Calvert Cliffs Nuclear Power Plant Unit 3

Combined License Application

Part 10: Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) and ITAAC Closure

Revision 9
March 2013

This COLA Part includes RCOLA generic text. Site Specific Text is enclosed in braces: {Site Specific Information}

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Table of Contents

INSPECTIONS, TESTS, ANALYSES, AND ACCEPTANCE CRITERIA (ITAAC) AND ITAAC CLOSURE 1-1
APPENDIX A- PROPOSED COMBINED LICENSE CONDITIONS 1-5
1. INSPECTIONS, TESTS, ANALYSES, AND ACCEPTANCE CRITERIA (ITAAC) 1-5
2. COL ITEMS 1-5
3. OPERATIONAL PROGRAM IMPLEMENTATION 1-13
4. FIRE PROTECTION PROGRAM REVISIONS 1-14
5. SECURITY PLAN REVISIONS 1-14
6. OPERATIONAL PROGRAM READINESS 1-14
7. STARTUP TESTING 1-14
8. EMERGENCY ACTION LEVELS 1-15
9. ENVIRONMENTAL PROTECTION PLAN 1-15
ENVIRONMENTAL PROTECTION PLAN (NONRADIOLOGICAL) 1-16
1. OBJECTIVES OF THE ENVIRONMENTAL PROTECTION PLAN 1-16
2. ENVIRONMENTAL PROTECTION ISSUES 1-16
3. CONSISTENCY REQUIREMENTS 1-16
4. ENVIRONMENTAL CONDITIONS 1-17
5. ADMINISTRATIVE PROCEDURES 1-18
APPENDIX B- INSPECTIONS, TESTS, ANALYSES, AND ACCEPTANCE CRITERIA (ITAAC) 1-20
1. TIER 1 INFORMATION 1-20
2. COL APPLICATION ITAAC 1-20
2.1 DESIGN CERTIFICATION ITAAC 1-20
2.2 PHYSICAL SECURITY ITAAC 1-20
2.3 EMERGENCY PLANNING ITAAC 1-23
2.4 SITE-SPECIFIC ITAAC 1-40

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List of Tables

2.2-1 Physical Security ITAAC 1-21
2.3-1 {Emergency Planning ITAAC} 1-24
2.4-1 {Engineered Fill Inspections, Tests, Analyses, and Acceptance Criteria} 1-41
2.4-2 {Nuclear Island Structures Inspections, Tests, Analyses, and Acceptance Criteria} 1-42
2.4-3 {Emergency Power Generating Buildings Inspections, Tests, Analyses, and Acceptance Criteria} 1-43
2.4-4 {Nuclear Auxiliary Building Inspections, Tests, Analyses, and Acceptance Criteria} 1-44
2.4-5 {Radioactive Waste Building Inspections, Tests, Analyses, and Acceptance Criteria} 1-45
2.4-6 {Essential Service Water Buildings Inspections, Tests, Analyses, and Acceptance Criteria} 1-46
2.4-7 {Ultimate Heat Sink Makeup Water Intake Structure Inspections, Tests, Analyses, and Acceptance Criteria} 1-47
2.4-8 {Buried Conduit Duct Banks, and Pipe and Pipe Ducts Inspections, Tests, Analyses, and Acceptance Criteria} 1-49
2.4-9 {Fire Protection Building Inspections, Tests, Analyses, and Acceptance Criteria} 1-53
2.4-10 {Turbine Building Inspections, Tests, Analyses, and Acceptance Criteria} 1-54
2.4-11 {Switchgear Building Inspections, Tests, Analyses, and Acceptance Criteria} 1-55
2.4-12 {Warehouse Building Inspections, Tests, Analyses, and Acceptance Criteria} 1-57
2.4-13 {Security Access Building Inspections, Tests, Analyses, and Acceptance Criteria} 1-58
2.4-14 {Central Gas Supply Building Inspections, Tests, Analyses, and Acceptance Criteria} 1-59
2.4-15 {Grid Systems Control Building Inspections, Tests, Analyses, and Acceptance Criteria} 1-60
2.4-16 {Circulating Water Cooling Tower Structure Inspections, Tests, Analyses, and Acceptance Criteria} 1-61
2.4-17 {Circulating Water Pump Building Inspections, Tests, Analyses, and Acceptance Criteria} 1-62
2.4-18 {Circulating Water Makeup Intake Structure Inspections, Tests, Analyses, and Acceptance Criteria} 1-63
2.4-19 {Desalinization / Water Treatment Building Inspections, Tests, Analyses, and Acceptance Criteria} 1-64
2.4-20 {Ultimate Heat Sink Makeup Water Intake Structure Ventilation System Inspections, Tests, Analyses, and Acceptance Criteria} 1-65
2.4-21 {Fire Protection Building Ventilation System Inspections, Tests, Analyses, and Acceptance Criteria} 1-70
2.4-22 {Ultimate Heat Sink Makeup Water System Inspections, Tests, Analyses, and Acceptance Criteria} 1-74
2.4-23 {Raw Water Supply System Inspections, Tests, Analyses, and Acceptance Criteria} 1-83
2.4-24 {Fire Water Distribution System Inspections, Tests, Analyses, and Acceptance Criteria} 1-84
2.4-25 {Fire Suppression Systems Inspections, Tests, Analyses, and Acceptance Criteria} 1-87

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2.4-26 {Offsite Power System Inspections, Tests, Analyses, and Acceptance Criteria} 1-91
2.4-27 {Power Generation System Inspections, Tests, Analyses, and Acceptance Criteria} 1-94
2.4-28 {Class 1E Emergency Power Supply Components for Site-Specific Systems Inspections, Tests, Analyses, and Acceptance Criteria} 1-95
2.4-29 {Ultimate Heat Sink (UHS) Makeup Water System Component Mechanical Design} 1-100
2.4-30 {Forebay Structure Inspections, Tests, Analyses, and Acceptance Criteria} 1-105
2.4-31 {Waste Water Treatment Facility Inspections, Tests, Analyses, and Acceptance Criteria} 1-106
2.4-32 {Access Building Inspections, Tests, Analyses, and Acceptance Criteria} 1-107
2.4-33 {Sheet Pile Wall Inspections, Tests, Analyses, and Acceptance Criteria} 1-108
2.4-34 {Waterproofing or Dampproofing Geomembrane Under Nuclear Island Common Basemat Structures and Other Buildings Inspections, Tests, Analyses, and Acceptance Criteria} 1-109
2.4-35 {Ultimate Heat Sink (UHS) Makeup Intake Structure Ventilation System Component Mechanical Design} 1-110

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List of Figures

2.4-1 {Ultimate Heat Sink Makeup Water System Functional Arrangement} 1-113
2.4-2 {UHS Makeup Water Intake Structure Ventilation System Functional Arrangement} 1-114
2.4-3 {ESWS Emergency Makeup Water System Functional Arrangement} 1-115

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Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) and ITAAC Closure

APPENDIX A- PROPOSED COMBINED LICENSE CONDITIONS

1. INSPECTIONS, TESTS, ANALYSES, AND ACCEPTANCE CRITERIA (ITAAC)

There are several ITAAC identified in the COL application. Once incorporated into the COL, regulations identify the requirements that must be met.

The ITAAC identified in the tables in Appendix B of Part 10 of the COL application are incorporated into this Combined License. After the Commission has made the finding required by 10 CFR 52.103(g), the ITAAC do not constitute regulatory requirements; except for specific ITAAC, which are the subject of a Section 103(a) hearing, their expiration will occur upon final Commission action in such proceeding.

2. COL ITEMS

There are several COL items that can not be resolved prior to issuance of the Combined License. The referenced U.S. EPR FSAR and the COL application FSAR together: 1) justify why each of these COL items can not be resolved before the COL is issued; 2) provides sufficient information on these items to support the NRC licensing decision; and 3) identifies an appropriate implementation milestone. Therefore, in accordance with the guidance in Regulatory Guide 1.206, Section C.III.4.3, the following Combined License Condition is proposed to address these COL items.

PROPOSED LICENSE CONDITION:

Each COL item identified below shall be completed by the identified implementation milestone through completion of the action identified.

<u>COL Item 3.4-6 in Section 3.4.1</u>

The maintenance program for watertight door preventive maintenance will be in accordance with manufacturer recommendations so that each Safeguards Building and Fuel Building watertight door above elevation +0 feet remains capable of performing its intended function. The program will be in place prior to fuel load.

<u>COL Item 3.4-7 in Section 3.4.2</u>

The seal between the Access Building and the adjacent Category I access path to the Reactor Building Tendon Gallery will be designed to be watertight. The watertight seal design will account for hydrostatic loads, lateral earth pressure loads, and other applicable loads. The seal will be in place prior to fuel load.

<u>COL Item 3.5-8 in Section 3.5.1.1.3</u>

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC shall, prior to initial fuel load, have plant procedures in place that specify that unsecured equipment, including portable pressurized gas cylinders, located inside or outside containment and required for maintenance or undergoing maintenance, is to be removed from containment prior to operation, moved to a location where the equipment is not a potential hazard to SSCs important to safety, or seismically restrained to prevent the equipment from becoming a missile.}

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COL Item 3.5-9 in Section 3.5.1.1.3

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC shall, prior to initial fuel load, establish plant procedural controls to ensure that unsecured maintenance equipment, including that required for maintenance and that are undergoing maintenance, will be removed from containment prior to operation, moved to a location where it is not a potential hazard to safety-related SSCs, or restrained to prevent it from becoming a missile.}

COL Item 3.6-4 in Section 3.6.2.5.1

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall provide the diagrams showing the configurations, locations, and orientations of the pipe whip restraints in relation to break locations in each piping system prior to fabrication and installation of the piping system.

COL Item 3.6-5 in Section 3.6.3

The ISI program will be augmented with NRC approved ASME Code cases that are developed and approved for augmented inspections of Alloy 690/152/52 material to address PWSCC concerns prior to fuel load.

COL Item 3.7-5 in Section 3.7.4.2.1

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall determine the location for the free-field acceleration sensor in accordance with the guidance provided in Regulatory Guide 1.12 prior to fuel load.

COL Item 3.8-17 in Section 3.8.4.7

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} will address examination of buried safety-related piping in accordance with ASME Section XI, IWA-5244, "Buried Components" prior to fuel load.

COL Item 3.8-18 in Section 3.8.5.5.1

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} will compare the NI common basemat site-specific predicated angular distortion to the angular distortion in the relative differential settlement contours in US EPR FSAR Figure 3.8-124 through Figure 3.8-134, using methods described in U.S. Army Engineering Manual 1110-1-1904. The comparison is to be made throughout the basemat in both the east-west and north-south directions. If the predicated angular distortion of the NI common basemat structure is less than the angular distortion shown for each of the construction steps, the site is considered acceptable. Otherwise, further analysis will be required to demonstrated that the structural design is adequate. The comparison of differential settlement and any required additional analysis will be completed prior to fuel load.

COL Item 3.8-19 in Section 3.8.5.5.2

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} will compare the EPGB site-specific predicted angular distortion to the angular distortion in the total differential settlement contours in US EPR FSAR Figure 3.8-135, using methods described in U.S. Army Engineering Manual 1110-1-1904. The comparison is to be made throughout the basemat in both the east-west and north-south directions. If the predicted angular distortion of the basemat of EPGB structures is less than the angular distortion shown, the site is considered acceptable. Otherwise, further analysis will be required to demonstrate that the

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structural design is adequate. The comparison of differential settlement and any required additional analysis will be completed prior to fuel load.

COL Item 3.8-20 in Section 3.8.5.5.3

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} will compare the ESWB site-specific predicted angular distortion to the angular distortion in the total differential settlement contours in US EPR FSAR Figure 3.8-136, using methods described in U.S. Army Engineering Manual 1110-1-1904. The comparison is to be made throughout the basemat in both the east-west and north-south directions. If the predicted angular distortion of the basemat of ESWB structures is less than the angular distortion shown, the site is considered acceptable. Otherwise, further analysis will be required to demonstrate that the structural design is adequate. The comparison of differential settlement and any required additional analysis will be completed prior to fuel load.

COL Item 3.9-1 in Section 3.9.2.4

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall submit the results from the vibration assessment program for the U.S. EPR Reactor Pressure Vessel internals, in accordance with Regulatory Guide 1.20.

COL Item 3.9-2 in Section 3.9.3

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall prepare the results and conclusions from the reactor internals material reliability programs applicable to the U.S. EPR reactor internals with regard to known aging degradation mechanisms such as irradiation-assisted stress corrosion cracking and void swelling, addressed in Section 4.5.2.1, prior to fuel load.

COL Item 3.9-5 in Section 3.9.3.1.1

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall route, during detailed design, Class 1, 2, or 3 piping not included in the U.S. EPR design certification in a manner so that it is not exposed to wind or tornadoes.

COL Item 3.9-7 in Section 3.9.6

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall submit the Preservice Testing Programs and Inservice Testing Programs to the NRC prior to performing the tests and following the start of construction and prior to the anticipated date of commercial operation, respectively. The implementation milestones for these programs are provided in {CCNPP Unit 3} FSAR Table 13.4-1. These programs shall include the implementation milestones and applicable ASME OM Code and shall be consistent with the requirements in the latest edition and addenda of the OM Code incorporated by reference in 10 CFR 50.55a on the date 12 months before the date for initial fuel load.

COL Items 3.9-9 and 3.9-10 in Section 3.9.1.2

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall perform the required pipe stress and support analysis and shall utilize a piping analysis program based on the computer codes described in U.S. EPR FSAR Section 3.9.1 and U.S. EPR FSAR Appendix 3C.

COL Item 3.9-12 in Section 3.9.6.4

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall provide a table identifying the safety-related systems and components that use snubbers in their

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support systems, including the number of snubbers, type (hydraulic or mechanical), applicable standard, and function (shock, vibration, or dual-purpose snubber). For snubbers identified as either a dual-purpose or vibration arrester type, {Calvert Cliffs 3 Nuclear Project and UniStar Nuclear Operating Services} shall denote whether the snubber or component was evaluated for fatigue strength. This information shall be provided prior to installation of any of the snubbers.

COL Item 3.10-3 in Section 3.10.4

The seismic and dynamic qualification implementation program, including milestones and completion dates, shall be developed and submitted for U.S. Nuclear Regulatory Commission approval prior to installation of the applicable equipment.

COL Item 3.11-1 in Section 3.11.3

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall develop and submit the equipment qualification testing program, including milestones and completion dates, prior to installation of the applicable equipment.

COL Item 3.12-1 in Section 3.12.4.2

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall perform a review of the impact of contributing mass of supports on the piping analysis following the final support design to confirm that the mass of the support is no more than ten percent of the mass of the adjacent pipe span. If the impact review determines the piping analysis does not bound the additional mass of the pipe support, the COL applicant will perform reanalysis of the piping to include the additional mass. All analysis will be completed prior to fuel load.

COL Item 3.12-2 in Section 3.12.4.3

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall use piping analysis programs listed in Section 5.1 of the referenced topical report (ANP-10264 NP-A).

COL Item 3.13-1 in Section 3.13.2

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall submit the inservice inspection program for ASME Class 1, Class 2, and Class 3 threaded fasteners to the NRC prior to performing the first inspection. The program will identify the applicable edition and addenda of ASME Section XI and ensure compliance with the requirements of 10 CFR 50.55a(b)(2)(xxvii).

COL Item 5.2-3 in Section 5.2.4 and COL Item 6.6-1 in Section 6.6

The initial inservice inspection program for Class 1, 2 and 3 components shall incorporate the latest edition and addenda of the ASME Boiler and Pressure Vessel Code approved in 10 CFR 50.55a(b) on the date 12 months before initial fuel load.

COL Item 5.3-2 in Section 5.3.2.1

A plant-specific Pressure and Temperature Limits Report shall be provided in accordance with {CCNPP Unit 3} Technical Specification 5.6.4, "Reactor Coolant System (RCS) PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)," and shall be based on the methodology provided in ANP-10283P, Revision 2, prior to initial fuel load.

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COL Item 5.3-3 in Section 5.3.2.3

The plant-specific RT_{PTS} values for vessel beltline materials will be determined in accordance with 10 CFR 50.61 and provided to the NRC within one year of acceptance of the reactor vessel by the licensee.

COL Item 5.4-1 in Section 5.4.2.5.2.2

The Steam Generator Tube Inspection Program shall incorporate the latest edition and addenda of the ASME Boiler and Pressure Vessel Code approved in 10 CFR 50.55a(b) on the date 12 months before initial fuel load.

COL Item 6.1-1 in Section 6.1.1.1

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall include, or require its contractors to include, a review of special processes such as fabrication and welding procedures and other QA methods to verify conformance with Regulatory Guides 1.31 and 1.44 for ESF components as part of the procurement process. The procurement process will be established prior to purchasing ESF components.

This will ensure that conformance with RG 1.31 and 1.44 will be established within the appropriate vendor processes prior to initiation of any fabrication activity that would be subject to NRC construction inspection program.

COL Item 6.1-2 in Section 6.1.2

During component procurement, if components cannot be procured with Design Basis Accident (DBA)-qualified coatings applied by the component manufacturer, {Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall do one of the following: Procure the component as uncoated and apply a DBA-qualified coating system in accordance with 10 CFR 50, Appendix B, Criterion IX; Confirm that the DBA-unqualified coating is removed and that the component is recoated with DBA-qualified coatings in accordance with 10 CFR 50, Appendix B, Criterion IX; Add the quantity of DBA-unqualified coatings to a list that documents those DBA-unqualified coatings already existing within containment. The DBA-qualified (i.e., Service Level 1) coating will be applied in accordance with the applicable standards stated in Regulatory Guide 1.54, Rev. 1 (NRC, 2000), except as modified by U.S. EPR FSAR Section 6.1.2.4.

COL Item 6.1-3 in Section 6.1.2.2

A coatings program will be established prior to procurement of components with qualified coatings and will define implementation of the program, including maintenance and repair of coatings.

COL Item 6.4-2 in Section 6.4.3

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall provide written emergency planning and procedures for use in the event of a radiological or hazardous chemical release within or near the plant, and will provide training of control room personnel, prior to receipt of fuel onsite at {CCNPP Unit 3}.

COL Item 7.1-2 in Section 7.7.2.3.5

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} will, following selection of the actual plant operating instrumentation and calculation of the instrumentation uncertainties of the operating plant parameters, calculate the primary power calorimetric uncertainty. The calculations will be completed using an NRC acceptable method

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and confirm that the safety analysis primary power calorimetric uncertainty bounds the calculated values.

COL Item 7.1-4 in Section 7.1.1.2

A plan shall be established to address the site-specific implementation of the limitations and conditions identified in Section 4 of the NRC Safety Evaluation for Topical Report ANP-10272A, "Software Program Manual for TELEPERM XS Safety Systems" and make it available for NRC review prior to project specific TXS software development.

COL Item 8.3-1 in Section 8.3.1.1.5

Prior to initial fuel load, {Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall establish procedures to monitor and maintain Emergency Diesel Generator reliability to verify the selected reliability level goal of 0.95 is being achieved as intended by Regulatory Guide 1.155.

COL Item 9.1-2 in Section 9.1.4

Before initial fuel loading into the reactor, {Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall perform an appropriate test and analysis that demonstrates that an identified NRC-approved cask can be safely connected to the Spent Fuel Cask Transfer Facility SFCTF, and the cask and its adapter meet the criteria specified in U.S. EPR FSAR Table 9.1.4-1. Before initial fuel loading into the reactor, the licensee shall submit a report documenting the test and analysis required above and the results obtained, to the Director of the Office of New Reactors or the Director's designee.

The licensee shall not use the SFCTF for initial cask loading operations until the licensee performs the tests identified below, verifies that the results of the tests fall within the acceptance criteria and submits a report to the Director of the Office of New Reactors or the Director's designee.

The tests are:

- Verify the penetration leak tightness with loading pit filled with water.
- Verify the cask loading sequence and the sequential interlocking with the actual cask and a dummy assembly under water.

COL Item 10.2-2 in Section 10.2.3.1

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall submit to the NRC the applicable material properties of the site-specific turbine rotor, including the method of calculating the fracture toughness properties.

COL Item 10.2-3 in Section 10.2.3.2

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall submit to the NRC the applicable site-specific turbine disk rotor specimen test data, load-displacement data from the compact tension specimens and the fracture toughness properties to demonstrate that the associated information and data presented in the U.S. EPR FSAR is bounding.

COL Item 10.2-6 in Section 10.2.3.6

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} will include ultrasonic examination of the turbine rotor welds or provide an analysis which demonstrates

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that defects in the root of the rotor welds will not grow to critical size for the life of the rotor prior to fuel load.

COL Item 10.2-7 in Section 10.2.2.12

Prior to initial fuel load, plant procedures will control the inspection, testing and maintenance requirements for the turbine, including the requirements for the turbine overspeed protection system based on the inspections and tests defined in Chapter 4.2 of Alstom Report TSDMF 07-018 D.

COL Item 10.2-8 in Section 10.2.2.9

Prior to initial fuel load, the inservice inspection program will include the inspection intervals and exercise intervals consistent with the turbine manufacturer's recommendations for the main steam stop and control valves, the reheat stop and intercept valves, and the extraction nonreturn valves.

COL Item 10.3-2 in Section 10.3.6.3

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} will develop and implement a FAC condition monitoring program that is consistent with Generic Letter 89-08 and NSAC-202L-R3 for the carbon steel portions of the steam and power conversion systems that contain water or wet steam.

COL Item 11.5-3 in Section 11.5.2

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operation Services, LLC} will develop PERMSS subsystem's LLDs or detection sensitivities, and setpoints (alarms and process termination/diversion) for liquid and gaseous process radiation monitoring equipment not covered by the ODCM based on plant and site specific conditions and operating characteristics of each installed radiation monitoring subsystem prior to initial fuel load.

COL Item 13.2-2 in Section 13.2

A training program will be developed and implemented to maintain the spent fuel pool instrumentation available and reliable. Personnel shall be trained in the use and the provision of alternate power to the safety-related level instrument channels. An overall integrated plan, including a description of how compliance with the requirements described in this license condition will be achieved, shall be submitted to the NRC one (1) year after issuance of the COL. An initial status report, which delineates progress made in implementing the requirements of this license condition, shall be provided to the NRC sixty (60) days following issuance of the COL and at six (6) month intervals following submittal of the overall integrated plan described above.

COL Item 13.3-2 in Section 13.3

At least two (2) years prior to scheduled initial fuel load, the licensee shall have performed an assessment of the on-site and augmented staffing capability to satisfy the regulatory requirements for response to a single-unit event. The staffing assessment will be performed in accordance with NEI 12-01 (NEI, 2012), Revision 0, "Guideline for Assessing Beyond Design Basis Accident Response Staffing and Communications Capabilities."

At least two (2) years prior to scheduled initial fuel load, the licensee shall revise the Emergency Plan to include the following:

- Incorporation of corrective actions identified in the staffing assessment described above.

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- Identification of how the augmented staff will be notified given degraded communications capabilities.

At least two (2) years prior to scheduled initial fuel load, the licensee shall have performed an assessment of on-site and off-site communications systems and equipment required during an emergency event to ensure communications capabilities can be maintained during prolonged station blackout conditions. The communications capability assessment will be performed in accordance with NEI 12-01, Revision 0.

At least one hundred eighty (180) days prior to scheduled initial fuel load, the licensee shall complete implementation of corrective actions identified in the communications capability assessment described above, including any related emergency plan and implementing procedure changes and associated training.

