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1. ITAAC

The ITAAC for the COLA consist of the following:

1) Design Certification ITAAC are contained in DCD Tier 1 and are incorporated by reference.

2) Plant-Specific ITAAC are provided in Appendices A.1, A.2, A.3, and A.4. The design description information contained in the Appendices is a compilation of information from various sources in the FSAR and is included to assist the reader in reviewing information pertinent to the Plant-Specific ITAAC.

3) Emergency Planning ITAAC are provided in Appendix B.

4) Physical Security ITAAC for the DCD are contained in DCD Tier 1 and are incorporated by reference. Plant Specific Security ITAAC are provided in Appendix C.

2. Proposed License Conditions

Identified below are several possible topics for license conditions that serve as a starting point for consideration. As specific license conditions are identified, they will be added to section 3 below.

2.1 Completion of ITAAC

Completion of the ITAAC listed in the previous section may be a proposed license condition to be satisfied prior to fuel load. However, this license condition may not be necessary as the ITAAC may be adequately controlled by the regulations.

2.2 Not Used

2.3 Operational Programs

Operational Programs are identified in FSAR Table 13.4-201 and Subsection 10.2.3.5. Their implementation by the milestones indicated in the table below represents a potential condition to the license. Some of these programs may be adequately controlled by other methods such as regulations, technical specifications or a commitment and will not be addressed as a license condition. Proposed license conditions are provided in Section 3 below based upon the current information in the FSAR.

2.4 Environmental Protection Plan

The Environmental Protection Plan (EPP) and its implementation may also be a potential condition to the license. The EPP has typically been an appendix to the operating license and that precedent may be followed for COLs as well. No plant specific environmental items have been identified which are not adequately controlled by regulations, the appropriate permits, etc. and thus an EPP has not

been proposed and is not needed.

2.5 Technical Specifications

Implementation of Technical Specifications prior to fuel load could also constitute a potential condition to the license. The Technical Specifications have typically been an appendix to the operating license and that precedent may be followed for COLs as well.

2.6 Emergency Planning Actions

Execution of Letters of Agreement with State and local entities identifying the specific nature of arrangements in support of emergency preparedness and certifying the agency's concurrence with the emergency action levels prior to the full-participation exercise is a potential condition to the license. A proposed license condition is provided in section 3 below.

Submittal of a fully developed set of site-specific Emergency Action Levels (EALs) to the NRC in accordance with NEI 99-01, Revision 5 at least 180 days prior to initial fuel load is a potential condition to the license. A proposed license condition is provided in section 3 below.

Performance and implementation of the results of a detailed shift staffing analysis performed pursuant to 10 CFR Part 50, Appendix E, Section IV.A.9 in accordance with the methodology described in NEI 10-05, "Assessment of On-Shift Emergency Response Organization Staffing and Capabilities," Rev. 0, prior to the first full participation exercise is a potential condition to the license. A proposed license condition is provided in section 3 below.

2.7 Fukushima Response Actions

A summary of the post-COL commitments and programs related to the NRC Fukushima Near-Term Task Force (NTTF) recommendations are tabulated in FSAR Table 1B-202. Some of these items will be controlled by a license condition as proposed in Section 3 below.

2.8 Others

The current operating licenses have some typical license conditions in areas such as security, fire protection and others. These current license conditions may or may not apply to COLs.

3. Specific Proposed License Conditions

The license conditions identified thus far during the COL development and review are:

Proposed License Condition	Source
1. Receipt, Possession and Use of Byproduct, Source and Special Nuclear Material (SNM) 2.B PROPOSED LICENSE CONDITION Subject to the conditions and requirements incorporated herein, the Commission hereby licenses Luminant Generation Company LLC: (1) Pursuant to Sections 103 and 185.b of the Act and 10 CFR Part 52, to construct, possess, use, and operate the facility at the designated location in accordance with the procedures and limitations set forth in this license; (2) (i) Pursuant to the Act and 10 CFR Part 70, to receive and possess at any time, special nuclear material as reactor fuel in accordance with the limitations for storage and amounts required for reactor operation, described in the FSAR, as supplemented and amended; (ii) Pursuant to the Act and 10 CFR Part 70, to use special nuclear material as reactor fuel, after the finding in Section 2.D.(3) of this license has been made, in accordance with the limitations for storage and amounts required for reactor operation, and described in the FSAR, as supplemented and amended; (3) (i) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use, prior to the finding in Section 2.D.(3), such byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts that do not exceed the quantities in Schedule C of 10 CFR 30.72, and does not include any uranium hexafluoride; (ii) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use, after the finding in Section 2.D.(3), any byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required.	Based on Model COL discussed with NRC and DCWGs on 2/26/2011 and 10 CFR 30, 40 and 70. Luminant response to RAI-198. NOTE: Numbering of license conditions based upon the Model COL discussed with the NRC and DCWGs on 2/26/2011.

Proposed License Condition	Source
(4) (i) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use prior to the finding in Section 2.D.(3), in amounts not exceeding those specified in Section 2.B.(3)(i) above, any byproduct, source, or special nuclear material that is (1) in unsealed form; (2) on foils or plated surfaces, or (3) sealed in glass, for sample analysis or instrument calibration or other activity associated with radioactive apparatus or components; (ii) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess and use, after the finding in Section 2.D.(3), in amounts as required, any byproduct, source, or special nuclear material without restriction as to chemical or physical form, for sample analysis or instrument calibration or other activity associated with radioactive apparatus or components; and (5) Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility. <u>2D.(3) Nuclear Fuel Loading</u> (i) The licensee shall notify the Director of the Office of New Reactors, or the Director's designee, that all ITAAC included in Appendix A to this license are complete. (ii) The licensee is authorized to load fuel into the reactor vessel after the Commission has found, in accordance with 10 CFR 52.103(g), that all the acceptance criteria in the ITAAC contained in Appendix A to this license are met.	
2.D(11) Operational Program Implementation The licensee shall implement the programs or portions of programs identified in FSAR Table 13.4-201 with the "Implementation" of "License Condition" on or before the associated milestones in FSAR Table 13.4-201.	COLA FSAR Table 13.4-201 COLA FSAR Subsection 10.2.3.5 Based on Model COL discussed with NRC and DCWGs on 2/26/2011. Response to CP RAI # 198.

Proposed License Condition	Source
2.D(12) Operational Program Implementation Schedules The Licensee shall submit to the Director of NRO, a schedule, no later than 12 months after issuance of the COL or at the start of construction as defined in 10 CFR 50.10(a), whichever is later, that supports planning for and conduct of NRC inspections of operational programs listed in FSAR Table 13.4-201 with the exception of the Fitness for Duty program. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter for each applicable operational program until either the operational program has been fully implemented or the plant has been placed in commercial service, whichever comes first. The Licensee shall submit to the Director of NRO, a schedule, no later than 12 months after issuance of the COL, that supports planning for and conduct of NRC inspections of the Fitness for Duty program listed in FSAR Table 13.4-201. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until either the Fitness for Duty program has been fully implemented or the plant has been placed in commercial service, whichever comes first.	COLA FSAR Table 13.4-201 Based on Model COL discussed with NRC and DCWGs on 2/26/2011 and RG 1.206. Response to RAI 6123 (CP RAI #238) . FFD program separated out because of partial implementation of the program prior to construction activities commencing.
2.D(14) Site-specific or License-specific Conditions (i) The plant-specific PTS evaluation of the as-procured reactor vessel material properties will be submitted to the NRC within 12 months following acceptance of the reactor vessel. (ii) Prior to the full-participation exercise to be conducted in accordance with the requirements of Appendix E to 10 CFR Part 50, Luminant shall establish Letters of Agreement with the following entities: a. Governors Division of Emergency Management (GDEM), Texas Department of Public Safety b. Texas Department of State Health Services c. Hood County Judge d. Somervell County Judge These Letters of Agreement will identify the specific nature of arrangements in support of emergency preparedness for operation of the proposed new nuclear units and certify the agency's concurrence with the emergency action levels described in Comanche Peak Units 3 & 4 Combined License Application Emergency Plan Procedure, "Assessment of Emergency Action Levels, Emergency Classification and Plan Activation."	Answer to RAI 2353 (CP RAI #8) question 05.03.02-3. Answer to RAI 3295 (CP RAI #70) question 13.03-1 and RAI 3327 (CP RAI #78) questions 13.03-2 and 13.03-8.

Proposed License Condition	Source
(iii) The licensee shall submit a fully developed set of site-specific Emergency Action Levels (EALs) to the NRC in accordance with NEI 99-01, Revision 5, with few differences or deviations. The fully developed site-specific EAL scheme shall be submitted to the NRC for confirmation at least 180 days prior to initial fuel load.	Answer to RAI 3295 (CP RAI #70) question 13.03-1 and RAI 3327 (CP RAI #78) questions 13.03-2 and 13.03-8.
(iv) Prior to commencing construction and throughout the term of the license, the Licensees shall implement the Comanche Peak provisions of the Nuclear Power Plant Units 3 and 4, Negation Action Plan dated December 15, 2010 relating to the terms of Amended and Restated Limited liability Company Agreement (LLC Agreement) for CPNPC and Luminant's authority pursuant to the Construction and Operating Services Agreement (COSA). The provisions of Section 5.1(g) of the LLC Agreement and Section 2.1.2 of the COSA relating to authority regarding safety and security issues may not be modified in any material respect without first giving 30 days prior written notice to the Director, Office of Nuclear Reactor Regulation.	COLA Part 1, Administrative and Financial Information, RAI response issued: 10/14/2010
(v) Prior to the full participation exercise conducted in accordance with Appendix E to 10 CFR Part 50, the licensee shall: a. Perform and implement the results of a detailed on-shift staffing assessment performed pursuant to 10 CFR Part 50, Appendix E, Section IV.A.9. The analysis shall be performed in accordance with the methodology described in NEI 10-05, Rev. 0. b. Complete and implement the results of an assessment of the onsite and augmented staffing capability to satisfy the staffing recommendations in Recommendation 9.3 of the Fukushima Near-Term Task Force as described in SECY-12-0025. This emergency planning staffing assessment will be performed in accordance with NEI 12-01, Revision 0. c. Revise the Emergency Plan and FSAR, as necessary, to include: (1) Incorporation of corrective actions identified in the staffing assessments described above. (2) Identification of how the augmented staff will be notified given degraded communications capabilities. d. Submit the results of the staffing assessments to the NRC.	Answer to RAI 6527 (CP RAI #261) question 01.05-3 Regulatory requirements contained in 10 CFR Part 50, Appendix E, Section IV.A.9. FR Doc. 2011-29735

Proposed License Condition	Source
(vi) Before commencing installation of individual piping segments and connected components in their final locations, Luminant shall complete the as-designed pipe break hazards analysis for compartments (rooms) containing those segments in accordance with the criteria outlined in the US-APWR DCD, Subsections 3.6.1.2.2, 3.6.1.2.3, and 3.6.2, and shall inform the Director of NRO, or the Director's designee, in writing, upon the completion of this analysis and the availability of the as-designed pipe break hazards analysis reports.	Answer to RAI 6628 (CP RAI #262) question 03.06.01-1
2.D(15) Fukushima-Related Actions Implementation The licensee shall implement the commitments, programs or portions of programs identified in FSAR Table 1B-202 with the "Implementation" of "License Condition" (except for the staffing assessment commitment which is controlled by 2.D(14)(v) above) on or before the associated milestones in FSAR Table 1B-202.	COLA FSAR Table 1B-202 COLA FSAR Appendix 1B Based on Model COL discussed with NRC and DCWGs on 2/26/2011. Supplemental answer to RAI 6527 (CP RAI #261) Question 01.05-1, Supplemental answer to RAI 6527 (CP RAI #261) Question 01.05-2 and Response to RAI 6929 (CP RAI #269).

PART 10 - APPENDIX A.1

ULTIMATE HEAT SINK SYSTEM (UHSS) AND ESSENTIAL SERVICE WATER SYSTEM (ESWS) (PORTIONS OUTSIDE THE SCOPE OF THE CERTIFIED DESIGN)

A.1.1 Design Description

The ultimate heat sink system (UHSS) is a safety-related system that (1) removes heat from the essential service water system (ESWS) during normal operation, transients, accidents and design-basis events, (2) provides the required cooling for a minimum of 30 days without make-up during all plant operating conditions including normal plant operations, abnormal and accident conditions, (3) provides water to the seismic stand pipe header of the fire protection system to assure manual fire suppression capability following a safe shutdown earthquake.

As shown in Figure A.1-1 and described in Table A.1-2, the major components of the UHSS are four 50 percent capacity mechanical draft cooling towers, one for each ESWS division, and four 33 1/3 percent capacity basins to satisfy the thirty day cooling water supply criteria. In addition, a UHS transfer pump is located in each UHS basin to enable water transfer between UHS basins during accident conditions.

The UHSS is capable of performing required safety functions assuming that one division is out of service for maintenance coincident with the postulated loss of offsite power and any single failure within the UHSS.

The essential service water is cooled by the UHS cooling tower before being returned to the UHS basin. Heat rejection to the environment is effected by direct contact of the hotter essential service water discharging from the ESWS with the UHS cooling tower forced airflow.

Upon the receipt of an ECCS actuation signal, all UHS cooling tower fans automatically start or continue to operate. Upon the receipt of an ECCS actuation signal or UHS basin low water level signal, the UHS basin blowdown control valves automatically close. A water level signal at six inches below the normal water level causes the makeup water control valve to open. A signal at normal water level then causes the makeup control valve to close.

The UHSS can supply at least 18,000 gallons of water to the seismic standpipe system via the ESWS if necessary for manual fire suppression following a safe shutdown earthquake (SSE).

1.a The functional arrangement of the UHSS and ESWS (portions outside the scope of the certified design) is as described in the Design Description of Section A.1.1 and as shown on Figure A.1-1.

1.b Each mechanical division of the UHSS and ESWS (portions outside the scope of the certified design, as shown in Figure A.1-1) is physically separated from the other divisions, except for the header portion of the

transfer line piping, so as not to preclude accomplishment of the safety function.

2.a.i The ASME Code Section III components of the UHSS and ESWS (portions outside the scope of the certified design), identified in Table A.1-2, are fabricated, installed and inspected in accordance with ASME Code Section III requirements.

2.a.ii The ASME Code Section III components of the UHSS and ESWS (portions outside the scope of the certified design), identified in Table A.1-2, are reconciled with the design requirements.

2.b.i The ASME Code Section III piping of the UHSS and ESWS (portions outside the scope of the certified design), identified in FSAR Table 3.2-201, is fabricated, installed, and inspected in accordance with ASME Code Section III requirements.

2.b.ii The ASME Code Section III piping of the UHSS and ESWS (portions outside the scope of the certified design), including supports, identified in FSAR Table 3.2-201, is reconciled with the design requirements.

3.a Pressure boundary welds in ASME Code Section III components, identified in Table A.1-2, meet ASME Code Section III requirements for non-destructive examination of welds.

3.b Pressure boundary welds in ASME Code Section III piping of the UHSS and ESWS (portions outside the scope of the certified design), identified in FSAR Table 3.2-201, meet ASME Code Section III requirements for non-destructive examination of welds.

4.a The ASME Code Section III components, identified in Table A.1-2, retain their pressure boundary integrity at their design pressure.

4.b The ASME Code Section III piping of the UHSS and ESWS (portions outside the scope of the certified design), identified in FSAR Table 3.2-201, retains its pressure boundary integrity at its design pressure.

5.a The seismic Category I equipment, identified in Table A.1-2, can withstand seismic design-basis loads without loss of safety function.

5.b The seismic Category I piping of the UHSS and ESWS (portions outside the scope of the certified design), including supports, identified in FSAR Table 3.2-201, can withstand seismic design-basis loads without a loss of its safety function.

6.a The Class 1E components, identified in Table A.1-2, are powered from their respective Class 1E division.

6.b Separation is provided between redundant divisions of Class 1E cables, and between Class 1E cables and non-Class 1E cables.

7. The UHSS is capable of removing the maximum design heat load transferred from the ESWS during normal plant operations, abnormal and accident conditions of the plant.

8. Controls are provided in the MCR to open and close the remotely operated valves identified in Table A.1-2.

9.a The valves, identified in Table A.1-2 as having an active safety function can perform an active safety function to change position as indicated in the table under the expected ranges of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design-basis conditions.

9.b The remotely operated valves identified in Table A.1-2 as having PSMS control perform an active safety function after receiving a signal from PSMS.

9.c After loss of motive power, the remotely operated valves, identified in Table A.1-2, assume the indicated loss of motive power position.

10.a Controls are provided in the MCR to start and stop the pumps and fans identified in Table A.1-3.

10.b The fans identified in Table A.1-2 as having PSMS control perform an active safety function after receiving a signal from PSMS.

11. Alarms and displays identified in Table A.1-3 are provided in the MCR.

12.a Alarms, displays and controls identified in Table A.1-3 are provided in the RSC.

12.b Controls on the RSC operate the as-built pumps, fans and valves identified in Table A.1-3.

13. Each UHS basin has a volume to satisfy the thirty day cooling water supply criteria.

14. The UHS transfer and ESW pumps have sufficient NPSH.

15. ESW pump operation does not cause vortex formation at minimum allowed UHSS water level.

16. Water hammer is prevented in the UHSS and the ESWS.

17. The sum of the ESW pump shutoff head and static head is such that the ESWS design pressure is not exceeded.

18. The UHSS is capable of performing its safety functions under design-basis event conditions and coincident single failure with or without offsite power available.

19. The UHS cooling tower fans, identified in Table A.1-2, can withstand design-basis tornado and hurricane effects, including differential pressure effects and overspeed, without loss of safety function.

20. The UHS cooling tower spray nozzles and orifices are sized to prevent clogging due to debris.

21. The ASME Code Section III, Class 3 piping systems, for the UHSS and ESWS (portions outside the certified design), identified in FSAR Table 3.2-201 are designed to retain their pressure integrity and functional capability under internal design and operating pressures and design-basis loads.

