RCP trip switchgear
	12244	Lower annulus valve area	CVS/WLS containment isolation valves
	12251	Demineralizer/filter access area	CVS/DWS isolation valves
	12254	SFS penetration room	SFS containment isolation valve
	12256	Containment isolation valve room	RNS containment isolation valves
	12259	Pipe chase	RNS piping
	12262	Piping/Valve room	RNS pressure boundary, SFS piping
	12265	Waste monitor tank room C	SFS piping
PTN DEP 6.4-2	11269	Pipe chase	RNS pressure boundary
	12300	Corridor	Divisional cable, MCR load shed panel
	12301	Division A I&C room	Divisional I&C
	12302	Division C I&C room	Divisional I&C

TABLE 3.7.3-1R (SHEET 2 of 2)

SEISMIC CATEGORY I EQUIPMENT OUTSIDE CONTAINMENT BY ROOM NUMBER

Room No.	Room Name	Equipment Description
12303	Remote shutdown room	Divisional cabling
12304	Division B I&C/penetration room	Divisional I&C/electrical penetrations
12305	Division D I&C/penetration room	Divisional I&C/electrical penetrations
12306	Valve/piping penetration room	CCS/CVS/DWS/FPS/SGS containment isolation valves
12311	Corridor Divisional	cabling
12312	Division C RCP trip switchgear room	RCP trip switchgear
12313	Division C I&C/penetration room	Divisional I&C/electrical penetrations
12321	Non-1E equipment/penetration room	Divisional cabling
12341	Middle annulus	Class 1E electrical penetrations Various mechanical piping penetrations
12351	Maintenance floor staging area	Divisional cabling (ceiling)
12352	Personnel hatch	Personnel airlock (interlocks)
12354	Middle annulus access room	PSS/SFS containment isolation valves
12362	RNS HX room	RNS pressure boundary
12365	Waste monitor tank room B	SFS piping
12400	Control room vestibule	Control room access
12401	Main control room	Dedicated safety panel VBS HVAC dampers VES isolation valves Lighting circuits Mounting for lighting fixtures
12404	Lower MSIV compartment B	SGS containment isolation valves, instrumentation and controls
12405	Lower VBS B and D equipment room	VWS/PXS/CAS containment isolation valves
12406	Lower MSIV compartment A	SGS containment isolation valves, instrumentation and controls
12412	Electrical penetration room Division A	Divisional electrical penetrations, MCR load shed panel

PTN DEP 6.4-2

3. COLA Part 2, FSAR Chapter 3, Table 3.9-12R, is added with left margin annotations PTN DEP 6.4-2 as follows (departure from DCD Table 3.9-12 (Sheet 6 of 7)):

Table 3.9-12R
LIST OF ASME CLASS 1, 2, AND 3 ACTIVE VALVES

Valve No.	Description	Function[(a)]
Steam Generator System (Cont.)		
SGS-PL-V040A	Main Steam Line Isolation	2,3,4
SGS-PL-V040B	Main Steam Line Isolation	2,3,4
SGS-PL-V057A	Main Feedwater Isolation	2,3,4
SGS-PL-V057B	Main Feedwater Isolation	2,3,4
SGS-PL-V067A	Startup Feedwater Isolation	2,3,4
SGS-PL-V067B	Startup Feedwater Isolation	2,3,4
SGS-PL-V074A	Steam Generator Blowdown Isolation	2,3,4
SGS-PL-V074B	Steam Generator Blowdown Isolation	2,3,4
SGS-PL-V075A	Steam Generator Series Blowdown Isolation	3,4
SGS-PL-V075B	Steam Generator Series Blowdown Isolation	3,4
SGS-PL-V086A	Steam Line Condensate Drain Control	3,4
SGS-PL-V086B	Steam Line Condensate Drain Control	3,4
SGS-PL-V233A	Power Operated Relief Valve	3,4
SGS-PL-V233B	Power Operated Relief Valve	3,4
SGS-PL-V240A	Main Steam Isolation Valve Bypass Isolation	2,3,4
SGS-PL-V240B	Main Steam Isolation Valve Bypass Isolation	2,3,4
SGS-PL-V250A	Main Feedwater Control	3,4
SGS-PL-V250B	Main Feedwater Control	3,4
SGS-PL-V255A	Startup Feedwater Control	3,4
SGS-PL-V255B	Startup Feedwater Control	3,4
Nuclear Island Nonradioactive Ventilation System		
VBS-PL-V186	MCR Supply Air Isolation Valve	3
VBS-PL-V187	MCR Supply Air Isolation Valve	3
VBS-PL-V188	MCR Return Air Isolation Valve	3
VBS-PL-V189	MCR Return Air Isolation Valve	3
VBS-PL-V190	MCR Exhaust Air Isolation Valve	3
VBS-PL-V191	MCR Exhaust Air Isolation Valve	3
Main Control Room Habitability System		
VES-PL-V001	Air Delivery Alternate Isolation Valve	3
VES-PL-V002A	Pressure Regulating Valve A	3
VES-PL-V002B	Pressure Regulating Valve B	3
VES-PL-V005A	Air Delivery Isolation Valve A	3
VES-PL-V005B	Air Delivery Isolation Valve B	3
VES-PL-V018	Temporary Instrument Isolation Valve A	3
VES-PL-V019	Temporary Instrument Isolation Valve B	3
VES-PL-V022A	Pressure Relief Isolation Valve A	3
VES-PL-V022B	Pressure Relief Isolation Valve B	3
VES-PL-V040A	Air Tank Safety Relief Valve A	3
VES-PL-V040B	Air Tank Safety Relief Valve B	3

PTN DEP 6.4-2
PTN DEP 6.4-2

4. COLA Part 2, FSAR Chapter 3, Table 3.9-16R, is added with left margin annotations PTN DEP 6.4-2 as follows (departure from DCD Table 3.9-16 (Sheet 23 of 26)):

TABLE 3.9-16R
VALVE INSERVICE TEST REQUIREMENTS

Valve Tag Number	Description[1]	Valve / Actuator Type	Safety-Related Missions	Safety Functions [2]	ASME Class / IST Category	Inservice Testing Type and Frequency	IST Notes
VES-PL-V001	Air Delivery Isolation Valve	Manual	Maintain Close Transfer Open Maintain Open	Active	Class 3 Category B	Exercise Full Stroke/2 Years	37
VES-PL-V002A	Pressure Regulating Valve A	Press. Reg.	Throttle Flow	Active	Class 3 Augmented	Exercise Stroke/Quarterly Operability Test	31, 38
VES-PL-V002B	Pressure Regulating Valve B	Press. Reg.	Throttle Flow	Active	Class 3 Augmented	Exercise Stroke/Quarterly Operability Test	31, 38
VES-PL-V005A	Air Delivery Isolation Valve A	Remote SO GLOBE	Maintain Open Transfer Open	Active-to-Failed	Class 3 Category B	Remote Position Indication, Exercise/2 Years Exercise Full Stroke/Quarterly Failsafe Test/Quarterly Operability Test	31
VES-PL-V005B	Air Delivery Isolation Valve B	Remote SO GLOBE	Maintain Open Transfer Open	Active-to-Failed	Class 3 Category B	Remote Position Indication, Exercise/2 Years Exercise Full Stroke/Quarterly Failsafe Test/Quarterly Operability Test	31
VES-PL-V018	Temporary Instrument Isolation Valve A	Manual	Maintain Close Transfer Open Maintain Open	Active	Class 3 Category B	Exercise Full Stroke/2 Years	
VES-PL-V019	Temporary Instrument Isolation Valve B	Manual	Maintain Close Transfer Open Maintain Open	Active	Class 3 Category B	Exercise Full Stroke/2 Years	
VES-PL-V022A	Pressure Relief Isolation Valve A	Remote AO Butterfly	Maintain Open Transfer Open	Active-to-Failed	Class 3 Category B	Remote Position Indication, Exercise/2 Years Exercise Full Stroke/Quarterly Failsafe Test/Quarterly Operability Test	31
VES-PL-V022B	Pressure Relief Isolation Valve B	Remote AO Butterfly	Maintain Open Transfer Open	Active-to-Failed	Class 3 Category B	Remote Position Indication, Exercise/2 Years Exercise Full Stroke/Quarterly Failsafe Test/Quarterly Operability Test	31
VES-PL-V040A	Air Tank Safety Relief Valve A	Relief	Maintain Close Transfer Open	Active	Class 3 Category BC	Class 2/3 Relief Valve Tests/10 Years and 20% in 4 Years	
VES-PL-V040B	Air Tank Safety Relief Valve B	Relief	Maintain Close Transfer Open	Active	Class 3 Category BC	Class 2/3 Relief Valve Tests/10 Years and 20% in 4 Years	
VES-PL-V041A	Air Tank Safety Relief Valve A	Relief	Maintain Close Transfer Open	Active	Class 3 Category BC	Class 2/3 Relief Valve Tests/10 Years and 20% in 4 Years	
VES-PL-V041B	Air Tank Safety Relief Valve B	Relief	Maintain Close Transfer Open	Active	Class 3 Category BC	Class 2/3 Relief Valve Tests/10 Years and 20% in 4 Years	
VES-PL-V044	Main Air Flowpath Isolation Valve	Manual	Maintain Open Transfer Close	Active	Class 3 Category B	Exercise Full Stroke/2 Years	37

PTN DEP 6.4-2

PTN DEP 6.4-2

5. COLA Part 2, FSAR Chapter 3, Table 3.9-17R, is added with left margin annotation PTN DEP 6.4-2 as follows (departure from DCD Table 3.9-17):

Table 3.9-17R

SYSTEM LEVEL OPERABILITY TEST REQUIREMENTS

System/Feature	Test Purpose	Test Method	Tech Spec[a]
PCS			
PCCWST drain lines	Flow capability and water coverage	Note 1	SR 3.6.6.6
PXS			
Accumulator injection lines	Flow capability	Note 2	SR 3.5.1.6
CMT injection lines	Flow capability	Note 3	SR 3.5.2.7
PRHR HX	Heat transfer capability	Note 4	SR 3.5.4.6
IRWST injection lines	Flow capability	Note 5	SR 3.5.6.10
Containment recirculation lines	Flow capability	Note 6	SR 3.5.6.10
VES			
MCR isolation/makeup	MCR pressurization capability	Note 7	SR 3.7.6.9

PTN DEP 6.4-2

6. COLA Part 2, FSAR Chapter 3, Table 3.11-1R (Sheets 2 to 4), is added with left margins annotation PTN DEP 6.4-2 as follows (departure from DCD Table 3.11-1 (Sheets 17, 30 and 47 of 51)):

TABLE 3.11-1R (Sheet 2 of 4)

ENVIRONMENTALLY QUALIFIED ELECTRICAL AND MECHANICAL EQUIPMENT

Description	AP1000 Tag No.	Envir. Zone (Note 2)	Function (Note 1)	Operating Time Required (Note 5)	Qualification Program (Note 6)
Power Range Neutron Flux High Voltage Distribution Box C	PMS-JW-007C	2	RT	5 min	E
Power Range Neutron Flux High Voltage Distribution Box D	PMS-JW-007D	2	RT	5 min	E
MAIN CONTROL ROOM					
Operator Workstation A	N/A	3	RT ESF PAMS	5 min 24 hr 2 wks	E
Operator Workstation B	N/A	3	RT ESF PAMS	5 min 24 hr 2 wks	E
Supervisor Workstation	N/A	3	RT ESF PAMS	5 min 24 hr 2 wks	E
Switch Station (Including Switches)	N/A	3	RT ESF	5 min 24 hr	E
QDPS MCR Display Unit	PMS-JY-001B	3	PAMS	2 wks	E
QDPS MCR Display Unit	PMS-JY-001C	3	PAMS	2 wks	E
PTN DEP 6.4-2 MCR Load Shed Panel 1	VES-EP-01	2	ESF PAMS	24 hour 2 weeks	E S
PTN DEP 6.4-2 MCR Load Shed Panel 2	VES-EP-02	2	ESF PAMS	24 hour 2 weeks	E
PENETRATIONS					
Penetrations (Mechanical)	See Table 6.2.3-1				M *
Penetrations (Electrical)	See Figure 3.8.2-4				E *
ACTIVE VALVES					
Containment Isolation – Air Out Solenoid Valve Limit Switch	CAS-PL-V014 CAS-PL-V014-S CAS-PL-V014-L	2 2 2	ESF PAMS	5 min 5 min 2 wks	M S E E
Containment Isolation – Air In	CAS-PL-V015	1	ESF	5 min	M *
Containment Isolation – Inlet Limit Switch Motor Operator	CCS-PL-V200 CCS-PL-V200-L CCS-PL-V200-M	2 2 2	ESF PAMS ESF	5 min 2 wks 5 min	M S E E
Service Air Supply Inside Containment Isolation	CAS-PL-V205	1	PB	1 yr	M *
Containment Isolation – Inlet	CCS-PL-V201	1	ESF	5 min	M *
Containment Isolation – Outlet Limit Switch Motor Operator	CCS-PL-V207 CCS-PL-V207-L CCS-PL-V207-M	1 1 1	ESF PAMS ESF	5 min 1 yr 5 min	M * E * E *

Table 3.11-1R (Sheet 3 of 4)

ENVIRONMENTALLY QUALIFIED ELECTRICAL AND MECHANICAL EQUIPMENT

Description	AP1000 Tag No.	Envir. Zone (Note 2)	Function (Note 1)	Operating Time Required (Note 5)	Qualification Program (Note 6)
MCR Isolation Valve Limit Switch Motor Operator	VBS-PL-V191 VBS-PL-V191-L VBS-PL-V191-M	3 3 3	ESF PAMS ESF	24 hr 2 wks 24 hr	M E E
Air Delivery Isolation Valve	VES-PL-V001	3	ESF	2 wks	M
Pressure Regulator Valve A	VES-PL-V002A	7	ESF	2 wks	M
Pressure Regulator Valve B	VES-PL-V002B	7	ESF	2 wks	M
Actuation Valve A Limit Switch Solenoid Operator	VES-PL-V005A VES-PL-V005A-L VES-PL-V005A-S	3 3 3	ESF PAMS ESF	2 wks 2 wks 2 wks	M E E
Actuation Valve B Limit Switch Solenoid Operator	VES-PL-V005B VES-PL-V005B-L VES-PL-V005B-S	3 3 3	ESF PAMS ESF	2 wks 2 wks 2 wks	M E E
PTN DEP 6.4-2 Temporary Instrument Isolation Valve A	VES-PL-V018	7	ESF	2 wks	M
PTN DEP 6.4-2 Temporary Instrument Isolation Valve B	VES-PL-V019	7	ESF	2 wks	M
Relief Isolation Valve A Limit Switch Solenoid Valve	VES-PL-V022A VES-PL-V022A-L VES-PL-V022A-S	3 3 3	ESF PAMS ESF	2 wks 2 wks 2 wks	M E E
Relief Isolation Valve B Limit Switch Solenoid Valve	VES-PL-V022B VES-PL-V022B-L VES-PL-V022B-S	3 3 3	ESF PAMS ESF	2 wks 2 wks 2 wks	M E E
Air Tank Relief A	VES-PL-V040A	7	ESF	2 wks	M
Air Tank Relief B	VES-PL-V040B	7	ESF	2 wks	M
Air Tank Relief C	VES-PL-V040C	7	ESF	2 wks	M
Air Tank Relief D	VES-PL-V040D	7	ESF	2 wks	M
Main Air Flow Path Isolation Valve	VES-PL-V044	3	ESF	2 wks	M
Eductor Flow Path Isolation Valve	VES-PL-V045	3	ESF	2 wks	M
Eductor Bypass Isolation Valve	VES-PL-V046	3	ESF	2 wks	M
Containment Purge Inlet Isolation Limit Switch Solenoid Valve	VFS-PL-V003 VFS-PL-V003-L VFS-PL-V003-S1	7 7 7	ESF PAMS ESF	5 min 2 wks 5 min	M S E E
Containment Purge Inlet Isolation Limit Switch Solenoid Valve	VFS-PL-V004 VFS-PL-V004-L VFS-PL-V004-S1	1 1 1	ESF PAMS ESF	5 min 1 yr 5 min	M * E * E *
Containment Purge Discharge Isolation Limit Switch Solenoid Valve	VFS-PL-V009 VFS-PL-V009-L VFS-PL-V009-S1	1 1 1	ESF PAMS ESF	5 min 1 yr 5 min	M * E * E *
Containment Purge Discharge Isolation Limit Switch Solenoid Valve	VFS-PL-V010 VFS-PL-V010-L VFS-PL-V010-S1	6 6 6	ESF PAMS ESF	5 min 2 wks 5 min	M S ** E ** E **