COL Item 14.2-2 in Section 14.2.11

During the post-licensing period, preoperational and startup test procedures will be subject to a license condition for NRC inspections to verify that the Initial Test Program (ITP) is implemented. This process shall allow for the performance of necessary plant as-built inspections and walk downs. A test program shall be developed that considers the components identified in FSAR Section 14.2.11 and shall make available to on-site NRC inspectors preoperational and startup test specifications and test procedures at least 60 days prior to their intended use.

COL Item 14.2-6 in Section 14.2.12

The natural circulation test (Test #196) will be performed prior to fuel load or justification will be provided for not performing the test. The need to perform the test will be based on evaluation of previous natural circulation test results and a comparison of reactor coolant system (RCS) hydraulic resistance coefficients applicable to normal flow conditions.

COL Item 14.2-11 in Section 14.2.9

Specific operator training and participation, as described in the U.S. EPR FSAR Section 14.2.9 will be conducted.

COL Item 15.0-1 in Section 15.0

A report applicable to the first cycle of operation will be provided for staff review that demonstrates compliance with the following items:

- Examine fuel assembly characteristics to verify that they are hydraulically compatible based on the criterion that a single package of assembly specific critical heat flux (CHF) correlations can be used to evaluate the assembly performance.
- Verify that uncertainties used in the setpoint analyses are appropriate for the plant and cycle being analyzed.
- Verify that the DNBR and LPD satisfy SAFDL with a 95/95 assurance.
- Review the U.S. EPR FSAR Tier 2 analysis results for the first cycle to confirm that the static setpoint value provides adequate protection for at least three limiting AOO.

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COL Item 18.1-1 in Section 18.1

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall execute the NRC approved Human Factors Engineering program as described in U.S. EPR FSAR Section 18.1.

COL Item 19.1-4 in Section 19.1.2.3

A peer review of the PRA relative to the ASME PRA Standard shall be performed prior to use of the PRA to support risk-informed applications.

COL Item 19.1-5 in Section 19.1.2.4.1

The {CCNPP Unit 3} PRA shall be treated as a living document. A PRA Configuration Control Program shall be put in place to maintain (update) or upgrade the PRA, as defined in ASME Standard RA-Sc 2007 and as clarified by Regulatory Guide 1.200.

COL Item 19.2-1 in Section 19.2.5

Severe accident management guidelines will be developed and implemented using the Operating Strategies for Severe Accidents (OSSA) methodology described in U.S. EPR FSAR Section 19.2.5 and in ANP-10314, Revision 0, "The Operating Strategies for Severe Accidents Methodology for the U.S. EPR Technical Report."

3. OPERATIONAL PROGRAM IMPLEMENTATION

The provisions of the regulations address implementation milestones for some operational programs. The NRC will use license conditions to ensure implementation for those operational programs whose implementation is not addressed in the regulations. COL application FSAR Table 13.4-1 identifies several programs required by regulations that must be implemented by a milestone to be identified in a license condition.

PROPOSED LICENSE CONDITION:

The programs or portions of programs identified in FSAR Table 13.4-1 shall be implemented on or before the associated milestones in FSAR Table 13.4-1.

Certain milestones in the startup testing phase of the Initial Test Program (ITP) (e.g., pre-critical testing, criticality testing, and low-power testing) shall be controlled through this license condition to ensure that the designated management reviews, evaluates, and approves relevant test results before proceeding to the next power ascension test phase. Accordingly, the following shall be performed:

a. Complete all pre-critical and criticality testing and confirm that the test results are within the range of values predicted in the FSAR acceptance criteria. After completing and evaluating criticality test results, conduct low-power tests and operate the facility at reactor steady-state core power levels not in excess of 5 percent power, in accordance with the conditions of the license.

b. Complete all low-power testing and confirm that the test results are within the range of values predicted in the FSAR acceptance criteria. After completing and evaluating low-power test results, conduct power ascension testing and operate the facility at reactor steady-state core power levels not in excess of 100 percent power, in accordance with the conditions of the license.

Review and evaluation of the adequacy of test results in these reports, as well as final review of overall test results in these reports, shall be performed. Test results, which do not meet

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acceptance criteria, shall be identified, and corrective actions and retests are performed. These reports shall be made available to on-site NRC inspectors.

4. FIRE PROTECTION PROGRAM REVISIONS

An implementation license condition approved in the Staff Requirements Memorandum (SRM) regarding SECY-05-0197 applies to the fire protection program.

PROPOSED LICENSE CONDITION:

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall implement and maintain in effect the provisions of the fire protection program as described in the Final Safety Analysis Report for the facility. The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

5. SECURITY PLAN REVISIONS

An implementation license condition approved in the SRM regarding SECY-05-0197 applies to the security program.

PROPOSED LICENSE CONDITION:

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall fully implement and maintain in effect the provisions of the Security Plan, which consists of the physical security plan, security personnel training and qualification plan, safeguards contingency plan and the cyber security plan, and all amendments made pursuant to the authority of 10 CFR 50.90, 50.54(p), 52.97, and the relevant portions of Part 52 for the U.S. EPR Design Certification after rulemaking when nuclear fuel is first received onsite, and continuing until all nuclear fuel is permanently removed from the site.

6. OPERATIONAL PROGRAM READINESS

The NRC inspection of operational programs will be the subject of the following license condition in accordance with SECY-05-0197.

PROPOSED LICENSE CONDITION:

A schedule shall be submitted to the appropriate Director of the NRC no later than 12 months after issuance of the COL, that supports planning for and conduct of NRC inspections of operational programs listed in the operational program FSAR Table 13.4-1, Item 19, Initial Test Program. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until either the operational programs in the FSAR Table 13.4-1, Item 19, have been fully implemented or the plant has been placed in commercial service, whichever comes first.

7. STARTUP TESTING

COL application FSAR Section 14.2 specifies certain startup tests that must be completed after fuel load. Operating licenses typically have included the following condition related to startup testing.

PROPOSED LICENSE CONDITION:

Within one month of any ITP changes described in FSAR Section 14.2, these changes shall be evaluated in accordance with the provisions of 10 CFR 50.59 or Section VIII of the appropriate

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appendix for the U.S. EPR Design Certification Document under 10 CFR Part 52 and reported in accordance with 10 CFR 50.59(d).

8. EMERGENCY ACTION LEVELS

The {CCNPP Unit 3} Emergency Action Levels (EALs) and the associated Technical Bases Manual contains bracketed values requiring plant specific values to be provided that can not be determined until after the COL is issued. These bracketed values are associated with certain site specific values and detailed design information, such as setpoints and instrument numbers. In most cases, this information is necessary to determine EAL thresholds. The initial EALs will be discussed with and agreed upon by State and Local authorities prior to submittal to the NRC for approval.

PROPOSED LICENSE CONDITION:

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} shall submit a complete set of plant-specific Emergency Action Levels (EALs) for {CCNPP Unit 3} in accordance with NEI 99-01 Revision 5 to the NRC for confirmation at least 180 days prior to initial fuel load. The submitted EALs will be written with no deviations other than those attributable to specific U.S. EPR reactor design considerations. The initial EALS will be discussed with and agreed upon by State and Local authorities prior to submittal to the NRC for approval.

9. ENVIRONMENTAL PROTECTION PLAN

Operating licenses typically have included the following condition related to environmental protection.

PROPOSED LICENSE CONDITION:

The issuance of this COL, subject to the Environmental Protection Plan and the conditions for the protection of the environment set forth herein, is in accordance with the National Environmental Policy Act of 1969, as amended, and with applicable sections of 10 CFR Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," as referenced by Subpart C of 10 CFR Part 52, "Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Plants," and all applicable requirements therein have been satisfied.

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ENVIRONMENTAL PROTECTION PLAN (NONRADIOLOGICAL)

1.0 Objectives of the Environmental Protection Plan

The purpose of the Environmental Protection Plan (EPP) is to provide for protection of nonradiological environmental resources during construction and operation of the nuclear facility. The principal objectives of the EPP are as follows:

1. Verify that the facility is operated in an environmentally acceptable manner, as established by the Final Environmental Impact Statement (FEIS) and other NRC environmental impact assessments.
2. Coordinate NRC requirements and maintain consistency with other Federal, State and local requirements for environmental protection.
3. Keep NRC informed of the environmental effects of facility construction and operation and of actions taken to control those effects.

Environmental concerns identified in the FEIS which relate to water quality matters are regulated by way of the licensee's {NPDES} permit.

2.0 Environmental Protection Issues

In the FEIS dated [month year], the staff considered the environmental impacts associated with the construction and operation of the {Calvert Cliffs Nuclear Power Plant (CCNPP) Unit 3}. Certain environmental issues were identified which required study or license conditions to resolve environmental concerns and to assure adequate protection of the environment. The objective of this Environmental Protection Plan is to ensure that impacts associated with construction and operation for {CCNPP Unit 3} in accordance with the facility combined operating license (COL) will not exceed in any significant respect the impacts assessed in the FEIS.

2.1 Aquatic Issues

No specific nonradiological aquatic impact issues were identified by NRC staff in the FEIS.

2.2 Terrestrial Issues

No specific nonradiological terrestrial impact issues were identified by NRC staff in the FEIS.

3.0 Consistency Requirements

3.1 Plant Design, Construction, and Operation Activities

The licensee may make changes in plant design or operation or perform tests or experiments affecting the environment provided such activities do not involve an unreviewed environmental question and do not involve a change in the EPP (note: this provision does not relieve the licensee of the requirements of 10 CFR 50.59 or the change requirements established in the applicable Appendix of 10 CFR 52). Changes in plant design or operation or performance of tests or experiments which do not affect the environment are not subject to the requirements of this EPP. Activities governed by Section 3.3 are not subject to the requirements of this section.

Before engaging in additional construction or operational activities which may significantly affect the environment, the licensee shall prepare and record an

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environmental evaluation of such activity. Activities are excluded from this requirement if all measurable nonradiological environmental effects are confined to the on-site-areas previously disturbed during site preparation and plant construction. When the evaluation indicates that such activity involves an unreviewed environmental question, the licensee shall provide a written evaluation of such activity and obtain prior NRC approval. When such activity involves a change in the EPP, such activity and change to the EPP may be implemented only in accordance with an appropriate license amendment as set forth in Section 5.3 of this EPP.

A proposed change, test or experiment shall be deemed to involve an unreviewed environmental question if it concerns: (1) a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the FEIS, environmental impact appraisals, or in any decisions of the Atomic Safety and Licensing Board; or (2) a significant change in effluents or power level; or (3) a matter, not previously reviewed and evaluated in the documents specified in (1) of this Subsection, which may have a significant adverse environmental impact.

The licensee shall maintain records of changes in facility design or operation and of tests and experiments carried out pursuant to this Subsection. These records shall include written evaluations which provide bases for the determination that the change, test, or experiment does not involve an unreviewed environmental question or constitute a decrease in the effectiveness of this EPP to meet the objectives specified in Section 1.0. The licensee shall include as part of the Annual Environmental Operating Report (per Subsection 5.4.1) brief descriptions, analyses, interpretations, and evaluations of such changes, tests and experiments.

3.2 Reporting Related to the {NPDES} Permit and State Certification

Changes to, or renewals of, the {NPDES} Permits or the State certification shall be reported to the NRC within 30 days following the date the change or renewal is approved. If a permit or certification, in part or in its entirety, is appealed and stayed, the NRC shall be notified within 30 days following the date the stay is granted.

The licensee shall notify the NRC of changes to the effective {NPDES} Permit proposed by the licensee by providing NRC with a copy of the proposed change at the same time it is submitted to the permitting agency. The licensee shall provide the NRC a copy of the application for renewal of the {NPDES} Permit at the same time the application is submitted to the permitting agency.

3.3 Changes Required for Compliance with Other Environmental Regulations

Changes in plant design or operation and performance of tests or experiments which are required to achieve compliance with other Federal, State, and local environmental regulations are not subject to the requirements of Section 3.1.

4.0 Environmental Conditions

4.1 Unusual or Important Environmental Events

The licensee shall evaluate and report to the NRC Operations Center within 24 hours (followed by a written report in accordance with Section 5.4) any occurrence of an unusual or important event that indicates or could result in significant environmental impact causally related to the construction activities or plant operation. The following are examples of unusual or important environmental events: onsite plant or animal disease outbreaks, mortality or unusual occurrence of any species protected by the

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Endangered Species Act of 1973, unusual fish kills, unusual increase in nuisance organisms or conditions, and unanticipated or emergency discharge of waste water or chemical substances. Routine monitoring programs are not required to implement this condition.

4.2 Environmental Monitoring

4.3 Aquatic Monitoring

No specific nonradiological aquatic monitoring requirements were identified by NRC staff in the FEIS.

4.4 Terrestrial Monitoring

No specific nonradiological terrestrial monitoring requirements were identified by NRC staff in the FEIS.

5.0 Administrative Procedures

5.1 Review and Audit

The licensee shall provide for review and audit of compliance with the EPP. The audits shall be conducted independently; they may not be conducted by the individual or groups responsible for performing the specific activity. A description of the organizational structure utilized to achieve the independent review and audit function and results of the audit activities shall be maintained and made available for inspection.

5.2 Records Retention

The licensee shall make and retain records associated with this EPP in a manner convenient for review and inspection and shall make them available to the NRC on request.

The licensee shall retain records of construction and operation activities determined to potentially affect the continued protection of the environment for the life of the plant. The licensee shall retain all other records relating to this EPP for five years or, where applicable, in accordance with the requirements of other agencies.

5.3 Changes in the Environmental Protection Plan

Requests for changes in the EPP shall include an assessment of the environmental impact of the proposed change and a supporting justification. Implementation of such changes in the EPP shall not commence prior to NRC approval of the proposed changes in the form of a permit amendment incorporating the appropriate revision to the EPP.

5.4 Reporting Requirements

5.4.1 Routine Reports

An Annual Nonradiological Environmental Report describing implementation of this EPP for the previous year shall be submitted to the NRC prior to June 1 of each year. The initial report shall be submitted prior to June 1 of the year following issuance of the operating license.

The report shall include summaries and analyses of the results of the environmental protection activities required by Section 4.2 of this EPP for the report period, including

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a comparison with related preoperational studies, operational controls (as appropriate), and previous nonradiological environmental monitoring reports, and an assessment of the observed impacts of the plant operation on the environment. If harmful effects or evidence of trends toward irreversible damage to the environment are observed, the licensee shall provide a detailed analysis of the data and a proposed course of mitigating action.

The Annual Nonradiological Environmental Report shall also include:

a. A list of EPP noncompliances and the corrective actions taken to remedy them.

b. A list of changes in plant design or operation, tests, and experiments made in accordance with Section 3.1 which involved a potentially significant unreviewed environmental question.

c. A list of non-routine reports submitted in accordance with Subsection 5.4.2.

In the event that some results are not available by the report due date, the report shall be submitted noting and explaining the missing results. The missing results shall be submitted as soon as possible in a supplementary report.

5.4.2 Nonroutine Reports

The licensee shall submit a written report to the NRC within 30 days of occurrence of any event described in Section 4.1 of this plan. The report should:

a. describe, analyze, and evaluate the event, including the extent and magnitude of the impact, and site preparation and preliminary construction activities underway at the time of the event,

b. describe the likely cause of the event,

c. indicate the action taken to correct the reported event,

d. indicate the corrective action taken to preclude repetition of the event and to prevent similar occurrences involving similar site preparation and preliminary construction activities, and

e. indicate the agencies notified and their preliminary responses.

For events reportable under this subsection that also require reports to other Federal, State or local agencies, the licensee shall report in accordance with those reporting requirements in lieu of the requirements of this subsection. The licensee shall provide the NRC with a copy of such report at the same time it submits it to the other agency.

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APPENDIX B- INSPECTIONS, TESTS, ANALYSES, AND ACCEPTANCE CRITERIA (ITAAC)

1. TIER 1 INFORMATION

U.S. EPR FSAR Tier 1 is incorporated by reference {with no departures or supplements}.

2. COL APPLICATION ITAAC

The ITAAC for the COLA are provided in tabular form, consistent with the format shown in Section 3.1, Regulatory Guide 1.206, Table C.II.1-1.

Table 2.2-1, Physical Security ITAAC is added as a supplement to the U.S. EPR FSAR Tier 1.

The COL Application-ITAAC consist of the following four parts.

1. Design Certification ITAAC (Section 2.1)
2. Physical Security ITAAC (Section 2.2)
3. Emergency Planning ITAAC (Section 2.3)
4. Site-Specific ITAAC (Section 2.4)

Completion of the ITAAC is a proposed condition of the combined license to be satisfied prior to fuel load.

2.1 Design Certification ITAAC

The Design Certification ITAAC are contained in U.S. EPR FSAR Tier 1, which is incorporated by reference in Section 1.

2.2 Physical Security ITAAC

The Physical Security ITAAC are contained in U.S. EPR FSAR Tier 1, which is incorporated by reference in Section 1. Site-specific physical security ITAAC are provided in Table 2.2-1, Physical Security ITAAC. The site-specific ITAAC were selected based on the interface requirements in FSAR Section 14.3.

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Table 2.2-1— Physical Security ITAAC

(Page 1 of 2)

Design Commitment	Inspections, Tests, and Analyses	Acceptance Criteria
1. Access to vital equipment requires passage through at least two physical barriers.	1. All vital equipment physical barriers will be inspected.	1. Vital equipment is located within a protected area 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. (b) Penetrations through the protected area barrier are secured and monitored. (c) Unattended openings that intersect a security boundary, such as underground pathways, are protected by a physical barrier and monitored by intrusion detection equipment or provided surveillance at a frequency sufficient to detect exploitation.	2. (a) The protected area perimeter barriers will be inspected (b) All penetrations through the protected area barrier will be inspected. (c) All unattended openings within the protected area barriers will be inspected.	2. (a) Physical barriers at the perimeter of the protected area are separated from any other barrier designated as a vital area barrier. (b) All penetrations and openings through the protected area barrier are secured and monitored by intrusion detection equipment. (c) All unattended openings (such as underground pathways) that intersect a security boundary (such as the protected area barrier) are protected by a physical barrier and monitored by intrusion detection equipment or provided 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 20 feet of observation and assessment on either side of the barrier. (b) Isolation zones are monitored with intrusion detection and assessment equipment that is capable of providing detection and assessment of activities within the isolation zone. (c) Areas where permanent buildings do not allow sufficient 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 detects the attempted or actual penetration of the protected area perimeter barrier before completed penetration of the barrier and assessment of detected activities.	3. (a) The outdoor areas adjacent to the physical barrier will be inspected. (b) The intrusion detection and assessment equipment for monitoring the isolation zones will be inspected. (c) Inspections of areas of the protected area perimeter barrier that do not have isolation zones will be inspected.	3. (a) The isolation zones exist in outdoor areas adjacent to the physical barrier at the perimeter of the protected area that allow 20 feet of observation and assessment of activities on either side of the barrier in the event of its penetration or attempted penetration, except for areas where permanent buildings do not allow a 20 foot observation distance. (b) Isolation zones are monitored by intrusion detection and assessment equipment capable of providing detection and assessment of activities within the isolation zone. (c) Areas where permanent buildings do not allow a 20 foot observation distance between the intrusion detection system and the protected area barrier (e.g., the building walls are immediately adjacent to, or an integral part of, the protected area barrier) are monitored with intrusion detection and assessment equipment that detects attempted or actual penetration of the protected area perimeter barrier before completed penetration of the barrier and assessment of detected activities.

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Table 2.2-1— Physical Security ITAAC
(Page 2 of 2)

Design Commitment	Inspections, Tests, and Analyses	Acceptance Criteria
4. The external walls, doors, windows, ceilings, and floors in the last access control function for access to the protected area are bullet resistant.	4. Type test, analysis, or a combination of type test and analysis of the external walls, doors, windows, ceilings, and floors in the last access control function for access to the protected area will be performed.	4. A report exists and concludes that the walls, doors, windows, ceilings, and floors in the last access control function for access to the protected area are bullet resistant to at least Underwriter's Laboratories Ballistic Standard 752, "The Standard of Safety for Bullet- Resisting Equipment," Level 4.
5. (a) Access control points are established to control personnel and vehicle access into the protected area. (b) Access control points are established with equipment for the detection of firearms, explosives, incendiary devices or other items which can be used to commit radiological sabotage at the protected area personnel access points.	5. (a) Tests, inspections, or combination of tests and inspections of installed systems and equipment will be performed. (b) Tests, inspections, or combination of tests and inspections of installed systems and equipment will be performed.	5. (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. (b) Access control points are established with equipment capable of detecting firearms, explosives, incendiary devices or other items which could be used to commit radiological sabotage at the protected area personnel access points.
6. A security access control system with a numbered photo identification badge system is installed for use by individuals who are authorized access to protected areas and vital areas without escort.	6. A security access control system and the numbered photo identification badge system will be tested.	6. A security access control system with a numbered photo identification badge system is installed and provides authorized access to protected and vital areas only to those individuals with unescorted access authorization.
7. 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.	7. Tests, inspections or a combination of tests and inspections of emergency exits through the protected area perimeter will be performed.	7. 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.

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2.3 Emergency Planning ITAAC

The Emergency Planning ITAAC are provided in Table 2.3-1.