22. The ASME Code Section III, Class 3 components, for the UHSS and ESWS (portions outside the certified design), identified in FSAR Table 3.2-201 are designed to retain their pressure integrity and functional capability under internal design and operating pressures and design-basis loads.

23. The pumps identified in Table A.1-2 can perform their safety functions under the expected ranges of fluid flow, pump head, electrical conditions and temperature conditions up to and including design-basis conditions.

A.1.2 Inspections, Tests, Analysis, and Acceptance Criteria

Table A.1-1 describes ITAAC for the UHSS and ESWS portions outside the scope of the certified design.

Appendix A.1

Table A.1-1 (Sheet 1 of 9)

**Ultimate Heat Sink System and Essential Service Water System
(Portions Outside the Scope of the Certified Design)
Inspections, Tests, Analyses, and Acceptance Criteria**

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1.a The functional arrangement of the UHSS and ESWS (portions outside the scope of the certified design) is as described in the Design Description of Section A.1.1 and as shown on Figure A.1-1.	1.a Inspection of the as-built UHSS and ESWS (portions outside the scope of the certified design) will be performed.	1.a The as-built UHSS and ESWS (portions outside the scope of the certified design) conform to the functional arrangement as described in the Design Description of Section A.1.1 and as shown on Figure A.11.
1.b Each mechanical division of the UHSS and ESWS (portions outside the scope of the certified design shown in Figure A.1-1) is physically separated from the other divisions, except for the header portion of the transfer line piping, so as not to preclude accomplishment of the safety function.	1.b Inspections and analysis of the as-built UHSS and ESWS system will be performed.	1.b A report exists and concludes that each mechanical division of the as-built UHSS and ESWS (portions outside the scope of the certified design shown in Figure A.1-1), except for the header portion of the transfer line piping is physically separated from the other divisions of the system by spatial separation, barriers, or enclosures so as to assure that the functions of the safety related systems are maintained considering postulated dynamic effects (i.e., missile and pipe break hazards), internal flooding and fire.
2.a.i The ASME Code Section III components of the UHSS and ESWS (portions outside the scope of the certified design), identified in Table A.1-2, are fabricated, installed and inspected in accordance with ASME Code Section III requirements.	2.a.i Inspection of the as-built ASME Code Section III components of the UHSS and ESWS (portions outside the scope of the certified design) identified in Table A.1-2 will be performed.	2.a.i The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable) exist and conclude that the as-built ASME Code Section III components of the UHSS and ESWS (portions outside the scope of the certified design) identified in Table A.1-2 are fabricated, installed, and inspected in accordance with ASME Code Section III requirements.

Appendix A.1

Table A.1-1 (Sheet 2 of 9)

Ultimate Heat Sink System and Essential Service Water System (Portions Outside the Scope of the Certified Design) Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2.a.ii The ASME Code Section III components of the UHSS and ESWS (portions outside the scope of the certified design), identified in Table A.1-2, are reconciled with the design requirements.	2.a.ii A reconciliation analysis of the components identified in Table A.1-2 using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.	2.a.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the design reconciliation has been completed in accordance with the ASME Code, for the as-built ASME Code Section III components of the UHSS and ESWS (portions outside the scope of the certified design) identified in Table A.1-2. The report documents the results of the reconciliation analysis.
2.b.i The ASME Code Section III piping of the UHSS and ESWS (portions outside the scope of the certified design), identified in FSAR Table 3.2-201, is fabricated, installed, and inspected in accordance with ASME Code Section III requirements.	2.b.i Inspection of the as-built ASME Code piping of the UHSS and ESWS (portions outside the scope of the certified design), identified in FSAR Table 3.2-201, including supports, will be performed.	2.b.i The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable) exist and conclude that the as-built ASME Code Section III piping of the as-built ASME Code piping of the UHSS and ESWS (portions outside the scope of the certified design), including supports, identified in FSAR Table 3.2-201 is fabricated, installed, and inspected in accordance with ASME Code Section III.
2.b.ii The ASME Code Section III piping of the UHSS and ESWS (portions outside the scope of the certified design), including supports, identified in FSAR Table 3.2-201, is reconciled with the design requirements.	2.b.ii A reconciliation analysis of the piping of the UHSS and ESWS (portions outside the scope of the certified design), identified in FSAR Table 3.2-201, including supports, using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.	2.b.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that design reconciliation has been completed in accordance with the ASME Code, for the as-built ASME Code Section III piping of the UHSS and ESWS (portions outside the scope of the certified design), including supports, identified in FSAR Table 3.2-201. The report documents the results of the reconciliation analysis.

Appendix A.1

Table A.1-1 (Sheet 3 of 9)

Ultimate Heat Sink System and Essential Service Water System (Portions Outside the Scope of the Certified Design) Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3.a Pressure boundary welds in ASME Code Section III components, identified in Table A.1-2, meet ASME Code Section III requirements for non-destructive examination of welds.	3.a Inspections of the as-built pressure boundary welds in ASME Code Section III piping identified in Table A.1-2 will be performed in accordance with the ASME Code Section III.	3.a The ASME Code Section III code reports exist and conclude that the ASME Code Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code Section III piping identified in Table A.1-2.
3.b Pressure boundary welds in ASME Code Section III piping of the UHSS and ESWS (portions outside the scope of the certified design), identified in FSAR Table 3.2-201, meet ASME Code Section III requirements for non-destructive examination of welds.	3.b Inspections of the as-built pressure boundary welds in ASME Code Section III piping of the UHSS and ESWS (portions outside the scope of the certified design) identified in FSAR Table A.1-2 will be performed in accordance with the ASME Code Section III.	3.b The ASME Code Section III code reports exist and conclude that the ASME Code Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code Section III piping of the UHSS and ESWS (portions outside the scope of the certified design) identified in FSAR Table 3.2-201.
4.a The ASME Code Section III components, identified in Table A.1-2, retain their pressure boundary integrity at their design pressure.	4.a A hydrostatic test will be performed on the as-built components, identified in Table A.1-2, required by the ASME Code Section III to be hydrostatically tested.	4.a ASME Code Data Report(s) exist and conclude that the results of the hydrostatic test of the as-built components identified in Table A.1-2 as ASME Code Section III conform to the requirements of the ASME Code Section III.
4.b The ASME Code Section III piping of the UHSS and ESWS (portions outside the scope of the certified design), identified in FSAR Table 3.2-201, retains its pressure boundary integrity at its design pressure.	4.b A hydrostatic test will be performed on the as-built piping of the UHSS and ESWS (portions outside the scope of the certified design), identified in FSAR Table 3.2-201, required by the ASME Code Section III to be hydrostatically tested.	4.b ASME Code Data Report(s) exist and conclude that the results of the hydrostatic test of the as-built piping of the UHSS and ESWS (portions outside the scope of the certified design) identified in FSAR Table 3.2-201 as ASME Code Section III conform to the requirements of the ASME Code Section III.
5.a The seismic Category I equipment, identified in Table A.1-2, can withstand seismic design-basis loads without loss of safety function.	5.a.i Inspections will be performed to verify that the as-built seismic Category I equipment identified in Table A.1-2 is located in a seismic Category I structure.	5.a.i The seismic Category I as-built equipment identified in Table A.1-2 is located in a seismic Category I structure.

Appendix A.1

Table A.1-1 (Sheet 4 of 9)

Ultimate Heat Sink System and Essential Service Water System (Portions Outside the Scope of the Certified Design) Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
	5.a.ii Type tests, analyses, or a combination of type tests and analyses of seismic Category I equipment identified in Table A.1-2 will be performed using analytical assumptions, or will be performed under conditions which bound the seismic design-basis requirements.	5.a.ii A report exists and concludes that the seismic Category I equipment identified in Table A.1-2 can withstand seismic design-basis loads without loss of safety function.
	5.a.iii Inspections and analyses will be performed to verify that the as-built seismic Category I equipment, identified in Table A.1-2, including anchorages, is seismically bounded by the tested or analyzed conditions.	5.a.iii A report exists and concludes that the as-built seismic Category I equipment identified in Table A.1-2, including anchorages, is seismically bounded by the tested or analyzed conditions.
5.b The seismic Category I piping of the UHSS and ESWS (portions outside the scope of the certified design), including supports, identified in FSAR Table 3.2-201, can withstand seismic design-basis loads without a loss of its safety function.	5.b.i Inspections will be performed to verify that the as-built seismic Category I piping of the UHSS and ESWS (portions outside the scope of the certified design), including supports, identified in FSAR Table 3.2-201 are supported by a seismic Category I structure(s).	5.b.i The as-built seismic Category I piping of the UHSS and ESWS (portions outside the scope of the certified design), including supports, identified in FSAR Table 3.2-201 are supported by a seismic Category I structure(s).
	5.b.ii Inspections and analysis will be performed to verify that the as-built seismic Category I piping of the UHSS and ESWS (portions outside the scope of the certified design), including supports identified in FSAR Table 3.2-201 can withstand seismic design-basis loads without a loss of its safety function.	5.b.ii A report exists and concludes that the as-built seismic Category I piping of the UHSS and ESWS (portions outside the scope of the certified design), including supports, identified in FSAR Table 3.2-201 can withstand seismic design-basis loads without a loss of its safety function.
6.a The Class 1E components, identified in Table A.1-2, are powered from their respective Class 1E division.	6.a A tests will be performed on each division of the as-built Class 1E equipment identified in Table A.1-2 by providing a simulated test signal only in the Class 1E division under test.	6.a The simulated test signal exists at the as-built Class 1E equipment identified in Table A.1-2.
6.b Separation is provided between redundant divisions Class 1E cables, and between Class 1E cables and non-Class 1E cables.	6.b Inspections of the as-built Class 1E divisional cables will be performed.	6.b Physical separation or electrical isolation is provided in accordance with RG 1.75, between the as-built cables of redundant Class 1E divisions and between Class 1E cables and non-Class 1E cables.

Appendix A.1

Table A.1-1 (Sheet 5 of 9)

Ultimate Heat Sink System and Essential Service Water System (Portions Outside the Scope of the Certified Design) Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
7. The UHSS is capable of removing the maximum design heat load transferred from the ESWS during normal plant operations, abnormal and accident conditions of the plant.	7. Tests and analyses will be performed to determine the heat removal capability of the as-built UHSS. The analysis will consider that the maximum ESWS supply water temperature is 95° F under the peak heat load condition.	7. A report exists and concludes that the as-built UHSS removes the maximum design heat load transferred from the ESWS during normal plant operations, abnormal and accident conditions of the plant while maintaining a UHSS outlet temperature ≤ 95°F.
8. Controls are provided in the MCR to open and close the remotely operated valves identified in Table A.1-2.	8.a Tests will be performed for MCR control capability of the remotely operated valves identified in Table A.1-2 on the as-built S-VDU.	8.a MCR controls for the remotely operated valves identified in Table A.1-2, on the as-built S-VDU provide the necessary output from the PSMS to open and close the respective valves.
	8.b Tests will be performed on the as-built remotely operated valves identified in Table A.1-2 using controls on the as-built O-VDU in the MCR.	8.b Controls on the as-built O-VDU in the MCR open and close the as-built remotely operated valves identified in Table A.1-2 with the MCR control function.
9.a The valves, identified in Table A.1-2 as having an active safety function can perform an active safety function to change position as indicated in the table under the expected ranges of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design-basis conditions.	9.a.i Type tests or a combination of type tests and analyses of the valves identified in Table A.1-2 as having an active safety function will be performed that demonstrate the capability of the valve to operate under the expected ranges of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design-basis conditions.	9.a.i A report exists and concludes that each valve identified in Table A.1-2 as having an active safety function changes position as indicated in Table A.1-2 under the expected ranges of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design-basis conditions.
	9.a.ii Tests of the as-built valves identified in Table A.1-2 as having an active safety function will be performed under pre-operational differential pressure, temperature, and flow conditions.	9.a.ii Each as-built valve identified in Table A.1-2 as having an active safety function changes position as indicated in Table A.1-2 under pre-operational test conditions.
	9.a.iii Inspections will be performed of the as-built valves identified in Table A.1-2.	9.a.iii Each as-built valves identified in Table A.1-2 as having an active safety function is bounded by the type tests, or a combination of type tests and analyses.

Appendix A.1

Table A.1-1 (Sheet 6 of 9)

Ultimate Heat Sink System and Essential Service Water System (Portions Outside the Scope of the Certified Design) Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
9.b The remotely operated valves identified in Table A.1-2 as having PSMS control perform an active safety function after receiving a signal from PSMS.	9.b Tests will be performed on the as-built remotely operated valves identified in Table A.1-2 using a simulated test signal.	9.b The as-built remotely operated valves identified in Table A.1-2 as having PSMS control perform the active function identified in the table after receiving a simulated signal.
9.c After loss of motive power, the remotely operated valves, identified in Table A.1-2, assume the indicated loss of motive power position.	9.c Tests of the as-built valves identified in Table A.1-2 will be performed under the conditions of loss of motive power.	9.c Upon loss of motive power, each as-built remotely operated valve identified in Table A.1 -2 assumes the indicated loss of motive power position.
10.a Controls are provided in the MCR to start and stop the pumps and fans identified in Table A.1-3.	10.a.i Tests will be performed for MCR capability to start and stop the pumps and fans identified in Table A.1-3 on the as-built S-VDU.	10.a MCR controls for the pumps and fans identified in Table A.1-3 on the as-built S-VDU provide the necessary output from the PSMS to open and close the respective pumps and fans.
	10.a.ii Tests will be performed on the as-built pumps and fans identified in Table A.1-3 using controls on the as-built O-VDU in the MCR.	10.a.ii Controls on the as-built O-VDU are provided in the MCR to start and stop the as-built pumps and fans identified in Table A.1-3 with the MCR control function.
10.b The fans identified in Table A.1-2 as having PSMS control perform as active safety function after receiving a signal from PSMS.	10.b Tests will be performed on the as-built fans identified in Table A.1-2 using simulated signal.	10.b The as-built fans identified in Table A.1 -2 as having PSMS control perform the active function identified in the table after receiving a simulated signal.
11. Alarms and displays identified in Table A.1-3 are provided in the MCR.	11.a Inspections will be performed on the as-built A-VDU in the MCR for retrievability of the alarms identified in Table A.1-3	11.a Alarms identified in Table A.1-3 can be retrieved on the as-built A-VDU in the MCR.
	11.b Inspections will be performed on the as-built S-VDU and the as-built O-VDU in the MCR for retrievability of the displays identified in Table A.1-3.	11.b Displays identified in Table A.1-3 can be retrieved on the as-built S-VDU and the as-built O-VDU in the MCR.
12. Alarms, displays and controls identified in Table A.1-3 are provided in the RSC.	12.a Inspections will be performed on the as-built O-VDU in the RSC for retrievability of the alarms identified in Table A.1-3.	12.a Alarms identified in Table A.1-3 can be retrieved on the as-built O-VDU in the RSC.

Appendix A.1

Table A.1-1 (Sheet 7 of 9)

Ultimate Heat Sink System and Essential Service Water System (Portions Outside the Scope of the Certified Design) Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
	12.b Inspections will be performed on the as-built S-VDU and the as-built O-VDU in the RSC for retrievability of the displays identified in Table A.1-3.	12.b Displays identified in Table A.1-3 can be retrieved on the as-built S-VDU and the as-built O-VDU in the RSC.
	12.c Tests will be performed for RSC control capability of the equipment identified in Table A.1-3 on the as-built S-VDU.	12.c RSC controls for the equipment, identified in Table A.1-3, on the as-built S-VDU provide the necessary output from the PSMS to operate the respective equipment.
	12.d Tests will be performed on the as-built equipment, identified in Table A.1-3, using controls on the as-built O-VDU in the RSC.	12.d Controls on the as-built O-VDU in the RSC operate the as-built equipment identified in Table A.1-3 with an RSC control function.
13. Each UHS basin has a volume to satisfy the thirty day cooling water supply criteria.	13. Inspections will be performed to verify the as-built UHS basins include sufficient volume of water.	13. The usable water volume of the each as-built UHS basin is greater than or equal to 3.12×10^6 gallons at the minimum maintained water level.
14. The UHS transfer and ESW pumps have sufficient NPSH.	14. Tests to measure the as-built suction pressure will be performed. Inspections and analysis to determine NPSH available to each UHS transfer and ESW pump will be performed. The analyses will consider vendor test results of required NPSH and the effects of: • Suction from the UHS basin with water level at the minimum allowed value (after 30 days of accident mitigation) • UHSS design temperature range.	14. A report exists and concludes that the NPSH available to each UHS transfer and ESW pump is greater than the required NPSH.
15. ESW pump operation does not cause vortex formation at minimum allowed UHSS water level.	15. Test of the as-built ESW pump will be performed.	15. ESW pump operation does not cause vortex formation at minimum allowed UHSS water level.

Appendix A.1

Table A.1-1 (Sheet 8 of 9)

Ultimate Heat Sink System and Essential Service Water System (Portions Outside the Scope of the Certified Design) Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
16. Water hammer is prevented in the UHSS and the ESWS.	16. Inspection, test and analysis of the as-built UHSS and ESWS will be performed.	16. A report exists and concludes that the as-built UHSS and ESWS is fabricated and installed to prevent water hammer.
17. The sum of the ESW pump shutoff head and static head is such that the ESWS design pressure is not exceeded.	17. Inspection, test and analysis of the as-built ESWS will be performed.	17. A report exists and concludes that the sum of the as-built ESW pump shutoff head and static head is such that the ESWS design pressure is not exceeded.
18. The UHSS is capable of performing its safety functions under design-basis event conditions and coincident single failure with or without offsite power available.	18. Inspection and analysis of the as-built UHSS will be performed.	18. A report exists and concludes that the as-built UHSS is capable of performing its safety functions under design-basis event conditions and coincident single failure with or without offsite power available.
19. The UHS cooling tower fans, identified in Table A.1-2, can withstand design-basis tornado and hurricane effects, including differential pressure effects and overspeed, without loss of safety function.	19.i Type tests, analyses, or a combination of type tests and analyses will be performed to demonstrate that the UHS cooling tower fans, identified in Table A.1-2, can withstand the design-basis tornado and hurricane effects, including differential pressure effects and overspeed, without loss of safety function.	19.i A report exists and concludes that the UHS cooling tower fans, identified in Table A.1-2, can withstand the design-basis tornado and hurricane effects, including differential pressure effects and overspeed, without loss of safety function.
	19.ii Inspections and analyses will be performed to verify that the as-built UHS cooling tower fans identified in Table A.1-2 are bounded by the tested or analyzed conditions.	19.ii A report exists and concludes that the as-built UHS cooling tower fans identified in Table A.1-2 are bounded by the tested or analyzed conditions.
20. The UHS cooling tower spray nozzles and orifices are sized to prevent clogging due to debris.	20. Inspections of the as-built UHS cooling tower spray nozzles and orifices will be performed.	20. Each as-built UHS cooling tower spray nozzle and orifice has an orifice size greater than 3mm.