TABLE 3.11-1R (Sheet 4 of 4)

ENVIRONMENTALLY QUALIFIED ELECTRICAL AND MECHANICAL EQUIPMENT

Description	AP1000 Tag No.	Envir. Zone (Note 2)	Function (Note 1)	Operating Time Required (Note 5)	Qualification Program (Note 6)
Steam Line Condensate Drain Level Isolation Valve	SGS-PL-V096B	5	PB	1 yr	M *
Steam Line Condensate Drain Level Isolation Valve	SGS-PL-V097A	5	PB	1 yr	M *
Steam Line Condensate Drain Level Isolation Valve	SGS-PL-V097B	5	PB	1 yr	M *
Startup Feedwater Check Valve	SGS-PL-V256A	5	PB	1 yr	M *
Startup Feedwater Check Valve	SGS-PL-V256B	5	PB	1 yr	M *
Air Delivery Line Pressure Instrument Isolation Valve A	VES-PL-V006A	7	PB	1 yr	M
Air Delivery Line Pressure Instrument Isolation Valve B	VES-PL-V006B	7	PB	1 yr	M
Air Delivery Line Maintenance Isolation Valve A	VES-PL-V010A	7	PB	1 yr	M
Air Delivery Line Maintenance Isolation Valve B	VES-PL-V010B	7	PB	1 yr	M
Air Delivery Line Maintenance Isolation Valve A	VES-PL-V011A	7	PB	1 yr	M
Air Delivery Line Maintenance Isolation Valve B	VES-PL-V011B	7	PB	1 yr	M
Temporary Instrument Isolation Valve A	VES-PL-V016	7	PB	1 yr	M
Deleted (PTN DEP 6.4-2)					
Deleted (PTN DEP 6.4-2)					
Temporary Instrument Isolation Valve B	VES-PL-V020	7	PB	1 yr	M
Air Bank 1 Isolation Valve A	VES-PL-V024A	7	PB	1 yr	M
Air Bank 2 Isolation Valve B	VES-PL-V024B	7	PB	1 yr	M
Air Bank 3 Isolation Valve C	VES-PL-V024C	7	PB	1 yr	M
Air Bank 4 Isolation Valve D	VES-PL-V024D	7	PB	1 yr	M
Air Bank 1 Isolation Valve A	VES-PL-V025A	7	PB	1 yr	M
Air Bank 2 Isolation Valve B	VES-PL-V025B	7	PB	1 yr	M
Air Bank 3 Isolation Valve C	VES-PL-V025C	7	PB	1 yr	M
Air Bank 4 Isolation Valve D	VES-PL-V025D	7	PB	1 yr	M
Air Bank 1 Fill/Vent Isolation Valve A	VES-PL-V026A	7	PB	1 yr	M

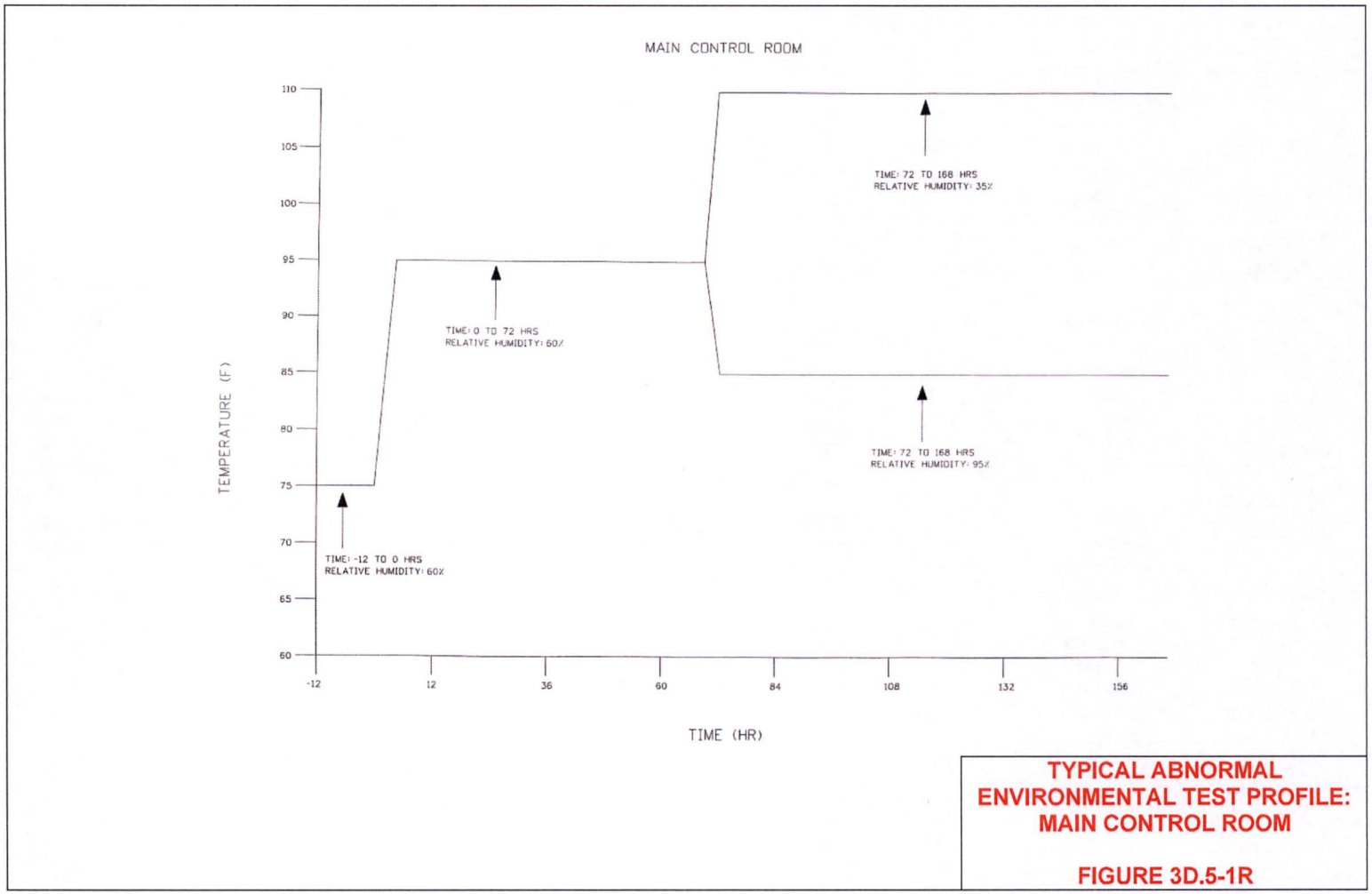
7. COLA Part 2, FSAR Chapter 3, Appendix 3D is revised as follows:

APPENDIX 3D
METHODOLOGY FOR QUALIFYING AP1000 SAFETY-RELATED ELECTRICAL AND MECHANICAL EQUIPMENT

This section of the referenced DCD is incorporated by reference with ~~no~~ **the following** departures **and/**or supplements.

8. COLA Part 2, FSAR Chapter 3, Appendix 3D is revised to add FSAR Figure 3D.5-1R with left margin annotation PTN DEP 6.4-2 as follows (departure from DCD Figure 3D.5-1 (Sheet 1 of 3)):

PTN DEP 6.4-2



TYPICAL ABNORMAL ENVIRONMENTAL TEST PROFILE: MAIN CONTROL ROOM

FIGURE 3D.5-1R

9. COLA Part 2, FSAR Chapter 3, Appendix 3I is revised to add FSAR Table 3I.6-2R with left margin annotations PTN DEP 6.4-2 as follows (departure from DCD Table 3I.6-2 (Sheet 11 of 28)):

TABLE 3I.6-2R

LIST OF POTENTIAL HIGH FREQUENCY SENSITIVE AP1000 SAFETY-RELATED ELECTRICAL AND ELECTRO-MECHANICAL EQUIPMENT

	Description	AP1000 Tag Number
	Intermediate Range Neutron Flux Preamplifier Panel D	PMS-JW-006D
	Power Range Neutron Flux High Voltage Distribution Box A	PMS-JW-007A
	Power Range Neutron Flux High Voltage Distribution Box B	PMS-JW-007B
	Power Range Neutron Flux High Voltage Distribution Box C	PMS-JW-007C
	Power Range Neutron Flux High Voltage Distribution Box D	PMS-JW-007D
	Main Control Room	
	Operator Workstation A	N/A
	Operator Workstation B	N/A
	Supervisor Workstation	N/A
	Switch Station (Including Switches)	N/A
	QDPS MCR Display Unit	PMS-JY-001B
	QDPS MCR Display Unit	PMS-JY-001C
PTN DEP 6.4-2	MCR Load Shed Panel 1	VES-EP-01
PTN DEP 6.4-2	MCR Load Shed Panel 2	VES-EP-02
	Active Valves	
	Containment Isolation – Air Out Solenoid Valve Limit Switch	 CAS-PL-V014-S CAS-PL-V014-L
	Containment Isolation – Inlet Limit Switch Motor Operator	 CCS-PL-V200-L CCS-PL-V200-M
	Containment Isolation – Outlet Limit Switch Motor Operator	 CCS-PL-V207-L CCS-PL-V207-M
	Containment Isolation – Outlet Limit Switch Motor Operator	 CCS-PL-V208-L CCS-PL-V208-M

10. COLA Part 2, FSAR Chapter 3, Appendix 3I is revised to add FSAR Table 3I.6-3R with left margin annotations PTN DEP 6.4-2 as follows (departure from DCD Table 3I.6-3 (Sheets 10 and 28 of 32)):

TABLE 3I . 6-3R (SHEET 1 of 2)

LIST OF AP1000 SAFETY-RELATED ELECTRICAL

AND MECHANICAL EQUIPMENT NOT HIGH FREQUENCY SENSITIVE

Description	AP1000 Tag Number	Comment
SG Blowdown Isolation	SGS-PL-V074B	2
SG Series Blowdown Isolation	SGS-PL-V075A	2
SG Series Blowdown Isolation	SGS-PL-V075B	2
Steam Line Condensate Drain Isolation	SGS-PL-V086A	2
Steam Line Condensate Drain Isolation	SGS-PL-V086B	2
Power-Operated Relief Valve	SGS-PL-V233A	2
Power-Operated Relief Valve	SGS-PL-V233B	2
MSIV Bypass Isolation Valve	SGS-PL-V240A	2
MSIV Bypass Isolation Valve	SGSPL-V240B	2
Main Feedwater Control Valve	SGS-PL-V250A	2
Main Feedwater Control Valve	SGS-PL-V250B	2
Startup Feedwater Control Valve	SGS-PL-V255A	2
Startup Feedwater Control Valve	SGS-PL-V255B	2
MCR Isolation Valve	VBS-PL-V186	2
MCR Isolation Valve	VBS-PL-V187	2
MCR Isolation Valve	VBS-PL-V188	2
MCR Isolation Valve	VBS-PL-V189	2
MCR Isolation Valve	VBS-PL-V190	2
MCR Isolation Valve	VBS-PL-V191	2
Air Delivery Isolation Valve	VES-PL-V001	2
Pressure Regulator Valve A	VES-PL-V002A	2
Pressure Regulator Valve B	VES-PL-V002B	2
Actuation Valve A	VES-PL-V005A	2
Actuation Valve B	VES-PL-V005B	2
Temporary Instrument Isolation Valve A	VES-PL-V018	2
Temporary Instrument Isolation Valve B	VES-PL-V019	2
Relief Isolation Valve A	VES-PL-V022A	2
Relief Isolation Valve B	VES-PL-V022B	2

PTN DEP 6.4-2

PTN DEP 6.4-2

TABLE 3I.6-3R (SHEET 2 of 2)
LIST OF AP1000 SAFETY-RELATED ELECTRICAL AND MECHANICAL EQUIPMENT NOT HIGH FREQUENCY SENSITIVE

	Description	AP1000 Tag Number	Comment
	Startup Feedwater Check Valve	SGS-PL-V256B	2
	Air Delivery Line Pressure Instrument Isolation Valve A	VES-PL-V006A	2
	Air Delivery Line Pressure Instrument Isolation Valve B	VES-PL-V006B	2
	Temporary Instrument Isolation Valve A	VES-PL-V016	2
PTN DEP 6.4-2	Deleted		
PTN DEP 6.4-2	Deleted		
	Temporary Instrument Isolation Valve B	VES-PL-V020	2
	Air Tank Isolation Valve A	VES-PL-V024A	2
	Air Tank Isolation Valve B	VES-PL-V024B	2
	Air Tank Isolation Valve A	VES-PL-V025A	2
	Air Tank Isolation Valve B	VES-PL-V025B	2
	Refill Line Isolation Valve	VES-PL-V038	2
	DP Instrument Line Isolation Valve A	VES-PL-V043A	2
	DP Instrument Line Isolation Valve B	VES-PL-V043B	2
	Containment Isolation Test Connection	VFS-PL-V008	2
	Containment Isolation Test Connection	VFS-PL-V012	2
	Containment Isolation Test Connection	VFS-PL-V015	2
	Main Equipment Hatch Test Connection	VUS-PL-V015	2
	Maintenance Equipment Hatch Test Connection	VUS-PL-V016	2
	Personnel Hatch Test Connection	VUS-PL-V017	2
	Personnel Hatch Test Connection	VUS-PL-V018	2
	Personnel Hatch Test Connection	VUS-PL-V019	2
	Personnel Hatch Test Connection	VUS-PL-V020	2
	Personnel Hatch Test Connection	VUS-PL-V021	2
	Personnel Hatch Test Connection	VUS-PL-V022	2
	Fuel Transfer Tube Test Connection	VUS-PL-V023	2

11. COLA Part 2, FSAR Chapter 6, is revised to add new Subsection 6.4.2.2 with left margin annotation PTN DEP 6.4-2 as follows:

6.4.2.2 General Description

Revise the sixth paragraph of DCD Subsection 6.4.2.2 to read as follows:

PTN DEP 6.4-2

In the unlikely event that power to the nuclear island nonradioactive ventilation system is unavailable for more than 72 hours, MCR habitability is maintained by operating one of the two MCR ancillary fans to supply outside air to the MCR such that the maximum average Wet Bulb Globe Temperature index for the control room is less than 90° F (32.2° C). See Subsection 9.4.1 for a description of this cooling mode of operation. Doors and ducts may be opened to provide a supply pathway and an exhaust pathway. Likewise, outside air is supplied to division B and C instrumentation and control rooms in order to maintain the ambient temperature below the qualification temperature of the equipment.