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Table 2.3-1— {Emergency Planning ITAAC}
(Page 1 of 11)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
1.0 Assignment of Responsibility (Organization 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 Emergency Planning Zones have been assigned, the emergency responsibilities of the various supporting organizations have been specifically established, and each principal response organization has staff to respond and to augment its initial response on a continuous basis.	1.1 Each Federal, State, and local agency and other support organizations having an emergency response role within the Emergency Planning Zones shall identify the emergency measures to be provided and the mutually acceptable criteria for their implementation, and specify the arrangements for exchange of information.	1.1 An inspection will be performed to confirm that Letters of Agreement (LOA) for the CCNPP Unit 3 Emergency Plan were submitted to the NRC.	1.1 Letters of Agreement (LOA) for the CCNPP Unit 3 Emergency Plan, identifying the emergency measures to be provided and the mutually acceptable criteria for their implementation, and specify the arrangements for exchange of information, as defined in Appendix 3 of the CCNPP Unit 3 Emergency Plan, are submitted to the NRC no less than 180 days prior to fuel load.
2.0 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.	2.1 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]	2.1 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 as specified in the Emergency Classification and EAL scheme and the displays are functional.	2.1.1 The parameters specified in the Calvert Cliffs Nuclear Power Plant Unit 3 U.S. EPR EAL Technical Basis Manual are retrievable and displayed in the Control Room, TSC and EOF. 2.1.2 The ranges of the displays in the Control Room, TSC and EOF encompass the values for the parameters specified in the Calvert Cliffs Nuclear Power Plant Unit 3 U.S. EPR EAL Technical Basis Manual.
3.0 Notification Methods and Procedures			

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Table 2.3-1— {Emergency Planning ITAAC}
(Page 2 of 11)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
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.	3.1 The means exist to notify responsible State and local organizations within 15 minutes after the licensee declares an emergency. [E.1]	3.1. A test of the dedicated offsite notification system will be performed to demonstrate the capabilities for providing initial notification to the offsite authorities after a simulated emergency classification.	3.1 The State of Maryland and the counties of St. Mary's, Calvert and Dorchester receive notification within 15 minutes after the declaration of a simulated emergency classification.
	3.2 The means exist to notify emergency response personnel. [E.2]	3.2 A test of the primary and back-up ERO notification systems will be performed.	3.2 CCNPP Unit 3 emergency response personnel receive the notification message, as validated by a survey (indicating the time of receipt) or a report to ensure full staffing in the prescribed time requirement.
	3.3 The means exist to notify and provide instructions to the populace within the plume exposure EPZ. [E.6]	3.3.1 A test will be performed of the CCNPP Alert and Notification System. The clarifying notes listed in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," will be used for this test.	3.3.1 Greater than 94% of ANS sirens are capable of performing their function.
		3.3.2 The pre-operational Federally evaluated exercise (ITAAC 8.0) will demonstrate the means to provide instructions to the populace within the plume exposure EPZ.	3.3.2 Successful completion of Federal Register 20-580, "FEMA Radiological Emergency Preparedness: Exercise Evaluation Methodology," Criterion 5.b.1 (OROs provide accurate emergency information and instruction to the public and the news media in a timely manner) during the pre-operational federally–evaluated exercise required in ITAAC 9.0.
4.0 Emergency Communications			

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Table 2.3-1— {Emergency Planning ITAAC}
(Page 3 of 11)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
10 CFR 50.47(b)(6) – Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.	4.1 The means exist for communications among the Control Room, TSC, OSC, EOF, principal State and local emergency operations centers (EOCs), and radiological field assessment teams. [F.1.d]	4.1 A test is performed to confirm the capability to communicate between: 1) the Control Room, TSC, OSC and EOF; 2) the Control Room, TSC, and EOF with the principal EOCs; and 3) the TSC and EOF with the radiological field monitoring teams.	4.1 Communications (both primary and secondary methods/systems) are established: 1) Between the CCNPP Unit 3 Control Room, TSC, OSC and the EOF, 2) Between the CCNPP Unit 3 Control Room and TSC and the EOF with the a) State of Maryland warning point and EOC; b) St. Mary's County Warning Point and EOC; c) Calvert County Warning Point and EOC; and d) Dorchester County Warning Point and EOC, and 3) Between the CCNPP Unit 3 TSC and EOF with the CCNPP Unit 3 radiological field monitoring teams.
	4.2 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) [or its successor system] between the onsite computer system and the NRC Operations Center.) [F.1.f]	4.2.1 A test is performed to confirm the capability to communicate using ENS from the Control Room, TSC and EOF to the NRC headquarters and regional office EOCs.	4.2.1 Communications are established from the CCNPP Unit 3 Control Room and TSC and EOF to the NRC headquarters and regional office EOCs utilizing the ENS.
		4.2.2 A test is performed to confirm the capability to communicate between the TSC and EOF with the NRC Operations Center utilizing HPN .	4.2.2 The CCNPP Unit 3 TSC and EOF demonstrate communications with the NRC Operations Center using HPN.
		4.2.3 A test is performed to establish the capability to transfer data to the NRC Operations Center via ERDS [or its successor system] through a link with the onsite computer systems and the NRC Operations Center.	4.2.3 The access port for ERDS [or its successor system] exists and successfully completes a transfer of data from CCNPP Unit 3 to the NRC Operations Center in accordance with 10 CFR 50 Appendix E.VI, Emergency Response Data System.
5.0 Public Education and Information			

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Table 2.3-1— {Emergency Planning ITAAC}
(Page 4 of 11)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
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.	5.1 The licensee has provided space which may be used for a limited number of the news media at the EOF. [G.3.b] Note: For CCNPP Unit 3, the space for the news media is provided in the Joint Information Center (JIC), co-located with the EOF.	5.1 An inspection of the JIC will be conducted to verify adequate space is provided for a limited number of news media.	5.1 The JIC is co-located with the EOF, and has at least 4,546 square feet of space. A portion of this space can adequately accommodate a limited number of news media.
6.0 Emergency Facilities and Equipment			

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Table 2.3-1— {Emergency Planning ITAAC}
(Page 5 of 11)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
10 CFR 50.47(b)(8) – Adequate emergency facilities and equipment to support the emergency response are provided and maintained.	6.1 The licensee has established a Technical Support Center (TSC) and onsite Operations Support Center (OSC). [H.1, H.9]	6.1 An inspection of the as-built TSC and OSC will be performed including a test of the capabilities.	6.1.1 The CCNPP Unit 3 TSC contains a minimum working space of 1875 square feet. 6.1.2 The CCNPP Unit 3 TSC is located on the same floor level as the Control Room. 6.1.3 The CCNPP Unit 3 TSC is located in the fully hardened Unit 3 Safeguards Building. It is also within the control room envelope (CRE) which maintains habitability during normal, off-normal and emergency conditions. 6.1.4 The CCNPP Unit 3 TSC communications capabilities are addressed by the ITAAC Acceptance Criterion 4.1.1. 6.1.5 The CCNPP Unit 3 TSC receives and displays the plant and environmental information for the parameters specified in the Calvert Cliffs Nuclear Power Plant Unit 3 U.S. EPR EAL Technical Basis Manual and ITAAC Acceptance Criterion 2.1.1. 6.1.6 The capability to initiate emergency measures and conduct emergency assessment was successfully demonstrated during the pre-operational federally–evaluated exercise required in ITAAC 8.0. 6.1.7 The CCNPP Unit 3 Operations Support Center (OSC) is located in the CCNPP Unit 3 Access Building within the protected area separate from the Unit 3 Control Room and Technical Support Center. 6.1.8 The Unit 3 U.S. EPR OSC communications capabilities are addressed by the Acceptance Criterion 4.1.1.

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Table 2.3-1— {Emergency Planning ITAAC}
(Page 6 of 11)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
	6.2 The licensee has established an EOF. [H. 2]	6.2.1 A test of the capabilities of the EOF will be performed. NOTE: The CCNPP EOF is a shared facility for CCNPP Units 1 & 2 and Unit 3and was previously inspected for Units 1 & 2. 6.2.2 An inspection of the implementation of the Human Factors Engineering Program EOF design requirements will be performed.	6.2.1.1 The CCNPP EOF has at least 4,912 square feet and is large enough for required systems, equipment, records and storage. 6.2.1.2 The CCNPP EOF communications capabilities are addressed by the Acceptance Criterion 4.1.1. 6.2.1.3 The CCNPP EOF's plant information system can retrieve and display the radiological, meteorological, plant system data for the parameters specified in the Calvert Cliffs Nuclear Power Plant Unit 3 U.S. EPR EAL Technical Basis Manual and ITAAC Acceptance Criterion 2.1.1. 6.2.1.4 The capability to perform offsite protective measures was successfully demonstrated during the pre-operational federally–evaluated exercise required in ITAAC 10.0.
			6.2.2.1 The Human Factors Engineering Program design requirements for the CCNPP Unit 3 are incorporated in the EOF. 6.2.2.2 Communications, accommodations and administrative resources in the EOF are appropriately laid out to support Unit 3 response requirements. 6.2.2.3 Facility layout and furnishings allow for combined use if concurrent events are declared at Units 1, 2, and 3. 6.2.2.4 A drill requiring mobilization and response activities of both EROs will be conducted prior to operation of Unit 3.
7.0 Accident Assessment			

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Table 2.3-1— {Emergency Planning ITAAC}
(Page 7 of 11)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
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.	7.1 The means exist to provide initial and continuing radiological assessment throughout the course of an accident. [I.2]	7.1 A test will be performed to demonstrate that the means exist to provide initial and continuing radiological assessment throughout the course of an accident.	7.1 A report exists that confirms an exercise or drill has been accomplished including use of selected monitoring parameters specified in the Calvert Cliffs Nuclear Power Plant Unit 3 U.S. EPR EAL Technical Basis Manual and ITAAC Acceptance Criterion 2.1.1 to assess simulated degraded plant conditions and initiate protective actions in accordance with the following criteria: Accident Assessment and Classification Initiating conditions identified, EALs parameters determined, and the emergency correctly classified throughout the drill. Radiological Assessment and Control Onsite radiological surveys performed and samples collected. Radiation exposure of emergency workers monitored and controlled. Field monitoring teams assembled and deployed. Field team data collected and disseminated. Dose projections developed. The decision whether to issue radioprotective drugs to CCNPP Unit 3 emergency workers made. Protective action recommendations developed and communicated to appropriate authorities.
	7.2 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]	7.2 An analysis of emergency plan implementing procedures will be performed.	7.2 A methodology has been established to determine source term of releases of radioactive materials within plant systems and the magnitude of the release of radioactive materials based on plant system parameters and effluent monitors.

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Table 2.3-1— {Emergency Planning ITAAC}
(Page 8 of 11)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
	7.3 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]	7.3 An analysis of emergency plan implementing procedures will be performed.	7.3.1 A methodology has been established accounting for the relationship between effluent monitor readings and onsite and offsite exposures and contamination for various radiological conditions. 7.3.2 The continuous assessment of the impact of the release of radioactive materials to the environment is addressed in ITAAC Acceptance Criterion 6.1.
	7.4 The means exist to acquire and evaluate meteorological information. [I.5]	7.4 An inspection will be performed to verify the meteorological data/information is available to emergency response personnel in the Control Room, TSC and EOF.	7.4 The CCNPP Unit 3 Control Room, TSC and EOF can acquire wind speed data (at 10m and 60m); wind direction data (at 10m and 60m); and ambient air temperature data (at 10m and 60m).
	7.5 The means exist to make rapid assessments of actual or potential magnitude and locations of 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]	7.5 An analysis of emergency plan implementing procedures will be performed.	7.5.1 A methodology 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. 7.5.2 The activation, notification means, field team composition, transportation, communication, monitoring equipment, and estimated deployment times are addressed in ITAAC Acceptance Criterion 7.1.
	7.6 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]	7.6 An inspection will be performed of the capabilities to detect and measure radioiodine concentrations in air in the plume exposure EPZ, as low as 1E-07 µCi/cc (microcuries per cubic centimeter) under field conditions.	7.6 The equipment and procedures are adequate to detect and measure radioiodine concentrations in air in the plume exposure EPZ, as low as 1E-07 µCi/cc (microcuries per cubic centimeter).

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Table 2.3-1— {Emergency Planning ITAAC}
(Page 9 of 11)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
	7.7 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]	7.7 An analysis of emergency plan implementing procedures will be performed to verify that a methodology is provided to establish means for relating contamination levels and airborne radioactivity levels to dose rates and gross radioactivity measurements for the isotopes specified in Table 2.2 of NUREG-1228.	7.7 The means for relating contamination levels and airborne radioactivity levels to dose rates and gross radioactivity measurements for the isotopes specified in NUREG-1228 has been established.
8.0 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.	8.1 The means exist to warn and advise onsite individuals of an emergency, including those in areas controlled by the operator, including:[J.1] employees not having emergency assignments; visitors; contractor and construction personnel; and other persons who may be in the public access areas, on or passing through the site, or within the owner controlled area.	8.1 A test will be performed to confirm the capability to warn and advise onsite individuals of an emergency, including those in areas controlled by the operator.	8.1.1 During a drill or exercise, notification and instructions are provided to onsite workers and visitors, within the Protected Area, over the plant public announcement system. 8.1.2 During a drill or exercise, warnings are provided to individuals outside the Protected Area, but within the Owner Controlled Area using the implementing procedures for the CCNPP Unit 3 Emergency Plan submitted in accordance with ITAAC 10.0.
9.0 Medical and Public Health Support			
10 CFR 50.47 (b)(12) - Arrangements are made for medical services for contaminated injured individuals.	9.1 Each organization shall arrange for local and backup hospital and medical services having tha capability for evaluation of radiation exposure and uptake, including assurance that person providing these services are adequately prepared to handle contaminated individuals.	9.1 An inspection will be performed to confirm that Letters of Agreement (LOA) for the CCNPP Unit 3 Emergency Plan were submitted to the NRC.	9.1 Letters of Agreement (LOA) for the CCNPP Unit 3 Emergency Plan for hospitals and medical services having the capability for evaluation of radiation exposure and uptake, as established in Appendix 3 of the Emergency Plan, are submitted to the NRC no less than 180 days prior to fuel load.

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Table 2.3-1— {Emergency Planning ITAAC}
(Page 10 of 11)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
	9.2 Each organization shall arrange for transporting victims of radiological accidents to medical support facilities.	9.2 An inspection will be performed to confirm that Letters of Agreement (LOA) for the CCNPP Unit 3 Emergency Plan were submitted to the NRC.	9.2 Letters of Agreement (LOA) for the CCNPP Unit 3 Emergency Plan for transporting vicitms of radiological accidents, including contaminated injured individuals, from the site to offsite medical support facilities, as established in Appendix 3 of the Emergency Plan, are submitted to the NRC no less than 180 days prior to fuel load.
10.0 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.	10.1 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]	10.1 A full participation exercise (test) will be conducted within the specified time periods of Appendix E to 10 CFR Part 50. 10.2 An off-hours/unannounced drill will be conducted prior to fuel load to test mobilization of the ERO.	10.1.1 See Note 10.1.2 The exercise is completed within the specified time periods of Appendix E to 10 CFR Part 50, offsite exercise objectives are met, and there are no uncorrected offsite exercise deficiencies in accordance with Federal Register 20-580, "FEMA Radiological Emergency Preparedness: Exercise Evaluation Methodology," and agreed to Extent of Play. 10.2 Onsite emergency response personnel are mobilized in sufficient numbers to fully staff and activate the TSC, OSC, EOF and JIC and command and control turnover from the Shift Manager.
11.0 Implementing Procedures			
10 CFR Part 50, App. E.V – No less than 180 days prior to the scheduled issuance of an operating license for a nuclear power reactor or a license to possess nuclear material, the applicant's detailed implementing procedures for its emergency plan shall be submitted to the Commission.	11.1 The licensee has submitted detailed implementing procedures for its emergency plan no less than 180 days prior to fuel load.	11.1 An inspection will be performed to confirm that the detailed implementing procedures for the CCNPP Unit 3 Emergency Plan were submitted to the NRC.	11.1 Each of the detailed implementing procedures for the CCNPP Unit 3 Emergency Plan, as defined in Appendix 2 of the Emergency Plan, are submitted to the NRC no less than 180 days prior to fuel load.
12.0 Responsibility for the Planning Effort			

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Table 2.3-1— {Emergency Planning ITAAC}
(Page 11 of 11)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
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.	12.1 The emergency response plans shall be forwarded to organizations and appropriate individuals with responsibility for implementation of the plans.	12.1 An inspection will be performed to confirm that the controlled distribution list of CCNPP Unit 3 emergency planning documents have been forwarded to all organizations and appropriate individuals with responsibility for implementation of the plans.	Documents have been distributed in accordance with the controlled distribution list.

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Note: The exercise is completed within the specified time periods of Appendix E to 10 CFR Part 50. At a minimum, the onsite exercise objectives listed below are met and there are no uncorrected onsite exercise deficiencies.

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.

   Standard Criteria:

   a. Determine the correct highest 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.

   Standard Criteria:

   a. Correctly complete the designated checklist and activate the ERO notification system using the appropriate message scenario.

   b. Confirm the ERO is notified and minimum staffing personnel respond to their assigned facilities within 60 minutes of an event declaration requiring facility activation.

2. Demonstrate the ability to notify responsible State, local government agencies within 15 minutes and the NRC within 60 minutes after declaring an emergency.

   Standard Criteria:

   a. Transmit information accurately using the designated checklist, in accordance with approved emergency implementing procedures, within 15 minutes of event classification.

   b. Transmit information using the designated checklist as soon as possible following State and local notification and within 60 minutes of event classification for an initial notification of the NRC.

3. Demonstrate the ability to warn or advise onsite individuals of emergency conditions.

   Standard Criteria:

   a. Initiate notification of onsite individuals (via plant page, telephone, etc.), using the designated checklist, within 15 minutes of event declaration.

4. Demonstrate the capability of the Prompt Notification System (PNS), for the public, to operate properly when required.

   Standard Criteria:

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a. Greater than 94% of ANS sirens are capable of performing their function as indicated by the feedback system. The clarifying notes listed in NEI 99-02, Regulatory Assessment Performance Indicator Guideline, will be used for this test.

C. Emergency Response

1. Demonstrate the capability to direct and control emergency operations.

   Standard Criteria:

   a. Facility command and control is demonstrated by the Shift Supervisor in the Control Room (simulator) upon event declaration, and by the Emergency Plant Manager in the Technical Support Center (TSC) / Emergency Director in the Emergency Operations Facility (EOF) within 60 minutes of ERO notification.

2. Demonstrate the ability to transfer overall command and control from the Shift Supervisor in the Control Room (simulator) to the Emergency Plant Manager in the TSC and/or the Emergency Director in the EOF.

   Standard Criteria:

   a. Evaluation of briefings that were conducted prior to turnover includes current plant conditions, response efforts and priorities, and the formal relief of delegable and non-delegable responsibilities.

3. Demonstrate the ability to prepare for around the clock staffing requirements.

   Standard Criteria:

   a. Complete 24-hour staff assignments.

4. Demonstrate the ability to perform assembly and accountability for all onsite individuals within 30 minutes of an emergency requiring a Protected Area assembly and accountability.

   Standard Criteria:

   a. All Protected Area personnel are assembled in their designated assembly area and accountability is completed within 30 minutes of an emergency requiring Protected Area assembly and accountability.

D. Emergency Response Facilities

1. Demonstrate activation of the Operational Support Center (OSC), Technical Support Center (TSC) and Emergency Operations Facility (EOF).

   Standard Criteria:

   a. Minimum staffing of the TSC, EOF and OSC is achieved within 60 minutes of the initial ERO notification.

2. Demonstrate the adequacy of equipment, security provisions, and habitability precautions for the TSC, OSC, EOF, and Joint Information Center (JIC), as appropriate.

   Standard Criteria:

   a. The adequacy of the emergency equipment in the emergency response facilities, including availability and consistency with emergency implementing procedures, supported the accomplishment of all of the evaluated performance objectives.

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b. The Security Coordinator implements and performs all appropriate steps from the emergency implementing procedures for the ingress, egress and control of onsite and offsite personnel responding to the site during the scenario.

c. The Radiation Protection Manager (TSC) and staff correctly implements and performs all appropriate steps from the designated checklist when a simulated onsite/offsite release has occurred during the scenario.

3. Demonstrate the adequacy of communications for all emergency support resources.

Standard Criteria:

a. Emergency response communications listed in emergency implementing procedures are available and operational.

b. Communications systems are adequate to support CR, TSC, OSC, EOF, and JIC Activation Checklists.

c. Emergency response facility personnel are able to operate all specified communication systems.

d. Clear primary communications links are established and maintained for the duration of the exercise.

E. Radiological Assessment and Control

1. Demonstrate the ability to obtain onsite radiological surveys and samples.

Standard Criteria:

a. RP personnel demonstrate the ability to obtain appropriate instruments (range and type) and take surveys for scenario conditions that allow EPA PAGs to be exceeded.

b. Airborne samples are properly taken, reported and assessed and utilized when the conditions indicate the need for the information.

2. Demonstrate the ability to continuously monitor and control radiation exposure to emergency workers.

Standard Criteria:

a. Emergency workers are issued self-reading dosimeters when radiation levels require, and exposures are controlled to 10 CFR Part 20 limits until the ED authorizes the use of emergency EPA limits.

b. Exposure records are available, either from the ALARA computer or a hard copy dose report, and are updated and reviewed throughout the scenario.

3. Demonstrate the ability to assemble and deploy monitoring teams from the decision to do so.

Standard Criteria:

a. When conditions require offsite surveys, Monitoring Teams are available, properly equipped, briefed and are dispatched in a timely manner.

4. Demonstrate the ability to satisfactorily collect and disseminate field team data.

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Standard Criteria:

a. Offsite radiological environmental data collected is provided as dose rate and counts per minute (cpm) from the plume, both open and closed window, and air sample (gross and net cpm) for particulate and iodine, if applicable,

b. Offsite radiological environmental data is promptly and accurately communicated from the monitoring team to the Environmental Assessment Director.

5. Demonstrate the ability to develop dose projections.

Standard Criteria:

a. The Radiological Assessment Specialist or Radiological Assessment Coordinator performs timely and accurately dose projections in accordance with emergency implementing procedures and reports them to the Radiological Assessment Director.

6. Demonstrate the ability to make the decision whether to issue radioprotective drugs (KI) to emergency workers.

Standard Criteria:

a. Personnel are briefed and issued KI when scenario conditions exceed 25 rem committed dose equivalent (CDE) or the conscious decision is made to issue KI as a precautionary measure.

7. Demonstrate the ability to develop appropriate protective action recommendations (PARs) and notify appropriate authorities within 15 minutes of development.

Standard Criteria:

a. Total effective dose equivalent (TEDE) and committed dose equivalent (CDE) to the thyroid dose projections from the dose assessment computer code are compared to the PAGs.

b. PARs are accurately developed within 15 minutes of the time information of the condition warranting a PAR was available to the ERO.

c. PAR's are accurately transmitted within 15 minutes of PAR development.

F. Public Information

1. Demonstrate the capability to develop and disseminate clear, accurate, and timely information to the news media in accordance with emergency implementing procedures.

Standard Criteria:

a. Information provided to the media/public is prepared at a level that the public can understand. Visuals and handouts are provided as needed to clarify the information.

b. Information is coordinated with Federal, State and local agencies to maintain factual consistency.

2. Demonstrate the capability to establish and effectively operate rumor control in a coordinated fashion.

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Standard Criteria:

a. Calls are answered in a timely manner with the correct information, in accordance with emergency implementation procedures.

b. Calls are returned or forwarded, as appropriate, to demonstrate responsiveness.

c. Rumors are identified and addressed.

G. Evaluation

1. Demonstrate the ability to conduct a post-exercise critique, to determine areas requiring improvement and corrective action.

Standard Criteria:

a. An exercise time line is developed, followed by an evaluation of the objectives against the expectations of the timeline.

b. Significant problems in achieving the objectives are discussed to ensure understanding of why objectives were not fully achieved.

c. Areas requiring improvement are entered in the stations corrective action program.

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2.4 Site-Specific ITAAC

The Site-Specific ITAAC are provided in {Table 2.4-1 through Table 2.4-35}. Site-specific systems were evaluated against selection criteria in {CCNPP Unit 3} FSAR Section 14.3.

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Table 2.4-1— {Engineered Fill Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	Structural fill material under the CCNPP Unit 3 Seismic Category I and Category II structures, and the FP Building and FP Tanks, is installed to meet a minimum of 95 percent of the Modified Proctor density.	Testing will be performed during the placement of the structural fill material.	A report concludes the installed structural fill material meets a minimum of 95 percent Modified Proctor density.
2	Shear wave velocity profile values of structural fill material for the CCNPP Unit 3 Seismic Category I and II structures, and the FP Building and FP Tanks, are greater than or equal to 1000 fps at depths of 41.5 ft or greater, greater than or equal to 845 fps at depths greater than or equal to 22 ft and less than 41.5 ft, greater than or equal to 720 fps for depths greater than or equal to 6 ft and less than 22 ft, and greater than or equal to 650 fps for depths greater than or equal to 0 ft and less than 6 ft.	Field measurements and analysis of shear wave velocity in structural fill will be performed over a completed fill column adjacent to the CCNPP Unit 3 facilities. The best estimate (BE) shear wave velocity profile in structural fill should be obtained by conducting a statistical analysis on field measured values.	An engineering report concludes that the shear wave velocity profile values of structural fill material are greater than or equal to 1000 fps at depths of 41.5 ft or greater, greater than or equal to 845 fps at depths greater than or equal to 22 ft and less than 41.5 ft, greater than or equal to 720 fps for depths greater than or equal to 6 ft and less than 22 ft, and greater than or equal to 650 fps for depths greater than or equal to 0 ft and less than 6 ft.

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Table 2.4-2— {Nuclear Island Structures Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	For the Nuclear Island structures' below grade concrete foundation and walls, a low water to cementitious materials ratio concrete will be utilized.	Tests, inspections, or a combination of tests and inspections will be performed to ensure the concrete meets the low water to cement ratio limit.	A report concludes that the concrete utilized to construct the as-built Nuclear Island Structures' below grade concrete foundation and walls have a maximum water to cementitious materials ratio of 0.45.