Appendix A.1

Table A.1-1 (Sheet 9 of 9)

Ultimate Heat Sink System and Essential Service Water System (Portions Outside the Scope of the Certified Design) Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
21. The ASME Code Section III, Class 3 piping systems, for the UHSS and ESWS (portions outside the certified design), identified in FSAR Table 3.2-201 are designed to retain their pressure integrity and functional capability under internal design and operating pressures and design-basis loads.	21. An inspection of the stress report(s) for the ASME Code Section III, Class 3 piping systems, for the UHSS and ESWS (portions outside the certified design) will be performed.	21. The stress report(s) exist and conclude that the design of the ASME Code Section III, Class 3 piping systems, for the UHSS and ESWS (portions outside the certified design), identified in FSAR Table 3.2-201 complies with the requirements of ASME Code Section III.
22. The ASME Code Section III, Class 3 components, for the UHSS and ESWS (portions outside the certified design), identified in FSAR Table 3.2-201 are designed to retain their pressure integrity and functional capability under internal design and operating pressures and design-basis loads.	22. An inspection of the stress report(s) for the ASME Code Section III, Class 3 components, for the UHSS and ESWS (portions outside the certified design) will be performed.	22. The stress report(s) exist and conclude that the design of the ASME Code Section III, Class 3 components, for the UHSS and ESWS (portions outside the certified design), identified in FSAR Table 3.2-201 complies with the requirements of ASME Code Section III.
23. The pumps identified in Table A.1-2 can perform their safety functions under the expected ranges of fluid flow, pump head, electrical conditions and temperature conditions up to and including design-basis conditions.	23.a Type tests or a combination of type tests and analyses of each pump identified in Table A.1-2 will be performed to demonstrate the ability of the pump to perform its safety functions under the expected ranges of fluid flow, pump head, electrical conditions and temperature conditions up to and including design-basis conditions.	23.a A report exists and concludes that the pumps identified in Table A.1-2 can perform their safety functions under the expected ranges of fluid flow, pump head, electrical conditions and temperature conditions up to and including design-basis conditions.
	23.b Inspections will be performed of each as-built pump identified in Table A.1-2.	23.b Each as-built pump identified in Table A.1-2 is bounded by the type tests, or a combination of type tests and analyses.

Appendix A.1

Table A.1-2 (Sheet 1 of 2)
Ultimate Heat Sink System and Essential Service Water System
(Portions Outside the Scope of the Certified Design)
Equipment Characteristics

Equipment Name	Tag No.	ASME Code Section III Class	Seismic Category I	Remotely Operated Valve	Class 1E/Qual. for Harsh Envir.	Active Safety Function	PSMS Control	Loss of Motive Power Position
Ultimate heat sink transfer pumps	UHS-MPP-001 A, B, C, D	3	Yes	-	Yes/No	Start Stop	Remote Manual	-
Ultimate heat sink cooling tower fans	UHS-MFN-001 A, B, C, D, 002 A, B, C, D	-	Yes	-	Yes/No	Start Stop	ECCS Actuation; LOOP Sequence; Remote Manual	-
Ultimate heat sink transfer pump discharge valves	UHS-MOV-503 A, B, C, D	3	Yes	Yes	Yes/No	Transfer Closed Transfer Open	Remote Manual	As is
Ultimate heat sink transfer line basin inlet valves	UHS-MOV-506 A, B, C, D	3	Yes	Yes	Yes/No	Transfer Closed Transfer Open	Remote Manual	As is
Ultimate heat sink basin blowdown control valves	EWS-HCV-010, 011, 012, 013	3	Yes	Yes	Yes/No	Transfer Closed	ECCS actuation, LOOP, Pump stop, UHS basin low water level, Remote manual	Closed
ESWP Discharge Strainer Backwash Isolation Valve to ESWS blowdown main header	EWS-AOV-576A, B, C, D	3	Yes	Yes	Yes/No	Transfer Closed	ECCS actuation, LOOP, Pump stop, UHS basin low water level, Remote manual	Closed

Appendix A.1

Table A.1-2 (Sheet 2 of 2)
Ultimate Heat Sink System and Essential Service Water System
(Portions Outside the Scope of the Certified Design)
Equipment Characteristics

Equipment Name	Tag No.	ASME Code Section III Class	Seismic Category I	Remotely Operated Valve	Class 1E/Qual. for Harsh Envir.	Active Safety Function	PSMS Control	Loss of Motive Power Position
ESWS Blowdown Main Header Isolation Valve to CWS blowdown main header	EWS-AOV-577	3	Yes	Yes	Yes/No	Transfer Closed	ECCS actuation, LOOP, Pump stop, UHS basin low water level, Remote manual	Closed
Ultimate heat sink basin water level	UHS-LT-010A,B,011A,B,012A,B,013A,B	-	Yes	-	Yes/ No	-	-	-
Ultimate heat sink basin temperature	UHS-TE-010, 011, 012, 013	-	Yes	-	Yes/ No	-	-	-

NOTE:

Dash (-) indicates not applicable.

Appendix A.1

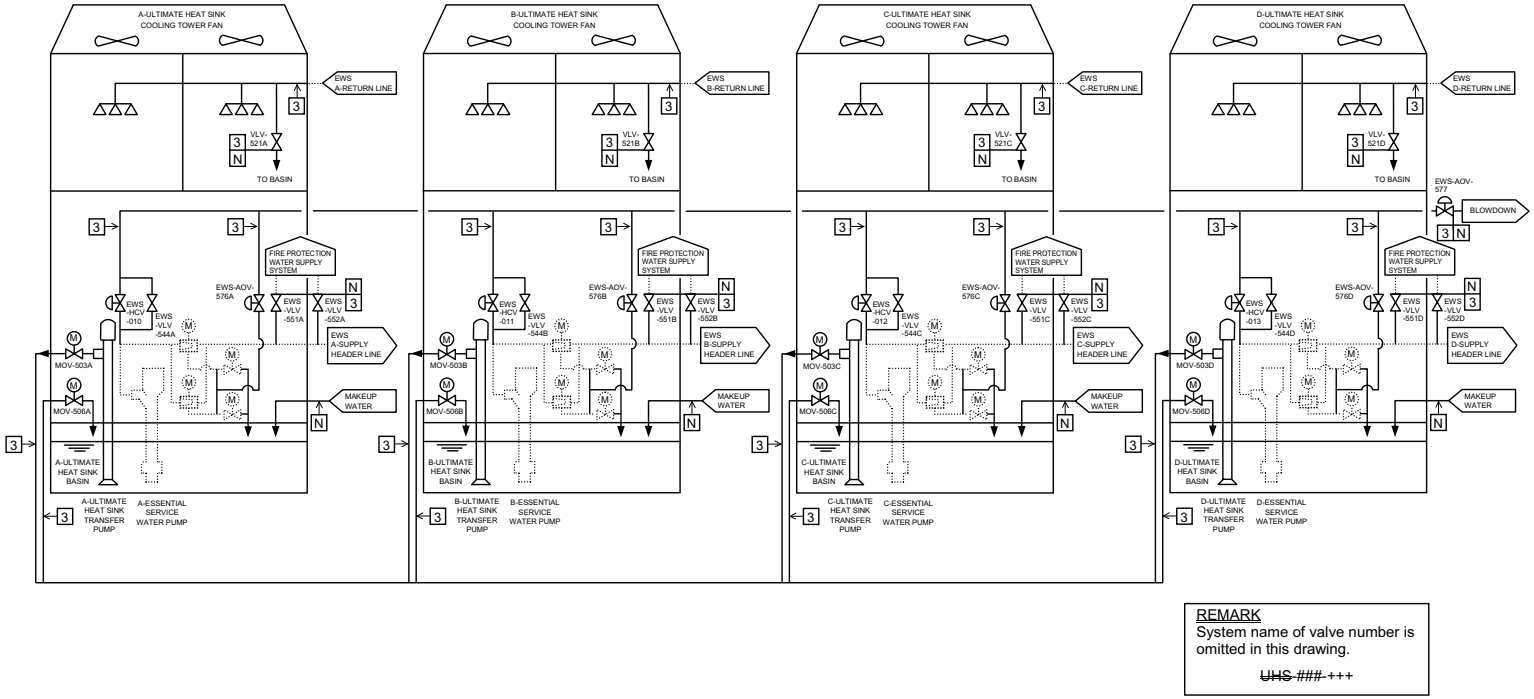
Table A.1-3

**Ultimate Heat Sink System and Essential Service Water System
(Portions Outside the Scope of the Certified Design)
Equipment Alarms, Displays, and Control Functions**

Equipment/Instrument Name	MCR/RSC Alarm	MCR/RSC Display	MCR/RSC Control Function
Ultimate heat sink transfer pumps (UHS-MPP-001A, B, C, D)	No	Yes	Yes
Ultimate heat sink cooling tower fans (UHS-MFN-001A, B, C, D, 002A, B, C, D)	No	Yes	Yes
Ultimate heat sink transfer pump discharge valves (UHS-MOV-503A, B, C, D)	No	Yes	Yes
Ultimate heat sink transfer line basin inlet valves (UHS-MOV-506A, B, C, D)	No	Yes	Yes
Ultimate heat sink basin blowdown control valves (EWS-HCV-010, 011, 012, 013)	No	Yes	Yes
Ultimate heat sink basin water level (UHS-LT-010A, B, 011A, B, 012A, B, 013A, B)	Yes	Yes	No
Ultimate heat sink basin temperature (UHS-TE-010, 011, 012, 013)	Yes	Yes	No
ESWP Discharge Strainer Backwash Isolation Valve to ESWS blowdown main header (EWS-AOV-576A, B, C, D)	No	Yes	Yes
ESWS Blowdown Main Header Isolation Valve to CWS blowdown main header (EWS-AOV-577)	No	Yes	Yes

Appendix A.1

Figure A.1-1 Ultimate Heat Sink System and Essential Service Water System (Portions Outside the Scope of the Certified Design)



PART 10 - APPENDIX A.2

UHS ESW PUMP HOUSE VENTILATION SYSTEM

A.2.1 Design Description

The UHS ESW pump house ventilation system provides and maintains area design temperature limits in the UHS ESW pump houses during all plant operating, abnormal and accident conditions.

The UHS ESW pump house ventilation system is located within the UHS related structure.

There are four separate and independent UHS ESW pump houses and each has its own ventilation system.

1.a The functional arrangement of the UHS ESW pump house ventilation system is as described in the Design Description of Section A.2.1 and as shown in Figure A.2-1

1.b Each mechanical division of the UHS ESW pump house ventilation system as shown in Figure A.2-1 is physically separated from the other divisions so as not to preclude accomplishment of the safety function.

2. The seismic Category I equipment, identified in Table A.2-2, can withstand seismic design-basis loads without loss of safety function.

3.a Class 1E equipment identified in Table A.2-2 is powered from its respective Class 1E division.

3.b. Separation is provided between redundant divisions of UHS ESW pump house ventilation system Class 1E cables, and between Class 1E cables and non-Class 1E cables.

4. The UHS ESW pump house ventilation system provides heated air via unit heaters and cooled air via exhaust fans to maintain area temperature within design limits in the UHS ESW pump houses during all plant operating conditions including normal plant operations, abnormal and accident conditions of the plant.

5.a. Controls are provided in the MCR to start and stop the UHS ESW pump house ventilation system exhaust fans and unit heaters identified in Table A.2-3.

5.b. The UHS ESW pump house ventilation system exhaust fans and unit heaters identified in Table A.2-2 as having PSMS control, perform an active safety function after receiving a signal from PSMS.

5.c The UHS ESW pump house ventilation system backdraft dampers identified in Table A.2-2 as having a safety function perform a safety function to change position as indicated in the table.

6. Displays of the parameters identified in Table A.2-3 are provided in the MCR.

7. Displays and controls identified in Table A.2-3 are provided in the RSC.

8. The UHS ESW pump house air intakes and air outlets are protected from tornado and hurricane missiles.

A.2.2 Inspections, Tests, Analyses, and Acceptance Criteria

Table A.2-1 specifies the ITAAC for the UHS ESW pump house ventilation system.

Appendix A.2

Table A.2-1 (Sheet 1 of 4)
UHS ESW Pump House Ventilation System
Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1.a The functional arrangement of the UHS ESW pump house ventilation system is as described in the Design Description of Section A.2.1 and as shown in Figure A.2-1	1.a Inspection of the as-built UHS ESW pump house ventilation system will be performed.	1.a The as-built the UHS ESW pump house ventilation system conforms to the functional arrangement as described in the Design Description of Section A.2.1 and as shown in Figure A.2-1.
1.b Each mechanical division of the UHS ESW pump house ventilation system as shown in Figure A.2-1 is physically separated from the other divisions so as not to preclude accomplishment of the safety function.	1.b Inspection and analysis of the as-built UHS ESW pump house ventilation system will be performed.	1.b A report exists and concludes that each mechanical division of the as-built UHS ESW pump house ventilation system is physically separated from other mechanical divisions as shown in Figure A.2-1 by spatial separation, barriers, or enclosures so as to assure that the functions of the safety related systems are maintained,considering postulated dynamic effects (i.e., missile and pipe break hazard), internal flooding and fire.
2. The seismic Category I equipment, identified in Table A.2-2, can withstand seismic design-basis loads without loss of safety function.	2.a Inspections will be performed to verify that the seismic Category I as-built equipment identified in Table A.2-2 is located in a seismic Category I structure.	2.a The seismic Category I as-built equipment identified in Table A.2-2 is located in a seismic Category I structure.
	2.b Type tests, analyses, or a combination of type tests and analyses of the seismic Category I equipment identified in Table A.2-2 will be performed using analytical assumptions, or will be performed under conditions, which bound the seismic design-basis requirements.	2.b A report exists and concludes that the seismic Category I equipment identified in Table A.2-2 can withstand seismic design-basis loads without loss of safety function.
	2.c Inspection and analyses will be performed to verify that the as-built seismic Category I equipment identified in Table A.2-2, including anchorages, is seismically bounded by the tested or analyzed conditions.	2.c A report exists and concludes that the as-built seismic Category I equipment identified in Table A.2-2, including anchorages, is seismically bounded by the tested or analyzed conditions.

Appendix A.2

Table A.2-1 (Sheet 2 of 4)
UHS ESW Pump House Ventilation System
Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3.a Class 1E equipment identified in Table A.2-2 is powered from its respective Class 1E division.	3.a A test will be performed on each division of the as-built Class 1E equipment identified in Table A.2-2 by providing a simulated test signal only in the Class 1E division under test.	3.a The simulated test signal exists at the as-built Class 1E equipment identified in Table A.2 -2 under test.
3.b. Separation is provided between redundant divisions of UHS ESW pump house ventilation system Class 1E cables, and between Class 1E cables and non-Class 1E cables.	3.b Inspections of the as-built Class 1E divisional cables will be performed.	3.b Physical separation or electrical isolation is provided in accordance with RG 1.75, between the as-built Class 1E cables of redundant UHS ESW pump house ventilation systems Class 1E divisions and between Class 1E cables and non-Class 1E cables.
4. The UHS ESW pump house ventilation system provides heated air via unit heaters and cooled air via exhaust fans to maintain area temperature within design limits in the UHS ESW pump houses during all plant operating conditions including normal plant operations, abnormal and accident conditions of the plant.	4. Tests and analyses of the as-built UHS ESW pump house ventilation system will be performed for all four divisions.	4. A report exists and concludes that each of the four divisions of the as-built UHS ESW pump house ventilation system as shown in Figure A.2-1 is capable of providing heated air via unit heaters and cooled air via exhaust fans to maintain area temperature within design limits in the UHS ESW pump houses during all plant operating conditions including normal plant operations, abnormal and accident conditions of the plant with outside ambient design temperature condition (i.e. -5°F - 115 °F).
5.a Controls are provided in the MCR to start and stop the UHS ESW pump house ventilation system exhaust fans and unit heaters identified in Table A.2-3.	5.a.i Tests will be performed for MCR control capability of the UHS ESW pump house ventilation system exhaust fans and unit heaters identified in Table A.2-3 on the as-built S-VDU.	5.a.i Controls for the UHS ESW pump house ventilation system exhaust fans and unit heaters identified in Table A.2-3, on the as-built S-VDU in the MCR provide the necessary output from the PSMS to start and stop the respective exhaust fans and unit heaters.
	5.a.ii Tests will be performed on the as-built exhaust fans and unit heaters identified in Table A.2-3 using controls on the as-built O-VDU in the MCR.	5.a.ii Controls on the as-built O-VDU in the MCR start and stop the as-built UHS ESW pump house ventilation system exhaust fans and unit heaters identified in Table A.2-3 with the MCR control function.