12. COLA Part 2, FSAR Chapter 6, is revised to add new Subsection 6.4.2.3 with left margin annotation PTN DEP 6.4-2 as follows:

6.4.2.3 Component Description

Revise the first paragraph of DCD Subsection 6.4.2.3 and add a new fourteenth bullet to read as follows:

PTN DEP 6.4-2

The main control room emergency habitability system compressed air supply contains a set of storage tanks connected to a main and an alternate air delivery line and equipment to provide electrical load de-energization. Components common to both lines include a manual isolation valve and a pressure regulating valve. Single active failure protection is provided by the use of redundant, remotely operated isolation valves, which are located within the MCR pressure boundary. In the event of insufficient or excessive flow in the main delivery line, the main delivery line is isolated and the alternate delivery line is manually actuated. The alternate delivery line contains the same components as the main delivery line with the exception of the remotely operated isolation valves, and thus is capable of supplying compressed air to the MCR pressure boundary at the required air flowrate. The VES piping and penetrations for the MCR envelope are designated as equipment Class C. Additional details on Class C designation are provided in DCD Subsection 3.2.2.5. The classification of VES components is provided in DCD Table 3.2-3, as appropriate.

PTN DEP 6.4-2

- **MCR Load Shed Panels**

  The de-energization of the Main Control Room (MCR) electrical loads will be performed using Class 1E equipment. Equipment within each of the two electrical panels will be actuated from the "main control room isolation, air supply initiation and electrical load de-energization" engineered safety feature. The de-energization is separated into two stages to provide operators with the maximum available non-safety equipment, while maintaining the MCR heat load within the requirements of the VES.

  Each electrical panel will have redundant relays and timers controlled by both PMS Division A and PMS Division C. Either division will be capable of actuating the timers

and relays associated with each electrical panel independent of one another. This configuration prevents routine maintenance or single failures of a PMS cabinet from creating a spurious loss of MCR electrical loads, while still providing for single failure protection. In order to accomplish the "De-energize MCR Electrical Loads" function, one set of Stage 1 and Stage 2 timers in each electrical panel must receive the PMS command.

Relays in both electrical panels must be actuated in order to carry out the overall function; however, overall actuation may occur via different combinations of Division A and Division C commands.

13. COLA Part 2, FSAR Chapter 6, is revised to add new Subsection 6.4.3.2 with left margin annotation PTN DEP 6.4-2 as follows:

6.4.3.2 Emergency Mode

Revise the fifth paragraph of DCD Subsection 6.4.3.2 to read as follows:

PTN DEP 6.4-2

The temperature and humidity in the main control room pressure boundary following a loss of the nuclear island nonradioactive ventilation system remain within limits for reliable human performance (Reference 201) over a 72-hour period. The bounding initial values of temperature/relative humidity in the MCR are 75°F/60 percent. The temperature/relative humidity values calculated during the 72 hours following a design basis accident equate to a maximum average Wet Bulb Globe Temperature index for the control room of less than 90°F (32.2°C). The 90° F (32.2°C) Wet Bulb Globe Temperature index is the design limit for minimizing performance decrements and potential harm, and preserving well-being and effectiveness of the control room staff for an unlimited duration (Reference 201). Non-1E MCR heat loads are de-energized by PMS automatic actions and the 24 hour battery heat loads are terminated or exhausted at 24 hours to maintain the assumed heat load values in Table 6.4-3R, which then maintains the occupied zone of the MCR and the zones containing qualified safety-related equipment within the temperature constraints at 72-hours post VES actuation. The occupied zone is considered to be the area between the raised floor and 7 ft. above the floor, which encompasses the reactor operator and senior reactor operator consoles.

14. COLA Part 2, FSAR Chapter 6, Subsection 6.4.4 is revised to add the following with left margin annotation PTN DEP 6.4-2:

Revise the eleventh paragraph of DCD Subsection 6.4.4 to read as follows:

PTN DEP 6.4-2

During emergency operation, the main control room emergency habitability system passive heat sinks are designed to limit the temperature inside the main control room to remain within limits for reliable human performance (Reference 201) over 72 hours. The passive heat sinks limit the air temperature inside the instrumentation and control rooms to 120°F and dc equipment rooms to 120°F. The walls and ceilings that act as the passive heat sinks contain sufficient thermal mass to accommodate the heat sources from equipment, personnel, and lighting for 72 hours.

15. COLA Part 2, FSAR Chapter 6, is revised to add new Subsection 6.4.5.1 with left margin annotation PTN DEP 6.4-2 as follows:

6.4.5.1 Preoperational Inspection and Testing

Revise the third paragraph of DCD Subsection 6.4.5.1 to read as follows:

PTN DEP 6.4-2

Temperatures within the MCR where the operators are located are verified by analysis and/or testing to remain within limits for reliable human performance (Reference 201) for a 72-hour period following a bounding scenario with MCR isolation and non-safety ac power available (see Table 6.4-3R) and a station blackout (battery backed loads only).

16. COLA Part 2, FSAR Chapter 6, is revised to add new Subsection 6.4.5.3 with left margin annotation PTN DEP 6.4-2 as follows:

6.4.5.3 Air Quality Testing

Revise DCD Subsection 6.4.5.3 as follows:

PTN DEP 6.4-2

Connections are provided for sampling the air supplied from the compressed and instrument air system and for periodic sampling of the air stored in the storage tanks. Air samples of the compressed air storage tanks are taken quarterly and analyzed for acceptable air quality within the guidelines of Table 1 and Appendix C, Table C-1, of Reference 1 with a pressure dew point of 40°F or lower at 3400 psig or greater.

17. COLA Part 2, FSAR Chapter 6, is revised to add new Subsection 6.4.8 with left margin annotation PTN DEP 6.4-2 as follows:

6.4.8 REFERENCES

Add a new Reference 201 to DCD Subsection 6.4.8 as follows:

PTN DEP 6.4-2

201. NUREG-0700, Revision 2, *Human-System Interface Design Review Guidelines*, 2002.

18. COLA Part 2, FSAR Chapter 6, is revised to add new Table 6.4-3R with left margin annotation PTN DEP 6.4-2 as follows (departure from DCD Table 6.4-3):

PTN DEP 6.4-2

TABLE 6.4-3R
LOSS OF AC POWER HEAT LOAD LIMITS

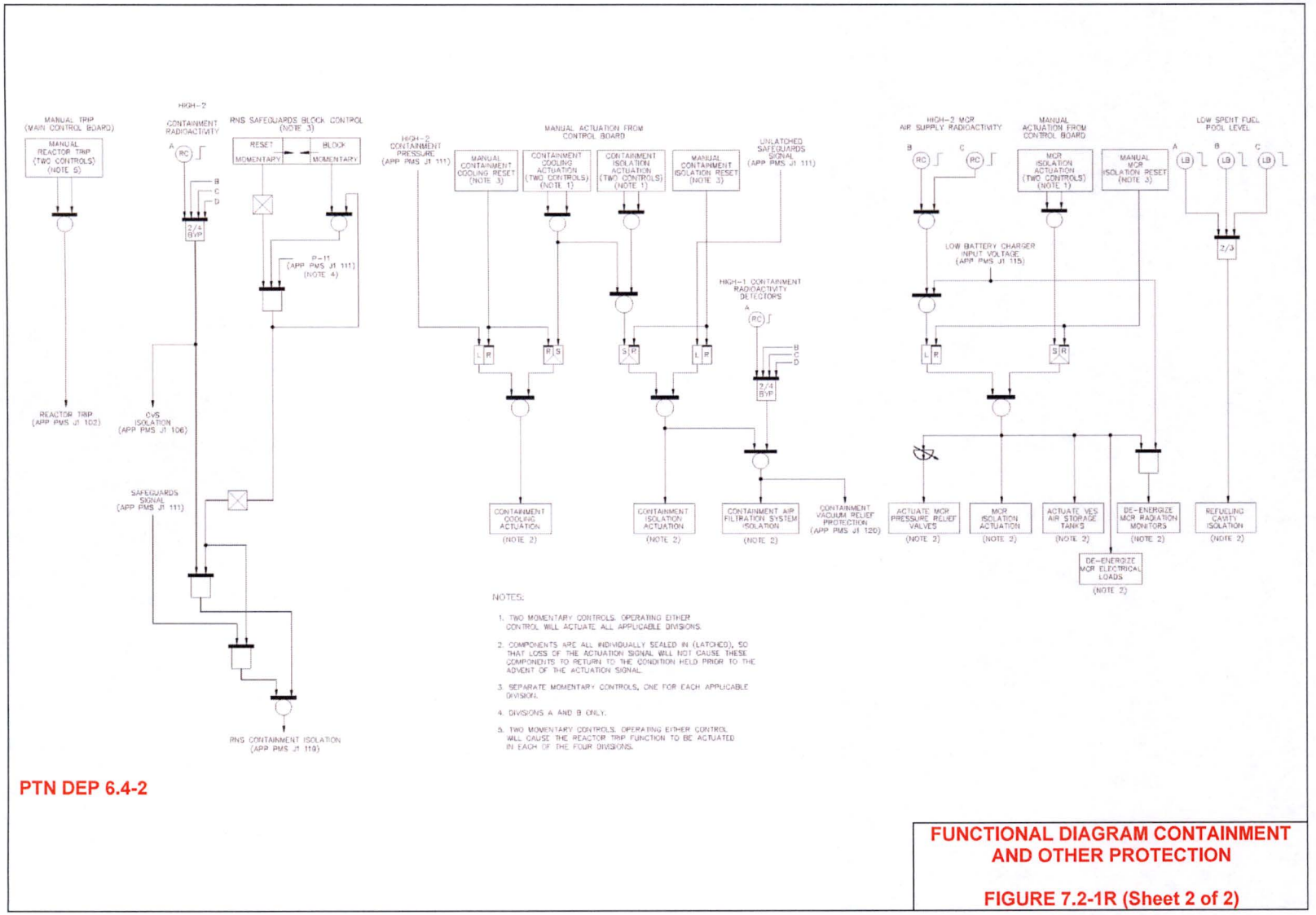
Room Name	Room Numbers	Heat Load 0 to 24 Hours (Btu/sec)	Heat Load 24 to 72 Hours (Btu/sec)
MCR Envelope	12401	26.1 (Hour 0 through 0.5) 15.6 (Hour 0.5 through 3.5) 5.8 (Hour 3.5 through 24)	2.9
I&C Rooms	12301, 12305	8.8	0
I&C Rooms	12302, 12304	13.0	4.2
dc Equipment Rooms	12201, 12205	3.7 (Hour 0 through 1) 2.4 (Hour 2 through 24)	0
dc Equipment Rooms	12203, 12207	5.8 (Hour 0 through 1) 4.5 (Hour 2 through 24)	2.0

19. COLA Part 2, FSAR Chapter 7.2, is revised as follows:

7.2 REACTOR TRIP

This section of the referenced DCD is incorporated by reference with ~~no~~ **the following** departures **and/**or supplements.

20. COLA Part 2, FSAR Chapter 7, is revised to add new Figure 7.2-1R (Sheet 2 of 2) with left margin annotation PTN DEP 6.4-2 as follows (departure from DCD Figure 7.2-1 (Sheet 13 of 21))departure from DCD Figure 7.2-1 (Sheet 13 of 21)):



PTN DEP 6.4-2

FUNCTIONAL DIAGRAM CONTAINMENT AND OTHER PROTECTION

FIGURE 7.2-1R (Sheet 2 of 2)

21. COLA Part 2, FSAR Chapter 7, Subsection 7.3.1.2.17 is added with left margin annotation PTN DEP 6.4-2 as follows:

Revise DCD Subsection 7.3.1.2.17 as follows:

PTN DEP 6.4-2

7.3.1.2.17 Main Control Room Isolation, Air Supply Initiation, and Electrical Load De-energization

PTN DEP 6.4-2

Signals to initiate isolation of the main control room, to initiate the air supply, and to open the control room pressure relief isolation valves and to de-energize non-essential main control room electrical loads are generated from any of the following conditions:

1. High-2 control room air supply radioactivity level
2. Loss of ac power sources (low Class 1E battery charger input voltage)
3. Manual initiation

PTN DEP 6.4-2

Condition 1 is the occurrence one of two main control room air supply radioactivity monitors detecting a radioactivity level above the High-2 setpoint.

Condition 2 results from the loss of all ac power sources. A preset time delay is provided to permit the restoration of ac power from the offsite sources or from the onsite diesel generators before initiation. The loss of all ac power is detected by undervoltage sensors that are connected to the input of each of the four Class 1E battery chargers. Two sensors are connected to each of the four battery charger inputs. The loss of ac power signal is based on the detection of an undervoltage condition by each of the two sensors connected to two of the four battery chargers. The two-out-of-four logic is based on an undervoltage to the battery chargers for divisions A or C coincident with an undervoltage to the battery chargers for divisions B or D.

In addition, the loss of all ac power sources coincident with main control room isolation will de-energize the main control room radiation monitors in order to conserve the battery capacity.

PTN DEP 6.4-2

Condition 3 consists of two momentary controls. Manual actuation of either of the two controls will result in main control room isolation, air supply initiation, and electrical load de-energization.

PTN DEP 6.4-2

The functional logic relating to main control room isolation, air supply initiation, and electrical load de-energization is illustrated in Figure 7.2-1R (Sheet 2 of 2).

22. COLA Part 2, FSAR Chapter 7, Table 7.3-1R (Sheet 2 of 2) is added with left margin annotations PTN DEP 6.4-2 as follows (departure from DCD Table 7.3-1 (Sheet 7 of 9)):

TABLE 7.3-1R (Sheet 2 of 2)
ENGINEERED SAFETY FEATURES ACTUATION SIGNALS

Actuation Signal	No. of Divisions/ Controls	Actuation Logic	Permissives and Interlocks
High-1 pressurizer water level	4	2/4-BYP[1]	None
d. High-2 containment radioactivity	4	2/4-BYP[1]	None
e. Manual initiation	2 controls	1/2 controls	None
f. Flux doubling calculation	4	2/4-BYP[1]	Manual block permitted when critical or intentionally approaching criticality Automatically unblocked below P-6
g. High steam generator narrow range level coincident with	4/steam generator	2/4-BYP[1] in either steam generator	None
Reactor trip (P-4)	1/division	2/4	None
15. Steam Dump Block (DCD Figure 7.2-1, Sheet 10)[(8)]			
a. Low reactor coolant temperature (Low-2 T_{avg})	2/loop	2/4-BYP[1]	None
b. Mode control	2 controls	1/division	None
c. Manual stage 1 cooldown control	2 controls	1/division	None
d. Manual stage 2 cooldown control	2 controls	1/division	None
PTN DEP 6.4-2 16. Main Control Room Isolation, Air Supply Initiation, and Electrical Load De-energization (Figure 7.2-1R (Sheet 2 of 2))			
PTN DEP 6.4-2 a. High-2 main control room supply air radiation	2	1/2	None
b. Undervoltage to Class 1E battery chargers[(8)]	2/charger	2/2 per charger and 2/4 chargers[5]	None
c. Manual initiation[(8)]	2 controls	1/2 controls	None
17. Auxiliary Spray and Purification Line Isolation (DCD Figure 7.2-1, Sheet 12)			
a. Low-1 pressurizer level	4	2/4-BYP[1]	Manual block permitted below P-12 Automatically unblocked above P-12
b. Manual initiation of chemical and volume control system isolation	(See item 14e)		

23. COLA Part 2, FSAR Chapter 7, Table 7.3-3R is added with left margin annotations PTN DEP 6.4-2 as follows (departure from DCD Table 7.3-3 (Sheet 2 of 2)):