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Table 2.4-3— {Emergency Power Generating Buildings Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	For the Emergency Power Generating Buildings' below grade concrete foundations and walls, a low water to cementitious materials ratio concrete will be utilized.	Tests, inspections, or a combination of tests and inspections will be performed to ensure the concrete meets the low water to cement ratio limit.	A report concludes that the concrete utilized to construct the as-built Emergency Power Generating Buildings' below grade concrete foundation and walls have a maximum water to cementitious materials ratio of 0.45.

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Table 2.4-4— {Nuclear Auxiliary Building Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	For the Nuclear Auxiliary Buildings' below grade concrete foundation and walls, a low water to cementitious materials ratio concrete will be utilized.	Tests, inspections, or a combination of tests and inspections will be performed to ensure the concrete meets the low water to cement ratio limit.	A report concludes that the concrete utilized to construct the as-built Nuclear Auxiliary Buildings' below grade concrete foundation and walls have a maximum water to cementitious materials ratio of 0.45.

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Table 2.4-5— {Radioactive Waste Building Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	For the Radioactive Waste Buildings' below grade concrete foundation and walls, a low water to cementitious materials ratio concrete will be utilized.	Tests, inspections, or a combination of tests and inspections will be performed to ensure the concrete meets the low water to cement ratio limit.	A report concludes that the concrete utilized to construct the as-built Radioactive Waste Buildings' below grade concrete foundation and walls have a maximum water to cementitious materials ratio of 0.45.

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Table 2.4-6— {Essential Service Water Buildings Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	For the Essential Service Water Buildings' below grade concrete foundation and walls, a low water to cementitious materials ratio concrete mixture will be utilized.	Tests, inspections, or a combination of tests and inspections will be performed to ensure the concrete meets the low water to cement ratio limit.	A report concludes that the concrete utilized to construct the as-built Essential Service Water Buildings' below grade concrete foundation and walls have a maximum water to cementitious materials ratio of 0.40.

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Table 2.4-7— {Ultimate Heat Sink Makeup Water Intake Structure Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 1 of 2)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The UHS Makeup Water Intake Structure, including the interior structures, is Seismic Category I and is designed to withstand design basis loads, as specified below, without a loss of structural integrity and safety-related functions. ♦ Normal plant operation (including dead loads, live loads, lateral earth pressure loads, equipment loads, hydrostatic, hydrodynamic, and temperature loads). ♦ Internal events (including internal flood loads, accident pressure loads, accident thermal loads, accident pipe reactions, and pipe break loads, including reaction loads, jet impingement loads, cubicle pressurization loads, and missile impact loads). ♦ External events (including wind, rain, snow, flood, tornado, tornado-generated missiles and earthquake).	An inspection and analysis will be performed to verify the as-built UHS Makeup Water Intake Structure, including the interior structures, will withstand design basis loads.	A report concludes that the UHS Makeup Water Intake Structure, including the interior structures without loss of structural integrity and safety-related functions under design basis loads, as specified below. ♦ Normal plant operation (including dead loads, live loads, lateral earth pressure loads, equipment loads, hydrostatic, hydrodynamic, and temperature loads). ♦ Internal events (including internal flood loads, accident pressure loads, accident thermal loads, accident pipe reactions, and pipe break loads, including reaction loads, jet impingement loads, cubicle pressurization loads, and missile impact loads). ♦ External events (including wind, rain, snow, flood, tornado, tornado-generated missiles and earthquake).
2	For the UHS Makeup Water Intake Structure's below grade concrete foundation and walls, a low water to cementitious materials ratio concrete mixture will be utilized.	Tests, inspections, or a combination of tests and inspections will be performed to ensure the concrete meets the low water to cement ratio limit.	A report concludes that the concrete utilized to construct the as-built UHS Makeup Water Intake Structure's below grade concrete foundation and walls have a maximum water to cementitious materials ratio of 0.40.
3	Internal hazard protection barriers separate each mechanical and electrical division of the UHS Makeup Water Supply System in the UHS Makeup Water Intake Structure so that the impact of internal hazards, including fire, flood, high energy line break and missile impact, is contained within the mechanical and electrical division of hazard origination.	a. An inspection will be performed to verify the configuration of the as-built internal hazard protection barriers that separate the mechanical and electrical division structures of the UHS Makeup Water Supply System in the UHS Makeup Water Intake Structure as determined in the part (b) analysis.	a. The configuration of the internal hazards separation barriers that separate the mechanical and electrical division structures of the UHS Makeup Water Supply System in the UHS Makeup Water Intake Structure is in accordance with the approved design as determined in the part (b) analysis
		b. An analysis to identify the internal hazards separation barrier limits will be performed.	b. A report concludes that the completion of the UHS Makeup Water Intake Structure internal hazards separation barrier analysis indicates that the impact of internal hazards, including fire, flood, high energy line break and missile impact, is contained within the mechanical and electrical division of hazard origination.

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Table 2.4-7— {Ultimate Heat Sink Makeup Water Intake Structure Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 2 of 2)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
4	The UHS Makeup Water pump room, transformer room, air cooled condenser room and personnel access rooms of the UHS Makeup Water Intake Structure exterior structural walls or floors having exterior penetrations are protected against external flooding by watertight seals.	An inspection will be performed of the UHS Makeup Water pump room, transformer room, air cooled condenser room and personnel access rooms UHS Makeup Water Intake Structure exterior structural wall and floor penetrations.	A report concludes that watertight seals exist for exterior penetrations UHS Makeup Water pump room, transformer room, air cooled condenser room and personnel access rooms of the UHS Makeup Water Intake Structure structural walls and floors.
5	UHS Makeup Water Intake Structure structural walls or floors having exterior penetrations located below grade elevation are protected against external flooding by watertight seals.	An inspection will be performed to verify as-built UHS Makeup Water Intake Structure structural walls or floors having exterior penetrations located below grade elevation are protected against external flooding by watertight seals and are installed per the approved design requirements.	Watertight seals exist for exterior penetrations of UHS Makeup Water Intake Structure structural walls and floors located below grade elevation and are installed per the approved design requirements.
6	The traveling screen room of the UHS Makeup Water Intake Structure exterior walls is on a floor located above the Probable Maximum Hurricane storm surge flood elevation and external penetrations are protected against external flooding by watertight seals.	a. An inspection will be performed to verify as-built traveling screen room of the UHS Makeup Water Intake Structure exterior walls external penetrations are protected against external flooding by watertight seals. b. An inspection will be performed of the traveling screen room floor elevation of the UHS Makeup Water Intake Structure.	a. Watertight seals exist for exterior penetrations of the traveling screen room of the UHS Makeup Water Intake Structure exterior walls. b. The traveling screen room floor elevation of the UHS Makeup Water Intake Structure is above 17.6 ft (5.35 m) NGVD 29.

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Table 2.4-8— {Buried Conduit Duct Banks, and Pipe and Pipe Ducts Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 1 of 4)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	Seismic Category I buried electrical conduit duct banks traverse : ♦ from each Essential Service Water Building to the UHS Makeup Water Intake Structure ♦ from the Safeguards Buildings to the four Essential Service Water Buildings and from the Safeguards Building to both Emergency Power Generating Buildings.	Inspections will be performed of the as-built buried Seismic Category I electrical conduit duct banks to verify the duct banks are installed per the approved design requirements.	Inspection reports conclude that the as-built Seismic Category I buried electrical conduit duct banks are installed per the approved design requirements which traverse: ♦ from each Essential Service Water Building to the UHS Makeup Water Intake Structure. ♦ from the Safeguards Buildings to the four Essential Service Water Buildings and from the Safeguards Building to both Emergency Power Generation Buildings.
2	Seismic Category I buried pipe and pipe ducts consists of: ♦ Large diameter Essential Service Water (ESW) supply and return pipes between the Safeguards Buildings and the ESW Buildings. ♦ Large diameter ESW supply and return pipes between the Emergency Power Generating Buildings which tie in directly to the aforementioned pipes. ♦ UHS Makeup Water pipes between the UHS Makeup Water Intake Structure and ESWBs. ♦ Seismic Category I buried Intake pipes run from the CCNPP Unit 3 Inlet Area to the Unit 3 Forebay.	Inspections will be performed of the as-built buried Seismic Category I pipe and pipe ducts to verify the duct banks are installed per the approved design requirements.	A report concludes that the as-built Seismic Category I buried pipe and pipe ducts are installed per the approved design requirements.

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Table 2.4-8— {Buried Conduit Duct Banks, and Pipe and Pipe Ducts Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 2 of 4)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
3	Concrete components of buried Seismic Category I electrical conduit duct banks and pipe and pipe ducts are designed in accordance with the design criteria referenced in ACI 349-2001, including the exceptions specified in Regulatory Guide 1.142.	a. Analysis will be performed of the concrete components of buried Seismic Category I electrical conduit duct banks and pipe and pipe ducts. b. An inspection will be performed of the concrete components of buried Seismic Category I electrical conduit duct banks and pipe and pipe ducts to verify the duct banks are installed per the approved design requirements.	a. A report concludes that the concrete components of buried Seismic Category I electrical conduit duct banks and pipe and pipe ducts conform to ACI 349-2001, including the exceptions specified in Regulatory Guide 1.142. b. A report concludes that the as-built concrete components of the buried Seismic Category I electrical duct banks and pipes are installed per the approved design requirements.
4	Steel components of buried Seismic Category I electrical conduit duct banks and pipe and pipe ducts are designed in accordance with the design criteria.	a. Analysis of the steel components of buried Seismic Category I electrical conduit duct banks and pipe and pipe ducts will be performed. b. An inspection will be performed of the steel components of buried Seismic Category I electrical conduit duct banks and pipe and pipe ducts as determined in the part (a) analysis to verify the duct banks and pipes are installed per the approved design requirements.	a. A report concludes that the steel components of buried Seismic Category I electrical conduit duct banks and pipe and pipe ducts conform to the design criteria. b. A report concludes that the as-built steel components of the buried Seismic Category I electrical duct banks and pipes are installed per the approved design requirements.

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Table 2.4-8— {Buried Conduit Duct Banks, and Pipe and Pipe Ducts Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 3 of 4)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
5	The buried Seismic Category I electrical duct banks and pipes can withstand design basis loads without a loss of function.	a. Type tests, analyses, or a combination of type tests and analyses will be performed on the buried Seismic Category I electrical duct banks and pipes using analytical assumptions, or under conditions which bound the Seismic Category I design requirements. b. Inspections will be performed of the buried Seismic Category I electrical duct banks and pipes, including anchorage, to verify the duct banks and pipes are installed per the approved design requirements.	a. Seismic qualification reports (SQDP, EQDP, or analyses) conclude that the buried Seismic Category I electrical duct banks and pipes can withstand the design basis loads without a loss of function. b. Inspection reports conclude that the as-built Seismic Category I electrical duct banks and pipes are installed per the approved design requirements.
6	For the concrete components of buried Seismic Category I electrical conduit duct banks and pipe and pipe ducts, a low water to cement ratio cementitious materials mixture will be utilized.	Tests, inspections, or a combination of tests and inspections will be performed to ensure the concrete meets the low water to cement ratio limit.	A report concludes that the concrete utilized to construct the concrete components of as-built buried Seismic Category I electrical conduit duct banks and pipe and pipe ducts have a maximum water to cementitious materials ratio of 0.40.
7	Physical separation exists between system divisions of the buried Seismic Category I conduit duct banks, and pipe and pipe ducts.	a. Analyses will be performed on the buried Seismic Category I electrical conduit duct banks, and pipe and pipe ducts.	a. A report concludes buried Seismic Category I electrical conduit duct banks, and pipe and pipe ducts are designed to provide separation between divisions of systems.
		b. Inspections will be performed to verify that the as-built buried conduit and duct banks, and pipe and pipe ducts are constructed and installed per the approved design requirements.	b. Inspection reports conclude that the as-built buried conduit and duct banks, and pipe and pipe ducts are constructed and installed per the approved design requirements.

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Table 2.4-8— {Buried Conduit Duct Banks, and Pipe and Pipe Ducts Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 4 of 4)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
8	Protective measures for buried Seismic Category I steel/iron pipes include protective waterproof wrapping or coating.	An inspection of the as-built steel/iron piping will be conducted.	A report concludes that the as-built buried Seismic Category I steel/iron pipes are protected by a protective waterproof wrapping or coating.

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Table 2.4-9— {Fire Protection Building Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Fire Protection Building will house the following equipment: a. Diesel Driven Fire Pumps, Drivers, and associated piping, valves, equipment, instruments and controls. b. Diesel Fuel Oil Supply Day Tank and associated piping, valves, equipment, instruments, and controls.	An inspection of the as-built structure will be performed.	The as-built Fire Protection Building houses the: a. Diesel Driven Fire Pumps, Drivers and associated piping, valves, equipment, instruments and controls. b. Diesel Fuel Oil Supply Day Tank and associated piping, valves, equipment, instruments, and controls.
2	The Fire Protection Building is classified as Conventional Seismic and is designed and constructed to withstand the applicable structural design basis loads without a loss of structural integrity and remain functional during and after an SSE. ♦ Normal plant operation (including dead loads, live loads, lateral earth pressure loads, equipment loads, hydrostatic, hydrodynamic, and temperature loads). ♦ Internal events (including internal flood loads, accident pressure loads, accident thermal loads, accident pipe reactions, and pipe break loads, including reaction loads, jet impingement loads, cubicle pressurization loads, and missile impact loads). ♦ External events (including wind, rain, snow, flood, tornado, tornado-generated missiles and earthquake).	An inspection and analysis will be performed to verify the as-built Fire Protection Building will withstand design basis loads.	A report concludes that the Fire Protection Building will withstand design basis loads, as specified below, without loss of structural integrity and safety-related functions: ♦ Normal plant operation (including dead loads, live loads, lateral earth pressure loads, equipment loads, hydrostatic, hydrodynamic, and temperature loads). ♦ Internal events (including internal flood loads, accident pressure loads, accident thermal loads, accident pipe reactions, and pipe break loads, including reaction loads, jet impingement loads, cubicle pressurization loads, and missile impact loads). ♦ External events (including wind, rain, snow, flood, tornado, tornado-generated missiles and earthquake).
3	For the Fire Protection Building's concrete foundation and walls exposed to ground water, a low water to cementitious materials ratio concrete mixture will be utilized.	Tests, inspections, or a combination of tests and inspections will be performed to ensure the concrete meets the low water to cement ratio limit.	A report concludes that the concrete utilized to construct the as-built Fire Protection Building's below grade concrete foundation and walls have a maximum water to cementitious materials ratio of 0.45.

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Table 2.4-10— {Turbine Building Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	a. The Turbine Building is located in a radial position with respect to the Reactor Building, but is independent from the Nuclear Island. b. The Turbine Building is oriented to minimize the effects of any potential turbine generated missiles.	a. An inspection of the as-built structure will be performed. b. An analysis of the as-built structure's location and orientation will be performed.	a. The as-built Turbine Building location is in a radial position with respect to the as-built Reactor Building, and is independent from the as-built Nuclear Island. b. The as-built Turbine Building's location and orientation are consistent with the assumptions utilized in the analysis of the potential turbine missiles.
2	The Turbine Building does not impact the ability of any safety-related structure, system, or component to perform its safety function under design basis loads, as specified below. ♦ Normal plant operation (including dead loads, live loads, lateral earth pressure loads, equipment loads, hydrostatic, hydrodynamic, and temperature loads). ♦ Internal events (including internal flood loads, accident pressure loads, accident thermal loads, accident pipe reactions, and pipe break loads, including reaction loads, jet impingement loads, cubicle pressurization loads, and missile impact loads). ♦ External events (including wind, rain, snow, flood, tornado, tornado-generated missiles and earthquake).	An inspection and analysis will be performed to verify the as-built Turbine Building will withstand design basis loads.	A report concludes that the Turbine Building will not impact the ability of any safety-related structure, system or component to perform its safety function under design basis loads, as specified below. The report also concludes that the design of the Turbine Building is to the same requirements as a Seismic Category I structure
3	The Turbine Building houses the components of the steam condensate main feedwater cycle, including the turbine-generator.	An inspection of the as-built structure will be performed.	The as-built Turbine Building houses the components of the steam condensate main feedwater cycle, including the turbine-generator, in accordance with the design.
4	For the Turbine Building's below grade concrete foundation and walls exposed to ground water, a low water to cementitious materials ratio concrete mixture will be utilized.	Tests, inspections, or a combination of tests and inspections will be performed to ensure the concrete meets the low water to cement ratio limit.	A report concludes that the concrete utilized to construct the as-built Turbine Building below grade concrete foundation and walls have a maximum water to cementitious materials ratio of 0.45.

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Table 2.4-11— {Switchgear Building Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 1 of 2)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Switchgear Building is located adjacent to and contiguous with the Turbine Building.	An inspection of the as-built structure will be performed.	The as-built Switchgear Building is located adjacent to and contiguous with the as-built Turbine Building.
2	The Switchgear Building does not impact the ability of any safety-related structure, system, or component to perform its safety function under design basis loads, as specified below. ♦ Normal plant operation (including dead loads, live loads, lateral earth pressure loads, equipment loads, hydrostatic, hydrodynamic, and temperature loads). ♦ Internal events (including internal flood loads, accident pressure loads, accident thermal loads, accident pipe reactions, and pipe break loads, including reaction loads, jet impingement loads, cubicle pressurization loads, and missile impact loads). ♦ External events (including wind, rain, snow, flood, tornado, tornado-generated missiles and earthquake).	An inspection and analysis will be performed to verify the as-built Switchgear Building will withstand design basis loads.	A report concludes that the Switchgear Building will not impact the ability of any safety-related structure, system or component to perform its safety function under design basis loads, as specified below. The report also concludes that the design of the Switchgear Building is to the same requirements as a Seismic Category I structure. ♦ Normal plant operation (including dead loads, live loads, lateral earth pressure loads, equipment loads, hydrostatic, hydrodynamic, and temperature loads). ♦ Internal events (including internal flood loads, accident pressure loads, accident thermal loads, accident pipe reactions, and pipe break loads, including reaction loads, jet impingement loads, cubicle pressurization loads, and missile impact loads). ♦ External events (including wind, rain, snow, flood, tornado, tornado-generated missiles and earthquake).
3	The Switchgear Building contains the power supplies and the instrumentation and controls for the Turbine Island, the balance of plant, and the SBO diesel generators.	An inspection of the as-built structure will be performed.	The as-built Switchgear Building houses the power supplies and the instrumentation and controls for the Turbine Island, the balance of plant, and the SBO diesel generators, in accordance with the design.

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Table 2.4-11— {Switchgear Building Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 2 of 2)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
4	Internal hazard protection barriers separate each SBO Diesel Generator and its supporting equipment from the other equipment in the Switchgear Building and Turbine Building so that the impact of internal hazards, including fire and flood, high energy line break and missile impact, is contained within the mechanical division of hazard origination.	a. An inspection will be performed to verify the configuration of the as-built internal hazard protection barriers that separate each SBO Diesel Generator and its supporting equipment in the Switchgear Building and Turbine Building as determined in the part (b) analysis. b. An analysis to identify the internal hazards separation barrier limits will be performed.	a. The configuration of the internal hazards separation barriers that separate each SBO Diesel Generator and its supporting equipment from the other equipment in the Switchgear Building and Turbine Building is in accordance with the approved design as determined in the part (b) analysis. b. A report concludes that the completion of the Switchgear Building and Turbine Building internal hazards separation barrier analysis indicates that the impact of internal hazards, including fire, flood, high energy line break and missile impact, is contained within the mechanical division of hazard origination.
5	For the Switchgear Building below grade concrete foundation and walls, a low water to cementitious materials ratio concrete will be utilized.	Tests, inspections, or a combination of tests and inspections will be performed to ensure the concrete meets the low water to cement ratio limit.	A report concludes that the concrete utilized to construct the as-built Switchgear Building below grade concrete foundation and walls have a maximum water to cementitious materials ratio of 0.45.

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Table 2.4-12— {Warehouse Building Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The minimum separation distance of the as-built Warehouse Building from the nearest Seismic Category I structure, system or component is greater than 200 ft.	An inspection will be performed to verify the separation distance of the as-built Warehouse Building from the nearest Seismic Category I structure.	A report concludes that the minimum separation distance of the as-built Warehouse Building from the nearest Seismic Category I structure, system or component is greater than 200 ft.

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Table 2.4-13— {Security Access Building Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The minimum separation distance of the as-built Security Access Building from the nearest Seismic Category I structure, system or component is greater than 200 ft.	An inspection will be performed to verify the separation distance of the as-built Security Access Building from the nearest Seismic Category I structure.	A report concludes that the minimum separation distance of the as-built Security Access Building from the nearest Seismic Category I structure, system or component is greater than 200 ft.

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Table 2.4-14— {Central Gas Supply Building Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The minimum separation distance of the as-built Central Gas Supply Building from the nearest Seismic Category I structure, system or component is greater than 1600 ft.	An inspection will be performed to verify the separation distance of the as-built Central Gas Supply Building from the nearest Seismic Category I structure.	A report concludes that the minimum separation distance of the as-built Central Gas Supply Building from the nearest Seismic Category I structure, system or component is greater than 1600 ft.

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Table 2.4-15— {Grid Systems Control Building Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The minimum separation distance of the as-built Grid Systems Control Building from the nearest Seismic Category I structure , system or component is greater than 700 ft.	An inspection will be performed to verify the separation distance of the as-built Grid Systems Control Building from the nearest Seismic Category I structure, system or component is greater than 700 ft.	A report concludes that the minimum separation distance of the as-built Grid Systems Control Building from the nearest Seismic Category I structure, system or component is greater than 700 ft.

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Table 2.4-16— {Circulating Water Cooling Tower Structure Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The minimum separation distance of the as-built Grid Systems Control Building from the nearest Seismic Category I structure, system or component is greater than 1800 ft.	An inspection will be performed to verify the separation distance of the as-built Grid Systems Control Building from the nearest Seismic Category I structure.	A report concludes that the minimum separation distance of the as-built Grid Systems Control Building from the nearest Seismic Category I structure, system or component is greater than 1800 ft.

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Table 2.4-17— {Circulating Water Pump Building Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The minimum separation distance of the as-built Circulating Water Pump Building from the nearest Seismic Category I structure, system or component is greater than 1700 ft.	An inspection will be performed to verify the separation distance of the as-built Circulating Water Pump Building from the nearest Seismic Category I structure.	A report concludes that the minimum separation distance of the as-built Circulating Water Pump Building from the nearest Seismic Category I structure, system or component is greater than 1700 ft.

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Table 2.4-18— {Circulating Water Makeup Intake Structure Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Circulating Water Makeup Intake Structure does not impact the ability of any safety-related structure, system, or component to perform its safety function under design basis loads, as specified below. ♦ Normal plant operation (including dead loads, live loads, lateral earth pressure loads, equipment loads, hydrostatic, hydrodynamic, and temperature loads). ♦ Internal events (including internal flood loads, accident pressure loads, accident thermal loads, accident pipe reactions, and pipe break loads, including reaction loads, jet impingement loads, cubicle pressurization loads, and missile impact loads). ♦ External events (including wind, rain, snow, flood, tornado, tornado-generated missiles and earthquake).	An inspection and analysis will be performed to verify the as-built Circulating Water Makeup Intake Structure will withstand design basis loads.	A report concludes that the Circulating Water Makeup Intake Structure will not impact the ability of any safety-related structure, system or component to perform its safety function under design basis loads, as specified below. The report also concludes that the design of the Circulating Water Makeup Intake Structure is to the same requirements as a Seismic Category I structure. ♦ Normal plant operation (including dead loads, live loads, lateral earth pressure loads, equipment loads, hydrostatic, hydrodynamic, and temperature loads). ♦ Internal events (including internal flood loads, accident pressure loads, accident thermal loads, accident pipe reactions, and pipe break loads, including reaction loads, jet impingement loads, cubicle pressurization loads, and missile impact loads). ♦ External events (including wind, rain, snow, flood, tornado, tornado-generated missiles and earthquake).
2	For the Circulating Water Makeup Intake Structure below grade concrete foundation and walls, a low water to cementitious materials ratio concrete will be utilized.	Tests, inspections, or a combination of tests and inspections will be performed to ensure the concrete meets the low water to cement ratio limit.	A report concludes that the concrete utilized to construct the as-built Circulating Water Makeup Intake Structure below grade concrete foundation and walls have a maximum water to cementitious materials ratio of 0.40.