Appendix A.2

Table A.2-1 (Sheet 3 of 4)
UHS ESW Pump House Ventilation System
Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.b. The UHS ESW pump house ventilation system exhaust fans and unit heaters identified in Table A.2-2 as having PSMS control, perform as active safety function after receiving a signal from PSMS.	5.b. Tests will be performed on the as-built UHS ESW pump house ventilation system exhaust fans and unit heaters identified in Table A.2-2 as having PSMS using simulated signals.	5.b. The as-built UHS ESW pump house ventilation system exhaust fans and unit heaters identified in Table A.2-2 as having PSMS control, perform an active safety function identified in the table after receiving a simulated signal.
5.c. The UHS ESW pump house ventilation system backdraft dampers identified in Table A.2-2 as having a safety function perform a safety function to change position as indicated in the table.	5.c.i Type tests or a combination of type tests and analysis of the backdraft dampers identified in Table A.2-2 will be performed to verify that the dampers can withstand the affects of tornado wind and atmospheric differential pressure loading or hurricane wind effects and perform their active safety function after being subjected to these forces.	5.c.i A report exists and concludes that the backdraft dampers identified in Table A.2-2 can withstand the affects of tornado wind and atmospheric differential pressure loading or hurricane wind effects and perform their active safety function after being subjected to these forces.
	5.c.ii Inspections will be performed of the as-built backdraft dampers identified in Table A.2-2.	5.c.ii Each as-built backdraft damper identified in Table A.2-2 is bounded by the type tests or combination of type tests and analysis.
	5.c.iii Tests will be performed of the as-built backdraft dampers identified in Table A.2-2 to verify freedom of motion.	5.c.iii Each as-built backdraft damper identified in Table A.2-2 has freedom of motion.
6. Displays identified in Table A.2-3 are provided in the MCR.	6. Inspections will be performed on the as-built S-VDU and the as-built O-VDU in the MCR for retrievability of displays identified in Table A.2-3.	6. Displays identified in Table A.2-3 can be retrieved on the as-built S-VDU and the as-built O-VDU in the MCR.
7. Displays and controls identified in Table A.2-3 are provided in the RSC.	7.a Inspections will be performed on the as-built S-VDU and the as-built O-VDU in the RSC for retrievability of the displays identified in Table A.2-3.	7.a Displays identified in Table A.2-3 can be retrieved on the as-built S-VDU and the as-built O-VDU in the RSC.
	7.b Tests will be performed for RSC control capability of equipment, identified in Table A.2-3, on the as-built S-VDU.	7.b RSC controls for equipment, identified in Table A.2-3, on the as-built S-VDU provide the necessary output from the PSMS to operate the respective equipment.

Appendix A.2

Table A.2-1 (Sheet 4 of 4)
UHS ESW Pump House Ventilation System
Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
	7.c Tests will be performed on the as-built equipment, identified in A.2-3, using controls on the as-built O-VDU in the RSC.	7.c Controls on the as-built O-VDU in the RSC operate the as-built equipment identified in Table A.2-3 with an RSC control function.
8. The UHS ESW pump house air intakes and air outlets are protected from tornado and hurricane missiles.	8.i An analysis will be performed to verify that the UHS ESW pump house air intakes and air outlets are protected from tornado and hurricane missiles.	8.i A report exists and concludes that the UHS ESW pump house air intakes and air outlets are protected from tornado and hurricane missiles.
	8.ii Inspections will be performed of the as-built UHS ESW pump house air intakes and air outlets missile protection features.	8.ii The as-built UHS ESW pump house air intakes and air outlets missile protection features are bounded by the conditions assumed in the analysis.

Appendix A.2

Table A.2-2 (Sheet 1 of 2)
UHS ESW Pump House Ventilation System Equipment Characteristics

Equipment Name	Tag No.	ASME Code Section III Class	Seismic Category I	Remotely Operated Damper	Class 1E/ Qual. for Harsh Envir.	PSMS Control	Active Safety Function	Loss of Motive Power Position
ESW Pump Room Exhaust Fan	VRS-MFN-601A,B,C,D	-	Yes	-	Yes/No	High Temperature	Start	-
UHS Transfer Pump Room Exhaust Fan	VRS-MFN-602A,B,C,D	-	Yes	-	Yes/No	High Temperature	Start	-
ESW Pump Room Unit Heater	VRS-MEH-601A,B,C,D, VRS-MEH-602A,B,C,D	-	Yes	-	Yes/No	Low Temperature	Start	-
UHS Transfer Pump Room Unit Heater	VRS-MEH-603A,B,C,D	-	Yes	-	Yes/No	Low Temperature	Start	-
ESW Piping Room Unit Heater	VRS-MEH-604A,B,C,D	-	Yes	-	Yes/No	Low Temperature	Start	-
UHS Transfer Piping Room Unit Heater	VRS-MEH-605A,B,C,D	-	Yes	-	Yes/No	Low Temperature	Start	-
ESW Pump Room Temperature switch	VRS-TS-803,804,805,806 VRS-TS-823,824,825,826 VRS-TS-843,844,845,846 VRS-TS-863,864,865,866	-	Yes	-	Yes/No	-	-	-
UHS Transfer Pump Room Temperature switch	VRS-TS-812,813,814,815 VRS-TS-832,833,834,835 VRS-TS-852,853,854,855 VRS-TS-872,873,874,875	-	Yes	-	Yes/No	-	-	-
ESW Pump Room Air Intake Gravity Type Back-draft Damper	VRS-OTD-601 A,B,C,D	-	Yes	-	No/No	-	(1)	-

Appendix A.2

Table A.2-2 (Sheet 2 of 2)
UHS ESW Pump House Ventilation System Equipment Characteristics

Equipment Name	Tag No.	ASME Code Section III Class	Seismic Category I	Remotely Operated Damper	Class 1E/ Qual. for Harsh Envir.	PSMS Control	Active Safety Function	Loss of Motive Power Position
ESW Pump Room Air Discharge Gravity Type Backdraft Damper	VRS-OTD-602 A,B,C,D	-	Yes	-	No/No	-	(1)	-
UHS Transfer Pump Room Air Intake Gravity Type Backdraft Damper	VRS-OTD-603 A,B,C,D	-	Yes	-	No/No	-	(1)	-
UHS Transfer Pump Air Discharge Gravity Type Backdraft Dampers	VRS-OTD-604 A,B,C,D	-	Yes	-	No/No	-	(1)	-

(1) The backdraft dampers have the safety functions to open in the direction of airflow and close by counterbalance when no air flow is present.

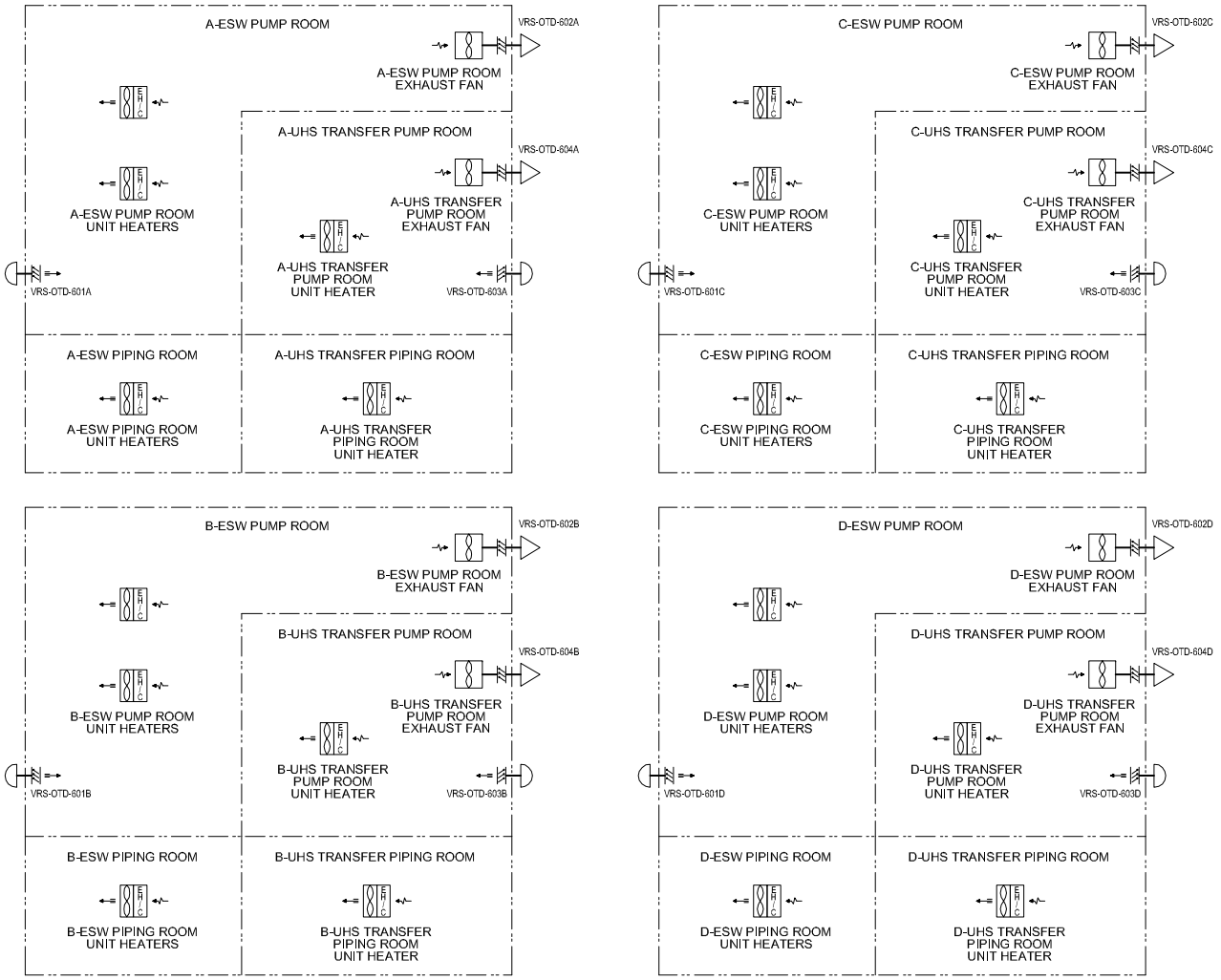
Appendix A.2

Table A.2-3
UHS ESW Pump House Ventilation System Equipment Alarms, Displays, and Control Functions

Equipment/Instrument Name	MCR/RSC Alarm	MCR/RSC Display	MCR/RSC Control Function
ESW Pump Room Exhaust Fan (VRS-MFN-601A,B,C,D)	No	Yes	Yes
UHS Transfer Pump Room Exhaust Fan (VRS-MFN-602A,B,C,D)	No	Yes	Yes
ESW Pump Room Unit Heater (VRS-MEH-601A,B,C,D, VRS-MEH-602A,B,C,D)	No	Yes	Yes
UHS Transfer Pump Room Unit Heater (VRS-MEH-603A,B,C,D)	No	Yes	Yes
ESW Piping Room Unit Heater (VRS-MEH-604A,B,C,D)	No	Yes	Yes
UHS Transfer Piping Room Unit Heater (VRS-MEH-605A,B,C,D)	No	Yes	Yes

Appendix A.2

Figure A.2-1 UHS ESW Pump House Ventilation System



PART 10 - APPENDIX A.3

SITE-SPECIFIC STRUCTURES

A.3.1 Design Description

The site-specific structures are comprised of the UHS related structures (UHSRS), the ESW pipe tunnel (ESWPT) and two power source fuel storage vaults (PSFSVs), which are seismic Category I structures. The seismic Category I structures are designed and constructed to withstand design-basis loads without loss of structural integrity. Design-basis loads are:

- Normal plant operation (including dead loads, live loads, lateral earth pressure loads, equipment loads, hydrodynamic loads, temperature and equipment vibration)
- External events (including rain, snow, flood, tornado, hurricane, tornado generated missiles, hurricane generated missiles and safe shutdown earthquake)
- Internal events (including flood, pipe rupture, equipment failure, and equipment failure generated missiles).

Seismic Category I buildings and structures including the R/B Complex (which includes the A/B that is a seismic Category II building), the UHSRS, the ESWPT, and each PSFSV are founded directly on solid limestone or on fill concrete. Fill concrete is used as 'dental' fill in any areas where additional removal of materials below the nominal top of limestone is required in order to reach competent limestone.

A.3.1.1 UHSRS

The UHSRS consists of four UHS cooling tower enclosures, four UHS ESW pump houses, the UHS ESWPT and four UHS basins. These structures are described below.

UHS cooling tower enclosures - Each UHS basin has one cooling tower with two cells. Each cell is enclosed by reinforced concrete structures that house the equipment required to cool the water used by the ESWS. A reinforced concrete wall separates the two cell enclosures. A reinforced concrete wall, running east to west, separates the cell enclosure portion of the basin from the rest of the UHS basin. Air intakes serving the cooling towers are configured to protect the safety-related substructures and components from tornado missiles and hurricane missiles.

UHS ESW pump house - The pump house is an integral part of the UHS basin

supported by UHS basin exterior and interior walls. Each pump house contains one ESW pump and one UHS transfer pump with associated auxiliaries. The pump bay (lowest portion of the pump house required for the pump suction) is deeper than the rest of the UHS basin. A reinforced concrete wall divides the pump house basin from the rest of the UHS basin and is configured to prevent postulated direct or deflected design-basis tornado missiles and hurricane missiles from impacting safety related components located within the structure. There is a fire barrier between the UHS transfer pump and the UHS ESW pump of each UHS ESW pump house.

UHS Basin - There are four basins for each unit and each basin has one cooling tower with two cells. Each basin is constructed of reinforced concrete and serves as a reservoir for the ESWS. Two basins share a common foundation mat and a reinforced concrete wall divides them.

UHS ESWPT - The UHS ESWPT is an underground reinforced concrete structure comprised of two segments that are integrated with the corresponding UHS basins. Each UHS ESWPT segment is divided into two sections by a vertical concrete wall, each section containing ESWS supply and return lines and a portion of the UHS transfer piping.

A.3.1.2 ESWPT

The ESWPT is a reinforced concrete structure that runs from the Essential Service Water Pipe Chase (ESWPC) in the R/B Complex to the UHSRS. The ESWPT is divided into two sections by a concrete wall. Each section contains both ESWS supply and return lines. The ESWPT structure is isolated from other structures to prevent seismic structural interaction.

A.3.1.3 PSFSV

The PSFSVs are reinforced concrete structures, which house the safety-related and non safety-related fuel oil tanks for the emergency power generators. There are two vaults, and each vault for each PS/B is founded on separate reinforced concrete basemats. The vault contains two safety-related oil tanks and one non safety-related oil tank. Each tank is contained in a separate compartment separated by reinforced concrete walls. The top of the roof slab is at the finished plant grade elevation, with a concrete curb. The curb is provided to prevent vehicular traffic on the roof.

1.a The physical arrangement of the UHSRS, the ESWPT and each PSFSV are as described in the Design Description of Section A.3 and as shown in FSAR Figures 3.8-201 through 3.8-214.

1.b The wall and floor thickness of the UHSRS, the ESWPT and each PSFSV are as described in Table A.3-2.

2.a Divisional flood barriers are provided in the UHSRS, the ESWPT and each PSFSV to protect against internal flooding.

2.b Deleted

3. Deleted

4. For the UHSRS, the ESWPT and each PSFSV, external walls below the design-basis flood level are as indicated in Table A.3-2 to protect against water seepage.

5.a Deleted

5.b Deleted

6. Penetrations in the external walls of the UHSRS, the ESWPT and each PSFSV that are at or below design-basis flood level are fitted with water-tight seals to protect against external flooding.

7. Redundant safe shutdown components and associated electrical divisions in the UHSRS, the ESWPT and each PSFSV are separated by 3-hour rated fire barriers to preserve the capability to safely shutdown the plant following a fire.

8. Penetrations and openings through the fire barriers of the UHSRS, the ESWPT and each PSFSV are protected against fire.

9. The UHRS, the ESWPT and each PSFSV can withstand design-basis loads.

10. SSCs that require evaluation in the seismic fragilities task of a seismic margin analysis have high confidence of low probability of failure (HCLPF) values equal to or greater than the review level earthquake.

11. The R/B Complex, each PSFSV, the ESWPT and the UHSRS are founded directly on bedrock or fill concrete.

12. The UHS ESW pump house ventilation system outside air intakes and exhaust outlets are protected from tornado-generated missiles and hurricane-generated missiles by protective barriers.

A.3.2 Inspections, Tests, Analyses, and Acceptance Criteria

Table A.3-1 describes the ITAAC for the UHSRS, the ESWPT, and each PSFSV.