TABLE 7.3-3R

SYSTEM-LEVEL MANUAL INPUT TO THE ENGINEERED SAFETY FEATURES ACTUATION SYSTEM

	Manual Control	To Division				Figure 7.2-1 Sheet
	Manual passive containment cooling actuation #1	A	B	C	D	13
	Manual passive containment cooling actuation #2	A	B	C	D	13
	Manual passive containment isolation actuation #1	A	B	C	D	13
	Manual passive containment isolation actuation #2	A	B	C	D	13
	Manual depressurization system stages 1, 2, and 3 actuation #1	A	B	C	D	15
	Manual depressurization system stages 1, 2, and 3 actuation #3	A	B	C	D	15
	Manual depressurization system stage 4 actuation #1 & #2	A	B	C	D	15
	Manual depressurization system stage 4 actuation #3 & #4	A	B	C	D	15
	Manual IRWST injection actuation #1 & #2	A	B	C	D	16
	Manual IRWST injection actuation #3 & #4	A	B	C	D	16
	Manual containment recirculation actuation #1 & #2	A	B	C	D	16
	Manual containment recirculation actuation #3 & #4	A	B	C	D	16
PTN DEP 6.4-2	Manual main control room isolation, air supply initiation and electrical load de-energization #1	A	B	C	D	Figure 7.2-1R (Sheet 2 of 2)
PTN DEP 6.4-2	Manual main control room isolation, air supply initiation and electrical load de-energization #2	A	B	C	D	Figure 7.2-1R (Sheet 2 of 2)
	RCS pressure CVS/PRHR block control #1	A				6
	RCS pressure CVS/PRHR block control #2		B			6
	RCS pressure CVS/PRHR block control #3			C		6
	RCS pressure CVS/PRHR block control #4				D	6
	Normal residual heat removal system isolation safeguards block control #1	A				13
	Normal residual heat removal system isolation safeguards block control #2		B			13
	Boron dilution block control #1	A				3
	Boron dilution block control #2		B			3
	Boron dilution block control #3			C		3
	Boron dilution block control #4				D	3
	Manual RNS isolation #1 & #3	A	B		D	18
	Manual RNS isolation #2 & #4	A	B		D	18
	CVS letdown isolation block control #1	A				16
	CVS letdown isolation block control #2				D	16
	Manual containment vacuum relief actuation #1	A		C		19
	Manual containment vacuum relief actuation #2	A		C		19

24. COLA Part 2, FSAR Chapter 7, Table 7.5-1R is added with left margin annotation PTN DEP 6.4-2 as follows (departure from DCD Table 7.5-1 (Sheet 11 of 12)):

Table 7.5-1R
POST-ACCIDENT MONITORING SYSTEM

Variable	Range/Status	Type/ Category	Qualification		Number of Instruments Required	Power Supply	QDPS Indication (Note 2)	Remarks
			Environmental	Seismic				
MCR air delivery isolation valve status	Open/Closed	D2	Mild	Yes	1/valve (Note 7)	1E	Yes	
PTN DEP 6.4-2 MCR Electrical Load status	Open/Closd	D2	Mild	Yes	1/Contactor	1E	Yes	
Instrument air header pressure	0-125 psig	F3	None	None	1	Non-1E	No	
Service water flow	0-10,000 gpm	F3	None	None	1/pump	Non-1E	No	
Service water pump status	On/Off	F3	None	None	1/pump	Non-1E	No	
Service water pump discharge valve status	Open/Closed	F3	None	None	1/valve	Non-1E	No	
Service water pump discharge temperature	50-150°F	F3	None	None	1/pump	Non-1E	No	
Main control room supply air radiation	Note 5	E3, F3	Mild	Yes	2 (Note 9)	1E	No	
Plant vent air flow	0-110% design flow	E2	Mild	None	1	Non-1E	No	
Turbine island vent discharge radiation level	10^{-6} - 10^{+5} µCi/cc	C2, E2	Mild	None	1	Non-1E	No	
Steam generator blowdown discharge	10^{-6} - 10^{-1} µCi/cc	C2	Mild	None	1	Non-1E	No	
Steam generator blowdown brine radiation level	10^{-6} - 10^{-1} µCi/cc	C2	Mild	None	1	Non-1E	No	

25. COLA Part 2, FSAR Chapter 7, Table 7.5-7R is added with left margin annotation PTN DEP 6.4-2 as follows (departure from DCD Table 7.5-7 (Sheet 4 of 4)):

TABLE 7.5-7R

SUMMARY OF TYPE D VARIABLES

PTN DEP 6.4-2

System	Variable	Type/Category
Containment Cooling	Containment temperature	D2
	PCS water storage tank series isolation valve status (MOV)	D2
	PCS water storage tank isolation valve status (non-MOV)	D2
	Passive containment cooling water	D2
	PCS storage tank water level	D2
HVAC System Status	MCR return air isolation valve status	D2
	MCR toilet exhaust isolation valve	D2
	MCR supply air isolation valve	D2
	MCR air delivery isolation valve	D2
	MCR pressure relief isolation valve	D2
	MCR Electrical Load Status	D2
	MCR air storage bottle pressure	D2
	MCR differential pressure	D2
	MCR air delivery flowrate	D2
Main Steam	Turbine stop valve status	D2
	Turbine control valve status	D2
	Condenser steam dump valve status	D2

26. COLA Part 2, FSAR Chapter 9 is revised to add new Subsection 9.3.1.1.2, with left margin annotation PTN DEP 6.4-2 as follows:

9.3.1.1.2 Power Generation Design Basis

Change the third paragraph in DCD Subsection 9.3.1.1.2, as follows:

PTN DEP 6.4-2

The high-pressure air subsystem consists of one compressor, its associated air purification system and controls, and a high-pressure receiver. It provides clean, oil-free, high-pressure air to recharge the main control room emergency habitability system cylinders, refill the individual fire fighting breathing air bottles, and recharge the generator breaker reservoir. Quality Verification Level E air as defined in ANSI/CGA G-7.1, with a pressure dew point of 40°F or lower at 3400 psig or greater, is produced by this subsystem. See Section 6.4 for a description of the main control room habitability system.

27. COLA Part 2, FSAR Chapter 9 is revised to add new Subsection 9.4.1.1.2, with left margin annotation PTN DEP 6.4-2 as follows:

9.4.1.1.2 Power Generation Design Basis

Post 72-Hour Design Basis

Main Control Room

Revise the first paragraph of DCD Subsection 9.4.1.1.2, under the sub-heading, Post-72-Hour Design Basis Main Control Room to read:

PTN DEP 6.4-2

The specific function of the nuclear island nonradioactive ventilation system is to maintain the main control room below a maximum average Wet Bulb Globe Temperature index of 90°F (32.2°C) based on operation at the maximum normal site ambient temperature.

28. COLA Part 2, FSAR Chapter 9 is revised to add new Subsection 9.4.1.2.3.1, with left margin annotation PTN DEP 6.4-2 as follows:

9.4.1.2.3.1 Main Control Room/Control Support Area HVAC Subsystem

Abnormal Plant Operation

Revise the eighth paragraph of DCD Subsection 9.4.1.2.3.1, Abnormal Plant Operation to read:

PTN DEP 6.4-2

When complete ac power is lost and the outside air is acceptable radiologically and chemically, MCR habitability is maintained by operating one of the two MCR ancillary fans to supply outside air to the MCR. It is expected that outside air will be acceptable within 72 hours following a radiological release. See Subsection 6.4.2.2 for details. The outside air pathway to the ancillary fans is provided through the nonradioactive ventilation system air intake opening located on the roof, the mechanical room at floor elevation 135′-3″, and nonradioactive ventilation system supply duct. Warm air from the MCR is vented to the annex building through stairway S05, into the remote shutdown room and the clean access corridor at elevation 100′-0″. The ancillary fan capacity and air

flow rate maintain the MCR environment below a maximum average Wet Bulb Globe Temperature index of 90°F (32.2°C). The ancillary fans and flow path are located within the auxiliary building which is a Seismic Category I structure.

29. COLA Part 2, FSAR Chapter 14 is revised to add new Subsection 14.2.9.1.6, with left margin annotation PTN DEP 6.4-2 as follows:

14.2.9.1.6 Main Control Room Emergency Habitability System Testing

General Test Acceptance Criteria and Methods

Revise paragraph (f) of DCD Subsection 14.2.9.1.6, General Test Acceptance Criteria and Methods section, to read as follows:

PTN DEP 6.4-2

f) The ability to maintain the main control room environment within specified limits for 72 hours (Reference DCD Subsection 6.4.3.2) is verified with a test simulating a loss of the nuclear island nonradioactive ventilation system. This testing demonstrates the control room heatup from 0 to 6 hours with the actual heat loads from the battery powered equipment and personnel specified for this time period (for the MCR (room 12401), there is automatic de-energization of specific non-safety MCR heat loads). The control room temperature versus time versus heat load data are used to verify the analysis basis used to assure that the control room conditions remain within specified limits for the 72 hour time period. Periodic grab samples will be taken of the control room air environment to support analyses to confirm that specified limits would not be exceeded for 72 hours.

30. COLA Part 2, FSAR Chapter 14 is revised to add Table 14.3-7R, with left margin annotation PTN DEP 6.4-2 as follows (departure from DCD Table 14.3-7 (Sheet 1 of 3)):

Table 14.3-7R

RADIOLOGICAL ANALYSIS

	DCD Reference	Design Feature	Value
	Table 2-1	Plant elevation for maximum flood level (ft)	≤ 100
	Section 2.3.4	Atmospheric dispersion factors - X/Q (sec/m^3) - Site Boundary X/Q 0 - 2 hour time interval - Low Population Zone Boundary X/Q 0 – 8 hours 8 – 24 hours 24 – 96 hours 96 – 720 hours	 $\leq 5.1 \times 10^{-4}$ $\leq 2.2 \times 10^{-4}$ $\leq 1.6 \times 10^{-4}$ $\leq 1.0 \times 10^{-4}$ $\leq 8.0 \times 10^{-5}$
	Table 6.2.3-1	Containment penetration isolation features are configured as in Table 6.2.3-1	
	Table 6.2.3-1	Maximum closure time for remotely operated containment purge valves (seconds)	≤ 10
	Table 6.2.3-1	Maximum closure time for all other remotely operated containment isolation valves (seconds)	≤ 60
	Section 6.4.2.3	The minimum storage capacity of all storage tanks in the VES (scf)	≥ 327,574
PTN DEP 6.4-2	Deleted		
	Section 6.4.4	The maximum temperature in the instrumentation and control rooms and dc equipment rooms following a loss of the nuclear island nonradioactive ventilation system remains over a 72-hour period (°F).	≤ 120
	Section 6.4.4	The main control emergency habitability system nominally provides 65 scfm of ventilation air to the main control room from the compressed air storage tanks.	65 ± 5
	Section 6.4.4	Sixty-five ± five scfm of ventilation flow is sufficient to pressurize the control room to $1/8^{th}$ inch water gauge differential pressure (WIC).	$1/8^{th}$
PTN DEP 6.4-2	Section 6.4.5.1	The maximum temperature in the main control room pressure boundary following a loss of the nuclear island nonradioactive ventilation system over a 72-hour period (°F). (dry bulb temperature)	95
	Figure 6.4-2	The main control room emergency habitability system consists of two sets of emergency air storage tanks and an air delivery system to the main control room.	
	Section 6.5.3	The passive heat removal process and the limited leakage from the containment result in offsite doses less than the regulatory guideline limits.	

Enclosure 3, Attachment 2

FPL Voluntary Submittal

Revisions to the Turkey Point Units 6 & 7 COL Application

Revisions to Part 4, Technical Specifications

(24 Pages Including Cover Page)

1. COLA Part 4, Technical Specifications, TS 3.3.2, Required Action F.2.2 is revised with left margin annotation PTN DEP 6.4-2 as follows:

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One required division inoperable.	D.1 Restore required division to OPERABLE status.	6 hours
E. One switch or switch set inoperable.	E.1 Restore switch and switch set to OPERABLE status.	48 hours
F. One channel inoperable.	F.1 Restore channel to OPERABLE status. OR F.2.1 Verify alternate radiation monitors are OPERABLE. AND F.2.2 Verify **main** control room isolation, ~~and~~ air supply initiation **and electrical load de-energization** manual controls are OPERABLE.	72 hours 72 hours 72 hours

PTN DEP 6.4-2

2. COLA Part 4, Technical Specifications, TS 3.3.2, Table 3.3.2-1, page 11 of 13, FUNCTION 20 is revised with left margin annotation PTN DEP 6.4-2 as follows:

Table 3.3.2-1 (page 11 of 13)
Engineered Safeguards Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS
20. Main Control Room Isolation, ~~and~~ Air Supply Initiation **and Electrical Load De-energization**				
a. **Main** Control Room Air Supply Radiation – High 2	1,2,3,4	2	F,O	SR 3.3.2.1 SR 3.3.2.4 SR 3.3.2.5 SR 3.3.2.6
	Note (o)	2	G,K	SR 3.3.2.1 SR 3.3.2.4 SR 3.3.2.5 SR 3.3.2.6

PTN DEP 6.4-2

3. COLA Part 4, Technical Specifications, TS 3.7.6, ACTIONS is revised with left margin annotation PTN DEP 6.4-2 as follows:

PTN DEP 6.4-2

ACTIONS

- NOTE -

LCO 3.0.8 is not applicable.

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One valve or damper inoperable.	A.1	Restore valve or damper to OPERABLE status.	7 days
B.	**One PMS division inoperable in MCR Load-Shed Panel(s).**	**B.1**	Restore MCR Load-shed panel(s) to OPERABLE status.	**7 days**
~~B.~~ **C.**	MCRE air temperature not within limit.	~~B~~**C**.1	Restore MCRE air temperature to within limit.	24 hours
D.	**Air temperature in one or more required rooms not within limit.**	**D.1**	**Restore air temperature of required room(s) to within limit.**	**24 hours**
~~C.~~ **E.**	VES inoperable due to inoperable MCRE boundary in MODE 1, 2, 3, or 4.	~~C~~**E**.1	Initiate action to implement mitigating actions.	Immediately
		AND		
		~~C~~**E**.2	Verify mitigating actions ensure MCRE occupant exposures to radiological, chemical, and smoke hazards will not exceed limits.	24 hours
		AND		
		~~C~~**E**.3	Restore MCRE boundary to OPERABLE status.	90 days

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
~~D~~ **F.** One bank of VES air tanks (8 tanks) inoperable.	~~D~~**F**.1	Verify that the OPERABLE tanks contain greater than 245,680 scf of compressed air.	2 hours AND Once per 12 hours thereafter
	AND		
	~~D~~**F**.2	Verify VBS MCRE ancillary fans and supporting equipment are available.	24 hours
	AND		
	~~D~~**F**.3	Restore VES to OPERABLE status.	7 days
~~E~~ **G.** Required Action and associated Completion Time of Conditions A, B, C, ~~or~~ D, **E or F** not met in MODE 1, 2, 3, or 4. OR VES inoperable for reasons other than Conditions A, B, C, ~~or~~ D, **E or F** in MODE 1, 2, 3, or 4.	~~E~~**G**.1	Be in MODE 3.	6 hours
	AND		
	~~E~~**G**.2	Be in MODE 5.	36 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
~~F~~ **H.** Required Action and associated Completion Time of Conditions A, B, C, ~~or~~ D, **E or F** not met during movement of irradiated fuel. OR VES inoperable for reasons other than Conditions A, B, C, ~~or~~ D, **E or F** during movement of irradiated fuel. OR VES inoperable due to inoperable MCRE boundary during movement of irradiated fuel.	~~F~~**H**.1 Suspend movement of irradiated fuel assemblies.	Immediately

4. COLA Part 4, Technical Specifications, TS 3.7.6, SURVEILLANCE REQUIREMENTS is revised with left margin annotation PTN DEP 6.4-2 as follows:

PTN DEP 6.4-2

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.7.6.1	Verify MCRE air temperature is ≤ 75°F.	24 hours
SR 3.7.6.2	Verify that the compressed air storage tanks contain greater than 327,574 scf of compressed air.	24 hours
SR 3.7.6.3	**Verify the air temperatures of required rooms are ≤ 85°F.**	**24 hours**
SR 3.7.6.4	Operate VES for ≥ 15 minutes.	31 days
SR 3.7.6.5	Verify that each VES air header manual isolation valve is in an open position.	31 days
SR 3.7.6.6	Verify that the air quality of the air storage tanks meets the requirements of Appendix C, Table C-1 of ASHRAE Standard 62 **with a pressure dew point of 40°F or lower at 3400 psig or greater**.	92 days
SR 3.7.6.~~3~~**7**	Verify that each VES air delivery isolation valve is OPERABLE.	In accordance with the Inservice Testing Program
SR 3.7.6.8	Verify that each pressure relief isolation valve within the MCRE pressure boundary is OPERABLE.	In accordance with the Inservice Testing Program
SR 3.7.6.~~10~~**9**	Verify that the self-contained pressure regulating valve in each VES air delivery flow path is OPERABLE.	In accordance with the Inservice Testing Program
SR 3.7.6.~~11~~**10**	Perform required MCRE unfiltered air inleakage testing in accordance with the Main Control Room Envelope Habitability Program.	In accordance with the Main Control Room Envelope Habitability Program
SR 3.7.6.~~12~~**11**	Perform required VES Passive Filtration system filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.6.12	**Verify the MCR load-shed function actuates upon receipt of an actual or simulated actuation signal.**	**24 months**

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.6.~~7~~**13**	Verify that all MCRE isolation valves are OPERABLE and will close upon receipt of an actual or simulated actuation signal.	24 months
SR 3.7.6.~~9~~**14**	Verify that each VES pressure relief damper is OPERABLE.	24 months

5. COLA Part 4, Technical Specifications, Bases, B 3.3.2, APPLICABLE SAFETY ANALYSES, LCOs, and APPLICABILITY is revised with left margin annotation PTN DEP 6.4-2 as follows:

BASES

APPLICABLE SAFETY ANALYSES, LCOs, and APPLICABILITY (continued)

PTN DEP 6.4-2

20. Main Control Room Isolation, ~~and~~ Air Supply Initiation**, and Electrical Load De-energization**

Isolation of the main control room and initiation of the **VES** air supply provides a ~~protected environment from which operators can control the plant~~ **breathable air supply for the operators** following an uncontrolled release of ~~radioactivity~~**radiation. De-energizing non-essential main control room electrical loads maintains the room temperature within habitable limits.** This Function is required to be OPERABLE in MODES 1, 2, 3, and 4, and during movement of irradiated fuel because of the potential for a fission product release following a fuel handling accident, or other DBA.