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Table 2.4-19— {Desalinization / Water Treatment Building Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The minimum separation distance of the as-built Desalinization / Water Treatment Building from the nearest Seismic Category I structure, system or component is greater than 1700 ft.	An inspection will be performed to verify the separation distance of the as-built Desalinization / Water Treatment Building from the nearest Seismic Category I structure.	A report concludes that the minimum separation distance of the as-built Desalinization / Water Treatment Building from the nearest Seismic Category I structure, system or component is greater than 1700 ft.

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Table 2.4-20— {Ultimate Heat Sink Makeup Water Intake Structure Ventilation System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 1 of 5)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	There are four divisions of the UHS Makeup Water Intake Structure Ventilation System.	An inspection will be performed to verify that there are four divisions of the UHS Makeup Water Intake Structure Ventilation System.	A report concludes that the as-built UHS Makeup Water Intake Structure Ventilation System has four divisions.
2	Each of the four safety-related mechanical divisions of the UHS Makeup Water Intake Structure Ventilation System are physically separated from each other by structural barriers, 3-hour fire barriers, or a combination of structural and 3-hour barriers.	An inspection will be performed to verify that each of the four safety-related mechanical divisions of the UHS Makeup Water Intake Structure Ventilation System are physically separated from each other.	Each of the four safety-related mechanical divisions of the as-built UHS Makeup Water Intake Structure Ventilation System are physically separated from other mechanical divisions by structural barriers, 3-hour fire barriers, or a combination of structural and 3-hour barriers.
3	Electrical isolation is provided on connections between each of the four safety-related divisions of the UHS Makeup Water Intake Structure Ventilation System to prevent the propagation of credible electrical faults.	a. Type tests, analyses, or a combination of type tests and analyses will be performed on the electrical isolation devices on connections between the four safety-related UHS Makeup Water Intake Structure Ventilation System divisions. b. Inspections will be performed on connections between the four as-built safety-related UHS Makeup Water Intake Structure Ventilation System divisions.	a. A report concludes that the Class 1E isolation devices used between the four safety-related UHS Makeup Water Intake Structure Ventilation System divisions prevent the propagation of credible electrical faults. b. Class 1E electrical isolation devices exist on connections between the four safety-related UHS Makeup Water Intake Structure Ventilation System divisions.
4	Each safety-related division of the UHS Makeup Water Intake Structure Ventilation System is independently powered by their respective Class 1E division.	Tests will be performed to verify each safety-related division of the UHS Makeup Water Intake Structure Ventilation System is independently powered by their respective Class 1E division.	A report concludes that each safety-related division of the as-built UHS Makeup Water Intake Structure Ventilation System is independently powered by their respective Class 1E division.

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Table 2.4-20— {Ultimate Heat Sink Makeup Water Intake Structure Ventilation System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 2 of 5)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
5	a. Components of the UHS Makeup Water Intake Structure Ventilation System listed in Table 2.4-35 as ASME AG-1 Code are designed in accordance with ASME AG-1 Code requirements. b. Components of the UHS Makeup Water Intake Structure Ventilation System listed in Table 2.4-35 as ASME AG-1 Code are fabricated in accordance with ASME AG-1 Code requirements, including welding requirements. c. Components of the UHS Makeup Water Intake Structure Ventilation System listed in Table 2.4-35 as ASME AG-1 Code are installed, inspected, and tested in accordance with ASME AG-1 Code requirements.	a. An analysis will be performed of ASME AG-1 Code Design Verification Reports. b. An inspection of the as-built fabrication activities and documentation for ASME AG-1 Code components will be conducted. c. An inspection of the as-built construction activities and documentation for ASME AG-1 Code equipment will be conducted.	a. ASME AG-1 Code Design Verification Reports (AA-4400) conclude that the design of the Makeup Water Intake Structure Ventilation System components listed as ASME AG-1 Code in Table 2.4-35 complies with ASME AG-1 Code requirements. b. A report concludes that the ASME AG-1 Code UHS Makeup Water Intake Structure Ventilation System components listed in Table 2.4-29 are fabricated in accordance with ASME AG-1 Code requirements. c. A report concludes that UHS Makeup Water Intake Structure Ventilation System components identified in Table 2.4-35 as ASME AG-1 Code, are installed, inspected, and tested in accordance with ASME AG-1 Code requirements.

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Table 2.4-20— {Ultimate Heat Sink Makeup Water Intake Structure Ventilation System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 3 of 5)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
6	a. The UHS Makeup Water Intake Structure Ventilation System equipment identified as Seismic Category I in Table 2.4-35 can withstand seismic design basis loads without a loss of the function listed in Table 2.4-35. b. The UHS Makeup Water Intake Structure Ventilation System equipment are designated Seismic Category I in Table 2.4-35, and can withstand seismic design basis loads without loss of the function listed in Table 2.4-35. c. Portions of the UHS Makeup Water Intake Structure Ventilation System piping and ducting identified as Seismic Category I in Figure 2.4-2 can withstand seismic design basis loads without loss of safety function.	a. Type tests, analyses, or a combination of type tests and analyses will be performed on the UHS Makeup Water Intake Structure Ventilation System equipment-identified as Seismic Category I in Table 2.4-35 using analytical assumptions, or under conditions which bound the Seismic Category I design requirements. b. Inspections will be performed of the UHS Makeup Water Intake Structure Ventilation System as-built equipment identified as Seismic Category I in Table 2.4-35 to verify that the equipment, including anchorage, are installed per the approved design requirements.	a. Seismic qualification reports (SQDP, EQDP, or analyses) conclude that the UHS Makeup Water Intake Structure Ventilation System equipment identified as Seismic Category I in Table 2.4-35 can withstand design basis loads without loss of function listed in Table 2.4-35. b. Inspection reports conclude that the UHS Makeup Water Intake Structure Ventilation System equipment identified as Seismic Category I in Table 2.4-35, including anchorage, are installed per the approved design requirements. c. Seismic qualification reports (SQDP, EQDP, or analyses) conclude that the UHS Makeup Water Intake Structure Ventilation System piping and ducting identified as Seismic Category I in Figure 2.4-2 can withstand seismic design basis loads without loss of safety function.

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Table 2.4-20— {Ultimate Heat Sink Makeup Water Intake Structure Ventilation System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 4 of 5)

Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
d. Portions of the UHS Makeup Water Intake Structure Ventilation System piping and ducting identified as Seismic Category I in Figure 2.4-2 can withstand seismic design basis loads without loss of safety function.	c. Type tests, analyses or a combination of type tests and analyses will be performed on the piping and ducting identified as Seismic Category I in Figure 2.4-2 using analytical assumptions, or under conditions, which bound the Seismic Category I design requirements. d. Inspections will be performed of the UHS Makeup Water Intake Structure Ventilation System as-built piping and ducting identified as Seismic Category I in Figure 2.4-2 to verify that the piping and ducting, including anchorage, are installed per the approved design requirements.	d. Inspection reports conclude that the UHS Makeup Water Intake Structure Ventilation System piping and ducting identified as Seismic Category I in Figure 2.4-2, including anchorage, are installed per the approved design requirements.

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Table 2.4-20— {Ultimate Heat Sink Makeup Water Intake Structure Ventilation System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 5 of 5)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
7	a. Each safety-related division of the UHS Makeup Water Intake Structure Ventilation System provides cooling to maintain less than or equal to the maximum design temperatures in the UHS Makeup Water Intake Structure pump room, transformer room, and traveling screen room, while operating in a design basis accident alignment. b. Each safety-related division of the UHS Makeup Water Intake Structure Ventilation System provides heating to maintain greater than or equal to the minimum design temperatures in the UHS Makeup Water Intake Structure pump room, transformer room, and traveling screen room, while operating in a design basis accident alignment.	a. Tests and analysis will be performed to verify that each safety-related division of the UHS Makeup Water Intake Structure Ventilation System provides cooling to maintain less than or equal to the maximum design temperatures in the UHS Makeup Water Intake Structure pump room, transformer room, and traveling screen room while operating in a design basis accident alignment. b. Tests and analysis of each safety-related division of the UHS Makeup Water Intake Structure Ventilation System will be performed to verify the UHS Makeup Water Intake Structure Ventilation System provides heating to maintain greater than or equal to the minimum design temperatures in the UHS Makeup Water Intake Structure pump room, transformer room, and traveling screen room, while operating in a design basis accident alignment.	a. Each safety-related division of the UHS Makeup Water Intake Structure Ventilation System is capable of providing cooling to maintain less than or equal to a maximum temperature of 104°F (40°C) in the UHS Makeup Water Intake Structure pump room, transformer room, and traveling screen room while operating in a design basis accident alignment. b. Each safety-related division of the UHS Makeup Water Intake Structure Ventilation System is capable of providing heating to maintain a minimum temperature of 41°F (5°C) in the UHS Makeup Water Intake Structure pump room, transformer room, and traveling screen room, while operating in a design basis accident alignment.
8	Each safety-related division of the UHS Makeup Water Intake Structure Ventilation System starts upon receipt of the initiation signal.	Tests of the as-built system will be performed using a test input signal to each division.	Each safety-related division of the as-built UHS Makeup Water Intake Structure Ventilation System starts upon receipt of a test input signal.

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Table 2.4-21— {Fire Protection Building Ventilation System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 1 of 4)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	a. The Fire Protection Building Ventilation System equipment identified as Conventional Seismic in the part (e) analysis can withstand seismic design basis loads without a loss of function. b. The Fire Protection Building Ventilation System equipment are designated Conventional Seismic in the part (e) analysis, and can withstand seismic design basis loads without loss of the safety function. c. Portions of the UHS Fire Protection Building System piping and ducting identified as Seismic Category I identified in the part (e) analysis can withstand seismic design basis loads without a loss of the function. d. Portions of the UHS Fire Protection Building System piping and ducting identified as Seismic Category I identified in the part (e) analysis can withstand seismic design basis loads without loss of safety function. e. The Fire Protection Building Ventilation System equipment, piping, and ducting can withstand seismic design basis loads without loss of function.	a. Type tests, analyses, or a combination of type tests and analyses will be performed on the Fire Protection Building Ventilation System equipment, identified as Conventional Seismic in the part (e) analysis using analytical assumptions, or under conditions which bound the Seismic Category I design requirements. b. Inspections will be performed of the as-built Fire Protection Building Ventilation System as-built equipment identified as Conventional Siesmic in the part (e) analysis to verify that the equipment, including anchorage, are installed per the approved design requirements. c. Type tests, analyses or a combination of type tests and analyses will be performed on the piping and ducting identified as Seismic Category I identified in the part (e) analysis using analytical assumptions, or under conditions, which bound the Seismic Category I design requirements.	a. Seismic qualification reports (SQDP, EQDP, or analyses) conclude that the Fire Protection Building Ventilation System equipment identified as Conventional Seismic in the part (e) analysis can withstand design basis loads without a loss of function. b. Inspection reports conclude that the Fire Protection Building Ventilation System equipment identified in the part (e) analysis, including anchorage, are per the approved design requirements. c. Seismic qualification reports (SQDP, EQDP, or analyses) conclude that the UHS Fire Protection Building System piping and ducting identified as Seismic Category I identified in the part (e) analysis can withstand seismic design basis loads without loss of safety function. d. Inspection reports conclude that the as-built Seismic Category I UHS Fire Protection Building System piping and ducting identified in the part (e) analysis, including anchorage, are installed as specified on the construction drawings and deviations have been reconciled to the seismic qualification reports (SQDP, EQDP, or analyses). e. A report indicates the equipment, piping, and ducting of the Fire Protection Building Ventilation System.

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Table 2.4-21— {Fire Protection Building Ventilation System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 2 of 4)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
		d. Inspections will be performed of the Seismic Category I UHS Fire Protection Building System piping and ducting identified in the part (e) analysis to verify that the piping and ducting, including anchorage, are installed as specified on the construction drawings and deviations will be reconciled to the seismic qualification reports (SQDP, EQDP, or analyses). e. An analysis to identify the equipment, piping, and ducting of the Fire Protection Building Ventilation System will be performed.	
2	The Fire Protection Building Ventilation System provides cooling to maintain less than or equal to the maximum design temperatures in the Fire Protection Building, while operating in a design basis accident alignment.	Tests and analysis will be performed to verify the Fire Protection Building Ventilation System provides cooling to maintain less than or equal to the maximum design temperatures in the Fire Protection Building, while operating in a design basis accident alignment.	The Fire Protection Building Ventilation System is capable of providing cooling to maintain less than or equal to a maximum temperature of 120°F in the Fire Protection Building, while operating in a design basis accident alignment.
3	The Fire Protection Building Ventilation System provides heating to maintain greater than or equal to the minimum design temperatures in the Fire Protection Building, while operating in a design basis accident alignment.	Tests and analysis of the Fire Protection Building Ventilation System will be performed to verify the Fire Protection Building Ventilation System provides heating to maintain greater than or equal to the minimum design temperatures in the Fire Protection Building, while operating in a design basis accident alignment.	The Fire Protection Building Ventilation System is capable of providing heating to maintain a minimum temperature of 40°F in the Fire Protection Building, while operating in a design basis accident alignment.

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Table 2.4-21— {Fire Protection Building Ventilation System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 3 of 4)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
4	The Fire Protection Building Ventilation System starts upon receipt of an initiation signal.	A test of the as-built system will be performed by supplying a test input signal to the system.	The as-built Fire Protection Building Ventilation System starts upon receipt of a test input signal.
5	a. The Fire Protection Building Ventilation System equipment that could impact the capability of Seismic Category I structures, systems, or components to perform its safety function are designated as Conventional Seismic in the part (e) analysis, and can withstand seismic design basis loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function.	a. Type tests, analyses, or a combination of type tests and analyses will be performed on the Fire Protection Building Ventilation System equipment identified in the part (e) analysis using analytical assumptions, or under conditions which bound the Conventional Seismic design requirements, to verify the equipment can withstand seismic design basis loads without impacting the capability of equipment designated Seismic Category I from performing its safety function.	a. Seismic qualification reports (SQDP, EQDP, or analyses) conclude that the Fire Protection Building Ventilation System equipment identified as Conventional Seismic in the part (e) analysis can withstand seismic design basis loads without impacting the capability of equipment designated Seismic Category I from performing its safety function.
	b. The Fire Protection Building Ventilation System equipment that could impact the capability of Seismic Category I structures, systems, or components to perform its safety function are designated as Conventional Seismic in the part (e) analysis, and can withstand seismic design basis loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function.	b. Inspections will be performed of the Conventional Seismic Fire Protection Building Ventilation System to verify that the as-built equipment identified in the part (e) analysis, including anchorage, are installed per the approved design requirements.	b. Inspection reports conclude that the as-built Conventional Seismic Fire Protection Building Ventilation System equipment identified in the part (e) analysis, including anchorage, are installed per the approved design requirements.
	c. The Fire Protection Building Ventilation System piping and ducting that could impact the capability of Seismic Category I structures, systems, or components to perform its safety function are identified as Conventional Seismic in the part (e) analysis, and can withstand seismic design basis loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function.	c. Type tests, analyses or a combination of type tests and analyses, will be performed on the Fire Protection Building Ventilation System piping and ducting identified as Conventional Seismic in the part (e) analysis using analytical assumptions, or under conditions, which bound the Seismic Category design requirements.	c. Seismic qualification reports (SQDP, EQDP, or analyses) conclude that the Fire Protection Building Ventilation System piping and ducting identified as Conventional Seismic in the part (e) analysis can withstand seismic design basis loads without impacting the capability of equipment designated Seismic Category I from performing its safety function.

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Table 2.4-21— {Fire Protection Building Ventilation System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 4 of 4)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
	d. Fire Protection Building Ventilation System piping and ducting that could impact the capability of Seismic Category I structures, systems, or components to perform its safety function are identified as Conventional Seismic in the part (e) analysis, and can withstand seismic design basis loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function.	d. Inspections will be performed of the Conventional Seismic Fire Protection Building Ventilation System to verify that the as-built piping and ducting identified in the part (e) analysis, including anchorage, are installed per the approved design requirements.	d. Inspection reports conclude that the as-built Conventional Seismic Fire Protection Building Ventilation System piping and ducting identified in the part (e) analysis, including anchorage, are installed per the approved design requirements.
	e. The Fire Protection Building Ventilation System equipment, piping, and ducting and piping that could impact the capability of Seismic Category I structures, systems, or components to perform its safety function are designated as Conventional Seismic and can withstand seismic design basis loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function.	e. An analysis to identify the Conventional Seismic equipment, piping, and ducting of the Fire Protection Building Ventilation System will be performed.	e. A report indicates which equipment, piping, and ducting of the Fire Protection Building Ventilation System is designated Conventional Seismic.

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Table 2.4-22— {Ultimate Heat Sink Makeup Water System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 1 of 9)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	There are four divisions of the UHS Makeup Water System.	An inspection will be performed to verify that there are four divisions of the UHS Makeup Water System.	A report concludes that the as-built UHS Makeup Water System has four divisions.
2	Each division of the UHS Makeup Water System is independently powered by their respective Class 1E division.	Testing will be performed by providing a test input signal to each division of the as-built UHS Makeup System one at a time.	The test input signal provided is present at the respective as-built UHS Makeup Water System divisions.
3	Electrical isolation is provided on connections between each of the four divisions of the UHS Makeup Water System to prevent the propagation of credible electrical faults.	a. Type tests, analyses, or a combination of type tests and analyses will be performed on the electrical isolation devices on connections between the four UHS Makeup Water System divisions. b. Inspections will be performed on connections between the four as-built UHS Makeup Water System divisions.	a. A report concludes that the Class 1E isolation devices used between the four UHS Makeup Water System divisions prevent the propagation of credible electrical faults. b. Class 1E electrical isolation devices exist on connections between the four UHS Makeup Water System divisions.

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Table 2.4-22— {Ultimate Heat Sink Makeup Water System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 2 of 9)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
4	The UHS Makeup Water System equipment identified as Seismic Category I in Table 2.4-29 can withstand seismic design basis loads without loss of the function listed in Table 2.4-29.	a. Type tests, analyses, or a combination of type tests and analyses will be performed on the UHS Makeup Water System equipment listed as Seismic Category I in Table 2.4-29 using analytical assumptions, or under conditions which bound the Seismic Category I design requirements. b. Inspections will be performed of the Seismic Category I UHS Makeup Water System as-built equipment identified as Seismic Category I listed in Table 2.4-29 to verify that the equipment, including anchorage, are installed per the approved design requirements.	a. Seismic qualification reports (SQDP, EQDP, or analyses) conclude that the UHS Makeup Water System equipment listed as Seismic Category I in Table 2.4-29 can withstand design basis loads without loss of function listed in Table 2.4-29. b. Inspection reports conclude that the UHS Makeup Water System equipment listed in Table 2.4-29, including anchorage, are installed per the approved design requirements.

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Table 2.4-22— {Ultimate Heat Sink Makeup Water System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 3 of 9)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
5	a. The UHS Makeup Water System equipment that could impact the capability of Seismic Category I structures, systems, or components to perform their safety function are designated as Seismic Category II identified in Table 2.4-29, and can withstand seismic design basis loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function. b. The UHS Makeup Water System equipment that could impact the capability of Seismic Category I structures, systems, or components to perform its safety function are designated as Seismic Category II in Table 2.4-29 and Table 2.4-29, and can withstand seismic design basis loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function. c. UHS Makeup Water System piping that could impact the capability of Seismic Category I structures, systems, or components to perform its safety function are identified as Seismic Category II in Figure 2.4-1 and Table 2.4-29, and can withstand seismic design basis loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function.	a. Type tests, analyses, or a combination of type tests and analyses will be performed on the UHS Makeup Water System equipment identified as Seismic Category II in Table 2.4-29 using analytical assumptions, or under conditions, which bound the Seismic Category II design requirements to verify the equipment can withstand seismic design basis loads without impacting the capability of equipment designated Seismic Category I from performing its safety function. b. Inspections will be performed of the Seismic Category II UHS Makeup Water System to verify that the as-built equipment identified in Table 2.4-29, including anchorage, are installed per the approved design requirements. c. Type tests, analyses or a combination of type tests and analyses will be performed on the piping identified as Seismic Category II in Figure 2.4-1 and Table 2.4-29 using analytical assumptions, or under conditions, which bound the Seismic Category I design requirements.	a. Seismic qualification reports (SQDP, EQDP, or analyses) conclude that the UHS Makeup Water System equipment identified as Seismic Category II in Table 2.4-29 can withstand seismic design basis loads without impacting the capability of equipment designated Seismic Category I from performing its safety function. b. Inspection reports conclude that the as-built Seismic Category II UHS Makeup Water System equipment identified in Table 2.4-29 and Figure 2.4-3, including anchorage, are installed per the approved design requirements. c. Seismic qualification reports (SQDP, EQDP, or analyses) conclude that the UHS Makeup Water System piping identified as Seismic Category II in Figure 2.4-1 and Table 2.4-29 can withstand seismic design basis loads without impacting the capability of equipment designated Seismic Category I from performing its safety function.

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Table 2.4-22— {Ultimate Heat Sink Makeup Water System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 4 of 9)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
	d. UHS Makeup Water System piping that could impact the capability of Seismic Category I structures, systems, or components to perform its safety function are identified as Seismic Category II in Figure 2.4-1 and Table 2.4-29, and can withstand seismic design basis loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function.	d. Inspections will be performed of the Seismic Category II UHS Makeup Water System to verify that the as-built piping identified in Figure 2.4-1 and Figure 2.4-3, including anchorage, are installed per the approved design requirements.	d. Inspection reports conclude that the as-built Seismic Category II UHS Makeup Water System piping identified in Figure 2.4-1 and Figure 2.4-3, including anchorage, are installed per the approved design requirements.
6	The Seismic Category I UHS Makeup Water dualflow traveling screens and screen wash system can withstand seismic design basis loads without a loss of their safety function.	a. Type tests, analyses, or a combination of type tests and analyses will be performed on the Seismic Category I UHS Makeup Water dual flow traveling screens and screen wash system using analytical assumptions, or under conditions which bound the Seismic Category I design requirements. b. Inspections will be performed of the as-built UHS Makeup Water dual flow traveling screens and screen wash system identified as Seismic Category I to verify that the equipment, including anchorage, are installed per the approved design requirements.	a. Seismic qualification reports (SQDP, EQDP, or analyses) conclude that the Seismic Category I UHS Makeup Water dual flow traveling screens and screen wash system can withstand seismic design basis loads without a loss of safety function including the time required to perform the function. b. Inspection reports conclude that the UHS Makeup Water dual flow traveling screens and screen flow wash system identified as Seismic Category I, including anchorage, are installed per the approved design requirements.