Appendix A.3

Table A.3-1 (Sheet 1 of 3)
Site-Specific Structures Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1.a The physical arrangement of the UHSRS, the ESWPT and each PSFSV is as described in the Design Description of Section A.3 and as shown in FSAR Figures 3.8-201 through 3.8-214.	1.a Inspections will be performed to verify that the as-built UHSRS, the as-built ESWPT and each as-built PSFSV conform to the physical arrangement as described in the Design Description of Section A.3 and as shown in Figures 3.8-201 through 3.8-214.	1.a The as-built UHSRS, the as-built ESWPT and each as-built PSFSV conform to the physical arrangement as described in the Design Description of Section A.3 and as shown in FSAR Figures 3.8-201 through 3.8-214 with the following construction tolerances: Floor level: +1/-1 inch.
1.b The wall and floor thickness of the UHSRS, the ESWPT and each PSFSV are as described in Table A.3-2.	1.b Inspections will be performed to verify that the as-built wall and floor thickness of the UHSRS, the ESWPT and each PSFSV conform to Table A.3-2.	1.b The as-built nominal wall and floor thickness of the UHSRS, the ESWPT and each PSFSV conform to Table A.3-2, with the following construction tolerances: 1) Thickness of exterior walls below plant grade: +12 inches/-1inch 2) Thickness of exterior walls above plant grade, and interior walls: +1/-1 inch 3) Thickness of floors: +1/-1 inch
2.a Divisional flood barriers are provided in the UHSRS, the ESWPT and each PSFSV to protect against internal flooding as shown in Figure A.3-1.	2.a An inspection will be performed to verify that the as-built divisional flood barriers for the UHSRS, the ESWPT and each PSFSV are as shown in Figure A.3-1 to protect against internal flooding.	2.a For the UHSRS, the ESWPT and each PSFSV, the as-built divisional flood barriers are as shown in Figure A.3-1 to protect against internal flooding.
2.b Deleted	2.b Deleted	2.b Deleted
3. Deleted	3. Deleted	3. Deleted
4. For the UHSRS, the ESWPT and each PSFSV, external walls below the design-basis flood level are as indicated in Table A.3-2 to protect against water seepage.	4. An inspection will be performed to verify that the as-built external walls below the design-basis flood level for the UHSRS, the ESWPT and each PSFSV are as indicated in Table A.3-2.	4. For the UHSRS, the ESWPT and each PSFSV, the as-built external wall below the design-basis flood level are as indicated in Table A.3-2 to protect against water seepage.
5.a Deleted	5.a Deleted	5.a Deleted
5.b Deleted	5.b Deleted	5.b Deleted

Appendix A.3

Table A.3-1 (Sheet 2 of 3)
Site-Specific Structures Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
6. Penetrations in the external walls of the UHSRS, the ESWPT and each PSFSV that are at or below design-basis flood level are fitted with water-tight seals to protect against external flooding.	6. An inspection will be performed to verify that as-built penetrations in the external walls of the UHSRS, the ESWPT and each PSFSV that are at or below design-basis flood level are fitted with water-tight seals.	6. The as-built penetrations in the external walls of the UHSRS, the ESWPT and each PSFSV that are at or below design-basis flood level are fitted with water-tight seals to protect against external flooding.
7. Redundant safe shutdown components and associated electrical divisions in the UHSRS, the ESWPT and each PSFSV are separated by 3-hour rated fire barriers to preserve the capability to safely shutdown the plant following a fire.	7. An inspection of the as-built UHSRS, the as-built ESWPT and each as-built PSFSV will be performed to verify that the as-built 3-hour rated fire barriers are placed as required by the FHA.	7. Redundant safe shutdown components and associated electrical divisions in the as-built UHSRS, the as-built ESWPT and each as-built PSFSV are separated by 3-hour rated fire barriers to preserve the capability to safely shutdown the plant following a fire. The 3-hour rated as-built fire barriers are placed as required by the FHA.
8. Penetrations and openings through fire barriers of the UHSRS, the ESWPT and each PSFSV are protected against fire.	8. An inspection of the as-built UHSRS, the as-built ESWPT and each as-built PSFSV will be performed to verify that the as-built penetrations and openings through fire barriers identified in the FHA are sealed or can be closed with fire rated components consistent with the fire resistance rating of the associated barrier.	8. As-built penetrations and openings through fire barriers identified in the FHA of the UHSRS, the ESWPT and each PSFSV are protected against fire with 3-hour fire rated components (e.g. fire doors in door openings and penetration seals) consistent with the fire resistance rating of the associated barrier.
9. The UHRS, the ESWPT and each PSFSV can withstand design-basis loads.	9.i An analysis will be performed to reconcile the as-built UHSRS with the design-basis loads.	9.i Reports exist and conclude that the as-built UHSRS can withstand design-basis loads.
	9.ii An analysis will be performed to reconcile the as-built ESWPT with the design-basis loads.	9.ii Reports exist and conclude that the as-built ESWPT can withstand design-basis loads.
	9.iii An analysis will be performed to reconcile each as-built PSFSV with the design-basis loads.	9.iii Reports exist and conclude that each as-built PSFSV can withstand design-basis loads.

Appendix A.3

Table A.3-1 (Sheet 3 of 3)
Site-Specific Structures Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
10. SSCs that require evaluation in the seismic fragilities task of a seismic margin analysis have high confidence of low probability of failure (HCLPF) values equal to or greater than the review level earthquake.	10.a Analyses will be performed to verify that the SSCs requiring evaluation in the seismic fragilities task of a seismic margin assessment have HCLPF values equal to or greater than the review level earthquake.	10.a Reports exist and conclude that the SSCs evaluated in the seismic fragilities task of the seismic margin assessment have HCLPF values equal to or greater than the review level earthquake.
	10.b Inspection and analysis will be performed to verify that as-built SSCs requiring evaluation in the seismic fragilities task of a seismic margin assessment are bounded by conditions used in the seismic margin assessment.	10.b A report exists and concludes that the as-built SSCs requiring evaluation in the seismic fragilities task of a seismic margin assessment are bounded by the conditions used in the seismic margin assessment.
11. The R/B Complex, each PSFSV, the ESWPT and the UHSRS are founded directly on bedrock or fill concrete.	11. Inspections will be performed on the as-built foundation beneath the R/B Complex, each PSFSV, the ESWPT and the UHSRS.	11. Bedrock or fill concrete is used for the as-built foundation beneath the R/B Complex, each PSFSV, the ESWPT and the UHSRS.
12. The UHS ESW pump house ventilation system outside air intakes and exhaust outlets are protected from tornado-generated missiles and hurricane-generated missiles by protective barriers.	12. An inspection will be performed of the as-built protective barriers exterior to the UHS ESW pump house ventilation system outside air intakes and exhaust outlets.	12. The as-built protective barriers exterior to the UHS ESW pump house ventilation system outside air intakes and exhaust outlets are part of the UHSRS outer wall and have the following dimensions: 1) Thickness - greater than or equal to 20 inches for the vertical sections and greater than or equal to 14 inches for the horizontal sections. 2) Width and height - greater than the corresponding dimension of the respective ventilation opening.

Appendix A.3

Table A.3-2 (Sheet 1 of 4)

Definition of Wall Thicknesses for Safety-Related Structures: UHSRS

Wall or Section Description	Column Lines	Floor Elevation or Elevation Range	Concrete Thickness(2)	Applicable Radiation Shielding Wall (Yes/No)
Upper Cooling Tower Wall (East and West Walls)	-	From 856.00’ to 885.00’	2’-0”	No
Upper Cooling Tower Wall (East)	-	From 846.00’ to 856.00’	5’-0”	No
Upper Cooling Tower Wall (West)	-	From 846.00’ to 856.00’	3’-0”	No
Upper Cooling Tower Wall (North and South Walls)	-	From 824.00’ to 885.00’	2’-0”	No
Lower Cooling Tower Wall (North)	-	From 791.00’ to 824.00’	4’-0”	No
Cooling Tower Below Grade Wall (South)	-	From 791.00’ to 824.00’	5’-0”	No
Cooling Tower Below Grade Wall (East)	-	From 791.00’ to 846.00’	5’-0”	No
Cooling Tower Interior Wall	-	From 791.00’ to 885.00’	4’-0”	No
Basin Exterior Wall	-	From 791.00’ to 826.00’	5’-0”	No
Basin Interior Wall	-	From 791.00’ to 826.00’	4’-0”	No
Pump Room Upper Wall (North and SouthWalls)	-	From 828.00’ to 846.00’	2’-0”	No
Pump Room Upper Wall (West)	-	From 828.00’ to 846.00’	5’-0”	No
Pump Room Upper Wall (East Wall)	-	From 828.00’ to 846.00’	3’-0”	No
Pump Room Lower Wall (North Wall)	-	From 791.00’ to 828.00’	4’-0”	No

Appendix A.3

Table A.3-2 (Sheet 2 of 4)

Definition of Wall Thicknesses for Safety-Related Structures: UHSRS

Wall or Section Description	Column Lines	Floor Elevation or Elevation Range	Concrete Thickness(2)	Applicable Radiation Shielding Wall (Yes/No)
Pump Room Lower Wall (North)	-	From 779.00’ to 791.00’	5’-0”	No
Pump Room Lower Wall (East)	-	From 779.00’ to 828.00’	4’-0”	No
Pump Room Lower Wall (South and West Walls)	-	From 779.00’ to 828.00’	5’-0”	No
Pump Room Extension Walls (East, West and South)	-	From 809.75’ to 838.50’	2’-0”	No
Pump Room Vestibule Wall (West)	-	From 809.75’ to 838.50’	2’-0”	No
Circular Wall at Fan	-	From 856.00’ to 863.00’	2’-0”	No
Mat Slab	-	779.00’ and 791.00’	5’-0”	No
Floor and Roof Slabs	-	820.00’, 822.00’, 824.00’, 828.00’, 833.00’, 838.50’, 842.00’, 846.00’, 856.00’, 876.00’, 885.00’	2’-0”	No
UHS ESWPT Exterior Wall (South)	-	From 793.08’ to 809.75’	2’-0”	No
UHS ESWPT Interior Wall	-	From 793.08’ to 809.75’	2’-0”	No
UHS ESWPT Roof Slab	-	809.75’	2’-0”	No
UHS ESWPT Mat Slab	-	793.08’	7’-1”	No

Appendix A.3

Table A.3-2 (Sheet 3 of 4)

Definition of Wall Thicknesses for Safety-Related Structures: ESWPT

Wall or Section Description	Column Lines	Floor Elevation or Elevation Range	Concrete Thickness(2)	Applicable Radiation Shielding Wall (Yes/No)
Outer Wall	-	From 793.08’ to 803.75’	2’-0”	No
Interior Wall	-	From 793.08’ to 803.75’	1’-0”	No
Roof Slab	-	803.75’	2’-0”	No
Mat Slab	-	793.08’	2’-0”	No

Appendix A.3

Table A.3-2 (Sheet 4 of 4)

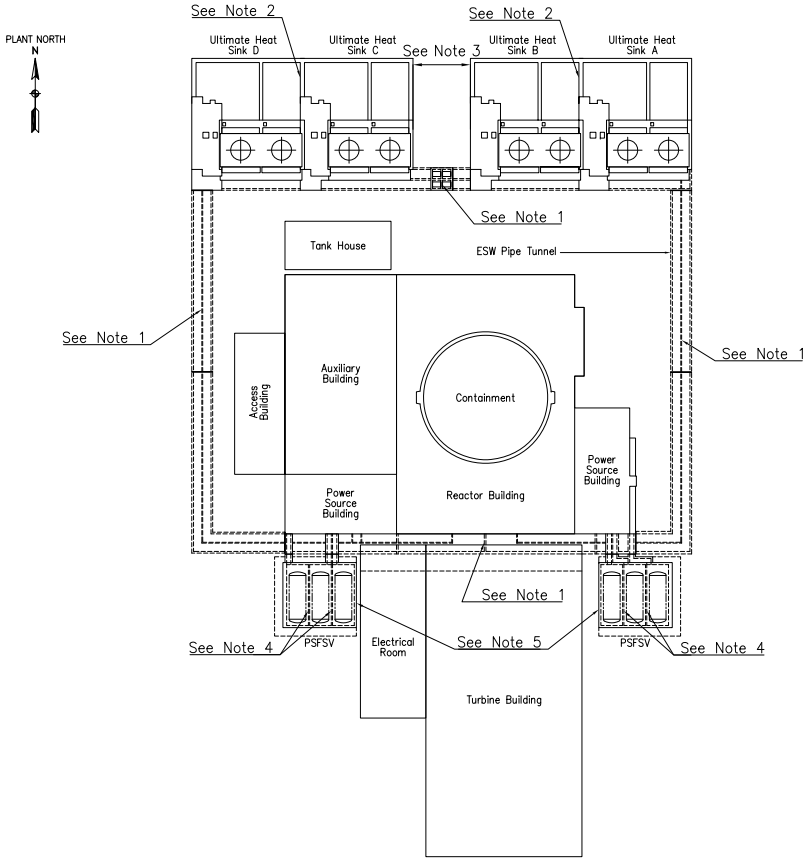
Definition of Wall Thicknesses for Safety-Related Structures: PSFSV

Wall or Section Description	Column Lines	Floor Elevation or Elevation Range	Concrete Thickness(2)	Applicable Radiation Shielding Wall (Yes/No)
Exterior Wall (North)	-	From 788.50’ to 822.00’	2’-6”	No
Exterior Wall (South)	-	From 788.50’ to 822.00’	2’-6”	No
Exterior Wall (East Wall of East Vault and West Wall of West Vault)	-	From 788.50’ to 822.00’	4’-6”	No
Exterior Wall (West Wall of East Vault and East Wall of West Vault)	-	From 788.50’ to 822.00’	2’-6”	No
Roof Slab	-	822.00’	2’-0”	No
Mat Slab	-	788.50’	6’-6”	No

NOTES:
1. Dash (-) indicates not applicable.
2. Concrete thickness values are nominal dimensions.

Appendix A.3

Figure A.3-1 (Sheet 1 of 2) General Arrangement Plan of UHSRS, ESWPT, and PSFSV Identifying Internal Flood Barriers

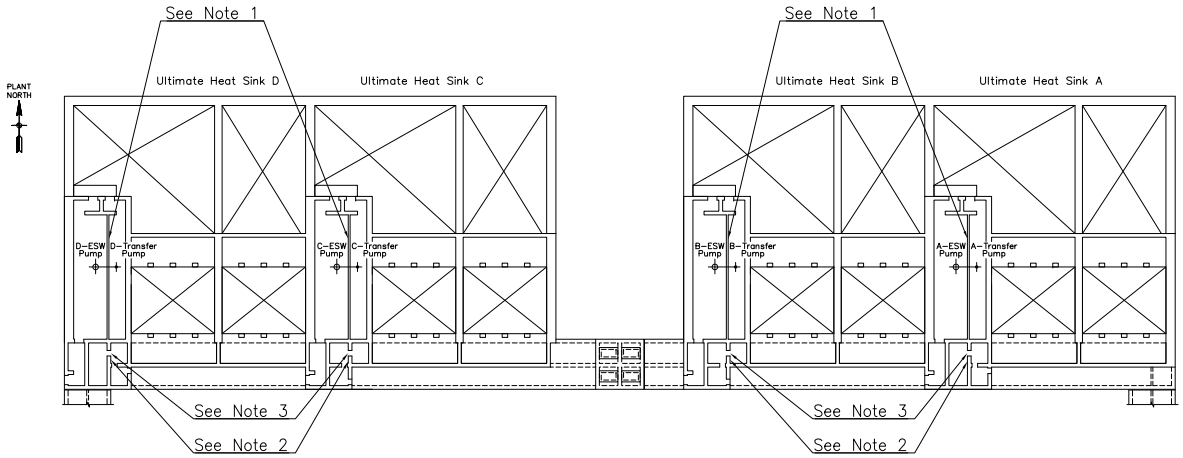


NOTES:

1. CONCRETE WALL BARRIER PROVIDES DIVISIONAL SEPARATION AND PREVENTS FLOODING BETWEEN ESWPT DIVISIONS.
2. CONCRETE WALLS BETWEEN EACH ULTIMATE HEAT SINK RELATED STRUCTURE PREVENT FLOODING COMMUNICATION BETWEEN THEM.
3. ULTIMATE HEAT SINK BASINS 'B' AND 'C' ARE PHYSICALLY SEPARATED WITH EXTERIOR CONCRETE WALL TO PREVENT FLOODING COMMUNICATION BETWEEN THEM.
4. CONCRETE WALLS BETWEEN EACH FUEL STORAGE TANK ENCLOSURE PREVENT FLOODING COMMUNICATION BETWEEN THEM.
5. POWER SOURCE FUEL STORAGE VAULTS ARE PHYSICALLY SEPARATED WITH EXTERIOR CONCRETE WALLS TO PREVENT FLOODING COMMUNICATION BETWEEN THEM.

Appendix A.3

Figure A.3-1 (Sheet 2 of 2) General Arrangement Plan of UHSRS, ESWPT, and PSFSV Identifying Internal Flood Barriers



NOTES:

1. CONCRETE WALLS BETWEEN ESW PUMP ROOMS AND TRANSFER PUMP ROOMS PREVENT FLOODING COMMUNICATION BETWEEN THEM.
2. CONCRETE WALLS BETWEEN ESW PIPING ROOMS AND UHS TRANFER PIPING ROOMS PREVENT FLOODING COMMUNICATION BETWEEN THEM.
3. WATER-TIGHT DOORS ARE PROVIDED IN DOOR OPENINGS BETWEEN ESW PIPING ROOMS AND UHS TRANFER PIPING ROOMS PREVENT FLOODING COMMUNICATION BETWEEN THEM.

PART 10 - APPENDIX A.4

OFFSITE POWER SYSTEM (PORTIONS OUTSIDE THE SCOPE OF THE CERTIFIED DESIGN)

A.4.1 Design Description

1. The electrical system has a minimum of two independent offsite transmission circuits from the transmission network (TN) to the safety buses with no intervening non-safety buses (direct connection).

2. The offsite TN voltage variations, during steady-state operation, do not cause voltage variations beyond an acceptable tolerance of the loads' nominal ratings.

3. The offsite TN normal steady-state frequency is within an acceptable tolerance of 60Hz during recoverable periods of system instability.

4. The offsite transmission circuits have the capacity and capability to power the required loads during steady-state, transient, and postulated events and accident conditions.

5.a Independence between the offsite circuits and the onsite Class 1E electrical system and components is maintained.

5.b The offsite circuits are physically separated from the onsite Class 1E electrical system and components.

6. Lightning protection and grounding features are provided for the offsite circuits from the TN to the safety buses.

7. Alarms and displays for monitoring the switchyard equipment status can be retrieved in the MCR.

8. If power through the normal preferred power supply is not available, the offsite electrical system has the capability to automatic fast transfer to the alternate preferred power supply if available.

9. The switchyard agreement and protocols between NPP and the TN system owner/operator assess the risk and probability of a loss of offsite power due to performing maintenance activities on the electrical system.

10. The probability of losing electric power from any of the remaining supplies as a result of, or coincident with, the loss of power generated by the nuclear unit, the loss of power from the TN, or the loss of power from the onsite electric power supplies, is minimized.

Appendix A.4

A.4.2 Inspections, Tests, Analyses, and Acceptance Criteria

Table A.4-1 describes the ITAAC for the Offsite power system portions outside the scope of the certified design.