20.a. **Main** Control Room Air Supply Radiation – High 2

Two radiation monitors are provided on the main control room air intake. If either monitor exceeds the High 2 setpoint, control room isolation is actuated.

6. COLA Part 4, Technical Specifications, Bases, B 3.3.2, ACTIONS F.1, F.2.1, F.2.2 and K.1 are revised with left margin annotation PTN DEP 6.4-2 as follows:

BASES

ACTIONS (continued)

F.1, F.2.1, and F.2.2

PTN DEP 6.4-2

Condition F is applicable to the ~~Main~~ **main** ~~Control~~ **control** ~~Room~~ **room** ~~(MCR)~~ isolation**,** ~~and~~ air supply initiation **and electrical load de-energization** function which has only two channels of the initiating process variable. With one channel inoperable, the logic becomes one-out-of-one and is unable to meet single failure criterion. Restoring all channels to OPERABLE status ensures that a single failure will not prevent the protective Function.

PTN DEP 6.4-2

Alternatively, radiation monitor(s) which provide equivalent information and **main** control room isolation**,** ~~and~~ air supply initiation **and electrical load de-energization** manual controls may be verified to be OPERABLE. These provisions for operator action can replace one channel of radiation detection and system actuation. The 72 hour Completion Time is reasonable considering that there is one remaining channel OPERABLE and the low probability of an event occurring during this interval.

BASES

ACTIONS (continued)

K.1

LCO 3.0.8 is applicable while in MODE 5 or 6. Since irradiated fuel assembly movement can occur in MODE 5 or 6, the ACTIONS have been modified by a Note stating that LCO 3.0.8 is not applicable. If moving irradiated fuel assemblies while in MODE 5 or 6, the fuel movement is independent of shutdown reactor operations. Entering LCO 3.0.8 while in MODE 5 or 6 would require the optimization of plant safety, unnecessarily.

PTN DEP 6.4-2

Condition K is applicable to the Main Control Room Isolation, ~~and~~ Air Supply Initiation **and Electrical Load De-energization** (Function 20), during movement of irradiated fuel assemblies. If the Required Action and associated Completion Time of the first Condition listed in Table 3.3.2-1 is not met, the plant must suspend movement of the irradiated fuel assemblies immediately. The required action suspends activities with potential for releasing radioactivity that might enter the MCR. This action does not preclude the movement of fuel to a safe position.

7. COLA Part 4, Technical Specifications, B 3.7.6, Main Control Room Emergency Habitability System (VES), is revised with left margin annotations PTN DEP 6.4-2 as follows:

B 3.7 PLANT SYSTEMS

B 3.7.6 Main Control Room Emergency Habitability System (VES)

BASES

BACKGROUND

The Main Control Room Emergency Habitability System (VES) provides a protected environment from which operators can control the plant following an uncontrolled release of radioactivity, hazardous chemicals, or smoke. The system is designed to operate following a Design Basis Accident (DBA) which requires protection from the release of radioactivity. In these events, the Nuclear Island Non-Radioactive Ventilation System (VBS) would continue to function if AC power is available. If AC power is lost or a High-2 Main Control Room Envelope (MCRE) radiation signal is received, the VES is actuated. The major functions of the VES are: 1) to provide forced ventilation to deliver an adequate supply of breathable air (Ref. 4) for the MCRE occupants; 2) to provide forced ventilation to maintain the MCRE at a 1/8 inch water gauge positive pressure with respect to the surrounding areas; 3) provide passive filtration to filter contaminated air in the MCRE; and 4) to limit the temperature increase of the MCRE equipment and facilities that must remain functional during an accident, via **de-energizing (load shedding) non-essential, non-safety main control room (MCR) electrical equipment (e.g., wall panel information system displays, office equipment, water heater, kitchen appliances, and non-emergency lighting) and** the heat absorption of passive heat sinks. **The VES limits the maximum temperature in DC Equipment Rooms (12201, 12202, 12203, 12204, 12205, and 12207), I&C Rooms (12301, 12302, 12304, and 12305), as well as the MCRE.**

PTN DEP 6.4-2

The VES consists of compressed air storage tanks, two air delivery flow paths, an eductor, a high efficiency particulate air (HEPA) filter, an activated charcoal adsorber section for removal of gaseous activity (principally iodines), associated valves or dampers, piping, and instrumentation. The tanks contain enough breathable air to supply the required air flow to the MCRE for at least 72 hours. The VES system is designed to maintain CO_2 concentration less than 0.5% for up to 11 MCRE occupants.

BASES

BACKGROUND (continued)

The MCRE is the area within the confines of the MCRE boundary that contains the spaces that control room operators inhabit to control the unit during normal and accident conditions. This area encompasses the main control area, operations work area, operational break room, shift supervisor's office, kitchen, and toilet facilities (Ref. 1). The MCRE is protected during normal operation, natural events, and accident conditions. The MCRE boundary is the combination of walls, floor, roof, electrical and mechanical penetrations, and access doors. The OPERABILITY of the MCRE boundary must be maintained to ensure that the inleakage of unfiltered air into the MCRE will not exceed the inleakage assumed in the licensing basis analysis of design basis accident (DBA) consequences to MCRE occupants. The MCRE and its boundary are defined in the Main Control Room Envelope Habitability Program.

PTN DEP 6.4-2

The VES also provides emergency passive heat sinks for the main control room (Room 12401), instrumentation and control rooms (Rooms 12301, 12302, 12304, and 12305), and dc equipment rooms (Rooms 12201, 12202, 12203, 12204, 12205, and 12207). Provided air temperatures in the rooms requiring monitoring are within their Surveillance Requirement limits, the VES passive heat sinks limit the temperature rise inside each room during the 72-hour period following VES actuation. ~~Sufficient thermal mass exists in the surrounding concrete structure (including walls, ceiling and floors) to absorb the heat generated inside the MCRE, which is initially at or below 75°F.~~ Heat sources inside the MCRE include operator workstations, emergency lighting and occupants. ~~Sufficient insulation is provided surrounding the MCRE pressure boundary to preserve the minimum required thermal capacity of the heat sink. The insulation also limits the heat gain from the adjoining areas following the loss of VBS cooling.~~

PTN DEP 6.4-2

During normal operation, temperatures in the main control room, instrumentation and control rooms, dc equipment rooms, Class 1E electrical penetration rooms, and adjacent rooms are maintained within a specified range by the VBS. As described in Section 9.4.1.2, the VBS consists of independent subsystems, including the main control room / control support area HVAC subsystem and the Class 1E Electrical Room HVAC subsystem. The Class 1E Electrical room HVAC subsystem is further divided into two independent subsystems, with one serving the Division A & C Class 1E electrical division rooms and the other serving Division B & D Class 1E electrical division rooms. Each independent subsystem serves its associated rooms with two redundant, 100 percent capacity equipment trains, maintaining temperatures within the specified range.

PTN DEP 6.4-2

Surveillance limits are required for rooms which have limits on allowable temperature increase, and conservatively established for some adjacent rooms of the VES passive heat sinks. Monitoring the air temperature is required for the rooms with the following

BASES

BACKGROUND (continued)

numerical designators: 12201, 12202, 12203, 12204, 12205, 12207, 12300, 12301, 12302, 12303, 12304, 12305, 12313, 12401, 12412, and 12501.

Initial temperatures assumed for remaining rooms modeled in the VES passive heat sink analysis are selected to maximize operational flexibility in responding to abnormal conditions or equipment failures, while still maintaining sufficient margin below safety analysis limits.

PTN DEP 6.4-2

Access corridors, stairwells, rooms separated by an air gap, and other rooms without significant heat loads are not monitored because these areas do not contain significant heat sources and their temperatures are assumed to match the connected spaces. The numerical designators for these unmonitored rooms are 12211, 12311, 12400, 12405, 12411, 21480, 40400, and Stairwells.

PTN DEP 6.4-2

Initial temperatures assumed for remaining rooms are conservatively selected to match the outdoor ambient or do not have an appreciable impact on the analyses. The numerical designators of these unmonitored rooms are 12212, 12213, 12306, 12312, 12404, 12406, 12504, 12505, 12506, and Level 1 rooms.

PTN DEP 6.4-2

Non-essential, non-safety MCR heat loads are de-energized by the PMS VES actuation signal, which is generated by the "Main Control Room Isolation, Air Supply Initiation and Electrical Load De-energization" ESFAS function, to maintain the MCRE within habitable limits for 72 hours.

PTN DEP 6.4-2

Upon receipt of a "Main Control Room Isolation, Air Supply Initiation and Electrical Load De-energization" ESFAS signal, PMS Divisions A and C energize associated redundant relays in each of the two safety-related electrical panels (VES-EP-01 and VES-EP-02). Energizing one set of relays in each panel disconnects non-safety related electrical power to the non-safety electrical loads in the MCRE. Energizing just one set of relays in one panel de-energizes non-safety loads associated only with that panel.

BASES

BACKGROUND (continued)

PTN DEP 6.4-2

De-energized non-safety loads are separated into stage 1 and stage 2 to maximize the availability of the non-safety related wall panel information system which is deenergized with stage 2 loads. Timers and associated relays, which actuate to deenergize the stage 1 and stage 2 non-safety loads, are internal to each safety-related load shed panel. Stage 1 loads are de-energized by both panels immediately after the timers in each panel receive the PMS VES system actuation signal. Stage 2 loads are de-energized by both panels within 180 minutes after the timers in each panel receive the "Main Control Room Isolation, Air Supply Initiation, and Electrical Load Deenergization" ESFAS signal.

PTN DEP 6.4-2

OPERABILITY of two redundant divisions of MCR Class 1E load shed relays and timers located in two safety-related panels is required to meet the single failure criteria. Each panel contains redundant load shed relays and timers actuated by the two PMS divisions, such that actuation of either division de-energizes the required loads.

In the unlikely event that power to the VBS is unavailable for more than 72 hours, MCRE habitability is maintained by operating one of the two MCRE ancillary fans to supply outside air to the MCRE.

The compressed air storage tanks are initially filled to contain greater than 327,574 scf of compressed air. The compressed air storage tanks, the tank pressure, and the room temperature are monitored to confirm that the required volume of breathable air is stored. During operation of the VES, a self-contained pressure regulating valve maintains a constant downstream pressure regardless of the upstream pressure. An orifice downstream of the regulating valve is used to control the air flow rate into the MCRE. The MCRE is maintained at a 1/8 inch water gauge positive pressure to minimize the infiltration of airborne contaminants from the surrounding areas. The VES operation in maintaining the MCRE habitable is discussed in Reference 1.

BASES

APPLICABLE SAFETY ANALYSES

The compressed air storage tanks are sized such that the set of tanks has a combined capacity that provides at least 72 hours of VES operation.

Operation of the VES is automatically initiated by the following safety related signal: high-2 particulate or iodine radioactivity.

In the event of a loss of all AC power, the VES functions to provide ventilation, pressurization, and cooling of the MCRE pressure boundary.

In the event of a high level of gaseous radioactivity outside of the MCRE, the VBS continues to operate to provide pressurization and filtration functions. The MCRE air supply downstream of the filtration units is monitored by a safety related radiation detector. Upon high-2 particulate or iodine radioactivity setpoint, a safety related signal is generated to isolate the MCRE and to initiate air flow from the VES storage tanks. Isolation of the MCRE consists of closing safety related valves in the lines that penetrate the MCRE pressure boundary. Valves in the VBS supply and exhaust ducts, and the Sanitary Drainage System (SDS) vent lines are automatically isolated. VES air flow is initiated by a safety related signal which opens the isolation valves in the VES supply lines. The VES provides protection from smoke and hazardous chemicals to the MCRE occupants. The analysis of hazardous chemical releases demonstrates that the toxicity limits are not exceeded in the MCRE following a hazardous chemical release (Ref. 1). The evaluation of a smoke challenge demonstrates that it will not result in the inability of the MCRE occupants to control the reactor either from the control room or from the remote shutdown room (Ref. 2).

The VES functions to mitigate a DBA or transient that either assumes the failure of or challenges the integrity of the fission product barrier.

The VES satisfies the requirements of Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

The VES limits the MCRE temperature rise and maintains the MCRE at a positive pressure relative to the surrounding environment.

Two air delivery flow paths are required to be OPERABLE to ensure that at least one is available, assuming a single failure.

PTN DEP 6.4-2

The VES is considered OPERABLE when the individual components necessary to deliver a supply of breathable air to the MCRE are OPERABLE. This includes components ~~listed in SR 3.7.6.3 through 3.7.6.10~~**monitored under surveillance requirements**. In addition, the MCRE pressure boundary must be maintained, including the integrity of the walls, floors, ceilings, electrical and mechanical penetrations, and access doors. The MCRE pressure boundary includes the Potable Water System (PWS) and SDS running (piping drain) traps, which retain a fluid level sufficient to maintain a seal preventing gas flow through the piping. The MCRE pressure boundary also includes the Waste Water System (WWS) drain line, which is isolated by a normally closed isolation valve.

BASES

LCO (continued)

In order for the VES to be considered OPERABLE, the MCRE boundary must be maintained such that the MCRE occupant dose from a large radioactive release does not exceed the calculated dose in the licensing basis consequence analysis for DBAs, and that MCRE occupants are protected from hazardous chemicals and smoke.

PTN DEP 6.4-2

The initial MCRE temperature (75°F), DC Equipment and I&C Rooms, and required room temperatures (≤ 85°F) are initial conditions required to both meet the maximum MCRE temperature limit 72 hours after VES actuation, and to maintain DC Equipment and I&C rooms below the equipment qualification temperature limit throughout the duration of the postulated accidents.

The LCO is modified by a Note allowing the MCRE boundary to be opened intermittently under administrative controls. For entry and exit through doors, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls should be proceduralized and consist of stationing a dedicated individual at the opening who is in continuous communication with the operators in the MCRE. This individual will have a method to rapidly close the opening and to restore the MCRE boundary to a condition equivalent to the design condition when a need for MCRE isolation is indicated.