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Table 2.4-22— {Ultimate Heat Sink Makeup Water System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 5 of 9)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
7	a. As-built ASME Code 1, 2 and 3 components listed in Table 2.4-29 are reconciled with the design requirements. b. ASME Code Class 1, 2 and 3 components listed in Table 2.4-29 are fabricated, installed and inspected in accordance with ASME Code Section III requirements. c. Pressure-boundary welds in ASME Code Class 1, 2 and 3 components in Table 2.4-29 meet ASME Code Section III non-destructive examination requirements. d. ASME Code Class 1, 2 and 3 components listed in Table 2.4-29 retain their pressure-boundary integrity at their design pressure.	a. A reconciliation analysis of ASME Code Class 1, 2 and 3 components listed in Table 2.4-29 will be performed. b. An inspection of the as built construction activities and documentation for ASME Code Class 1, 2 and 3 components listed in Table 2.4-29 will be conducted. c. An inspection of the as-built pressure-boundary welds in ASME Code Class 1, 2 and 3 components listed in Table 2.4-29 will be performed. d. A hydrostatic test will be conducted on ASME Code Class 1, 2 and 3 components that are required to be hydrostatically tested by the ASME Code Section III.	a. ASME Code Design Report(s) exist that meet the requirements of NCA-3550, conclude that the design reconciliation has been completed for as-built ASME Code Class 1, 2 and 3 components listed in Table 2.4-29 and documents the results of the reconciliation analysis. b. ASME Code Data Report(s) exist that conclude that ASME Code Class 1, 2 and 3 components listed in Table 2.4-29 are fabricated, installed, and inspected in accordance with ASME Code Section III requirements. c. ASME Code Reports(s) exist that conclude that ASME Code Section III requirements are met for non-destructive examination of pressure-boundary welds in ASME Code Class 1, 2 and 3 components listed in Table 2.4-29. d. ASME Code Data Report(s) exist and conclude that the results of the hydrostatic test of ASME Code Class 1, 2 and 3 components listed in Table 2.4-29 comply with the requirements of ASME Code Section III.
8	As-built ASME Code Class 1, 2 and 3 piping shown as ASME Section III in Figure 2.4-1 and Figure 2.4-3, including supports, are reconciled with the design requirements.	A reconciliation analysis of ASME Code Class 1, 2 and 3 piping shown as ASME Section III in Figure 2.4-1 and Figure 2.4-3, including supports, will be performed.	ASME Code Design Report(s) exist that meet the requirements of NCA-3550, conclude that the design reconciliation has been completed for as-built ASME Code Class 1, 2 and 3 piping shown as ASME Section III in Figure 2.4-1 and Figure 2.4-3, including supports, and document the results of the reconciliation analysis.
9	Pressure boundary welds in portions of the UHS Makeup Water System piping shown as ASME Code Section III in Figure 2.4-1 and Figure 2.4-3 meet ASME Code Section III non-destructive examination requirements.	Inspections of as-built pressure boundary welds will be performed.	ASME Code Report(s) exist and conclude that ASME Code Section III requirements are met for non-destructive examination of pressure boundary welds for portions of the UHS Makeup Water System piping shown as ASME Code Section III in Figure 2.4-1 and Figure 2.4-3.

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Table 2.4-22— {Ultimate Heat Sink Makeup Water System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 6 of 9)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
10	ASME Code Class 1, 2 and 3 components of the UHS Makeup Water System components shown as ASME Code Section III in Figure 2.4-1 and Figure 2.4-3 retain their pressure boundary integrity at their design pressure.	A hydrostatic test will be conducted on ASME Code Class 1, 2 and 3 components that are required to be hydrostatically tested by the ASME Code Section III.	ASME Code Data Report(s) exist and conclude that the results of the hydrostatic test of ASME Code Class 1, 2 and 3 UHS Makeup Water System components shown as ASME Code Section III in Figure 2.4-1 and Figure 2.4-3 comply with the requirements of ASME Code Section III.
11	ASME Code Class 1, 2 and 3 UHS Makeup Water System piping shown as ASME Code Section III in Figure 2.4-1 and Figure 2.4-3 retain their pressure boundary integrity at their design pressure.	A hydrostatic test will be conducted on ASME Code Class 1, 2 and 3 piping that is required to be hydrostatically tested by the ASME Code Section III.	ASME Code Data Report(s) exist and conclude that the results of the hydrostatic test of ASME Code Class 1, 2 and 3 UHS Makeup Water System piping shown as ASME Code Section III in Figure 2.4-1 and Figure 2.4-3 comply with the requirements of ASME Code Section III.
12	The materials utilized in the equipment and piping of the UHS Makeup Water System are compatible with its environmental conditions and brackish water.	a. An analysis of the materials utilized in the as-built equipment and piping will be performed. b. An inspection of the as-built piping will be performed.	a. A report concludes that the materials utilized in the equipment and piping installed in the UHS Makeup Water System and is compatible with its as-built environmental conditions and brackish water. b. The above ground and buried piping for the UHS Makeup Water System is composed of super austenitic stainless steel.
13	The UHS Makeup Water Intake Structure bar screens provide a large enough face area to prevent potential blockage and provide the minimum required flow.	a. Analyses will be performed of the UHS Makeup Water Intake Structure bar screens. b. Inspections will be performed to verify that the as-built UHS Makeup Water Intake Structure bar screens are installed per the approved design requirements.	a. A report concludes that the face area for the as-built UHS Makeup Water Intake Structure bar screens is sufficient to permit the minimum required flow in the event of worst-case blockage of the screens. b. An inspection report concludes that the as-built UHS Makeup Water Intake Structure bar screens are installed per the approved design requirements.

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Table 2.4-22— {Ultimate Heat Sink Makeup Water System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 7 of 9)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
14	Class 1E valves in the UHS Makeup Water System will function to change position as listed below under normal operating conditions. ♦ UHS makeup pump discharge valves open once the pump minimum flow requirement is established through the minimum flow recirculation line. ♦ Pump discharge strainer blowdown isolation valves will open during the strainer backwash cycle. ♦ The pump minimum flow recirculation valve opens and modulates open to maintain the UHS Makeup Water pump minimum flow requirement.	Tests and analyses or a combination of tests and analyses will be performed to demonstrate the ability of valves to change position under normal operating conditions.	The valves in the UHS Makeup Water System will function to change position as listed below under normal operating conditions. ♦ UHS makeup pump discharge valves open once the pump minimum flow requirement is established through the minimum flow recirculation line. ♦ Pump discharge strainer blowdown isolation valves will open during the strainer backwash cycle. ♦ The pump minimum flow recirculation valve opens and modulates open to maintain the UHS Makeup Water pump minimum flow requirement.
15	Each division of the UHS Makeup Water System can be initiated manually.	Tests of the as-built system will be performed to verify that each division of the UHS Makeup Water System can be initiated manually.	An inspection report concludes that each division of the as-built UHS Makeup Water System starts upon receipt of a manual initiation signal.
16	Each division of the UHS Makeup Water System is capable of delivering ≥ 300 gallons per minute of makeup water to the associated ESW cooling tower basin to maintain the minimum basin water level coincident with the necessary design flow rate of the UHS Makeup Water traveling screen wash system.	Testing and analysis will be performed to verify that each division of the as-built UHS Makeup Water System provides makeup water in order to maintain the minimum water level in the ESW cooling tower basin, coincident with the necessary design flow rate of the UHS Makeup Water traveling screen wash system.	A report concludes that each division of the UHS Makeup Water System is capable of delivering the minimum required flow rate of ≥ 300 gallons per minute of makeup water in order to maintain the minimum water level in the ESW cooling tower basin, coincident with the necessary design flow rate of the UHS Makeup Water traveling screen wash system.
17	The UHS Makeup Water pumps listed in Table 2.4-29 have NPSHA that is greater than NPSHR at system run-out flow.	Tests and analyses will be performed to verify pump NPSHA that is greater than NPSHR at system run-out flow for the UHS Makeup Water pumps listed in Table 2.4-29.	The UHS Makeup Water pumps listed in Table 2.4-29 have NPSHA that is greater than net positive suction head required (NPSHR) at system run-out flow.
18	The valves listed in Figure 2.4-3 will function to change position as listed in Table 2.4-29 under normal operating conditions.	Tests will be performed to demonstrate the ability of the valve to change position under normal operating conditions.	The valves change position as listed in Figure 2.4-3 under normal operating conditions.

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Table 2.4-22— {Ultimate Heat Sink Makeup Water System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 8 of 9)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
19	Check valves listed inTable 2.4-29 will function as listed in Table 2.4-29 under normal operating conditions.	Tests will be performed to demonstrate the ability of check valves to change position under normal operating conditions.	The check valves change position as listed in Table 2.4-29 under normal operating conditions.
20	The UHS Makeup Water System has provisions to allow flow testing of the system during plant operation.	Tests will be performed to verify the UHS Makeup Water System has provisions to allow flow testing of the UHS Makeup Water System during plant operation.	The as-built surveillance test bypass line for each division the UHS Makeup Water System allows flow testing of the system during plant operation.
21	Each UHS Makeup Water Intake Structure dual flow traveling screen is designed to be cleaned, at the necessary design flow rate from the UHS Makeup Water pump to wash the traveling screen, coincident with the greater than or equal to 300 gpm makeup flow rate to the UHS cooling tower basin.	Tests will be performed on each UHS Makeup Water Intake Structure dual flow traveling screen wash system to verify the necessary design flow rate is provided by the UHS Makeup Water pump to wash the traveling screens, coincident with the pump providing the makeup water to the UHS cooling tower basin at greater than or equal to 300 gpm.	Test reports conclude that each UHS Makeup Water Intake Structural dual flow traveling screen wash system can be provided the necessary design flow rate by the UHS Makeup Water pump to wash the traveling screens, coincident with the pump providing the makeup water to the UHS cooling tower basin at greater than or equal to 300 gpm.
22	Each division of the UHS Makeup Water System has a UHS Makeup Keep-Fill line as shown in Figure 2.4-3, that allows makeup water flow from the normal makeup water system to the UHS Makeup Water System during normal plant operation.	Tests of the as-built system will be performed.	The as-built UHS Makeup Keep-Fill line for each division of the UHS Makeup Water System, as shown in Figure 2.4-3, allows makeup water flow from normal makeup system to the UHS Makeup Water System during normal plant operation.
23	Each division of the UHS Makeup Water System has a Post-DBA UHS Makeup Keep-Fill line as shown in Figure 2.4-3, that allows makeup water flow from the ESW System return line to the UHS Makeup Water System during post DBA plant operation.	Tests of the as-built system will be performed.	a. The as-built Post DBA UHS Makeup Keep-Fill line for each division of the UHS Makeup Water System, as shown in Figure 2.4-3, allows makeup water flow from ESW System return line to the UHS Makeup Water System during post DBA plant operation. b. A report concludes that, the flow restricting orifice listed in Table 2.4-29, restricts makeup flow within the specified design value/system limit.

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Table 2.4-22— {Ultimate Heat Sink Makeup Water System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 9 of 9)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
24	Each division of the UHS Makeup Water System is capable of supplying makeup water to the associated UHS cooling tower basin starting 72 hours post DBA at a temperature less than or equal to the maximum ESWS design water temperature of 95°F (35°C).	Tests and analyses, or a combination of tests and analyses, will be performed to demonstrate that each division of the UHS Makeup Water System is capable of supplying makeup water to the associated UHS cooling tower basin starting 72 hours post DBA, assuming the most limiting environmental conditions, at a temperature less than or equal to the maximum ESWS design water temperature of 95°F (35°C).	A report concludes that each division of the UHS Makeup Water System is capable of supplying makeup water to the associated UHS cooling tower basin starting 72 hours post DBA, assuming the most limiting environmental conditions, at a temperature less than or equal to the maximum ESWS design water temperature of 95°F (35°C).

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Table 2.4-23— {Raw Water Supply System Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Raw Water Supply System delivers makeup water to the Fire Water Distribution System's fire water storage tanks in accordance with the guidance provided in RG 1.189, Rev. 1 (i.e., capable of delivering at least 300,000 gallons (1.14 million liters) within an 8-hour period).	A test of the as-built system will be performed to determine the Raw Water Supply System total flow rate.	The as-built Raw Water Supply System delivers a total flow rate of ≥ 625 gallons (2366 liters) per minute to the as-built fire water storage tanks for ≥ 8 hours.

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Table 2.4-24— {Fire Water Distribution System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 1 of 3)

	Commitment Wording	Inspection, Test, or Analysisign	Acceptance Criteria
1	The fire protection storage tanks are in close proximity to the fire protection building.	An inspection of the as-built location of the tanks will be conducted.	An inspection report verifies the as-built fire protection storage tanks are located within 50 ft of the as-built Fire Protection Building, as measured from the closest outside surfaces of the structures.
2	a. The Fire Water Distribution System equipment identified as either Conventional Seismic or Seismic Category II in the part (e) analysis can withstand seismic design basis loads without loss of safety function. b. The Fire Water Distribution System equipment are designated Conventional Seismic or Seismic Category II in the part (e) analysis, and can withstand seismic design basis loads without loss of the safety function. c. Portions of the Fire Water Distribution System piping identified as Conventional Seismic or Seismic Category II in the part (e) analysis can withstand seismic design basis loads without loss of safety function. d. Portions of the Fire Water Distribution System piping identified as Conventional Seismic or Seismic Category II in the part (e) analysis can withstand seismic design basis loads without loss of safety function. e. The Fire Water Distribution System equipment and piping identified as Conventional Seismic or Seismic Category II can withstand seismic design basis loads without loss of safety function.	a. Type tests, analyses, or a combination of type tests and analyses will be performed on Fire Water Distribution System equipment identified in the part (e) analysis using analytical assumptions, or under conditions which bound the design requirements. b. Inspections will be performed of the as-built Fire Water Distribution System equipment identified in the part (e) analysis to verify the equipment, including anchorage, are installed per the approved design requirements. c. Type tests, analyses or a combination of type tests and analyses will be performed on the piping identified in the part (e) analysis using analytical assumptions, or under conditions, which bound the Seismic Category I design requirements. d. Inspections will be performed of the Fire Water Distribution System to verify that the as-built piping identified in the part (e) analysis, including anchorage, are installed per the approved design requirements. e. An analysis to identify the equipment and piping of the Fire Water Distribution System will be performed.	a. Seismic qualification reports (SQDP, EQDP, or analyses) conclude that the Fire Water Distribution System equipment identified in the part (e) analysis can withstand seismic design basis loads without loss of safety function. b. Inspection reports conclude that the Fire Water Distribution System equipment identified in the part (e) analysis, including anchorage, are installed per the approved design requirements. c. Seismic qualification reports (SQDP, EQDP, or analyses) conclude that the Fire Water Distribution System piping identified in the part (e) analysis can withstand seismic design basis loads without loss of safety function. d. Inspection reports conclude that the Fire Water Distribution System piping identified in the part (e) analysis, including anchorage, are installed per the approved design requirements. e. A report indicates the equipment and piping of the Fire Water Distribution System.

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Table 2.4-24— {Fire Water Distribution System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 2 of 3)

	Commitment Wording	Inspection, Test, or Analysisign	Acceptance Criteria
3	a. The Fire Water Distribution System equipment that could impact the capability of Seismic Category I structures, systems, or components to perform its safety function are designated as Seismic Category II in the part (e) analysis , and can withstand seismic design basis loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function. b. The Fire Water Distribution System equipment that could impact the capability of Seismic Category I structures, systems, or components to perform its safety function are designated as Seismic Category II in the part (e) analysis , and can withstand seismic design basis loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function. c. Fire Water Distribution System piping that could impact the capability of Seismic Category I structures, systems, or components to perform its safety function are identified as Seismic Category II in the part (e) analysis, and can withstand seismic design basis loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function.	a. Type tests, analyses, or a combination of type tests and analyses will be performed on the Fire Water Distribution System equipment identified in the part (e) analysis using analytical assumptions, or under conditions, which bound the Seismic Category II design requirements to verify the equipment can withstand seismic design basis loads without impacting the capability of equipment designated Seismic Category I from performing its safety function. b. Inspections will be performed of the Seismic Category II Fire Water Distribution System to verify that the as-built equipment identified in the part (e) analysis, including anchorage, are installed per the approved design requirements.	a. Seismic qualification reports (SQDP, EQDP, or analyses) conclude that the Fire Water Distribution System equipment identified as Seismic Category II in the part (e) analysis can withstand seismic design basis loads without impacting the capability of equipment designated Seismic Category I from performing its safety function. b. Inspection reports conclude that the as-built Seismic Category II Fire Water Distribution System equipment identified in the part (e) analysis, are installed per the approved design requirements. c. Seismic qualification reports (SQDP, EQDP, or analyses) conclude that the as-designed Fire Water Distribution System piping identified as Seismic Category II in the part (e) analysis can withstand seismic design basis loads without impacting the capability of equipment designated Seismic Category I from performing its safety function.

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Table 2.4-24— {Fire Water Distribution System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 3 of 3)

	Commitment Wording	Inspection, Test, or Analysisign	Acceptance Criteria
	d. Fire Water Distribution System piping that could impact the capability of Seismic Category I structures, systems, or components to perform its safety function are identified as Seismic Category II in the part (e) analysis, and can withstand seismic design basis loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function. e. The Fire Water Distribution System equipment and piping that could impact the capability of Seismic Category I structures, systems, or components to perform its safety function are designated as Seismic Category II and can withstand seismic design basis loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function.	c. Type tests, analyses or a combination of type tests and analyses will be performed on the piping identified as Seismic Category II in the part (e) analysis using analytical assumptions, or under conditions, which bound the Seismic Category I design requirements. d. Inspections will be performed of the Seismic Category II Fire Water Distribution System to verify that the as-built piping identified in the part (e) analysis, including anchorage, are installed per the approved design requirements. e. An analysis to identify the Category II equipment and piping of the Fire Water Distribution System will be performed.	d. Inspection reports conclude that the as-built Seismic Category II Fire Water Distribution System piping identified in the part (e) analysis, including anchorage, are installed per the approved design requirements. e. A report indicates the Category II equipment and piping of the Fire Water Distribution System.
4	The Fire Water Distribution System utilizing the diesel driven fire pumps can be initiated manually.	Tests of the as-built system will be performed.	Fire Water Distribution System utilizing the diesel driven fire pumps starts upon receipt of a manual initiation signal.

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Table 2.4-25— {Fire Suppression Systems Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 1 of 4)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	a. The Standpipe and Hose Station components for the UHS Makeup Water Intake Structure are designated Seismic Category II in the part (c) analysis and can withstand seismic design basis loads without a loss of the function listed in the part (c) analysis. b. The Standpipe and Hose Station components for the UHS Makeup Water Intake Structure are designated Seismic Category II in the part (c) analysis and can withstand seismic design basis loads without a loss of the function listed in the part (c) analysis. c. The Standpipe and Hose Station components for the UHS Makeup Water Intake Structure are designated Seismic Category II and can withstand seismic design basis loads without a loss of the function listed.	a. Type tests, analyses, or a combination of type tests and analyses will be performed on the UHS Makeup Water Intake Structure Standpipe and Hose Station components identified as Seismic Category II in the part (c) analysis using analytical assumptions, or under conditions which bound the Seismic Category II design requirements. b. Inspections will be performed of the as-built Seismic Category II UHS Makeup Water Intake Structure Standpipe and Hose Station components identified in the part (c) analysis to verify that the as-built components, including anchorage, are installed per the approved design requirements. c. An analysis to identify the Category II components of the Standpipe and Hose Station for the UHS Makeup Water Intake Structure will be performed.	a. Seismic qualification reports (SQDP, EQDP, or analyses) conclude that the Seismic Category II UHS Makeup Water Intake Structure Standpipe and Hose Station components identified in the part (c) analysis can withstand seismic design basis loads without a loss of the function listed in the part (c) analysis. b. Inspection reports conclude that the as-built Seismic Category II UHS Makeup Water Intake Structure Standpipe and Hose Station components identified in the part (c) analysis, including anchorage, are installed per the approved design requirements. c. A report indicates the Category II components of the Standpipe and Hose Station for the UHS Makeup Water Intake Structure.

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Table 2.4-25— {Fire Suppression Systems Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 2 of 4)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
2	a. The Standpipe and Hose Station components for the UHS Makeup Water Intake Structure are designated Seismic Category II in the part (c) analysis , and can withstand seismic design basis loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function. b. The Standpipe and Hose Station components for the UHS Makeup Water Intake Structure are designated Seismic Category II in the part (c) analysis , and can withstand seismic design basis loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function. c. The Standpipe and Hose Station components for the UHS Makeup Water Intake Structure are designated Seismic Category II and can withstand seismic design basis loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function.	a. Type tests, analyses, or a combination of type tests and analyses will be performed on the Seismic Category II UHS Makeup Water Intake Structure Standpipe and Hose Station components identified in the part (c) analysis using analytical assumptions, or under conditions which bound the Seismic Category II design requirements to verify the components can withstand seismic design basis loads without impacting the capability of equipment designated Seismic Category I from performing its safety function. b. Inspections will be performed of the Seismic Category II UHS Makeup Water Intake Structure Standpipe and Hose Station components identified in the part (c) analysis to verify that the as-built components, including anchorage, are installed per the approved design requirements. c. An analysis to identify the Category II components of the Standpipe and Hose Station for the UHS Makeup Water Intake Structure will be performed.	a. Seismic qualification reports (SQDP, EQDP, or analyses) conclude that the Seismic Category II UHS Makeup Water Intake Structure Standpipe and Hose Station components identified in the part (c) analysis can withstand seismic design basis loads without impacting the capability of equipment designated Seismic Category I from performing its safety function. b. Inspection reports conclude that the as-built Seismic Category II UHS Makeup Water Intake Structure Standpipe and Hose Station components identified in the part (c) analysis, including anchorage, are installed per the approved design requirements. c. A report indicates the Category II components of the Standpipe and Hose Station for the UHS Makeup Water Intake Structure.

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Table 2.4-25— {Fire Suppression Systems Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 3 of 4)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
3	a. The Fire Suppression System components for the UHS Makeup Water Intake Structure are designated as Seismic Category II in the part (c) analysis, and can withstand seismic design basis loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function. b. The Fire Suppression System components for the UHS Makeup Water Intake Structure are designated as Seismic Category II in the part (c) analysis, and can withstand seismic design basis loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function. c. The Fire Suppression System components for the UHS Makeup Water Intake Structure are designated as Seismic Category II and can withstand seismic design basis loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function.	a. Type tests, analyses, or a combination of type tests and analyses will be performed on the Seismic Category II UHS Makeup Water Intake Structure Fire Suppression System components identified in the part (c) analysis using analytical assumptions, or under conditions which bound the Seismic Category II design requirements to verify the components can withstand seismic design basis loads without impacting the capability of equipment designated Seismic Category I from performing its safety function. b. Inspections will be performed of the Seismic Category II UHS Makeup Water Intake Structure Fire Suppression System components identified in the part (c) analysis to verify that the as-built components designated Seismic Category II, including anchorage, are installed per the approved design requirements. c. An analysis to identify the Category II components of the Fire Suppression System for the UHS Makeup Water Intake Structure will be performed.	a. Seismic qualification reports (SQDP, EQDP, or analyses) conclude that the Seismic Category II UHS Makeup Water Intake Structure Fire Suppression System components, identified in the part (c) analysis can withstand seismic design basis loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function. b. Inspection reports conclude that the as-built Seismic Category II UHS Makeup Water Intake Structure Fire Suppression System components identified in the part (c) analysis, including anchorage, are installed per the approved design requirements. c. A report indicates the Category II components of the Fire Suppression System for the UHS Makeup Water Intake Structure.