Appendix A.4

Table A.4-1 (Sheet 1 of 2)
Offsite Power System
(Portions Outside the Scope of the Certified Design)
Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The electrical system has a minimum of two independent offsite transmission circuits from the transmission network (TN) to the safety buses with no intervening non-safety buses (direct connection).	1. Inspection of the as-built transmission circuits will be performed.	1. The as-built electrical system has two independent offsite transmission circuits from the TN to the safety buses with no intervening non-safety buses (direct connection).
2. The offsite TN voltage variations, during steady-state operation, do not cause voltage variations beyond an acceptable tolerance of the loads' nominal ratings.	2. Analyses of the as-built offsite TN voltage variability and steady state load requirements will be performed.	2. A report exists and concludes that the as-built offsite TN, during steady state operation, does not cause voltage variations beyond design limits.
3. The offsite TN normal steady state frequency is within an acceptable tolerance of 60Hz during recoverable periods of system instability.	3. Analyses of the as-built offsite TN normal steady state frequency will be performed.	3. A report exists and concludes that the as-built TN normal steady state frequency is within design frequency limits during recoverable periods of instability.
4. The offsite transmission circuits have the capacity and capability to power the required loads during steady state, transient, and postulated events and accident conditions.	4. Analyses of the as-built offsite transmission circuits from the TN to the safety buses will be performed.	4. A report exists and concludes that the as-built offsite transmission circuits have the capacity and capability to power the required loads during steady state, transient, and postulated events and accident conditions.
5.a Independence between the offsite circuits and the onsite Class 1E electrical system and components is maintained.	5.a Tests and analyses on the as-built offsite circuits and onsite class 1E electrical system and components will be performed.	5.a There is electrical independence between the as-built offsite circuits and the onsite Class 1E electrical system and components.
5.b The offsite circuits are physically separated from the onsite Class 1E electrical system and components.	5.b Inspections of the as-built offsite circuits and onsite Class 1E electrical system and components will be performed.	5.b The as-built offsite circuits are physically separated from the as-built onsite Class 1E electrical system and components.
6. Lightning protection and grounding features are provided for the offsite circuits from the TN to the safety buses.	6. Inspection of the as-built offsite circuits from the TN to the safety buses will be performed.	6. Lightning protection and grounding features exist for the system and components of the offsite circuits from the TN to the safety buses.

Appendix A.4

Table A.4-1 (Sheet 2 of 2)
Offsite Power System
(Portions Outside the Scope of the Certified Design)
Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
7. Alarms and displays for monitoring the switchyard equipment status can be retrieved in the MCR.	7.i Inspection will be performed on the as-built A-VDU in the MCR for retrievability of alarms for the monitoring of switchyard equipment status.	7.i Alarms for the monitoring of switchyard equipment status can be retrieved on the as-built A-VDU in the MCR.
	7.ii Inspection will be performed on the as-built O-VDU in the MCR for retrievability of the displays for the monitoring of switchyard equipment status.	7.ii Displays for the monitoring of switchyard equipment status can be retrieved on the as-built O-VDU in the MCR.
8. If power through the preferred power supply is not available, the offsite electrical system has the capability to automatic fast transfer to the non-preferred power supply if available.	8. Inspection of the as-built offsite electrical system will be performed.	8. The as-built offsite electrical system is automatically transferred to the non-preferred power supply in power is not available through the preferred power supply.
9. The switchyard agreement and protocols between the NPP and the TN system owner/operator assess the risk and probability of a loss of offsite power due to performing maintenance activities on the electrical system.	9. Inspection of the switchyard agreement and protocols between the NPP and the TN owner/operator will be performed.	9. The switchyard agreement and protocols between the NPP and the TN owner/operator assess the risk and probability of a loss of offsite power due to performing maintenance activities on the electrical system.
10. The probability of losing electric power from any of the remaining supplies as a result of, or coincident with, the loss of power generated by the nuclear unit, the loss of power from the TN, or the loss of power from the onsite electric power supplies, is minimized.	10. Analyses of the as-built offsite electrical system for transient stability will be performed.	10. A report exists and concludes that the probability of losing electric power from any of the remaining supplies as a result of, or coincident with the loss of power generated by the nuclear unit, the loss of power from the TN, or the loss of power from the onsite electric power supplies, is minimized.

Appendix A.5

PART 10 - APPENDIX A.5

PLANT-SPECIFIC PROCESS EFFLUENT RADIATION MONITORING AND SAMPLING (PERMS)

A.5.1 Design Description

The PERMS includes the radiation monitors as identified in Table A.5-2.

A.5.2 Inspections, Tests, Analyses, and Acceptance Criteria

Table A.5-1 specifies the ITAAC for the plant-specific PERMS.

Table A.5-1
Process Effluent Radiation Monitoring and Sampling System
Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The PERMS includes the radiation monitors as identified in Table A.5-2.	1. An inspection will be performed of the as-built radiation monitors identified in Table A.5-2.	1. The as-built PERMS include the radiation monitors as identified in Table A.5-2.

Table A.5-2
Process Effluent Radiation Monitoring and Sampling System
Equipment Characteristics

PERMS Monitor Name	Detector Number	Safety Related	Seismic Category I	Class 1E/ Qual. for Harsh Envir.	Location
Startup Steam Generator Blowdown Heat Exchanger Downstream Radiation Monitor	RMS-RE-110	No	No	No/No	(Note 1)
Evaporation Pond Discharge Radiation Monitor	RMS-RE-111	No	No	No/No	(Note 2)

Note 1: The monitor is located adjacent to Startup Generator Blowdown Equipment shown in FSAR Figure 1.2-1R (Sheet 2 of 2)

Note 2: The monitor is located adjacent to radwaste evaporator pond shown in FSAR Figure 1.2-1R (Sheet 1 of 2)

PART 10 - APPENDIX A.6

FIRE PROTECTION SYSTEM (PORTIONS OUTSIDE THE SCOPE OF THE CERTIFIED DESIGN)

A.6.1 Design Description

1. The seismic standpipe system can be supplied from a seismic Category I water source (ESWS) with a capacity of at least 18,000 gallons.

2. The fire protection system water supply is from two separate, reliable freshwater sources (the two fire water storage tanks).

A.6.2 Inspections, Tests, Analyses, and Acceptance Criteria

Table A.6-1 describes the ITAAC for the Fire Protection System (portions outside the scope of the certified design).

Table A.6-1
Fire Protection System (Portions outside the Scope of the Certified Design) Inspections, Test, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The seismic standpipe system can be supplied from a seismic Category I water source (ESWS) with a capacity of at least 18,000 gallons.	1. Tests and analyses will be performed on the as-built system to confirm the ability of the ESWS to supply water to the seismic standpipes system.	1. A report exists and concludes that the seismic standpipe system is supplied with water from the ESWS with a capacity of at least 18,000 gallons.
2. The fire protection system water supply is from two separate, reliable freshwater sources (the two fire water storage tanks).	2. Tests will be performed to confirm the ability of the as-built fire water storage tanks to separately provide water to the fire protection water supply system.	2. The fire protection system is supplied with freshwater from two separate reliable freshwater sources.

PART 10 - APPENDIX A.7

PIPE BREAK HAZARDS ANALYSIS

A.7.1 Design Description

1. Safety-related SSCs are designed to be protected against or are qualified to withstand the environmental effects associated with analyses of postulated failures in site-specific moderate-energy piping systems identified in FSAR Table 3.6-201 so that the reactor can be shut down safely and maintained in a safe, cold shutdown condition without offsite power.

2. The site-specific moderate-energy piping systems identified in FSAR Table 3.6-201 are reconciled with the pipe break hazards analyses report(s) to ensure that the safety-related SSCs are protected against or are qualified to withstand the environmental effects associated with postulated failures of these piping systems as necessary to achieve and maintain safe, cold shutdown without offsite power.

A.7.2 Inspections, Tests, Analyses, and Acceptance Criteria

Table A.7-1 describes the ITAAC for the pipe break hazards analysis for postulated failures in site-specific moderate-energy piping systems identified in FSAR Table 3.6-201.

Appendix A.7

Table A.7-1
Pipe Break Hazards Analysis
(Portions outside the Scope of the Certified Design)
Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. Safety-related SSCs are designed to be protected against or are qualified to withstand the environmental effects associated with analyses of postulated failures in site-specific moderate-energy piping systems identified in FSAR Table 3.6-201 so that the reactor can be shut down safely and maintained in a safe, cold shutdown condition without offsite power.	1. Environmental effects analysis will be performed for the site-specific moderate-energy piping systems identified in FSAR Table 3.6-201. The analysis includes the evaluation for wetting from spray, flooding, room pressurization, and temperature effects, as applicable.	1. Pipe break hazard analysis report(s) exist and conclude that for each postulated piping failure of the site-specific moderate-energy piping systems identified in FSAR Table 3.6-201, the safety-related SSCs are protected against or are qualified to withstand the environmental effects of postulated failure as necessary to achieve and maintain safe, cold shutdown without offsite power.
2. The site-specific moderate-energy piping systems identified in FSAR Table 3.6-201 are reconciled with the pipe break hazards analyses report(s) to ensure that the safety-related SSCs are protected against or are qualified to withstand the environmental effects associated with postulated failures of these piping systems as necessary to achieve and maintain safe, cold shutdown without offsite power.	2. Using the as-designed pipe break hazard analysis report, inspection and reconciliation analysis of the as-built site-specific moderate-energy piping systems and safety-related SSCs will be performed.	2. Pipe break hazard analysis report(s) exist and conclude that the as-built safety-related SSCs are protected against or are qualified to withstand the effects of postulated pipe failures of the as-built site-specific moderate-energy piping systems identified in FSAR Table 3.6-201 as necessary to achieve and maintain safe, cold shutdown without offsite power.

PART 10 - APPENDIX B.1

EMERGENCY PLANNING

Luminant has reviewed guidance provided in Regulatory Guide 1.206 concerning Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) related to emergency planning. Several of the recommended ITAAC were addressed in the US-APWR DCD and are not repeated in the EP ITAAC, as noted in the Table B-1.

Table B-1 specifies the inspections, tests, analyses, and associated acceptance criteria for the Emergency Plan.

Appendix B.1

Table B-1 (Sheet 1 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
1.0 Assignment of Responsibility – Organizational Control			
10 CFR 50.47(b)(1) – Primary responsibilities for emergency response by the nuclear facility licensee, and by State and local organizations within the EPZs have been assigned, the emergency responsibilities of the various supporting organizations have been specifically established, and each principle response organization has staff to respond and to augment its initial response on a continuous basis.	1.1 The staff exists to provide 24-hour per day emergency response and manning of communications links, including continuous operations for a protracted period. [A.1.e, A.4]	1.1 An inspection of the emergency plan procedures will be performed.	1.1 Emergency plan procedures provide for 24-hour per day emergency response staffing and manning of communications links, including continuous operations for a protracted period.
2.0 Onsite Emergency Organization			
10 CFR 50.47(b)(2) – On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available, and the interfaces among various onsite response activities and offsite support and response activities are specified.	2.1 The staff exists to provide minimum and augmented on-shift staffing levels, consistent with Table B-1 of NUREG-0654/FEMA-REP-1, Rev. 1. [B.5, B.7]	2.1 An inspection of the emergency plan procedures will be performed.	2.1 Emergency plan procedures provide minimum and augmented on-shift staffing levels, consistent with Table II-2 of the Comanche Peak Nuclear Power Plant Units 3 & 4 Combined License (COL) Application Emergency Plan.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 2 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
3.0 Emergency Response Support and Resources			
10 CFR 50.47(b)(3) – Arrangements for requesting and effectively using assistance resources have been made, arrangements to accommodate State and local staff at the licensee's near-site Emergency Operations Facility have been made, and other organizations capable of augmenting the planned response have been identified.	Not used. Provided for consistency with Reg. Guide 1.206 Table C.II.1-B1 Emergency Planning—Generic Inspection, Test, Analysis, and Acceptance Criteria (EP-ITAAC) ITAAC numbering scheme.	Not used. Provided for consistency with Reg. Guide 1.206 Table C.II.1-B1 Emergency Planning—Generic Inspection, Test, Analysis, and Acceptance Criteria (EP-ITAAC) ITAAC numbering scheme.	Not used. Provided for consistency with Reg. Guide 1.206 Table C.II.1-B1 Emergency Planning—Generic Inspection, Test, Analysis, and Acceptance Criteria (EP-ITAAC) ITAAC numbering scheme.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 3 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
4.0 Emergency Classification System			
10 CFR 50.47(b)(4) – A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.	4.1 A standard emergency classification and emergency action level (EAL) scheme exists, and identifies facility system and effluent parameters constituting the bases for the classification scheme. [D.1**]	4.1 An inspection of the control room, technical support center (TSC), and emergency operations facility (EOF) will be performed to verify that they have displays for retrieving facility system and effluent parameters that constitute the bases for the classification scheme in Appendix 1, Section 5, of the Comanche Peak Units 3 and 4 COL Emergency Plan.	4.1.1 The specific parameters identified in the **EALs in Emergency Plan Appendix 1, Section 5** have been retrieved and displayed in the control room, TSC, and EOF. 4.1.2 The ranges available in the control room, TSC, and EOF encompassed the values for the specific parameters identified in the **EALs in Emergency Plan Appendix 1, Section 5**.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 4 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
5.0 Notification Methods and Procedures			
10 CFR 50.47(b)(5) – Procedures have been established for notification, by the licensee, of State and local response organizations and for notification of emergency personnel by all organizations; the content of initial and follow-up messages to response organizations and the public has been established; and means to provide early notification and clear instruction to the populace within the plume exposure pathway Emergency Planning Zone have been established.	5.1 The means exist to notify responsible State and local organizations within 15 minutes after the licensee declares an emergency. [E.1]	5.1 A test will be performed of the capability to begin initial notification to State and local organizations no later than 15 minutes after the Luminant declares an emergency.	5.1 A report exists and concludes that communications have been established via a dedicated circuit between the control room and the following agencies and notifications began no later than 15 minutes after the declaration of an emergency: • Somervell County Sheriff or Dispatcher • Hood County Sheriff or Dispatcher • Texas Department of Public Safety
	5.2 The means exist to notify emergency response personnel. [E.2]	5.2 A test will be performed of the capabilities.	5.2 A report exists and concludes that notification to the Comanche Peak Units 3 and 4 emergency response organization has been performed. NOTE: Confirmation of the ability to mobilize the Comanche Peak Units 3 and 4 emergency response organization is addressed in Acceptance Criterion 14.1.1.2.B.1.b.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 5 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
	5.3 The means exist to notify and provide instructions to the populace within the plume exposure EPZ. [E.6]	5.3 NOTE: The required test is included in Inspections, Tests, Analyses 14.1.	5.3 NOTE: The means to notify and provide instructions to the populace within the plume exposure pathway EPZ are addressed by Acceptance Criteria 14.1.1.2.
6.0 Emergency Communications			
10 CFR 50.47(b)(6) – Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.	6.1 The means exist for communications among the control room, TSC, EOF, principal State and local emergency operations centers (EOCs), and radiological field assessment teams. [F.1.d] NOTE: Tier 1 of the US-APWR Design Control Document (DCD), addresses this EP Program Element in the following Design Commitment (DC): • Table.2.7.6.10-1, DC #2	6.1 A test of the as-built communications system will be performed. NOTE: For communications between the control room and TSC and from the control room and TSC to the EOF, principal State and local EOCs, and radiological field assessment teams, Tier 1 of the US-APWR Design Control Document (DCD), addresses the following Inspections, Tests, Analysis: • Table.2.7.6.10-1, DC #2	6.1 A report exists and concludes that communications are established between the EOF and principal State and local EOCs, and radiological field assessment teams. NOTE: For communications between the control roomand TSC and from the control and TSC to the EOF, principal State and local EOCs, and radiological field assessment teams, Tier 1 of the US-APWR Design Control Document (DCD), addresses the following Acceptance Criterion: • Table.2.7.6.10-1, DC #2

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 6 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
	6.2 The means exist for communications from the control room, TSC, and EOF to the NRC headquarters and regional office EOCs (including establishment of the Emergency Response Data System (ERDS) between the onsite computer system and the NRC Operations Center.) [F.1.f] NOTE: Tier 1 of the US-APWR Design Control Document (DCD), addresses this EP Program Element in the following Design Commitment (DC): • Table.2.7.6.10-1, DC #3	6.2 A test of the as-built communications system will be performed. NOTE: For communications from the control room and TSC to the NRC headquarters and Region IV office EOCs (including establishment of the ERDS [or its successor system] between the onsite computer system and the NRC Operations Center),Tier 1 of the US-APWR Design Control Document (DCD), addresses the following Inspections, Tests, Analysis: • Table.2.7.6.10-1, DC #3	6.2 A report exists and concludes that communications are established from the EOF to the NRC headquarters and Region IV office EOCs. NOTE: For communications from the control room and TSC to the NRC headquarters and Region IV office EOCs (including establishment of the ERDS [or its successor system] between the onsite computer system and the NRC Operations Center),Tier 1 of the US-APWR Design Control Document (DCD), addresses the following Acceptance Criterion: • Table.2.7.6.10-1, DC #3

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 7 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
7.0 Public Education and Information			
10 CFR 50.47(b)(7) – Information is made available to the public on a periodic basis on how they will be notified and what their initial actions should be in an emergency (e.g., listening to a local broadcast station and remaining indoors), the principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations) are established in advance, and procedures for coordinated dissemination of information to the public are established.	7.1 The licensee has provided space which may be used for a limited number of the news media at the EOF. [G.3.b]	7.1 An inspection of the Joint Information Center will be performed to verify that space is provided for a limited number of the news media.	7.1 The Joint Information Center has space for approximately 75 media personnel.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 8 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
8.0 Emergency Facilities and Equipment			
10 CFR 50.47(b)(8) – Adequate emergency facilities and equipment to support the emergency response are provided and maintained.	8.1 The licensee has established a technical support center (TSC) and onsite operations support center (OSC). [H.1] NOTE: For the TSC, Tier 1 of the US-APWR Design Control Document (DCD), addresses this EP Program Element in the following Design Commitments (DC): • Table 2.10-1, DC #1 • Table 2.7.5.4-3, DC #8 • Table 2.7.6.10-1, DCs #1, 2 and 3 • Table 2.5.4-2, DC #1	8.1.1 NOTE: For the TSC, Tier 1 of the US-APWR Design Control Document (DCD), addresses the following Inspections, Tests, Analyses: • Table 2.10-1, DCs #1, 2, 3 • Table 2.7.5.4-3, DC #8 • Table 2.7.6.10-1, DCs #1, 2 and 3 • Table 2.5.4-2, DC #1 8.1.2 An inspection of the as-built OSC will be performed.	8.1.1 For the TSC, Tier 1 of the US-APWR Design Control Document (DCD), addresses the following Acceptance Criteria: • Table 2.10-1, DCs #1, 2, 3 • Table 2.7.5.4-3, DC #8 • Table 2.7.6.10-1, DCs #1, 2 and 3 • Table 2.5.4-2, DC #1 8.1.2.1 The OSC has been located separately from the control room and TSC. 8.1.2.2 Communication equipment has been provided in the OSC, and voice transmission and reception have been accomplished with: • Control Room • TSC
	8.2 The licensee has established an emergency operations facility (EOF). [H.2]	8.2 An inspection of the EOF will be performed.	8.2.1 The EOF has at least 243 square meters (2,625 square feet).