PTN DEP 6.4-2

All PMS divisions in the two safety-related electrical panels are required to be OPERABLE, so that non-safety stage 1 and stage 2 MCR heat loads can be de-energized by the VES system actuation signal within the required time. This maintains the MCR temperature within habitable limits.

APPLICABILITY

In MODES 1, 2, 3, and 4 and during movement of irradiated fuel assemblies, the VES must be OPERABLE to ensure that the MCRE will remain habitable during and following a DBA.

The VES is not required to be OPERABLE in MODES 5 and 6 when irradiated fuel is not being moved because accidents resulting in fission product release are not postulated.

ACTIONS

LCO 3.0.8 is applicable while in MODE 5 or 6. Since irradiated fuel assembly movement can occur in MODE 5 or 6, the ACTIONS have been modified by a Note stating that LCO 3.0.8 is not applicable. If moving irradiated fuel assemblies while in MODE 5 or 6, the fuel movement is independent of shutdown reactor operations. Entering LCO 3.0.8 while in MODE 5 or 6 would require the optimization of plant safety, unnecessarily.

BASES

ACTIONS (continued)

A.1

When a VES valve, a VES damper, or a main control room boundary isolation valve is inoperable, action is required to restore the component to OPERABLE status. A Completion Time of 7 days is permitted to restore the valve or damper to OPERABLE status before action must be taken to reduce power. The Completion Time of 7 days is based on engineering judgment, considering the low probability of an accident that would result in a significant radiation release from the fuel, the low probability of not containing the radiation, and that the remaining components can provide the required capability.

PTN DEP 6.4-2

B.1

If one division of MCR load shed panel(s) is inoperable, all divisions of both MCR load shed panels must be restored to OPERABLE status within 7 days. In this condition, the OPERABLE unaffected division of the panels is capable of providing 100% of the load shed function.

A Completion Time of 7 days is permitted to restore the inoperable division of MCR load shed panel(s) to OPERABLE status before action must be taken to reduce power. The Completion Time of 7 days is based on engineering judgment, considering the low probability of an accident that would require VES actuation, and that the remaining panel division can provide the required load shed function.

As described in Subsection 6.4.2.3 of Ref.1, any component failure in a PMS division of the load shed panel(s) renders that division inoperable. If this failure affects only one PMS division, leaving the remaining division of PMS unaffected, including the associated power and control circuit, it renders the panel(s) inoperable, while still maintaining the full load shed function.

An event or action that impacts both PMS divisions in either panel does not maintain the full load shed function, and Condition G or H of LCO 3.7.6 would apply.

~~B~~C.1

When the MCRE air temperature is outside the acceptable range during VBS operation, action is required to restore it to an acceptable range. A Completion Time of 24 hours is permitted based upon the availability of temperature indication in the MCRE. It is judged to be a sufficient amount of time allotted to correct the deficiency in the nonsafety ventilation system before shutting down.

BASES

ACTIONS (continued)

PTN DEP 6.4-2

D.1

When the air temperature in one or more of the rooms requiring temperature monitoring is not within the required limit, action is required to restore it to within the limit. A Completion Time of 24 hours is based on engineering judgment, considering the low probability of an accident that would require VES actuation under the worst case temperature conditions. It is judged to be a sufficient amount of time allotted to correct the deficiency in the non-safety ventilation system before shutting down.

PTN DEP 6.4-2

~~C~~**E**.1, ~~C~~**E**.2, and ~~C~~**E**.3

If the unfiltered inleakage of potentially contaminated air past the MCRE boundary and into the MCRE can result in MCRE occupant radiological dose greater than the calculated dose of the licensing basis analyses of DBA consequences (allowed to be up to 5 rem TEDE), or inadequate protection of MCRE occupants from hazardous chemicals or smoke, the MCRE boundary is inoperable. Actions must be taken to restore an OPERABLE MCRE boundary within 90 days.

During the period that the MCRE boundary is considered inoperable, action must be initiated to implement mitigating actions to lessen the effect on MCRE occupants from the potential hazards of a radiological or chemical event or a challenge from smoke. Actions must be taken within 24 hours to verify that in the event of a DBA, the mitigating actions will ensure that MCRE occupant radiological exposures will not exceed the calculated dose of the licensing basis analyses of DBA consequences, and that MCRE occupants are protected from hazardous chemicals and smoke. These mitigating actions (i.e., actions that are taken to offset the consequences of the inoperable MCRE boundary) should be preplanned for implementation upon entry into the condition, regardless of whether entry is intentional or unintentional. The 24 hour Completion Time is reasonable based on the low probability of a DBA occurring during this time period, and the use of mitigating actions. The 90 day Completion Time is reasonable based on the determination that the mitigating actions will ensure protection of MCRE occupants within analyzed limits while limiting the probability that MCRE occupants will have to implement protective measures that may adversely affect their ability to control the reactor and maintain it in a safe shutdown condition in the event of a DBA. In addition, the 90 day Completion Time is a reasonable time to diagnose, plan and possibly repair, and test most problems with the MCRE boundary.

BASES

ACTIONS (continued)

PTN DEP 6.4-2

~~D~~F.1, ~~D~~F.2, and ~~D~~F.3

If one bank of VES air tanks (8 tanks out of 32 total) is inoperable, then the VES is able to supply air to the MCRE for 54 hours (75% of the required 72 hours). If the VES is actuated, the operator must take actions to maintain habitability of the MCRE once the air in the tanks has been exhausted. The VBS supplemental filtration mode or MCRE ancillary fans are both capable of maintaining the habitability of the MCRE after 54 hours.

With one bank of VES air tanks inoperable, action must be taken to restore OPERABLE status within 7 days. In this Condition, the stored amount of compressed air in the remaining OPERABLE VES air tanks must be verified within 2 hours and every 12 hours thereafter to be at least 245,680 scf. The 245,680 scf value is 75 percent of the minimum amount of stored compressed air that must be available in the compressed air storage tanks. The standard volume is determined using the compressed air storage tank room temperature (VAS-TE-080A/B), compressed air storage tanks pressure (VES-PT-001A/B), and Figure B 3.7.6-2, Compressed Air Storage Tanks Minimum Volume – One Bank of VES Air Tanks (8 Tanks) Inoperable. Values above the 245,680 scf line in the figure meet the Required Action criteria.

Verification that the minimum volume of compressed air is contained in the OPERABLE compressed air storage tanks ensures a 54 hour air supply will be available if needed. Additionally, within 24 hours, the VBS ancillary fans are verified to be OPERABLE so that, if needed, can be put into use once the OPERABLE compressed air storage tanks have been exhausted. The Completion Times associated with these actions and the 7 day Completion Time to restore VES to OPERABLE are based on engineering judgment, considering the low probability of an accident that would result in a significant radiation release from the reactor core, the low probability of radioactivity release, and that the remaining components and compensatory systems can provide the required capability. The 54 hours of air in the remaining OPERABLE compressed air storage tanks, along with compensatory operator actions, are adequate to protect the main control room envelope habitability. Dose calculations verify that the MCRE dose limits will remain within the requirements of GDC 19 with the compensatory actions taken at 54 hours.

BASES

ACTIONS (continued)

PTN DEP 6.4-2

~~E~~**G.1** and ~~E~~**G.2**

In MODE 1, 2, 3, or 4 if the Required Actions and Completion Times of Conditions A, B, C, **D, E,** or ~~D~~**F** are not met, or the VES is inoperable for reasons other than Conditions A, B, C, ~~or~~ D, **E or F,** the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours and in MODE 5 within 36 hours.

PTN DEP 6.4-2

~~F~~**H**.1

During movement of irradiated fuel assemblies, if the Required Actions and Completion Times of Conditions A, B, C, **D, E,** or ~~D~~**F** are not met, or the VES is inoperable for reasons other than Conditions A, B, C, **D, E,** or ~~D~~**F**, or the VES is inoperable due to an inoperable MCRE boundary, action must be taken immediately to suspend the movement of fuel. This does not preclude the movement of fuel to a safe position.

SURVEILLANCE REQUIREMENTS

SR 3.7.6.1

PTN DEP 6.4-2

The MCRE air temperature is checked at a frequency of 24 hours to verify that the VBS is performing as required to maintain the initial condition**s** ~~temperature~~ assumed in the safety analysis, and to ensure that the MCRE temperature will not exceed the required conditions after loss of VBS cooling. The surveillance limit of 75°F is the ~~initial heat sink~~ **return air** temperature assumed in the VES thermal analysis. The 24 hour Frequency is acceptable based on the availability of temperature indication in the MCRE.

SR 3.7.6.2

Verification every 24 hours that compressed air storage tanks contain greater than 327,574 scf of breathable air.

The standard volume is determined using the compressed air storage tank room temperature (VAS-TE-080A/B), compressed air storage tanks pressure (VES-PT-001A/B), and Figure B 3.7.6-1, Compressed Air Storage Tanks Minimum Volume. Values above the 327,574 scf line in the figure meet the surveillance criteria. Verification that the minimum volume of compressed air is contained in the compressed air storage tanks ensures that there will be an adequate supply of breathable air to maintain MCRE habitability for a period of 72 hours. The Frequency of 24 hours is based on the availability of pressure indication in the MCRE.

PTN DEP 6.4-2

SR 3.7.6.3

Using indication from temperature elements in each room, the air temperatures in the following rooms are checked at a Frequency of 24 hours: 12202, 12204, 12300, 12303, 12313, 12412, and 12501.

Using indication from temperature elements located in shared return air ducting, the air temperatures in the following rooms are checked at a Frequency of 24 hours: 12201/12301, 12203/12302, 12205/12305, and 12207/12304.

BASES

SURVEILLANCE REQUIREMENTS (continued)

This is done to verify that the VBS is performing as required to maintain the initial conditions assumed in the safety analyses, and to show that the VES heat sinks provide adequate thermal capacity to limit the temperature increase in the MCRE, DC Equipment Rooms, and I&C Rooms from exceeding the allowable limits after VES actuation. The surveillance limit of 85°F is below the initial temperature assumed in the analysis.

The 24 hour Frequency is acceptable based on the availability of automatic VBS temperature controls, alarms and indication in the MCRE. Air temperatures may also be verified using local measurement.

SR 3.7.6.4

Standby systems should be checked periodically to ensure that they function properly. As the environment and normal operating conditions on this system are not too severe, testing VES once every month provides an adequate check of the system. The 31 day Frequency is based on the reliability of the equipment and the availability of system redundancy.

SR 3.7.6.5

VES air header isolation valves are required to be verified open at 31 day intervals. This SR is designed to ensure that the pathways for supplying breathable air to the MCRE are available should loss of VBS occur. These valves should be closed only during required testing or maintenance of downstream components, or to preclude complete depressurization of the system should the VES isolation valves in the air delivery line open inadvertently or begin to leak.

SR 3.7.6.6

PTN DEP 6.4-2

Verification that the air quality of the air storage tanks meets the requirements of Appendix C, Table C-1 of ASHRAE Standard 62 **with a pressure dew point of 40°F or lower at 3400 psig or greater,** is required every 92 days. If air has not been added to the air storage tanks since the previous verification, verification may be accomplished by confirmation of the acceptability of the previous surveillance results along with examination of the documented record of air makeup. The purpose of
ASHRAE Standard 62 states: "This standard specifies minimum ventilation rates and indoor air quality that will be acceptable to human occupants and are intended to minimize the potential for adverse health effects." Verification of the initial air quality (in combination with the other surveillances) ensures that breathable air is available for 11 MCRE occupants for at least 72 hours.

PTN DEP 6.4-2

Verification of the pressure dew point ensures that no water will form in the line, eliminating the potential for freezing at the pressure regulating valve during VES operation. In addition, the dry air ensures the MCRE will remain below the maximum relative humidity to support the 90°F WBGT required for human factors performance.

BASES

SURVEILLANCE REQUIREMENTS (continued)

PTN DEP 6.4-2

SR 3.7.6.~~3~~**7**

VES air delivery isolation valves are required to be verified as OPERABLE. The Frequency required is in accordance with the Inservice Testing Program.

SR 3.7.6.8

Verification that each VES pressure relief isolation valve within the MCRE pressure boundary is OPERABLE is required in accordance with the Inservice Testing Program. The SR is used in combination with SR 3.7.6.~~9~~**14** to ensure that adequate vent area is available to mitigate MCRE overpressurization.

PTN DEP 6.4-2

PTN DEP 6.4-2

SR 3.7.6.~~10~~**9**

Verification of the OPERABILITY of the self contained pressure regulating valve in each VES air delivery flow path is required in accordance with the Inservice Testing Program. This is done to ensure that a sufficient supply of air is provided as required, and that uncontrolled air flow into the MCRE will not occur.

PTN DEP 6.4-2

SR 3.7.6.~~11~~**10**

This SR verifies the OPERABILITY of the MCRE boundary by testing for unfiltered air inleakage past the MCRE boundary and into the MCRE. The details of the testing are specified in the Main Control Room Envelope Habitability Program.

The MCRE is considered habitable when the radiological dose to MCRE occupants calculated in the licensing basis analyses of DBA consequences is no more than 5 rem TEDE and the MCRE occupants are protected from hazardous chemicals and smoke. This SR verifies that the unfiltered air inleakage into the MCRE is no greater than the flow rate assumed in the licensing basis analyses of DBA consequences. When unfiltered air inleakage is greater than the assumed flow rate, Condition ~~C~~**E** must be entered. Required Action ~~C~~**E**.3 allows time to restore the MCRE boundary to OPERABLE status provided mitigating actions can ensure that the MCRE remains within the licensing basis habitability limits for the occupants following an accident. Compensatory measures are discussed in Regulatory Guide 1.196, Section C.2.7.3 (Ref. 3) which endorses, with exceptions, NEI 99-03, Section 8.4 and Appendix F (Ref. 5). These compensatory measures may also be used as mitigating actions as required by Required Action ~~C~~**E**.2. Temporary analytical methods may also be used as compensatory measures to restore OPERABILITY (Ref. 6). Options for restoring the MCRE boundary to OPERABLE status include changing the licensing basis DBA consequence analysis, repairing the MCRE boundary, or a combination of these actions. Depending upon the nature of the problem and the corrective action, a full scope inleakage test may not be necessary to establish that the MCRE boundary has been restored to OPERABLE status.

BASES

SURVEILLANCE REQUIREMENTS (continued)

PTN DEP 6.4-2

SR 3.7.6.~~12~~**11**

This SR verifies that the required VES testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The VES filter tests are in accordance with Regulatory Guide 1.52 (Ref. 7). The VFTP includes testing the performance of the HEPA filter, charcoal adsorber efficiency, minimum flow rate, and physical properties of the activated charcoal. Specific test frequencies and additional information are discussed in detail

SR 3.7.6.12

PTN DEP 6.4-2

Verification that the MCR load shed function actuates on an actual or simulated signal from each PMS Division is required every 24 months to ensure that the non-safety stage 1 and stage 2 MCR heat loads can be de-energized by the VES system actuation signal within the required times. The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage, to minimize the potential for adversely affecting MCR operations.

PTN DEP 6.4-2

SR 3.7.6.~~7~~**13**

Verification that the VBS isolation valves and the Sanitary Drainage System (SDS) isolation valves are OPERABLE and will actuate upon demand is required every 24 months to ensure that the MCRE can be isolated upon loss of VBS operation.

PTN DEP 6.4-2

SR 3.7.6.~~9~~**14**

Verification that the VES pressure relief damper is OPERABLE is required at 24 month intervals. The SR is used in combination with SR 3.7.6.8 to ensure that adequate vent area is available to mitigate MCRE overpressurization.