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Table 2.4-25— {Fire Suppression Systems Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 4 of 4)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
4	a. The Fire Suppression System components for the Fire Protection Building are designated as Seismic Category II in the part (c) analysis, and can withstand design basis seismic loads without a loss of the function listed in the part (c) analysis. b. The Fire Suppression System components for the Fire Protection Building are designated as Seismic Category II in the part (c) analysis, and can withstand design basis seismic loads without a loss of the function listed in the part (c) analysis. c. The Fire Suppression System components for the Fire Protection Building are designated as Seismic Category II, and can withstand design basis seismic loads without a loss of the function.	a. Type tests, analyses, or a combination of type tests and analyses will be performed on the Fire Suppression System components for the Fire Protection Building identified as Seismic Category II in the part (c) analysis using analytical assumptions, or under conditions which bound the Seismic Category II design requirements. b. Inspections will be performed of the Seismic Category II Fire Suppression System components for the Fire Protection Building identified in the part (c) analysis to verify that the as-built components, including anchorage, are installed per the approved design requirements. c. An analysis to identify the Category II components of the Fire Suppression System for the Fire Protection Building will be performed.	a. Seismic qualification reports (SQDP, EQDP, or analyses) conclude that the Seismic Category II Fire Suppression System components for the Fire Protection Building identified in the part (c) analysis can withstand seismic design basis loads without a loss of the function listed in the part (c) analysis. b. Inspection reports conclude that the as-built Seismic Category II Fire Suppression System components for the Fire Protection Building identified in the part (c) analysis, including anchorage, are installed per the approved design requirements. c. A report indicates the Category II components of the Fire Suppression System for the Fire Protection Building.

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Table 2.4-26— {Offsite Power System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 1 of 3)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	a. The Offsite Power System supplies at least two preferred power circuits. b. Physical separation exists between the Offsite Power System supplied preferred power circuits. c. The power, instrument, and control circuits of the normal preferred offsite transmission system are independent of the power, instrument, and control circuits of the alternate preferred offsite transmission system.	a. Inspections of the as-built Offsite Power System will be conducted. b. 1. An inspection will be performed to verify that the as-built Offsite Power System supplied preferred power circuits are physically separated. 2. An inspection will be performed to verify that the as-built Offsite Power System supplied preferred power circuits transmission lines do not have a common takeoff structure and do not use a common structure for support. c. Testing of the as-built power, instrument, and control circuits of the normal and alternate preferred offsite transmissions systems will be performed by powering only one preferred offsite transmission system at a time.	a. The Offsite Power System has at least two preferred power circuits. b. 1. A report concludes that the Offsite Power System supplied preferred power circuits from the switchyard to the emergency and auxiliary transformers are separated by a minimum distance of 50 feet. 2. A report concludes the Offsite Power System supplied preferred power circuit transmission lines do not have a common takeoff structure and do not use a common structure for support. c. When power is applied to one preferred offsite transmission system, only the preferred offsite transmission system under test is powered.
2	Each Offsite Power System power circuit is sized to supply the station safety-related and nonsafety-related loads during normal and off normal operation by having the Emergency Auxiliary Transformers and Normal Auxiliary Transformers are sized to supply their load requirements.	An inspection and analysis will be performed to verify the as-built Emergency Auxiliary Transformers and Normal Auxiliary Transformers are sized to supply their station safety-related and nonsafety-related load requirements.	An inspection and analysis will be performed to verify the as-built Emergency Auxiliary Transformers and Normal Auxiliary Transformers are sized to supply their station safety-related and nonsafety-related load requirements

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Table 2.4-26— {Offsite Power System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 2 of 3)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
3	The cables and buses of each Emergency Auxiliary Transformer independent circuit are sized to supply the four Emergency Power Supply System divisions.	An inspection and analysis will be performed to verify the as-built independent circuit cables and buses of each Emergency Auxiliary Transformer are sized to supply the four Emergency Power Supply System divisions.	Equipment sizing analysis concludes that ratings for the as-built independent circuit cables and buses of each Emergency Auxiliary Transformer are sized to supply the four Emergency Power Supply divisions.
4	The AC power sources may be manually transferred from the normal offsite circuit to the alternate offsite circuit.	Tests of the as-built system will be performed.	The as-built AC power sources can be manually transferred from the normal offsite circuit to the alternate offsite circuit.
5	The AC power sources may be automatically transferred from the normal offsite circuit to the alternate offsite circuit.	Tests of the as-built system will be performed.	The as-built AC power sources can be automatically transferred from the normal offsite circuit to the alternate offsite circuit.
6	The RCP free coastdown frequency rate for a complete loss of forced reactor coolant flow analysis due to a loss of offsite power event bounds the maximum transmission system frequency decay rate.	Type tests, analyses, or a combination of type tests and analyses will be performed to determine that the RCP free coastdown frequency rate for a complete loss of forced reactor coolant flow analysis due to a loss of offsite power event bounds the maximum transmission system frequency decay rate.	Reports conclude that the RCP free coastdown frequency rate for a complete loss of forced reactor coolant flow analysis due to a loss of offsite power event bounds the maximum transmission system frequency decay rate.
7	Electrical grounding exists for the 500 kV switchyard.	An inspection and analysis will be performed to verify the as-built grounding for the 500 kV switchyard is installed per the approved design requirements.	Inspection reports conclude that the as-built grounding for the 500 kV switchyard is installed per the approved design requirements.
8	Lightning protection exists for the 500 kV switchyard.	An inspection and analysis will be performed to verify that the as-built lightning protection for the 500 kV switchyard is installed per the approved design requirements.	Inspection reports conclude that the as-built lightning protection for the 500 kV switchyard is installed per the approved design requirements.
9	Each EAT does not impact the ability of other EAT, NATs, or the main step-up transformers (MSU) to perform their safety function as a result of a fire.	a. A fire protection analysis will be performed.	a. A report concludes that completion of fire protection analysis indicates barriers, doors, dampers, and penetrations providing separation between the EATs and the other EATs, NATs, or the MSUs have a minimum 3-hour fire rating and mitigate the propagation of smoke to the extent that safe shutdown is not adversely affected.

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Table 2.4-26— {Offsite Power System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 3 of 3)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
		b. An inspection and analysis will be performed to verify that the as-built barriers, doors, dampers, and penetrations existing within the internal hazards protective barriers separating the EATs and the other EATs, NATs, or the MSUs, are installed per the approved design requirements.	b. Inspection reports conclude that the as-built fire barriers, doors, dampers and penetrations that separate the EATs and the other EATs, NATs, or the MSUs are installed per the approved design requirements.
		c. Testing the closure of dampers that separate the EATs and the other EATs, NATs, or the MSUs will be performed.	c. A report concludes that the dampers that separate the EATs and the other EATs, NATs, or the MSUs close upon receipt of a test input signal.
		d. A post-fire safe shutdown analysis will be performed by supplying a test input signal.	d. A report concludes that completion of the post-fire safe shutdown analysis indicates that at least one success path comprised of the minimum set of SSC is available for safe shutdown.

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Table 2.4-27— {Power Generation System Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Main Generator Switchyard circuit breakers are sized to supply their load requirements.	An inspection and analysis will be performed to verify the as-built Main Generator Switchyard circuit breakers are sized to supply their load requirements.	An equipment sizing analysis concludes that rating for the as-built Main Generator Switchyard circuit breakers are greater then their analyzed load requirements.

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Table 2.4-28— {Class 1E Emergency Power Supply Components for Site-Specific Systems Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 1 of 5)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Class 1E electrical distribution equipment identified as Seismic Category I in the part (c) analysis is qualified Seismic Category I can withstand seismic design basis loads without loss of the function identified in the part (c) analysis.	a. Type tests, analyses, or a combination of type tests and analyses will be performed on the Class 1E electrical distribution equipment identified as Seismic Category I in the part (c) analysis using analytical assumptions, or under conditions which bound the Seismic Category I design requirements. b. Inspections will be performed of the as-built Seismic Category I Class 1E electrical distribution equipment identified as Seismic Category I in the part (c) analysis to verify that the equipment, including anchorage, are installed per the approved design requirements. c. An analysis to identify the Seismic Category I Class 1E electrical distribution equipment will be performed.	a. Seismic qualification reports (SQDP, EQDP, or analyses) conclude that the Seismic Category I Class 1E electrical distribution equipment identified in the part (c) analysis can withstand design basis seismic loads without loss of the function identified in the part (c) analysis including the time required to perform the listed function. b. Inspection reports conclude that the Class 1E electrical distribution equipment identified as Seismic Category I in the part (c) analysis, including anchorage, are installed per the approved design requirements. c. A report indicates the Seismic Category I Class 1E electrical distribution equipment.

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Table 2.4-28— {Class 1E Emergency Power Supply Components for Site-Specific Systems Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 2 of 5)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
2	Displays are indicated on the PICS operator workstations in the MCR and the RSS for the following Class 1E equipment: ♦ UHS Makeup Water System (makeup water pumps, pump discharge valves, pump min-flow recirculation valves, traveling screens, traveling screen wash isolation valves, pump discharge strainers, and pump discharge strainer blowdown isolation valves). ♦ UHS Makeup Water Intake Structure Ventilation System (air cooled condensers, air conditioning units, unit heaters, and ventilation fans).	a. Tests will be performed to verify that the displays for the Class 1E equipment listed below are indicated on the PICS operator workstations in the MCR by using test input signals to the PICS: ♦ UHS Makeup Water System (makeup water pumps, pump discharge valves, pump min-flow recirculation valves, initial fill isolation valves, pump discharge strainers, and pump discharge strainer blowdown isolation valves). ♦ UHS Makeup Water Intake Structure Ventilation System (ventilation fans). b. Tests will be performed to verify that the displays for the Class 1E equipment listed below are indicated on the PICS operator workstations in the RSS by using test input signals to the PICS: ♦ UHS Makeup Water System (makeup water pumps, pump discharge valves, pump min-flow recirculation valves, initial fill isolation valves, pump discharge strainers, and pump discharge strainer blowdown isolation valves).	a. Displays for the following Class 1E equipment are indicated on the PICS operator workstations in the MCR: ♦ UHS Makeup Water System (makeup water pumps, pump discharge valves, pump min-flow recirculation valves, traveling screens, traveling screen wash isolation valves, pump discharge strainers, and pump discharge strainer blowdown isolation valves). ♦ UHS Makeup Water Intake Structure Ventilation System (air cooled condensers, air conditioning units, unit heater, and ventilation fans). b. Displays for the following Class 1E equipment are indicated on the PICS operator workstations in the RSS: ♦ UHS Makeup Water System (makeup water pumps, pump discharge valves, pump min-flow recirculation valves, traveling screens, traveling screen wash isolation valves, and pump discharge strainers, and pump discharge strainer blowdown isolation valves). ♦ UHS Makeup Water Intake Structure Ventilation System (air cooled condensers, air conditioning units, unit heaters and ventilation fans).

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Table 2.4-28— {Class 1E Emergency Power Supply Components for Site-Specific Systems Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 3 of 5)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
3	Controls for the following Class 1E equipment exist on the PICS operator workstations in the MCR and the RSS: ♦ UHS Makeup Water System (makeup water pumps, pump discharge valves, pump min-flow recirculation valves, traveling screens, traveling screen wash isolation valves, pump discharge strainers, and pump discharge strainer blowdown isolation valves). ♦ UHS Makeup Water Intake Structure Ventilation System (air cooled condensers, air conditioning units, unit heaters and ventilation fans).	a. Tests will be performed using controls on the PICS operator workstations in the MCR to the following Class 1E equipment: ♦ UHS Makeup Water System (makeup water pumps, pump discharge valves, initial fill isolation valves, pump min-flow recirculation valves, pump discharge strainers, and pump discharge strainer blowdown isolation valves). ♦ UHS Makeup Water Intake Structure Ventilation System (ventilation fans). b. Tests will be performed using controls on the PICS operator workstations in the RSS to the following Class 1E equipment: ♦ UHS Makeup Water System (makeup water pumps, pump discharge valves, initial fill isolation valves, pump min-flow recirculation valves, pump discharge strainers, and pump discharge strainer blowdown isolation valves). ♦ UHS Makeup Water Intake Structure Ventilation System	a. Controls on the PICS operator work stations for the following Class 1E equipment in the MCR perform the respective functions. ♦ UHS Makeup Water System (makeup water pumps, pump discharge valves, pump min-flow recirculation valves, traveling screens, traveling screen wash isolation valves, pump discharge strainers, and pump discharge strainer blowdown isolation valves). ♦ UHS Makeup Water Intake Structure Ventilation System (air cooled condensers, air conditioning units, unit heaters and ventilation fans). b. Controls on the PICS operator workstations for the following Class 1E equipment in the RSS perform the respective functions: ♦ UHS Makeup Water System (makeup water pumps, pump discharge valves, pump min-flow recirculation valves, traveling screens, traveling screen wash isolation valves pump discharge strainers, and pump discharge strainer blowdown isolation valves). ♦ UHS Makeup Water Intake Structure Ventilation System (air cooled condensors, air conditioning units, unit heaters and ventilation fans).

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Table 2.4-28— {Class 1E Emergency Power Supply Components for Site-Specific Systems Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 4 of 5)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
4	The Class 1E motor control centers, and transformers and their feeder breakers and load breakers are sized to supply their load requirements, for the following systems: ♦ UHS Makeup Water System. ♦ UHS Makeup Water Intake Structure Ventilation System.	An analysis of the Class 1E motor control centers, and transformers and their feeder breakers and load breakers will be performed. An inspection and analysis will be performed to verify the as-built Class 1E motor control centers, and transformers and their feeder breakeres and load breakers for the following systems are sized to supply their load requirements: ♦ UHS Makeup Water System ♦ UHS Makeup Water Intake Structure Ventilation System.	An equipment sizing analysis concludes that the ratings for the as-built Class 1E motor control centers, and transformers and their feeder breakers and load breakers are greater than their analyzed load requirements, for the following systems: ♦ UHS Makeup Water System ♦ UHS Makeup Water Intake Structure Ventilation System
5	Electrical grounding is provided for the ground bus of the UHS Makeup Water Intake Structure motor control center.	An inspection will be performed of the as-built UHS Makeup Water Intake Structure motor control center.	A report concludes that the as-built electrical grounding for the ground bus of the UHS Makeup Water Intake Structure motor control center is installed per the approved design requirements.
6	Electrical grounding is provided for the neutral point of the UHS Makeup Water Intake Structure distribution transformer.	An inspection will be performed of the as-built UHS Makeup Water Intake Structure distribution transformer.	A report concludes that the as-built electrical grounding for the neutral point of the UHS Makeup Water Intake Structure distribution transformer is installed per the approved design requirements.
7	Lightning protection is provided for the UHS Makeup Water Intake Structure.	An inspection will be performed of the as-built UHS Makeup Water Intake Structure.	A report concludes that the as-built lightning protection of the as-built UHS Makeup Water Intake Structure lightning protection system is installed per the approved design requirements.
8	The UHS Makeup Water Intake Structure lightning protection system is connected to the grounding grid.	An inspection will be performed of the as-built UHS Makeup Water Intake Structure lightning protection system.	A report concludes that the as-built UHS Makeup Water Intake Structure is connected to the grounding grid in accordance with the design drawings and documentation.

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Table 2.4-28— {Class 1E Emergency Power Supply Components for Site-Specific Systems Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 5 of 5)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
9	Displays are indicated on the PICS operator workstations in the MCR and the RSS for the switchyard instrumentation (circuit breaker position Indication and control voltage).	a. Tests will be performed to verify that the displays for the switchyard instrumentation (circuit breaker position Indication and control voltage) are indicated on the PICS operator workstations in the MCR by using test input signals to the PICS. b. Tests will be performed to verify that the displays for the switchyard instrumentation (circuit breaker position Indication and control voltage) are indicated on the PICS operator workstations in the RSS by using test input signals to the PICS.	a. Displays for the switchyard instrumentation (circuit breaker position Indication and control voltage) are indicated on the PICS operator workstations in the MCR b. Displays for the switchyard instrumentation (circuit breaker position Indication and control voltage) are indicated on the PICS operator workstations in the RSS:

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Table 2.4-29— {Ultimate Heat Sink (UHS) Makeup Water System Component Mechanical Design}

(Page 1 of 5)

Component Description	Component Tag Number	Component Location	ASME Code	Function	Seismic Category
UHS Makeup Water Pump Train 1	30PED10 AP001 A	UHS Makeup Pump Room	Class 3	Run	I
UHS Makeup Water Pump Discharge Check Valve Train 1	30PED10 AA201 A	UHS Makeup Pump Room	Class 3	Open – Close	I
UHS Makeup Water Pump Discharge Isolation Valve Train 1	30PED10 AA001 A	UHS Makeup Pump Room	Class 3	Open	I
UHS Makeup Water Pump Minimum Flow Valve Train 1	30PED10 AA002 A	UHS Makeup Pump Room	Class 3	Open – Close	I
Post-DBA UHS Makeup Keep-Fill Line Orifice Valve Train 1	-	ESWS Pump Room	Class 3	Open	I
Post-DBA UHS Makeup Keep-Fill Line Check Valve Train 1	30PED10AA223	ESWS Pump Room	Class 3	Open-Close	I
Post-DBA UHS Makeup Keep-Fill Line Isolation Valve Train 1	30PED10AA029	ESWS Pump Room	Class 3	Open	I
UHS Makeup Keep-Fill Line Isolation Valve Train 1	30PED10AA028	ESWS Pump Room	Class 3	Open	I
UHS Makeup Keep-Fill Line Check Valve Train 1	30PED10AA222	ESWS Pump Room	Class 3	Open-Close	I
UHS Makeup Water Pump Discharge Strainer Train 1	30PED10 AT001 A	UHS Makeup Pump Room	Class 3	Run	I
UHS Makeup Water Pump Discharge Strainer Blowdown Isolation Valve Train 1	30PED10AA006 A	UHS Makeup Pump Room	Class 3	Close	I
UHS Makeup Water Pump Discharge Strainer Isolation Valve Train 1	30PED10AA003 A	UHS Makeup Pump Room	Class 3	Open	I
Piping and Manual Valves Train 1	Later	UHS Makeup Intake Structure	Class 3	Pressure Boundary	I
Buried Piping Train 1	Later	Yard Area	Class 3	Pressure Boundary	I
Air Release/Vacuum Breaker Valve Train 1	30PED10AA190	UHS Makeup Pump Room	Class 3	Open – Close	I
UHS Makeup Water Dual Flow Traveling Screen Train 1	Later	UHS Makeup Intake Structure	N/A	Run	I
UHS Makeup Water Intake Structure Bar Screen Train 1	Later	UHS Makeup Intake Structure	N/A	—	I

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Table 2.4-29— {Ultimate Heat Sink (UHS) Makeup Water System Component Mechanical Design}

(Page 2 of 5)

Component Description	Component Tag Number	Component Location	ASME Code	Function	Seismic Category
UHS Makeup Water Screen Wash Throttling Valve Train 1	30PED10AA007 A	UHS Makeup Traveling Screen Room	Class 3	Open	I
UHS Makeup Water Screen Wash Isolation Valve Train 1	30PED10AA005 A	UHS Makeup Traveling Screen Room	Class 3	Open	I
UHS Makeup Water Test Bypass Isolation Valve Train 1	30PED10AA008 A	ESW Pump Room	Class 3	Close	I
UHS Makeup Water Pump Train 2	30PED20 AP001 A	UHS Makeup Pump Room	Class 3	Run	I
UHS Makeup Water Pump Discharge Check Valve Train 2	30PED20 AA201 A	UHS Makeup Pump Room	Class 3	Open – Close	I
UHS Makeup Water Pump Discharge Isolation Valve Train 2	30PED20 AA001 A	UHS Makeup Pump Room	Class 3	Open	I
UHS Makeup Water Pump Minimum Flow Valve Train 2	30PED20 AA002 A	UHS Makeup Pump Room	Class 3	Open – Close	I
Post-DBA UHS Makeup Keep-Fill Line Orifice Valve Train 2	-	ESWS Pump Room	Class 3	Open	I
Post-DBA UHS Makeup Keep-Fill Line Check Valve Train 2	30PED20AA223	ESWS Pump Room	Class 3	Open-Close	I
Post-DBA UHS Makeup Keep-Fill Line Isolation Valve Train 2	30PED20AA029	ESWS Pump Room	Class 3	Open	I
UHS Makeup Keep-Fill Line Isolation Valve Train 2	30PED20AA028	ESWS Pump Room	Class 3	Open	I
UHS Makeup Keep-Fill Line CHeck Valve Train 2	30PED20AA222	ESWS Pump Room	Class 3	Open-Close	I
UHS Makeup Water Pump Discharge Strainer Train 2	30PED20 AT001 A	UHS Makeup Pump Room	Class 3	Run	I
UHS Makeup Water Pump Discharge Strainer Blowdown Isolation Valve Train 2	30PED20AA006 A	UHS Makeup Pump Room	Class 3	Close	I
UHS Makeup Water Pump Discharge Strainer Isolation Valve Train 2	30PED20AA003 A	UHS Makeup Pump Room	Class 3	Open	I
Piping and Manual Valves Train 2	Later	UHS Makeup Intake Structure	Class 3	Pressure Boundary	I
Buried Piping Train 2	Later	Yard Area	Class 3	Pressure Boundary	I

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Table 2.4-29— {Ultimate Heat Sink (UHS) Makeup Water System Component Mechanical Design}

(Page 3 of 5)

Component Description	Component Tag Number	Component Location	ASME Code	Function	Seismic Category
Air Release/Vacuum Breaker Valves Train 2	30PED20AA190	UHS Makeup Pump Room	Class 3	Open – Close	I
UHS Makeup Water Dual Flow Traveling Screen Train 2	Later	UHS Makeup Intake Structure	N/A	Run	I
UHS Makeup Water Intake Structure Bar Screen Train 2	Later	UHS Makeup Intake Structure	N/A	__	I
UHS Makeup Water Screen Wash Throttling Valve Train 2	30PED20AA007 A	UHS Makeup Traveling Screen Room	Class 3	Open	I
UHS Makeup Water Screen Wash Isolation Valve Train 2	30PED20AA005 A	UHS Makeup Traveling Screen Room	Class 3	Open	I
UHS Makeup Water Test Bypass Isolation Valve Train 2	30PED20AA008 A	ESW Pump Room	Class 3	Close	I
UHS Makeup Water Pump Train 3	30PED30 AP001 A	UHS Makeup Pump Room	Class 3	Run	I
UHS Makeup Water Pump Discharge Check Valve Train 3	30PED30 AA201 A	UHS Makeup Pump Room	Class 3	Open – Close	I
UHS Makeup Water Pump Discharge Isolation Valve Train 3	30PED30 AA001 A	UHS Makeup Pump Room	Class 3	Open	I
UHS Makeup Water Pump Minimum Flow Valve Train 3	30PED30 AA002 A	UHS Makeup Pump Room	Class 3	Open – Close	I
Post-DBA UHS Makeup Keep-Fill Line Orifice Valve Train 3	-	ESWS Pump Room	Class 3	Open	I
Post-DBA UHS Makeup Keep-Fill Line Check Valve Train 3	30PED30AA223	ESWS Pump Room	Class 3	Open-Close	I
Post-DBA UHS Makeup Keep-Fill Line Isolation Valve Train 3	30PED30AA029	ESWS Pump Room	Class 3	Open	I
UHS Makeup Keep-Fill Line Isolation Valve Train 3	30PED30AA028	ESWS Pump Room	Class 3	Open	I
UHS Makeup Keep-Fill Line Check Valve Train 3	30PED30AA222	ESWS Pump Room	Class 3	Open-Close	I
UHS Makeup Water Pump Discharge Strainer Train 3	30PED30 AT001 A	UHS Makeup Pump Room	Class 3	Run	I
UHS Makeup Water Pump Discharge Strainer Blowdown Isolation Valve Train 3	30PED30AA006 A	UHS Makeup Pump Room	Class 3	Close	I