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 9 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
			8.2.2.1 The EOF meets the following habitability criteria: • EOF is constructed to meet Texas Building Code • Protection factor (from direct radiation exposure) of greater than or equal to 5 in areas where dose assessments, communications, and decision making take place • Ventilation system has isolation with HEPA filters 8.2.2.2 The backup EOF is located within 10 to 20 miles of the TSC.
			8.2.3 Note: EOF communications with the control room, TSC, the NRC headquarters and Region IV office EOCs and State and local agencies are addressed in Acceptance Criteria 6.1.2 and 6.2.2. 8.2.4 The means have been established in the EOF to acquire, display, and evaluate radiological, meteorological, and plant system data pertinent to determining offsite protective measures.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 10 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
9.0 Accident Assessment			
10 CFR 50.47(b)(9) – Adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.	9.1 The means exist to provide initial and continuing radiological assessment throughout the course of an accident. [I.2]	9.1 A test of the emergency plan will be conducted by performing an exercise or drill to verify the capability to perform radiological assessment.	9.1 A report exists and concludes that an exercise or drill has been accomplished including use of selected monitoring parameters identified in the **EALs in Emergency Plan Appendix 1, Section 5**, to assess simulated degraded plant and initiate protective actions in accordance with the following criteria: A. Accident Assessment and Classification 1. Initiating conditions identified, EALs parameters determined, and the emergency correctly classified throughout the drill.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 11 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
			9.1 (continued) B. Radiological Assessment and Control 1. Onsite radiological surveys performed and samples collected. 2. Radiation exposure to emergency workers monitored and controlled. 3. Field monitoring teams assembled and deployed. 4. Field team data collected and disseminated. 5. Dose projections developed. 6. The decision whether to issue radioprotective drugs to Luminant emergency workers made. 7. Protective action recommendations developed and communicated to appropriate authorities.
	9.2 The means exist to determine the source term of releases of radioactive material within plant systems, and the magnitude of the release of radioactive materials based on plant system parameters and effluent monitors. [I.3]	9.2 An analysis of emergency plan procedures will be performed.	9.2 The means has been established to determine the source term of releases of radioactive material within plant systems and the magnitude of the release of radioactive materials based on plant system parameters and effluent monitors.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 12 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
	9.3 The means exist to continuously assess the impact of the release of radioactive materials to the environment, accounting for the relationship between effluent monitor readings, and onsite and offsite exposures and contamination for various meteorological conditions. [I.4]	9.3 An analysis of emergency plan procedures will be performed.	9.3 The means has been provided to continuously assess the impact of the release of radioactive materials to the environment, accounting for the relationship between effluent monitor readings and onsite and offsite exposures and contamination for various meteorological conditions.
	9.4 The means exist to acquire and evaluate meteorological information. [I.5]	9.4 An inspection of the control room, TSC, and EOF will be performed to verify that the following meteorological data is available: - Wind speed (at 10 m and 60 m) - Wind direction (at 10 m and - 60 m) - Air temperature (at 10 m and 60 m)	9.4 The specified meteorological data was available at the control room, TSC, and EOF. 9.4.2 The means exist to provide the specified meteorological data to the offsite NRC center and the State of Texas EOC.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 13 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
	9.5 The means exist to make rapid assessments of actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways, including activation, notification means, field team composition, transportation, communication, monitoring equipment, and estimated deployment times. [I.8]	9.5 An analysis of emergency plan procedures will be performed.	9.5 The means has been established to provide rapid assessment of the actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways.
	9.6 The capability exists to detect and measure radioiodine concentrations in air in the plume exposure EPZ, as low as 10^{-7} µCi/cc (microcuries per cubic centimeter) under field conditions. [I.9]	9.6 A test of Luminant field survey instrumentation will be performed to verify the capability to detect airborne concentrations as low as 1E-07 microcuries per cubic centimeters.	9.6 A report exists and concludes that instrumentation used for monitoring I-131 to detect airborne concentrations as low as 1E-07 microcuries per cubic centimeters has been provided.
	9.7 The means exist to estimate integrated dose from the projected and actual dose rates, and for comparing these estimates with the EPA protective action guides (PAGs). [I.10]	9.7 An analysis of emergency plan procedures will be performed.	9.7 The means has been established to make rapid assessments of actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 14 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
10.0 Protective Response			
10 CFR 50.47(b)(10) – A range of protective actions has been developed for the plume exposure EPZ for emergency workers and the public. In developing this range of actions, consideration has been given to evacuation, sheltering, and, as a supplement to these, the prophylactic use of potassium iodide (KI), as appropriate. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure EPZ appropriate to the locale have been developed.	10.1 The means exist to warn and advise onsite individuals of an emergency, including those in areas controlled by the operator, including:[J.1] a. employees not having emergency assignments; b. visitors; c. contractor and construction personnel; and d. other persons who may be in the public access areas, on or passing through the site, or within the owner controlled area.	10.1 A test of the onsite warning and communications capability will be performed during a drill or exercise.	10.1.1 A report exists and concludes that during a drill or exercise, notification and instructions were provided to onsite workers and visitors, within the Protected Area, over the plant public announcement system. 10.1.2 A report exists and concludes that during a drill or exercise, audible warnings were provided to individuals outside the Protected Area, but within the Owner Controlled Area. 10.1.3 A report exists and concludes that during a drill or exercise, individuals within Squaw Creek Park were notified by Squaw Creek Park personnel of the appropriate protective response.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 15 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
11.0 Radiological Exposure Control			
10 CFR 50.47(b)(11) – Means for controlling radiological exposures, in an emergency, are established for emergency workers. The means for controlling radiological exposures shall include exposure guidelines consistent with EPA Emergency Worker and Lifesaving Activity PAGs.	11.1 The means exists to provide onsite radiation protection. [K.2]	11.1 An analysis of site procedures will be performed.	11.1 Site procedures provide the means for onsite radiation protection.
	11.2 The means exists to provide 24-hour-per-day capability to determine the doses received by emergency personnel and maintain dose records. [K.3]	11.2 An analysis of emergency plan procedures will be performed.	11.2 Emergency plan procedures provide the means for 24- hour-per-day capability to determine the doses received by emergency personnel and maintain dose records.
	11.3 The means exists to decontaminate relocated onsite and emergency personnel, including waste disposal. [K.5.b, K.7]	11.3 An analysis of emergency plan procedures will be performed.	11.3 Emergency plan procedures provide a means to decontaminate relocated onsite and emergency personnel, including waste disposal.
	11.4 The means exists to provide onsite and contamination control measures. [K.6]	11.4 An analysis of site procedures will be performed.	11.4 Site procedures provide the means for onsite contamination control measures.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 16 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
12.0 Medical and Public Health Support			
10 CFR 50.47(b)(12) – Arrangements are made for medical services for contaminated, injured individuals.	12.1 Arrangements have been implemented for local and backup hospital and medical services having the capability for evaluation of radiation exposure and uptake. [L.1]	12.1 An analysis of letters of agreement will be performed.	12.1 Arrangements have been implemented with Lake Granbury Medical Center (LGMC) in Granbury, Texas and the Texas Health Harris Methodist Hospital Cleburne (Formerly Walls Regional Hospital) in Cleburne, Texas for evaluation of radiation exposure and uptake.
	12.2 The means exists for onsite first aid capability. [L.2]	12.2 An analysis of emergency plan procedures will be performed.	12.2 Onsite procedures provide for onsite first aid capability.
	12.3 Arrangements have been implemented for transporting victims of radiological accidents, including contaminated injured individuals, from the site to offsite medical support facilities. [L.4]	12.3 An analysis of letters of agreement will be performed.	12.3 Arrangements have been implemented for transporting victims of radiological accidents, including contaminated injured individuals, from the site to offsite medical support facilities.
13.0 Exercises and Drills			
10 CFR 50.47(b)(13) – General plans for recovery and reentry are developed.	Not used. Provided for consistency with Reg. Guide 1.206 Table C.II.1-B1 Emergency Planning—Generic Inspection, Test, Analysis, and Acceptance Criteria (EP-ITAAC) ITAAC numbering scheme.	Not used. Provided for consistency with Reg. Guide 1.206 Table C.II.1-B1 Emergency Planning—Generic Inspection, Test, Analysis, and Acceptance Criteria (EP-ITAAC) ITAAC numbering scheme.	Not used. Provided for consistency with Reg. Guide 1.206 Table C.II.1-B1 Emergency Planning—Generic Inspection, Test, Analysis, and Acceptance Criteria (EP-ITAAC) ITAAC numbering scheme.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 17 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
14.0 Exercises and Drills			
10 CFR 50.47(b)(14) – Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities, periodic drills are (will be) conducted to develop and maintain key skills, and deficiencies identified as a result of exercises or drills are (will be) corrected.	14.1 Licensee conducts a full-participation exercise to evaluate major portions of emergency response capabilities, which includes participation by each State and local agency within the plume exposure EPZ, and each State within the ingestion control EPZ. [N.1]	14.1 A full-participation exercise (test) will be conducted within the specified time periods of Appendix E to 10 CFR Part 50.	14.1.1.1 A report exists and concludes that an exercise was conducted within the specified time periods of Appendix E to 10 CFR Part 50, onsite exercise objectives were met, and there were no uncorrected onsite exercise deficiencies.
			14.1.1.2 A report exists and condludes that the following exercise objectives were satisfied by meeting the specific performance criteria: *A. Accident Assessment and Classification* 1. Demonstrate the ability to identify initiating conditions, determine emergency action level (EAL) parameters, and correctly classify the emergency throughout the exercise. Performance Criteria:

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 18 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
			a. Determine the correct emergency classification level based on events which were in progress, considering past events and their impact on the current conditions, within 15 minutes from the time the initiating condition(s) or EAL is identified. *B. Notifications* 1. Demonstrate the ability to alert, notify and mobilize site emergency response personnel. Performance Criteria: a. Complete the designated actions in accordance with emergency plan procedures and perform the announcement within 15 minutes of the initial event classification for an Alert or higher. b. Mobilize site emergency responders in accordance with emergency plan procedures within 15 minutes of the initial event classification for an Alert or higher.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 19 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
			2. Demonstrate the ability to notify responsible State, local government agencies beginning no later than 15 minutes and the NRC no later than 60 minutes after declaring an emergency. Performance Criteria: a. Transmit information in accordance with approved emergency plan procedures no later than 15 minutes after event classification. b. Transmit information in accordance with approved emergency plan procedures, no later than 60 minutes after last transmittal for a follow-up notification to State and local authorities. c. Transmit information in accordance with emergency plan procedures no later than 60 minutes after event classification for an initial notification of the NRC. 3. Demonstrate the ability to warn or advise onsite individuals of emergency conditions.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 20 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
			Performance Criteria: a. Initiate notification of onsite individuals within 15 minutes of notification. *C. Emergency Response* 1. Demonstrate the capability to direct and control emergency operations. Performance Criteria: a. Command and control is demonstrated by the Control Room in the early phase of the emergency, and the technical support center (TSC) within 60 minutes of declaration of an Alert or higher emergency classification. 2. Demonstrate the ability to transfer emergency direction from the control room (simulator) to the TSC upon activation.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 21 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
			Performance Criteria: a. Turnover briefings are conducted in accordance with emergency plan procedures. b. Documentation of transfer of duties is completed in accordance with emergency plan procedures. 4. Demonstrate the ability to perform assembly and accountability for all onsite individuals within 30 minutes of an emergency requiring protected area assembly and accountability. Performance Criteria: a. Protected area (PA) personnel assembly and accountability completed within 30 minutes of an emergency requiring protected area assembly and accountability.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 22 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
			D. Emergency Response Facilities 1. Demonstrate activation of the operational support center (OSC), and full functional operation of the TSC and EOF within 60 minutes declaration of Alert or higher emergency classification. Performance Criteria: a. The TSC, EOF and OSC are activated within about 60 minutes of the initial notification. 2. Demonstrate the adequacy of equipment, security provisions, and habitability precautions for the TSC, OSC and EOF as appropriate. Performance Criteria: a. Emergency equipment in the emergency response facilities as specified in emergency plan procedures was available to emergency responders.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 23 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
			b. The Security Shift Supervisor implements and follows applicable emergency procedures. c. The TSC On-Site Radiological Assessment Coordinator implements designated responsibilities in accordance with emergency plan procedures if an onsite/offsite release has occurred. 3. Demonstrate the adequacy of communications for all emergency support resources. Performance Criteria: a. Emergency response facility personnel are able to operate communication systems in accordance with emergency plan procedures. b. Clear primary and backup communications links are established and maintained for the duration of the exercise.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 24 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
			E. Radiological Assessment and Control 1. Demonstrate the ability to obtain onsite radiological surveys and samples. Performance Criteria: a. Radiation Protection Technicians demonstrate the ability to obtain appropriate instruments (range and type) and perform surveys. b. Airborne samples are taken in accordance with emergency plan procedures. 2. Demonstrate the ability to continuously monitor and control radiation exposure to emergency workers. Performance Criteria:

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 25 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
			a. Emergency workers are issued self reading dosimeters when radiation levels require, and exposures are controlled to 10 CFR Part 20 limits (unless the Emergency Coordinator authorizes emergency limits). b. Exposure records are available. c. Emergency workers include Security and personnel within all emergency facilities. 3. Demonstrate the ability to assemble and deploy field monitoring teams within 60 minutes from the decision to do so. Performance Criteria: a. One Field Monitoring team is ready to be deployed within 15 - 30 minutes of their arrival onsite. In addition, an offsite monitoring team must be able to be dispatched within 55-70 minutes of an Alert or higher emergency classification.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 26 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
			4. Demonstrate the ability to collect and disseminate field team data. Performance Criteria: a. Field team collects data for dose rate and airborne radioactivity levels in accordance with emergency plan procedures. b. Field team communicates data to the TSC and/or EOF in accordance with emergency plan procedures. 5. Demonstrate the ability to develop dose projections. Performance Criteria: a. Timely and accurate dose projections are performed in accordance with emergency plan procedures. 6. Demonstrate the ability to make the decision whether to issue radioprotective drugs (KI) to onsite emergency workers.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 27 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
			Performance Criteria a. KI is taken (simulated) if the estimated dose to the thyroid will exceed 25 rem committed dose equivalent (CDE). 7. Demonstrate the ability to develop appropriate protective action recommendations (PARs) and notify appropriate authorities no later than 15 minutes after development. Performance Criteria: a. Total effective dose equivalent (TEDE) and CDE dose projections from the dose assessment computer code are compared in accordance with emergency plan procedures. b. 'PARs are developed no later than 15 minutes after data availability. c. PAR's are transmitted via voice or fax no later than 15 minutes after event classification and/or PAR development.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 28 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
			F. Public Information 1. Demonstrate the capability to develop and disseminate clear, accurate, and timely information to the news media in accordance with EPPs. Performance Criteria: a. The Joint Information Center (JIC) is activated within 60 minutes following the declaration of a Site Area Emergency or higher classification or following the Emergency Coordinator's or JIC Director's instruction to do so. b. Follow-up information is provided to the news media, during scheduled news conferences and media briefings. 2. Demonstrate the capability to establish and effectively operate rumor control in a coordinated fashion. Performance Criteria:

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 29 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
			a. Calls are answered in a timely manner with the correct information, in accordance with emergency plan procedures. b. Calls are returned or forwarded, as appropriate, to demonstrate responsiveness. c. Rumors are identified and addressed in accordance with emergency plan procedures. *G. Evaluation* 1. Demonstrate the ability to conduct a post-exercise critique, to determine areas requiring improvement and corrective action. Performance Criteria: a. An exercise time line is developed, followed by an evaluation of the objectives.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 30 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
			b. Significant problems in achieving the objectives are discussed to ensure understanding of why objectives were not fully achieved. c. Recommendations for improvement in non-objective areas are discussed.
			14.1.2.1 A report exists and concludes that onsite emergency response personnel were mobilized to fill emergency response positions and there were no uncorrected onsite exercise deficiencies. 14.1.2.2 A report exists and concludes that onsite emergency response personnel performed their assigned responsibilities as provided in Section B of the Comanche Peak Units 3 and 4 Combined License Application Emergency Plan and there were no uncorrected onsite exercise deficiencies.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 31 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
			14.1.3 A report exists and concludes that the exercise was completed within the specified time periods of Appendix E to 10 CFR Part 50, offsite exercise objectives were met, and there are no uncorrected deficiencies or a licensee condition requires offsite deficiencies to be addressed prior to operation above 5% of rated power.
15.0 Radiological Emergency Response Training			
10 CFR 50.47(b)(15) – Radiological emergency response training is provided to those who may be called upon to assist in an emergency.	15.1 Site-specific emergency response training has been provided for those who may be called upon to provide assistance in the event of an emergency. [O.1]	15.1 An inspection of training records will be performed.	15.1 Site-specific emergency response training has been provided for local fire departments, law enforcement, ambulance, and hospital personnel.
16.0 Responsibility for the Planning Effort: Development , Periodic Review, and Distribution of Emergency Plans			
10 CFR 50.47(b)(16) – Responsibilities for plan development and review and for distribution of emergency plans are established, and planners are properly trained.	16.1 The emergency response plans have been forwarded to all organizations and appropriate individuals with responsibility for implementation of the plans. [P.5]	16.1 An inspection of the distribution letter will be performed.	16.1 The Comanche Peak Nuclear Power Plant Unit 3 & 4 COL Application Emergency Plan was forwarded to the Texas Governor's Division of Emergency Management, the Hood County Judge and the Somervell County Judge.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

Appendix B.1

Table B-1 (Sheet 32 of 32)
Emergency Plan Inspections, Tests, Analyses, and Acceptance Criteria

Planning Standard	EP Program Elements**	Inspections, Tests, Analyses	Acceptance Criteria
17.0 Implementing Procedures			
10 CFR Part 50, App. E.V – No less than 180 days before the scheduled date for initial loading of fuel for a combined license under part 52 of this chapter, the applicant's or licensee's detailed implementing procedures for its emergency plan shall be submitted to the Commission.	17.1 The licensee has submitted detailed implementing procedures for its emergency plan no less than 180 days prior to fuel load.	17.1 An inspection of the submittal letter will be performed.	17.1 Luminant has submitted detailed emergency plan procedures for the onsite emergency plan, to the NRC, no less than 180 days prior to fuel load.