REFERENCES

1. Section 6.4, "Main Control Room Habitability Systems."
2. Section 9.5.1, "Fire Protection System."
3. Regulatory Guide 1.196, "Control Room Habitability at Light-Water Nuclear Power Reactors."
4. ASHRAE Standard 62-1989, "Ventilation for Acceptable Indoor Air Quality."
5. NEI 99-03, "Control Room Habitability Assessment," June 2001.
6. Letter from Eric J. Leeds (NRC) to James W. Davis (NEI) dated January 30, 2004, "NEI Draft White Paper, Use of Generic Letter 91-18 Process and Alternative Source Terms in the Context of Control Room Habitability." (ADAMS Accession No. ML040300694).
7. Regulatory Guide 1.52, "Design, Inspection, and Testing Criteria for Airfiltration and Adsorption Units of Post-Accident Engineered-Safety-Feature Atmosphere Cleanup Systems in Light-Water-Cooled Nuclear Power Plants," Revision 3.

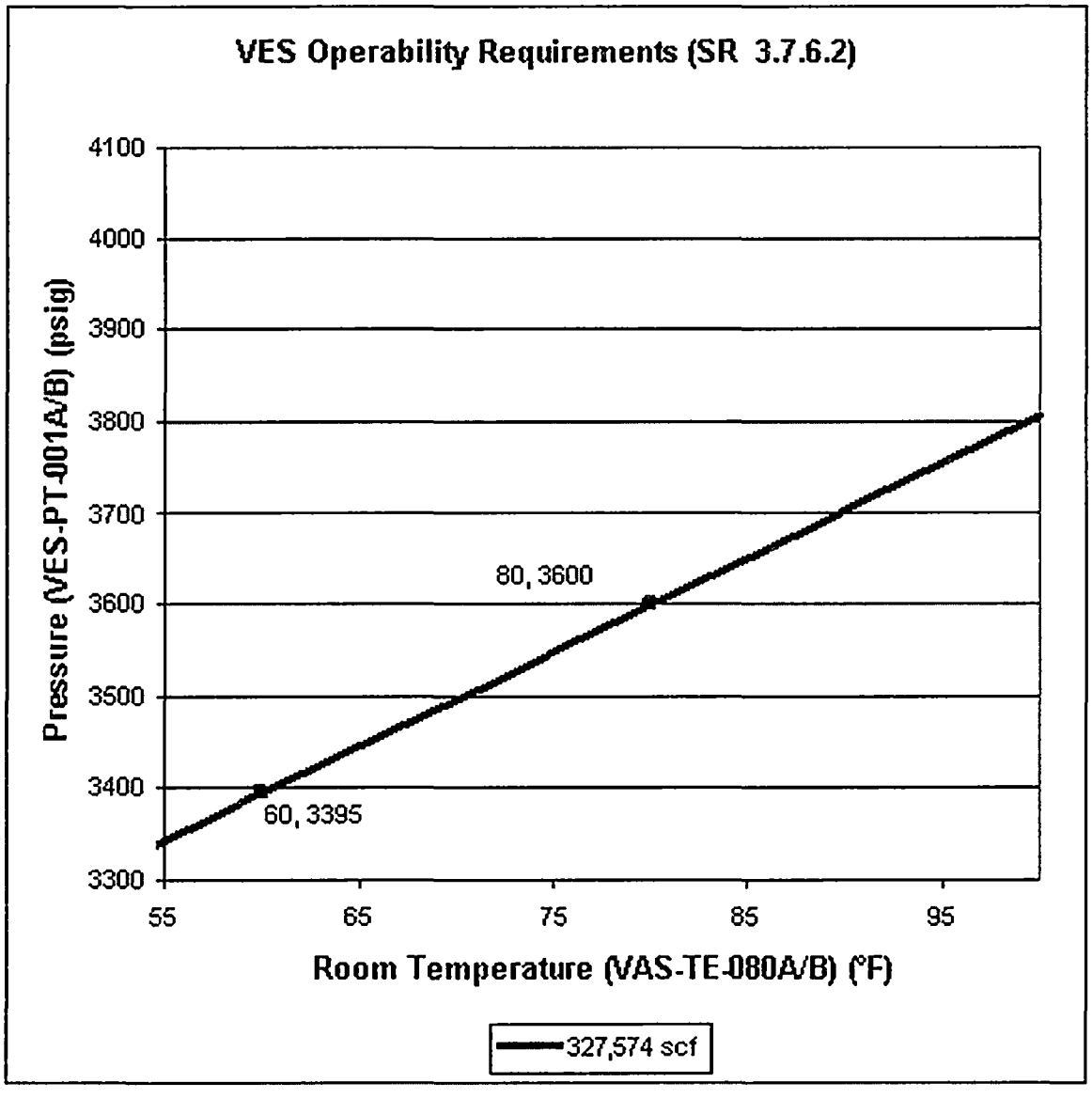


Figure B 3.7.6-1
Compressed Air Storage Tanks Minimum Volume

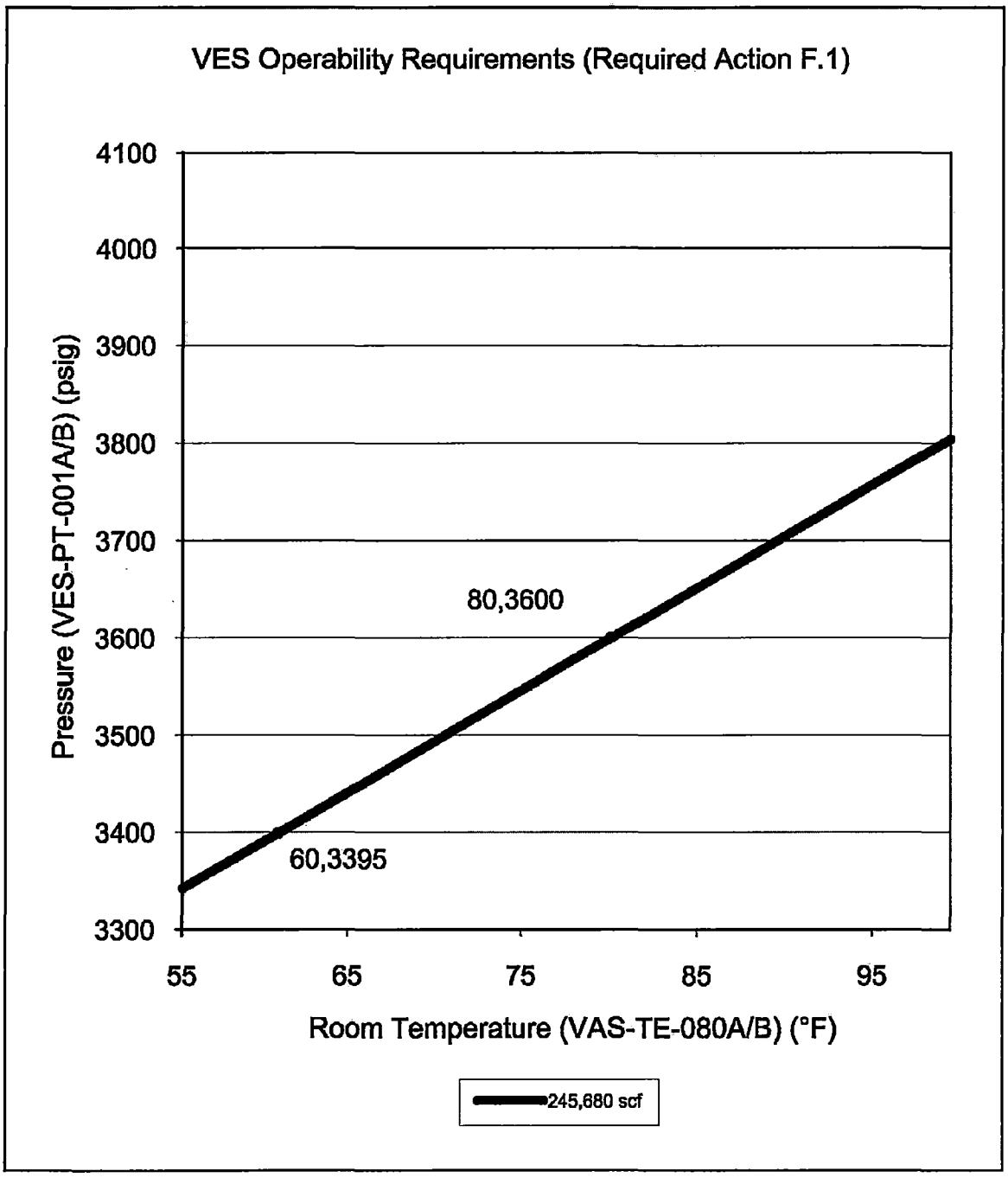


Figure B 3.7.6-2
Compressed Air Storage Tanks Minimum Volume – One Bank of VES Air Tanks (8 Tanks) Inoperable

Enclosure 3, Attachment 3

FPL Voluntary Submittal

Main Control Room Habitability

Turkey Point Units 6 & 7 COL Application

Revisions to Part 7, Departures and Exemption Requests

(8 Pages Including Cover Page)

1. COLA Part 7, Departures and Exemption Requests, is revised to add the following departure to the tables presented in Section A.2, Departures That Require NRC Approval Prior to Implementation, as follows:

Departure Number	Description
PTN DEP 6.4-2	**Main Control Room Heatup**

2. COLA Part 7, Departures and Exemption Requests, is revised to add the following exemption to the tables presented in Section B, Turkey Point Units 6 & 7 Exemption Requests, as follows:

Exemption Number	Description
B.7	**Main Control Room Heatup**

3. COLA Part 7, Departures and Exemption Requests, is revised to add the following departure to Section A.2 as follows:

Departure PTN DEP 6.4-2 is a departure from AP1000 Tier 1 information, in addition to Tier 2 information in the DCD; an exemption request and NRC approval is required prior to implementation.

Departure Number PTN DEP 6.4-2:

AFFECTED DCD/FSAR SECTIONS:

Tier 1 Tables 2.2.5-1, 2.2.5-4, 2.5.2-3, 2.5.2-4
Tier 2 Table 3.7.3-1 (Sheets 1 and 2 of 3), Table 3.9-12 (Sheet 6 of 7), Table 3.9-16 (Sheet 23 of 26), Table 3.9-17, Table 3.11-1 (Sheets 17, 30 and 47 of 51), Figure 3D.5-1 (Sheet 1 of 3), Table 3I.6-2 (Sheet 11 of 28), Table 3I.6-3 (Sheets 10 and 28 of 32), Subsections 6.4.2.2, 6.4.2.3, 6.4.3.2, 6.4.4, 6.4.5.1, 6.4.5.3 and 6.4.8, Table 6.4-3, Figure 7.2-1 (Sheet 13 of 21), Subsection 7.3.1.2.17, Table 7.3-1 (Sheet 7 of 9), Table 7.3-3 (Sheet 2 of 2), Table 7.5-1 (Sheet 11 of 12), Table 7.5-7 (Sheet 4 of 4), Subsections 9.3.1.1.2, 9.4.1.1.2, 9.4.1.2.3.1 and 14.2.9.1.6, Table 14.3-7 (Sheet 1 of 3), TS 3.3.2, TS 3.7.6, TS B 3.3.2, TS B 3.7.6, TS Figure B 3.7.6-2.

SUMMARY OF DEPARTURE:

The AP1000 Design Control Document (DCD), Revision 19 describes a Main Control Room (MCR) Emergency Habitability System (VES) design objective of maintaining a habitable environment in the main control room envelope (MCRE) for 72 hours after VES actuation. The MCRE temperature modeling was based on a scenario with normal ac power not available and therefore, no heat contribution from normal ac powered loads. However, a more limiting event has been identified where the VES actuates, resulting in the isolation of the MCRE, without a loss of normal ac power. With normal ac power available, all equipment in the MCRE continues to generate heat, potentially raising the temperature above the human engineering design and equipment qualification guidelines for temperature that are referenced in the DCD. Also, the original MCRE temperature modeling was based on the

AP600 configuration. AP1000 design evolution and finalization, which included the addition of sixteen new wall panel displays, has increased the heat load in the MCRE.

In order to address these issues, a departure from information presented in the generic DCD is necessary. This departure makes several changes to ensure that the VES can perform its design functions. These changes consist of adding load shedding devices, raising equipment qualification (EQ) temperature requirements, revising Technical Specifications (TS) and reclassifying VES components. These changes will make the VES system more robust and will ensure that habitability and EQ requirements are met in the most limiting event scenario.

SCOPE/EXTENT OF DEPARTURE:

There are 4 basic changes proposed by this departure:

1. **Non-essential equipment in the MCRE will be automatically de-energized by new load shedding devices.**
2. **TS will be modified to ensure that MCRE exterior temperatures do not exceed values assumed in supporting calculations, to ensure the quality of the air in the VES storage tanks and to ensure availability of the new VES load shedding function.**
3. **The EQ temperature requirement for safety related equipment in the MCRE will be increased.**
4. **Two valves in the VES system will be re-classified to "active" valves to facilitate offsite support following the depletion of compressed air in the VES.**

Change 1 - Load Shedding:

To compensate for the increased heat loads, new load shedding equipment will be added to automatically shed non-essential, non-safety related loads, beginning upon actuation of VES. The new load shedding equipment is safety related and designed with the requisite redundancy, separation, isolation, and equipment qualification requirements. With these non-essential, non-safety related loads shed as described, the temperature modeling concludes that the 72 hour VES design objective for habitability will be met. However, even with the load shedding, the heat generation rate for the AP1000 design is greater than originally assumed, so values included in AP1000 DCD Tier 1 and Tier 2 tables will be revised.

Change 2 - TS Changes:

Ongoing construction of the AP1000 has revealed that insulating materials on some of the exterior walls of the MCRE cannot be installed as indicated in the DCD. To compensate for the loss of insulating materials, assumptions were made in the revised MCRE heat up calculations concerning maximum initial room temperatures outside the MCRE prior to a VES actuation.

These assumptions were determined to require new TS actions and surveillances addressing room temperature, the new electrical load shed function and air quality in the VES storage tanks.

Change 3: Equipment Qualification Temperature Requirement:

Utilizing the load shedding scheme described in Change 1, the MCRE will remain below the MCRE's maximum habitability temperature limit for the 72 hour design basis of VES. After 72 hours, the Nuclear Island Non-Radioactive Ventilation System (VBS) can be aligned to

circulate air into the MCRE from outside the plant. Based on maximum anticipated outdoor temperature, the calculated temperature in the MCRE could reach a maximum of 110°F. Therefore, a new temperature requirement of 110°F is established for EQ of safety related equipment located in the MCRE. This will ensure that equipment will operate as required.

Change 4: Two Valves Reclassified:

The capability of offsite support is expanded by reclassifying two VES manual valves. These valves are to be changed from "non-active" valves to "active" valves in order to maintain open and close capabilities following design basis accidents. With this re-classification, these manually operated valves provide a connection for offsite support during the post 72 hour operation of VES. Changing the classification impacts a Tier 1 table in the DCD.

DEPARTURE JUSTIFICATION:

The proposed changes do not involve a significant reduction in the margin of safety. The proposed changes do not reduce the redundancy or diversity of any safety-related structures, systems or components (SSCs). The proposed changes ensure that the VES system can perform its design functions including maintaining an environment suitable for MCRE habitability and EQ.

Based on these considerations: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) approval of the change will not be inimical to the common defense and security or to the health and safety of the public.

DEPARTURE EVALUATION:

This departure adds safety related equipment to shed non-essential, non-safety related loads, increases the EQ temperature requirements for safety related equipment in the MCRE, and provides for a connection for offsite support following depleting of VES compressed air. This departure also adds TS actions and surveillances to ensure temperature limits are not exceeded and that equipment operates as designed. These changes will ensure that the MCRE habitability and EQ requirement are met in the most limiting event scenario. The departure does not involve a significant reduction in the margin of safety and does not reduce the redundancy or diversity of any safety-related SSCs. Therefore, this departure does not:

1. **Result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the plant-specific DCD.**

2. **Result in more than a minimal increase in the likelihood of occurrence of a malfunction of an SSC important to safety and previously evaluated in the plant-specific DCD.**

3. **Result in more than a minimal increase in the consequences of an accident previously evaluated in the plant-specific DCD.**

4. **Result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the plant-specific DCD.**

5. Create a possibility for an accident of a different type than any evaluated previously in the plant-specific DCD.

6. Create a possibility for a malfunction of an SSC important to safety with a different result than any evaluated previously in the plant-specific DCD.