** References in brackets correspond to NUREG-0654/FEMA-REP-1, Rev. 1 Evaluation Criteria

PART 10 - APPENDIX C

PHYSICAL SECURITY HARDWARE

C.1 Design Description

1.b Access to vital equipment requires passage through at least two physical barriers.

2.a Physical barriers for the protected area perimeter are not part of vital area barriers.

2.b Penetrations through the protected area barrier are secured and monitored.

2.c Unattended openings of passable size that intersect a security boundary such as underground pathways must be protected by a physical barrier and monitored by intrusion detection equipment or provided with surveillance at a frequency sufficient to detect exploitation.

3.a Isolation zones exist in outdoor areas adjacent to the physical barrier at the perimeter of the protected area that allow sufficient size for observation and assessment on either side of the barrier.

3.b Isolation zones are monitored with intrusion detection and assessment equipment that can provide detection and assessment of activities within the isolation zone.

3.c Areas where permanent buildings do not allow sufficient observation distance between the intrusion detection system and the protected area barriers (e.g., the building walls are immediately adjacent to, or are an integral part of the protected area barrier) are monitored with intrusion detection and assessment equipment that is designed to detect and assess the attempted or actual penetration of the protected area perimeter barrier before completed penetration of the barrier.

4.a The perimeter intrusion detection system (IDS) can detect penetration or attempted penetration of the protected area perimeter barrier and subsequent alarms annunciate concurrently in at least two continuously manned onsite alarms stations.

4.b The perimeter assessment equipment can provide video image recording with real-time and playback capability that can provide assessment of detected activities before and after each alarm annunciation at the protected area perimeter barrier.

4.c Intrusion detection and assessment equipment at the protected area perimeter remains operational from an uninterruptible power supply in the event of the loss of normal power.

5. Isolation zones and exterior areas within the protected area are provided with illumination to permit observation of activities within exterior areas of the protected area.

6.b The external walls, doors, ceilings and floors in the secondary alarm station and the last access control function for access to the protected area are bullet resistant, to at least Underwriters Laboratories Ballistic Standard 752, "The Standard of Safety for Bullet-Resisting Equipment," Level 4, or National Institute of Justice Standard 0108.01, "Ballistic Resistant Protective Materials," Type III.

7. The vehicle barrier system is designed, installed, and located at the necessary standoff distance to protect against the design-basis threat vehicle bombs.

8.a Access control points are established to control personnel and vehicle access into the protected area.

8.b Access control points are designed and established with equipment to detect firearms, explosives, incendiary devices, and other items which could be used to commit radiological sabotage at the protected area personnel access points.

9. An access control system with a numbered photo identification badge system is designed and installed for use by individuals who are authorized access to protected areas and vital areas without escort.

10.b Unoccupied vital areas are locked and alarmed with activated intrusion detection systems that annunciate in the secondary alarm station.

11.a.ii Security alarm annunciation and video assessment information are available in the secondary alarm station concurrently with the central alarm station.

11.b.ii The secondary alarm station is located inside a protected area and the interior of the secondary alarm station is not visible from the perimeter of the protected area.

11.c.i The alarm system will not allow the status of a detection point, locking mechanism or access control device to be changed from the central alarm station without the knowledge and concurrence of the secondary alarm station operator.

11.c.ii The alarm system will not allow the status of a detection point, locking mechanism or access control device to be changed from the secondary alarm station without the knowledge and concurrence of the central alarm station operator.

11.d Central and secondary alarm stations are designed, equipped, and constructed such that no single act, in accordance with the design basis threat of radiological sabotage, can simultaneously remove the ability of both the central and secondary alarm stations to: (1) detect and assess alarms (2) initiate and coordinate an adequate response to alarms (3) summon offsite assistance, and (4) provide effective command and control.

11.e Both the central and secondary alarm stations are constructed, protected, and equipped to the standards for the central alarm station.

13.b.ii Intrusion detection and assessment systems provide visual display and audible annunciation in the secondary alarm station.

15.b Emergency exits through the protected area perimeter are alarmed with intrusion detection devices and secured by locking devices that allow prompt egress during an emergency.

16.a.ii The secondary alarm station has conventional (land line) telephone service with local law enforcement authorities and a system for communication with the main control room.

16.b.ii The secondary alarm station is capable of continuous communication with security personnel.

16.c.ii Nonportable communications equipment in the secondary alarm station will remain operational from an independent power source in the event of loss of normal power.

C.2 Inspections, Tests, Analyses, and Acceptance Criteria

Table C-1 specifies the ITAAC for the site-specific physical security hardware.

Appendix C

Table C-1 (Sheet 1 of 6)
Physical Security Hardware Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1.b Access to vital equipment requires passage through at least two physical barriers.	1.b Inspections will be performed of vital equipment locations.	1.b. Vital equipment is located such that access to the vital equipment requires passage through at least two physical barriers.
2.a Physical barriers for the protected area perimeter are not part of vital area barriers.	2.a Inspections of the protected area perimeter barriers will be performed.	2.a Physical barriers at the perimeter of the protected area are separated from any other barrier designated as a vital area barrier.
2.b Penetrations through the protected area barrier are secured and monitored.	2.b Inspections will be performed of penetrations through the protected area barrier.	2.b Penetrations and openings of a passable size through the protected area barrier are secured and monitored by intrusion detection equipment.
2.c Unattended openings of passable size that intersect a security boundary such as underground pathways must be protected by a physical barrier and monitored by intrusion detection equipment or provided with surveillance at a frequency sufficient to detect exploitation.	2.c Inspections will be performed of unattended openings of passable size within the protected area barriers.	2.c Unattended openings of a passable size (such as underground pathways) that intersect a security boundary, are protected by a physical barrier and monitored by intrusion detection equipment or provided with surveillance at a frequency sufficient to detect exploitation.
3.a Isolation zones exist in outdoor areas adjacent to the physical barrier at the perimeter of the protected area that allow sufficient size for observation and assessment on either side of the barrier.	3.a Inspections of the outdoor areas adjacent to the protected area perimeter barrier will be performed.	3.a The isolation zones exist in outdoor areas adjacent to the physical barrier at the perimeter of the protected area and allow 20 feet for observation and assessment of the activities of people on either side of the barrier.
3.b Isolation zones are monitored with intrusion detection and assessment equipment that can provide detection and assessment of activities within the isolation zone.	3.b The intrusion detection equipment for monitoring the isolation zones will be inspected.	3.b Isolation zones are monitored by intrusion detection and assessment equipment capable of providing detection and assessment of activities within the isolation zone.

Appendix C

Table C-1 (Sheet 2 of 6)
Physical Security Hardware Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3.c Areas where permanent buildings do not allow sufficient observation distance between the intrusion detection system and the protected area barriers (e.g., the building walls are immediately adjacent to, or are an integral part of the protected area barrier) are monitored with intrusion detection and assessment equipment that is designed to detect and assess the attempted or actual penetration of the protected area perimeter barrier before completed penetration of the barrier.	3.c Inspections of the areas of the protected area perimeter barrier that do not have isolation zones will be performed.	3.c Areas where permanent buildings do not allow a minimum of 20 feet observation distance between the intrusion detection system and the protected area barrier (e.g., the building walls are immediately adjacent to, or are an integral part of the protected area barrier) are monitored with intrusion detection and assessment equipment that detect and assess attempted or actual penetration of the protected area perimeter barrier before completed penetration of the barrier.
4.a The perimeter instrusion detection system (IDS) can detect penetration or attempted penetration of the protected area perimeter barrier and subsequent alarms annunciate concurrently in at least two continuously manned onsite alarms stations.	4.a Tests, inspections, or a combination of tests and inspections of the intrusion detection system will be performed.	4.a The IDS can detect penetration or attempted penetration of the protected area perimeter barrier before completed penetration of the barrier, and subsequent alarms annunciate concurrently in at least two continuously manned onsite alarms stations.
4.b The perimeter assessment equipment can provide video image recording with real-time and playback capability that can provide assessment of detected activities before and after each alarm annunciation at the protected area perimeter barrier.	4.b Tests, inspections, or a combination of tests and inspections of the video assessment equipment will be performed.	4.b The perimeter assessment equipment is capable of video image recording equipment with real-time and play-back video image recording that provides assessment of detected activities before and after each alarm annunciation at the protected area perimeter barrier.
4.c Intrusion detection and assessment equipment at the protected area perimeter remains operational from an uninterruptible power supply in the event of the loss of normal power.	4.c Tests, inspections or a combination of tests and inspections of the uninterruptible power supply will be performed.	4.c Intrusion detection and assessment equipment at the protected area perimeter remains operational from an uninterruptible power supply in the event of the loss of normal power.

Appendix C

Table C-1 (Sheet 3 of 6)
Physical Security Hardware Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5. Isolation zones and exterior areas within the protected area are provided with illumination to permit observation of activities within exterior areas of the protected area.	5. Inspections or tests of the illumination in isolation zones and exterior areas of the protected will be performed.	5. Illumination in isolation zones and exterior areas within the protected area is 0.2 foot-candles measured horizontally at ground level or alternatively sufficient to permit observation and assessment.
6.b The external walls, doors, ceilings and floors in the secondary alarm station and the last access control function for access to the protected area are bullet resistant, to at least Underwriters Laboratories Ballistic Standard 752, "The Standard of Safety for Bullet-Resisting Equipment," Level 4, or National Institute of Justice Standard 0108.01, "Ballistic Resistant Protective Materials," Type III.	6.b Type test, analysis or a combination of type test and analysis of the external walls, doors, ceiling and floors in the secondary alarm station and the last access control function for access to the protected area will be performed.	6.b A report exists and concludes that the external walls, doors, ceilings, floors in the secondary alarm station and the last access control function for access to the protected area are bullet resistant, to at least Underwriters Laboratories Ballistic Standard 752, "The Standard of Safety for Bullet-Resisting Equipment," Level 4, or National Institute of Justice Standard 0108.01, "Ballistic Resistant Protective Materials," Type III.
7. The vehicle barrier system is designed, installed, and located at the necessary standoff distance to protect against the design-basis threat vehicle bombs.	7. Type test, inspections, and analysis will be performed for the vehicle barrier system.	7. A validated report reviewed in accordance with NUREG/CR-6190 exists and concludes that the vehicle barrier system will protect against the design-basis threat vehicle bombs based on the standoff distance for the system.
8.a Access control points are established to control personnel and vehicle access into the protected area.	8.a Tests, inspections, or a combination of tests and inspections of installed systems and equipment will be performed.	8.a Access control points exist for the protected area and are configured to control access and are equipped with locking devices, intrusion detection equipment and surveillance equipment consistent with the intended function.
8.b Access control points are designed and established with equipment to detect firearms, explosives, incendiary devices, and other items which could be used to commit radiological sabotage at the protected area personnel access points.	8.b Tests, inspections, or a combination of tests and inspections of installed systems and equipment will be performed.	8.b Detection equipment exists and is capable of detecting firearms, explosives, incendiary devices or other items which could be used to commit radiological sabotage at the protected area personnel access control points.

Appendix C

Table C-1 (Sheet 4 of 6)
Physical Security Hardware Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
9. An access control system with a numbered photo identification badge system is designed and installed for use by individuals who are authorized access to protected areas and vital areas without escort.	9. Tests of the access control system with numbered photo identification badge system will be performed.	9. The access authorization system with a numbered photo identification badge system is installed and provides authorized access to protected and vital areas to those personnel with unescorted access authorization.
10.b Unoccupied vital areas are locked and alarmed with activated intrusion detection systems that annunciate in the secondary alarm station.	10.b Tests, inspections, or a combination of tests and inspections of unoccupied vital areas intrusion detection equipment and locking devices will be performed.	10.b Unoccupied vital areas are locked and intrusion is detected and annunciated in the secondary alarm station.
11.a.ii Security alarm annunciation and video assessment information are available in the secondary alarm station concurrently with the central alarm station.	11.a.ii Tests, inspections or a combination of tests and inspections of alarm annunciation and video assessment equipment will be performed.	11.a.ii Security alarm annunciation and video assessment equipment information is available in the secondary alarm station concurrently with the central alarm station.
11.b.ii The secondary alarm station is located inside a protected area and the interior of the secondary alarm station is not visible from the perimeter of the protected area.	11.b.ii Inspections of the secondary alarm station location will be performed.	11.b.ii The secondary alarm station is located inside a protected area and the interior of the secondary alarm station is not visible from the perimeter of the protected area.
11.c.i The alarm system will not allow the status of a detection point, locking mechanism or access control device to be changed from the central alarm station without the knowledge and concurrence of the secondary alarm station operator.	11.c.i Tests, inspections, or a combination of intrusion detection equipment and access control equipment will be performed.	11.c.i The alarm system will not allow the status of a detection point, locking mechanism or access control device to be changed from the central alarm station without the knowledge and concurrence of the secondary alarm station operator.
11.c.ii The alarm system will not allow the status of a detection point, locking mechanism or access control device to be changed from the secondary alarm station without the knowledge and concurrence of the central alarm station operator.	11.c.ii Tests, inspection, or a combination of tests and inspections of intrusion detection equipment and access control equipment will be performed.	11.c.ii The alarm system will not allow the status of a detection point, locking mechanism or access control device to be changed from the secondary alarm station without the knowledge and concurrence of the central alarm station operator.

Appendix C

Table C-1 (Sheet 5 of 6)
Physical Security Hardware Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
11.d Central and secondary alarm stations are designed, equipped, and constructed such that no single act, in accordance with the design basis threat of radiological sabotage, can simultaneously remove the ability of both the central and secondary alarm stations to: (1) detect and assess alarms (2) initiate and coordinate an adequate response to alarms (3) summon offsite assistance, and (4) provide effective command and control.	11.d Tests, inspections or a combination of tests and inspections of the central and secondary alarm stations will be performed.	11.d Central and secondary alarm stations are designed, equipped and constructed such that no single act, in accordance with the design basis threat of radiological sabotage, can simultaneously remove the ability of the central and secondary alarm stations to: (1) detect and assess alarms (2) initiate and coordinate an adequate response to alarms (3) summon offsite assistance, and (4) provide effective command and control.
11.e Both the central and secondary alarm stations are constructed, protected, and equipped to the standards for the central alarm station.	11.e Tests, inspections or a combination of tests and inspections of the central and secondary alarm stations will be performed.	11.e The central alarm station and secondary alarm station are constructed, protected, and equipped to the same standards for functional redundancy.
13.b.ii Intrusion detection and assessment systems provide visual display and audible annunciation in the secondary alarm station.	13.b.ii Tests will be performed on intrusion detection and assessment systems.	13.b.ii The intrusion detection system provides a visual display and audible annunciation of alarms in the secondary alarm station.
15.b Emergency exits through the protected area perimeter are alarmed with intrusion detection devices and secured by locking devices that allow prompt egress during an emergency.	15.b Tests, inspections or a combination of tests and inspections of emergency exits through the protected area perimeter will be performed.	15.b Emergency exits through the protected area perimeter are alarmed with intrusion detection devices and secured by locking devices that allow prompt egress during an emergency.
16.a.ii The secondary alarm station has conventional (land line) telephone service with local law enforcement authorities and a system for communication with the main control room.	16.a.ii Tests, inspections, or a combination of tests and inspections of the secondary alarm station communications capability with local law enforcement authorities and main control room will be performed.	16.a.ii The secondary alarm station is equipped with conventional (land line) telephone service with local law enforcement authorities and has a system for communication with the main control room.

Appendix C

Table C-1 (Sheet 6 of 6)
Physical Security Hardware Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
16.b.ii The secondary alarm station is capable of continuous communication with security personnel.	16.b.ii Tests, inspections, or a combination of tests and inspections of the secondary alarm station continuous communication capabilities will be performed.	16.b.ii The secondary alarm station is capable of continuous communication with on-duty watchmen, armed security officers, armed responders, or other security personnel that have responsibilities within the physical protection program and during contingency response events.
16.c.ii Nonportable communications equipment in the secondary alarm station will remain operational from an independent power source in the event of loss of normal power.	16.c.ii Tests, inspections, or a combination of tests and inspections of the nonportable communications equipment will be performed.	16.c.ii Nonportable communication devices (including conventional telephone systems) in the secondary alarm station are wired to an independent power supply that enables those systems to remain operable, without disruption, during the loss of normal power.