7. Result in a design basis limit for a fission product barrier as described in the plant-specific DCD being exceeded or altered.

8. Result in a departure from a method of evaluation described in the plant-specific DCD used in establishing the design bases or in the safety analyses.

This departure does not affect resolution of a severe accident issue identified in the plant-specific DCD. Therefore, this departure has no safety significance.

NRC APPROVAL REQUIREMENT:

This departure requires an exemption from the requirements of 10 CFR Part 52, Appendix D, Section III.B, which requires compliance with Tier 1 requirements of the AP1000 DCD and the generic Technical Specifications. Therefore, an exemption is requested in Part B of this COL Application Part.

4. COLA Part 7, Departures and Exemption Requests, is revised to add the following exemption to Section B as follows:

B. Turkey Point Units 6 & 7 Exemption Requests

B.7) Main Control Room Heatup

5. COLA Part 7, Departures and Exemption Requests, is revised to add the following exemption to Section B, under the discussion and justifications as follows:

B.7) Main Control Room Heatup

Applicable Regulation(s): 10 CFR Part 52, Appendix D, Section III.B

Specific wording from which exemption is requested:

"III. Scope and Contents

B. An applicant or licensee referencing this appendix, in accordance with Section IV of this appendix, shall incorporate by reference and comply with the requirements of this appendix, including Tier 1, Tier 2 (including the investment protection short-term availability controls in Section 16.3 of the DCD), and the generic TS except as otherwise provided in this appendix. Conceptual design information in the generic DCD and the evaluation of severe accident mitigation design alternatives in appendix 1B of the generic DCD are not part of this appendix."

Pursuant to 10 CFR §52.63(b)(1), an exemption from elements of the design as certified in the 10 CFR Part 52, Appendix D, design certification rule is requested for plant-specific Tier 1 departures from the AP1000 DCD for Tier 1 information and for material departures from the generic Technical Specification (TS).

Discussion:

The proposed changes are to Tier 1 Tables 2.2.5-1, 2.2.5-4, 2.5.2-3 and 2.5.2-4, and TS 3.3.2 and 3.7.6. These changes ensure the Main Control Room Emergency Habitability System (VES) design functions to: 1) maintain heat loads within the main control room envelope (MCRE) within design basis assumptions to limit the heat-up of the room, 2) ensure a 72-hour supply of breathable quality air for the occupants of the MCRE, 3) maintain the MCRE pressure boundary at a positive pressure with respect to the surrounding areas with a discharge of air through the main control room (MCR) vestibule, and 4) provide a passive recirculation flow of MCRE air to maintain MCR dose rates below an acceptable level during VES operation.

Conclusion:

FPL evaluated this exemption request in accordance with 10 CFR Part 52, Appendix D, Section VIII.A.4, 10 CFR §50.12, 10 CFR §52.7 and 10 CFR §52.63, which state that the NRC may grant exemptions from the requirements of the regulations provided the following six conditions are met: 1) the exemption is authorized by law [§50.12(a)(1)]; 2) the exemption will not present an undue risk to the health and safety of the public [§50.12(a)(1)]; 3) the exemption is consistent with the common defense and security [§50.12(a)(1)]; 4) special circumstances are present [§50.12(a)(2)]; 5) the special circumstances outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption [§52.63(b)(1)]; and 6) the design change will not result in a significant decrease in the level of safety [Part 52, Appendix D, VIII.A.4]. The requested exemption satisfies the criteria for granting specific exemptions, as described below.

1. This exemption is authorized by law.

The NRC has authority under 10 CFR §§ 50.12, 52.7, and 52.63 to grant exemptions from the requirements of NRC regulations. Specifically, 10 CFR §§50.12 and 52.7 state that the NRC may grant exemptions from the requirements of 10 CFR Part 52 upon a proper showing. No law exists that would preclude the changes covered by this exemption request. Additionally, granting of the proposed exemption does not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations. Accordingly, this requested exemption is "authorized by law," as required by 10 CFR §50.12(a)(1).

2. This exemption will not present an undue risk to the health and safety of the public.

The proposed exemption from the requirements of 10 CFR 52, Appendix D, Section III.B would allow changes to elements of the plant-specific DCD Tier 1 design information and generic TS. The plant-specific Tier 1 DCD will continue to reflect the approved licensing basis for the applicant, and will maintain a consistent level of detail with that which is currently provided elsewhere in Tier 1 of the plant-specific DCD. Because the change to the VES system description and associated TS changes maintain VES design functions, the changed design will ensure the protection of the health and safety of the public.

Therefore, no adverse safety impact which would present any additional risk to the health and safety of the public is present. The affected Design Description in the plant-specific Tier 1 DCD will continue to provide the detail necessary to support the performance of the associated ITAAC. Therefore, the requested exemption from 10 CFR 52, Appendix D, Section III.B would not present an undue risk to the health and safety of the public.

3. The exemption is consistent with the common defense and security.

The exemption from the requirements of 10 CFR 52, Appendix D, Section III.B would change elements of the plant-specific DCD Tier 1 design information relating to the operation of the VES and generic TS. The exemption does not alter the design, function, or operation of any structures or plant equipment that are necessary to maintain a secure status of the plant. The proposed exemption has no impact on plant security or safeguards procedures. Therefore, the requested exemption is consistent with the common defense and security.

4. Special circumstances are present.

10 CFR §50.12(a)(2) lists six "special circumstances" for which an exemption may be granted. Pursuant to the regulation, it is necessary for one of these special circumstances to be present in order for the NRC to consider granting an exemption request. The requested exemption meets the special circumstances of 10 CFR§50.12(a)(2)(ii). That subsection defines special circumstances as when "Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule."

The rule under consideration in this request for exemption from Tier 1 subsections 2.2.5 and 2.5.2, and the generic TS is 10 CFR 52, Appendix D, Section III.B, which requires that an applicant referencing the AP1000 Design Certification Rule (10 CFR Part 52, Appendix D) shall incorporate by reference and comply with the requirements of Appendix D, including Tier 1 information and generic TS. The Turkey Point Units 6 and 7 COLA references the AP1000 Design Certification Rule and incorporates by reference the requirements of 10 CFR Part 52, Appendix D, including Tier 1 information and generic TS. The underlying purpose of Appendix D, Section III.B is to describe and define the scope and contents of the AP1000 design certification, and to require compliance with the design certification information in Appendix D to maintain the level of safety in the design.

The proposed changes maintain the design functions of the VES. This change does not impact the ability of any structures, systems, or components to perform their functions or negatively impact safety. Accordingly, this exemption from the certification information in Tier 1 subsections 2.2.5 and 2.5.2 and from generic TS will enable the applicant to safely construct and operate the AP1000 facility consistent with the design certified by the NRC in 10 CFR 52, Appendix D.

Therefore, special circumstances are present, because application of the current generic certified design information in Tier 1 and the generic TS as required by 10 CFR Part 52, Appendix D, Section III.B, in the particular circumstances discussed in this request is not necessary to achieve the underlying purpose of the rule.

5. The special circumstances outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption.

Based on the nature of the changes to the plant-specific Tier 1 information and generic TS and the understanding that these changes support the design function of the VES, it is likely that other AP1000 applicants and licensees will request this exemption. However, if this is not the case, the special circumstances continue to outweigh any decrease in safety from the reduction in standardization because the key design functions of the VES associated with this request will continue to be maintained. This exemption request and the

associated DCD and TS changes demonstrate that the VES function continues to be maintained following implementation of the change from the generic AP1000 DCD, thereby minimizing the safety impact resulting from any reduction in standardization.

Therefore, the special circumstances associated with the requested exemption outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption. In fact, as described in Condition 6 below, the exemption will not result in a reduction in the level of safety.

6. The design change will not result in a significant decrease in the level of safety.

The exemption revises the plant-specific DCD Tier 1 information by enabling the VES to more effectively perform its design functions. This exemption also revises the generic TS to ensure equipment operability and temperature conditions are maintained. Because the VES design functions are met, there is no reduction in the level of safety.

Therefore, the design change and change to the TS will not result in a significant decrease in the level of safety.

As demonstrated above, this exemption request satisfies NRC requirements for an exemption to the design certification rule for the AP1000.

Enclosure 3, Attachment 4

FPL Voluntary Submittal

Main Control Room Habitability

Turkey Point Units 6 & 7 COL Application

Revisions to Part 10, Proposed License Conditions (Including ITAAC)

(7 Pages Including Cover Page)

1. COLA Part 10, Proposed License Conditions (Including ITAAC), Appendix B is revised to add the following departure as the first entry as follows:

   Add the following information to the information provided in the referenced DCD Tier 1 at the end of Section 2.2.5:

   MAIN CONTROL ROOM EMERGENCY HABITABILITY SYSTEM (VES) ITAAC

   VES components are identified as the preferred, safety-related connection point for post-72 hour supplemental air. Component numbers for temporary instrument isolation valves are included in Table 2.2.5-1. The heat load values for the Main Control Room Envelope (MCRE) shown in Table 2.2.5-4 are revised to correct for the most limiting design basis event and to account for actual equipment in the AP1000 design.

2. COLA Part 10, Proposed License Conditions (Including ITAAC), Appendix B is revised to add the following departure after the entry for 2.3.31 as follows:

   Add the following information to the information provided in the referenced DCD Tier 1 at the end of Section 2.5.2:

   PROTECTION AND SAFETY MONITORING SYSTEM (PMS) ITAAC

   New load shed panels are added to automatically de-energize non-essential equipment in the Main Control Room Envelope (MCRE) to ensure the MCRE is maintained within human performance limits. The electrical load de-energization feature is added on Tables 2.5.2-3 and 2.5.2.4.

3. COLA Part 10, Proposed License Conditions (Including ITAAC), Appendix B, Table 2.2.5-1 is added with left margin annotation PTN DEP 6.4-2 as follows:

Table 2.2.5-1 (cont.)									
Equipment Name	Tag No.	ASME Code Section III	Seismic Cat. I	Remotely Operated Valve	Class 1E/ Qual. for Harsh Envir.	Safety-Related Display	Control PMS	Active Function	Loss of Motive Power Position
Emergency Air Storage Tank 31	VES-MT-31	No	Yes	-	-/-	-	-	-	-
Emergency Air Storage Tank 32	VES-MT-32	No	Yes	-	-/-	-	-	-	-
Air Delivery Alternate Isolation Valve	VES-PL-V001	Yes	Yes	No	-/-	No	-	Transfer Open	-
Eductor Flow Path Isolation Valve	VES-PL-V045	Yes	Yes	No	-/-	No	-	Transfer Close	-
Eductor Bypass Isolation Valve	VES-PL-V046	Yes	Yes	No	-/-	No	-	Transfer Open	-
Pressure Regulating Valve A	VES-PL-V002A	Yes	Yes	No	-/-	No	-	Throttle Flow	-
Pressure Regulating Valve B	VES-PL-V002B	Yes	Yes	No	-/-	No	-	Throttle Flow	-
MCR Air Delivery Isolation Valve A	VES-PL-V005A	Yes	Yes	Yes	Yes/No	No	Yes	Transfer Open	Open
MCR Air Delivery Isolation Valve B	VES-PL-V005B	Yes	Yes	Yes	Yes/No	No	Yes	Transfer Open	Open
PTN DEP 6.4-2 Temporary Instrument Isolation Valve A	VES-PL-V018	Yes	Yes	No	-/-	No	No	Transfer Open	-
PTN DEP 6.4-2 Temporary Instrument Isolation Valve B	VES-PL-V019	Yes	Yes	No	-/-	No	No	Transfer Open	-

Table 2.2.5-1 (cont.)

Equipment Name	Tag No.	ASME Code Section III	Seismic Cat. I	Remotely Operated Valve	Class 1E/ Qual. for Harsh Envir.	Safety-Related Display	Control PMS	Active Function	Loss of Motive Power Position
MCR Pressure Relief Isolation Valve A	VES-PL-V022A	Yes	Yes	Yes	Yes/No	No	Yes	Transfer Open	Open
MCR Pressure Relief Isolation Valve B	VES-PL-V022B	Yes	Yes	Yes	Yes/No	No	Yes	Transfer Open	Open

4. COLA Part 10, Proposed License Conditions (Including ITAAC), Appendix B, Table 2.2.5-4 is added with left margin annotation PTN DEP 6.4-2 as follows:

PTN DEP 6.4-2

Table 2.2.5-4			
Room Name	Room Numbers	Heat Load 0 to 24 Hours (Btu/s)	Heat Load 24 to 72 Hours (Btu/s)
MCR Envelope	12401	26.1 (hour 0 through 0.5) 15.6 (hour 0.5 through 3.5) 5.8 (hour 3.5 through 24)	2.9
I&C Rooms	12301, 12305	8.8	0
I&C Rooms	12302, 12304	13.0	4.2
dc Equipment Rooms	12201, 12205	3.7 (hour 0 through 1) 2.4 (hour 2 through 24)	0
dc Equipment Rooms	12203, 12207	5.8 (hour 0 through 1) 4.5 (hour 2 through 24)	2.0

5. COLA Part 10, Proposed License Conditions (Including ITAAC), Appendix B, Table 2.5.2-3 is added with left margin annotation PTN DEP 6.4-2 as follows:

Table 2.5.2-3
PMS Automatically Actuated Engineered Safety Features

	Safeguards Actuation
	Containment Isolation
	Automatic Depressurization System (ADS) Actuation
	Main Feedwater Isolation
	Reactor Coolant Pump Trip
	CMT Injection
	Turbine Trip (Isolated signal to nonsafety equipment)
	Steam Line Isolation
	Steam Generator Relief Isolation
	Steam Generator Blowdown Isolation
	Passive Containment Cooling Actuation
	Startup Feedwater Isolation
	Passive Residual Heat Removal (PRHR) Heat Exchanger Alignment
	Block of Boron Dilution
	Chemical and Volume Control System (CVS) Makeup Line Isolation
	Steam Dump Block (Isolated signal to nonsafety equipment)
PTN DEP 6.4-2	Main Control Room Isolation, Air Supply Initiation and Electrical Load De-energization
	Auxiliary Spray and Letdown Purification Line Isolation
	Containment Air Filtration System Isolation
	Normal Residual Heat Removal Isolation
	Refueling Cavity Isolation
	In-Containment Refueling Water Storage Tank (IRWST) Injection
	IRWST Containment Recirculation
	CVS Letdown Isolation
	Pressurizer Heater Block (Isolated signal to nonsafety equipment)
	Containment Vacuum Relief

6. COLA Part 10, Proposed License Conditions (Including ITAAC), Appendix B, Table 2.5.2-4 is added with left margin annotation PTN DEP 6.4-2 as follows:

Table 2.5.2-4
PMS Manually Actuated Functions

Reactor Trip
Safeguards Actuation
Containment Isolation
Depressurization System Stages 1, 2, and 3 Actuation
Depressurization System Stage 4 Actuation
Feedwater Isolation
Core Makeup Tank Injection Actuation
Steam Line Isolation
Passive Containment Cooling Actuation
Passive Residual Heat Removal Heat Exchanger Alignment
IRWST Injection
Containment Recirculation Actuation
Main Control Room Isolation, Air Supply Initiation and Electrical Load De-energization
Steam Generator Relief Isolation
Chemical and Volume Control System Isolation
Normal Residual Heat Removal System Isolation
Containment Vacuum Relief

PTN DEP 6.4-2