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Table 2.4-29— {Ultimate Heat Sink (UHS) Makeup Water System Component Mechanical Design}

(Page 4 of 5)

Component Description	Component Tag Number	Component Location	ASME Code	Function	Seismic Category
UHS Makeup Water Pump Discharge Strainer Isolation Valve Train 3	30PED30AA003 A	UHS Makeup Pump Room	Class 3	Open	I
Piping and Manual Valves Train 3	Later	UHS Makeup Intake Structure	Class 3	Pressure Boundary	I
Buried Piping Train 3	Later	Yard Area	Class 3	Pressure Boundary	I
Air Release/Vacuum Breaker Valves Train 3	30PED30AA190	UHS Makeup Pump Room	Class 3	Open – Close	I
UHS Makeup Water Dual Flow Traveling Screen Train 3	Later	UHS Makeup Intake Structure	N/A	Run	I
UHS Makeup Water Intake Structure Bar Screen Train 3	Later	UHS Makeup Intake Structure	N/A	—	I
UHS Makeup Water Screen Wash Throttling Valve Train 3	30PED30AA007 A	UHS Makeup Traveling Screen Room	Class 3	Open	I
UHS Makeup Water Screen Wash Isolation Valve Train 3	30PED30AA005 A	UHS Makeup Traveling Screen Room	Class 3	Open	I
UHS Makeup Water Test Bypass Isolation Valve Train 3	30PED30AA008 A	ESW Pump Room	Class 3	Close	I
UHS Makeup Water Pump Train 4	30PED40 AP001 A	UHS Makeup Pump Room	Class 3	Run	I
UHS Makeup Water Pump Discharge Check Valve Train 4	30PED40 AA201 A	UHS Makeup Pump Room	Class 3	Open – Close	I
UHS Makeup Water Pump Discharge Isolation Valve Train 4	30PED40 AA001 A	UHS Makeup Pump Room	Class 3	Open	I
UHS Makeup Water Pump Minimum Flow Valve Train 4	30PED40 AA002 A	UHS Makeup Pump Room	Class 3	Open – Close	I
Post-DBA UHS Makeup Keep-Fill Line Orifice Valve Train 4	-	ESWS Pump Room	Class 3	Open	I
Post-DBA UHS Makeup Keep-Fill Line Check Valve Train 4	30PED40AA223	ESWS Pump Room	Class 3	Open-Close	I
Post-DBA UHS Makeup Keep Fill-Line Isolation Valve Train 4	30PED40AA029	ESWS Pump Room	Class 3	Open	I
UHS Makeup Keep-Fill Line Isolation Valve Train 4	30PED40AA028	ESWS Pump Room	Class 3	Open	I

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Table 2.4-29— {Ultimate Heat Sink (UHS) Makeup Water System Component Mechanical Design}

(Page 5 of 5)

Component Description	Component Tag Number	Component Location	ASME Code	Function	Seismic Category
UHS Makeup Keep-Fill Line Check Valve Train 4	30PED40AA222	ESWS Pump Room	Class 3	Open-Close	I
UHS Makeup Water Pump Discharge Strainer Train 4	30PED40 AT001 A	UHS Makeup Pump Room	Class 3	Run	I
UHS Makeup Water Pump Discharge Strainer Blowdown Isolation Valve Train 4	30PED40AA006 A	UHS Makeup Pump Room	Class 3	Close	I
UHS Makeup Water Pump Discharge Strainer Isolation Valve Train 4	30PED40AA003 A	UHS Makeup Pump Room	Class 3	Open	I
Piping and Manual Valves Train 4	Later	UHS Makeup Intake Structure	Class 3	Pressure Boundary	I
Buried Piping Train 4	Later	Yard Area	Class 3	Pressure Boundary	I
Air Release/Vacuum Breaker Valves Train 4	30PED30AA190	UHS Makeup Pump Room	Class 3	Open – Close	I
UHS Makeup Water Dual Flow Traveling Screen Train 4	Later	UHS Makeup Intake Structure	N/A	Run	I
UHS Makeup Water Intake Structure Bar Screen Train 4	Later	UHS Makeup Intake Structure	N/A	—	I
UHS Makeup Water Screen Wash Throttling Valve Train 4	30PED40AA007 A	UHS Makeup Traveling Screen Room	Class 3	Open	I
UHS Makeup Water Screen Wash Isolation Valve Train 4	30PED40AA005 A	UHS Makeup Traveling Screen Room	Class 3	Open	I
UHS Makeup Water Test Bypass Isolation Valve Train 4	30PED40AA008 A	ESW Pump Room	Class 3	Close	I

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Table 2.4-30— {Forebay Structure Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Tests, or Analysis	Acceptance Criteria
1	The Forebay Structure is Seismic Category I and is designed and constructed to withstand design basis loads, as specified below, without a loss of structural integrity and safety-related functions. ♦ Normal plant operation (including dead loads, live loads, lateral earth pressure loads, equipment loads, hydrostatic, hydrodynamic, and temperature loads). ♦ Internal events (including internal flood loads, accident pressure loads, accident thermal loads, accident pipe reactions, and pipe break loads, including reaction loads, jet impingement loads, cubicle pressurization loads, and missile impact loads). ♦ External events (including wind, rain, snow, flood, tornado, tornado-generated missiles and earthquake).	An inspection and analysis will be performed to verify the as-built Forebay Structure will withstand design basis loads.	A report concludes that the Forebay Structure will withstand design basis loads, as specified below, without a loss of structural integrity and safety-related functions. ♦ Normal plant operation (including dead loads, live loads, lateral earth pressure loads, equipment loads, hydrostatic, hydrodynamic, and temperature loads). ♦ Internal events (including internal flood loads, accident pressure loads, accident thermal loads, accident pipe reactions, and pipe break loads, including reaction loads, jet impingement loads, cubicle pressurization loads, and missile impact loads). ♦ External events (including wind, rain, snow, flood, tornado, tornado-generated missiles and earthquake).
2	For the Forebay Structure below grade concrete foundation and walls, a low water to cementitious materials ratio concrete mixture will be utilized.	Tests, inspections, or a combination of tests and inspections will be performed to ensure the concrete meets the low water to cement ratio limit.	A report concludes that the concrete utilized to construct the as-built Forebay Structure below grade concrete foundation and walls have a maximum water to cementitious materials ratio of 0.40.

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Table 2.4-31— {Waste Water Treatment Facility Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Tests, or Analysis	Acceptance Criteria
1	The minimum separation distance of the as-built Waste Water Treatment Facility from the nearest Seismic Category I structure, system or component is greater than 1300 ft.	An inspection will be performed to verify the separation distance of the as-built Waste Water Treatment Facility from the nearest Seismic Category I structure.	A report concludes that the minimum separation distance of the as-built Waste Water Treatment Facility from the nearest Seismic Category I structure, system or component is greater than 1300 ft.

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Table 2.4-32— {Access Building Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Tests, or Analysis	Acceptance Criteria
1	The Access Building (AB) does not impact the ability of any safety-related structure, system or component to perform its safety function under design basis loads, as specified below. ♦ Normal plant operation (including dead loads, live loads, lateral earth pressure loads, equipment loads, hydrostatic, hydrodynamic, and temperature loads). ♦ Internal events (including internal flood loads, accident pressure loads, accident thermal loads, accident pipe reactions, and pipe break loads, including reaction loads, jet impingement loads, cubicle pressurization loads, and missile impact loads). ♦ External events (including wind, rain, snow, flood, tornado, tornado-generated missiles and earthquake).	An inspection and analysis will be performed to verify the as-built Access Building will withstand design basis loads.	A report concludes that the Access Building will not impact the ability of any safety-related structure, system or component to perform its safety function under design basis loads, as specified below. The report also confirms that the as-built structure of the Access Building is designed to the same requirements as a Seismic Category I structure. ♦ Normal plant operation (including dead loads, live loads, lateral earth pressure loads, equipment loads, hydrostatic, hydrodynamic, and temperature loads). ♦ Internal events (including internal flood loads, accident pressure loads, accident thermal loads, accident pipe reactions, and pipe break loads, including reaction loads, jet impingement loads, cubicle pressurization loads, and missile impact loads). ♦ External events (including wind, rain, snow, flood, tornado, tornado-generated missiles and earthquake).
2	For the Access Building, below grade concrete foundation and walls, a low water to cementitious materials ratio concrete will be utilized.	Tests will be performed to ensure the concrete meets specific parameters.	A report concludes that the concrete utilized to construct the as-built Access Building below grade concrete foundation and walls have a maximum water to cementitious materials ratio of 0.45.

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Table 2.4-33— {Sheet Pile Wall Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Tests, or Analysis	Acceptance Criteria
1	The minimum separation distance of the as-built Sheet Pile Wall from the nearest Seismic Category I structure, system or component is greater than 30 ft.	An inspection will be performed to verify the separation distance of the as-built Sheet Pile Wall from the nearest Seismic Category I structure.	A report concludes that the minimum separation distance of the as-built Sheet Pile Wall from the nearest Seismic Category I structure, system or component is greater than 30 ft.

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Table 2.4-34— {Waterproofing or Dampproofing Geomembrane Under Nuclear Island Common Basemat Structures and Other Buildings Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Tests, or Analysis	Acceptance Criteria
1	Coefficient of static friction at the horizontal interface of HDPE geomembrane and sand is greater than or equal to 0.52.	Laboratory testing will be performed in accordance with ASTM D5321 and/or ASTM D6467 to verify the design coefficient of static friction at the horizontal interface of HDPE geomembrane and sand.	A report concludes that the coefficient of static friction at the horizontal interface of HDPE geomembrane and sand is greater than or equal to 0.52.

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Table 2.4-35— {Ultimate Heat Sink (UHS) Makeup Intake Structure Ventilation System Component Mechanical Design}

(Page 1 of 3)

Component Description	Component Tag Number	Component Location	ASME Code	Function	Seismic Category
UHS Makeup Water Building Pump Room/ Transformer Room Air Handling Unit (AHU) Train 1		UHS Makeup Pump Room	AG-1	Run	I
UHS Makeup Water Building Pump/ Transformer Room Air Cooled Condenser (ACC) Train 1		UHS Makeup Air Cooled Condenser Room	AG-1	Run	I
UHS Makeup Water Building Safety-Related Tornado Dampers Train 1		UHS Makeup Air Cooled Condenser Room /Corridor/ Traveling Screen Room	AG-1	Open/Close	I
UHS Makeup Water Building Safety-Related Manual Dampers/ Train 1		UHS Makeup Pump Room /Air Cooled Condenser Room/ Transformer Room/ Traveling Screen Room	AG-1	Open/Close	I
Manual Dampers/ Exhaust Fan / Heaters Train 1 (NSR)		UHS Makeup Pump Room/Air Condenser Room/ Transformer Room/ Corridor	N/A	-	II
UHS Makeup Water Building Traveling Screen Room Vane Axial Exhaust Fan Train 1		UHS Makeup Traveling Screen Room	AG-1	Run	I
UHS Makeup Water Building Safety-Related Motor-Operated Damper Train 1		UHS Makeup Traveling Screen Room	AG-1	Open/ Close	I
UHS Makeup Water Building Safety-Related Unit Heater Train 1		UHS Makeup Traveling Screen Room	AG-I	Run	I
UHS Makeup Water Building Pump Room/ Transformer Room Air Handling Unit (AHU) Train 2		UHS Makeup Pump Room	AG-1	Run	I
UHS Makeup Water Building Pump/ Transformer Room Air Cooled Condenser (ACC) Train 2		UHS Makeup Air Cooled Condenser Room	AG-1	Run	I
UHS Makeup Water Building Safety Related Tornado Dampers Train 2		UHS Makeup Air Cooled Condenser Room /Corridor/ Traveling Screen Room	AG-1	Open/Close	I
UHS Makeup Water Building Safety Related Manual Dampers/ Train 2		UHS Makeup Pump Room /Air Cooled Condenser Room/ Transformer Room/ Traveling Screen Room	AG-1	Open/Close	I
Manual Dampers/ Exhaust Fan / Heaters Train 2 (NSR)		UHS Makeup Pump Room/Air Condenser Room/ Transformer Room/ Corridor	N/A	-	II

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Table 2.4-35— {Ultimate Heat Sink (UHS) Makeup Intake Structure Ventilation System Component Mechanical Design}
(Page 2 of 3)

Component Description	Component Tag Number	Component Location	ASME Code	Function	Seismic Category
UHS Makeup Water Building Traveling Screen Room Vane Axial Exhaust Fan Train 2		UHS Makeup Traveling Screen Room	AG-1	Run	I
UHS Makeup Water Building Safety-Related Motor-Operated Damper Train 2		UHS Makeup Traveling Screen Room	AG-1	Open/Close	I
UHS Makeup Water Building Safety-Related Unit Heater Train 2		UHS Makeup Traveling Screen Room	AG-1	Run	I
UHS Makeup Water Building Pump Room/ Transformer Room Air Handling Unit (AHU) Train 3		UHS Makeup Pump Room	AG-1	Run	I
UHS Makeup Water Building Air Cooled Condenser UHS Makeup Water Building Pump/ Transformer Room Air Cooled Condenser (ACC) Train 3		UHS Makeup Air Cooled Condenser Room	AG-1	Run	I
UHS Makeup Water Building Safety Related Tornado Dampers Train 3		UHS Makeup Air Cooled Condenser Room/ Corridor/ Traveling Screen Room	AG-1	Open/Close	I
UHS Makeup Water Building Safety Related Manual Dampers/ Train 3		UHS Makeup Pump Room /Air Cooled Condenser Room/ Transformer Room/ Traveling Screen Room	AG-1	Open/Close	I
Manual Dampers/ Exhaust Fan / Heaters Train 3 (NSR)		UHS Makeup Pump Room/Air Condenser Room/ Transformer Room/ Corridor	N/A	-	II
UHS Makeup Water Building Traveling Screen Room Vane Axial Exhaust Fan Train 3		UHS Makeup Traveling Screen Room	AG-I	Run	I
UHS Makeup Water Building Safety-Related Motor-Operated Damper Train 3		UHS Makeup Traveling Screen Room	AG-I	Open/Close	I
UHS Makeup Water Building Safety-Related Unit Heater Train 3		UHS Makeup Traveling Screen Room	AG-1	Run	I
UHS Makeup Water Building Pump Room/ Transformer Room Air Handling Unit (AHU) Train 4		UHS Makeup Pump Room	AG-1	Run	I
UHS Makeup Water Building Pump/ Transformer Room Air Cooled Condenser (ACC) Train 4		UHS Makeup Air Cooled Condenser Room	AG-1	Run	I

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Table 2.4-35— {Ultimate Heat Sink (UHS) Makeup Intake Structure Ventilation System Component Mechanical Design}

(Page 3 of 3)

Component Description	Component Tag Number	Component Location	ASME Code	Function	Seismic Category
UHS Makeup Water Building Safety Related Tornado Dampers Train 4		UHS Makeup Air Cooled Condenser Room/ Corridor/ Traveling Screen Room	AG-1	Open/Close	I
UHS Makeup Water Building Safety Related Manual Dampers/ Train 4		UHS Makeup Pump Room /Air Cooled Condenser Room/ Transformer Room/ Traveling Screen Room	AG-1	Open/Close	I
Manual Dampers/ Exhaust Fan / Heaters Train 4 (NSR)		UHS Makeup Pump Room/Air Condenser Room/ Transformer Room/ Corridor	N/A	-	II
UHS Makeup Water Building Traveling Screen Room Vane Axial Exhaust Fan Train 4		UHS Makeup Traveling Screen Room	AG-I	Run	I
UHS Makeup Water Building Safety-Related Motor-Operated Damper Train 4		UHS Makeup Traveling Screen Room	AG-I	Open/Close	I
UHS Makeup Water Building Safety-Related Unit Heater Train 4		UHS Makeup Traveling Screen Room	AG-I	Run	I

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Figure 2.4-1— {Ultimate Heat Sink Makeup Water System Functional Arrangement}

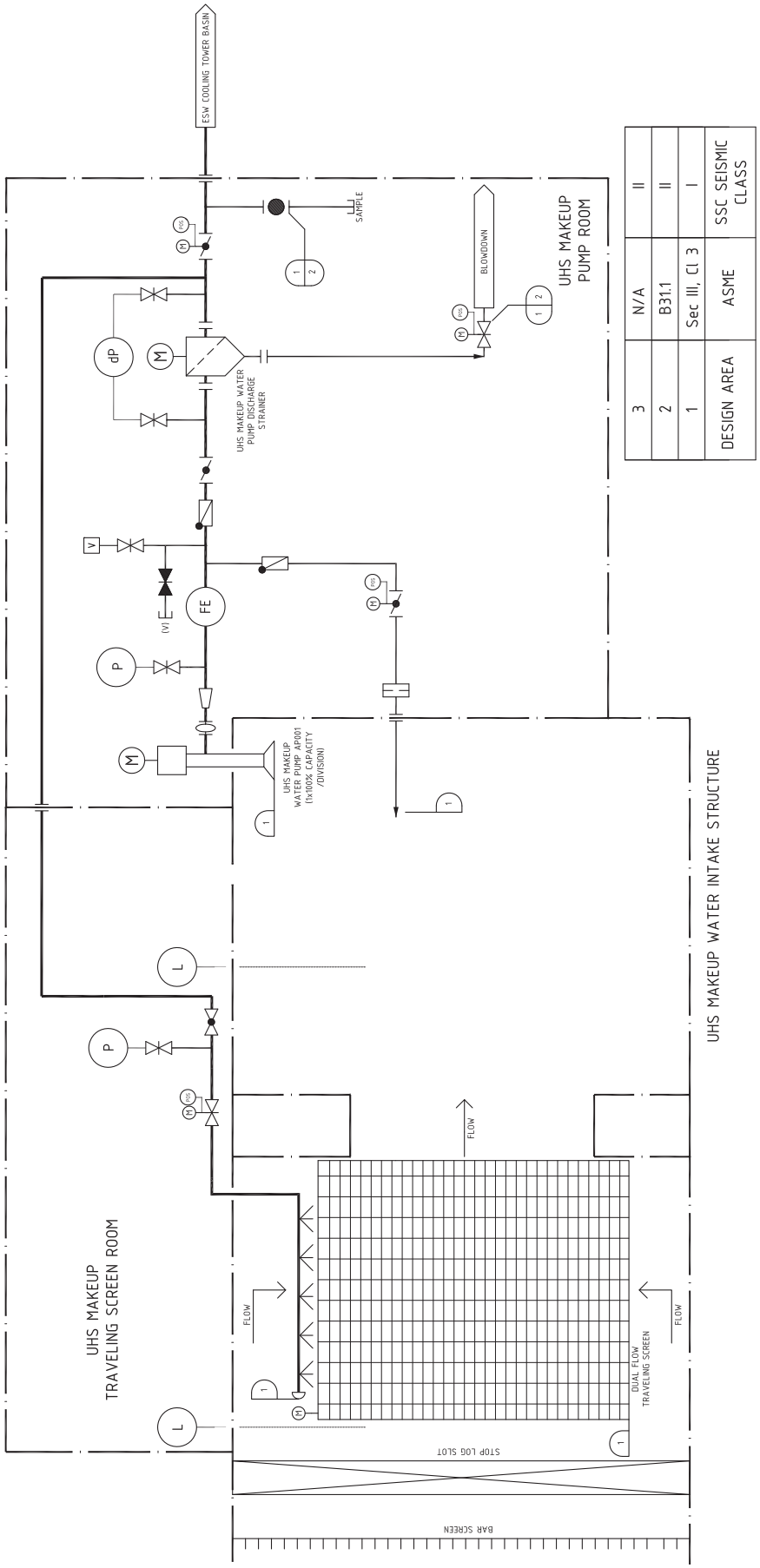

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Figure 2.4-2— {UHS Makeup Water Intake Structure Ventilation System Functional Arrangement}

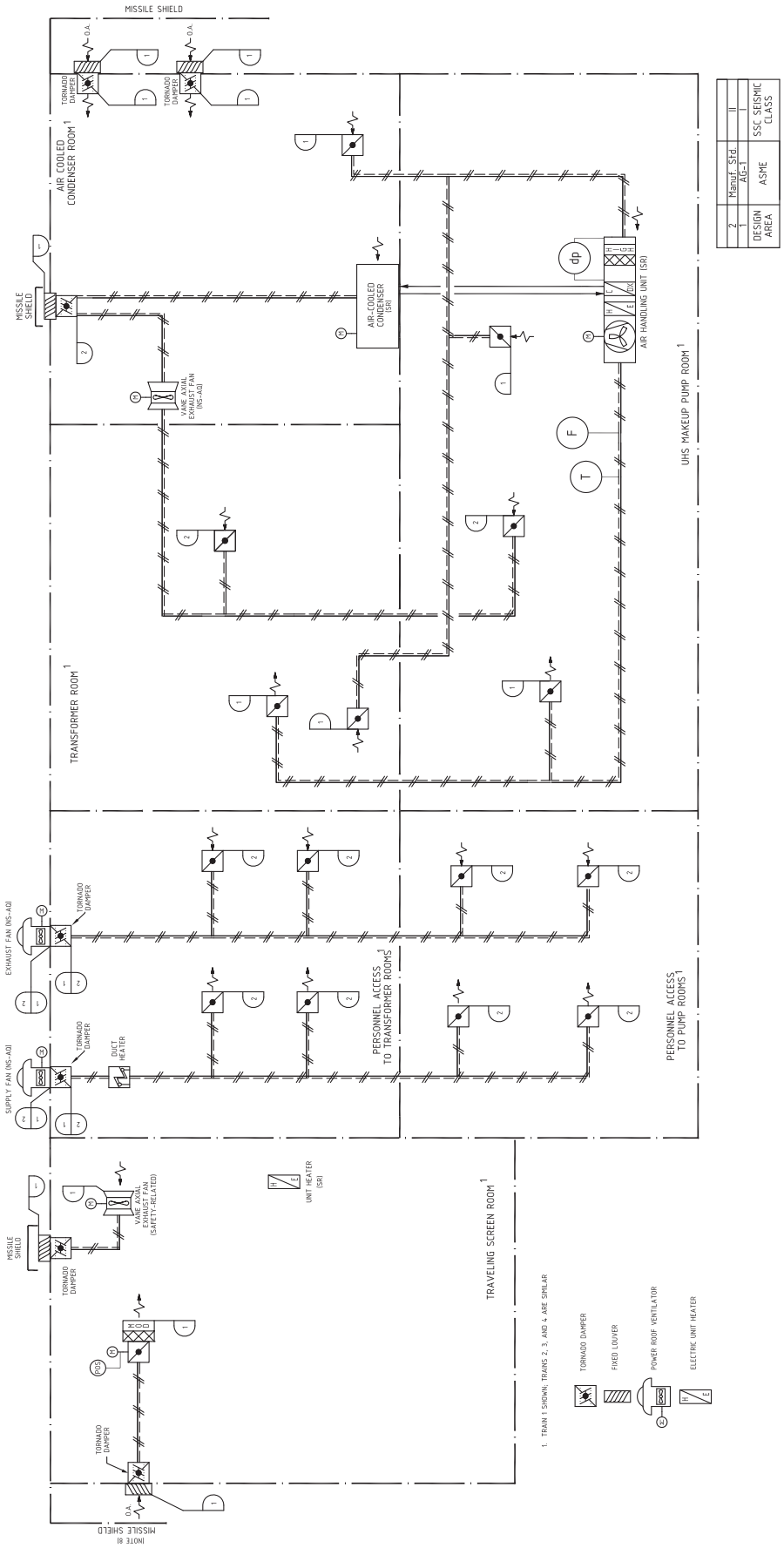

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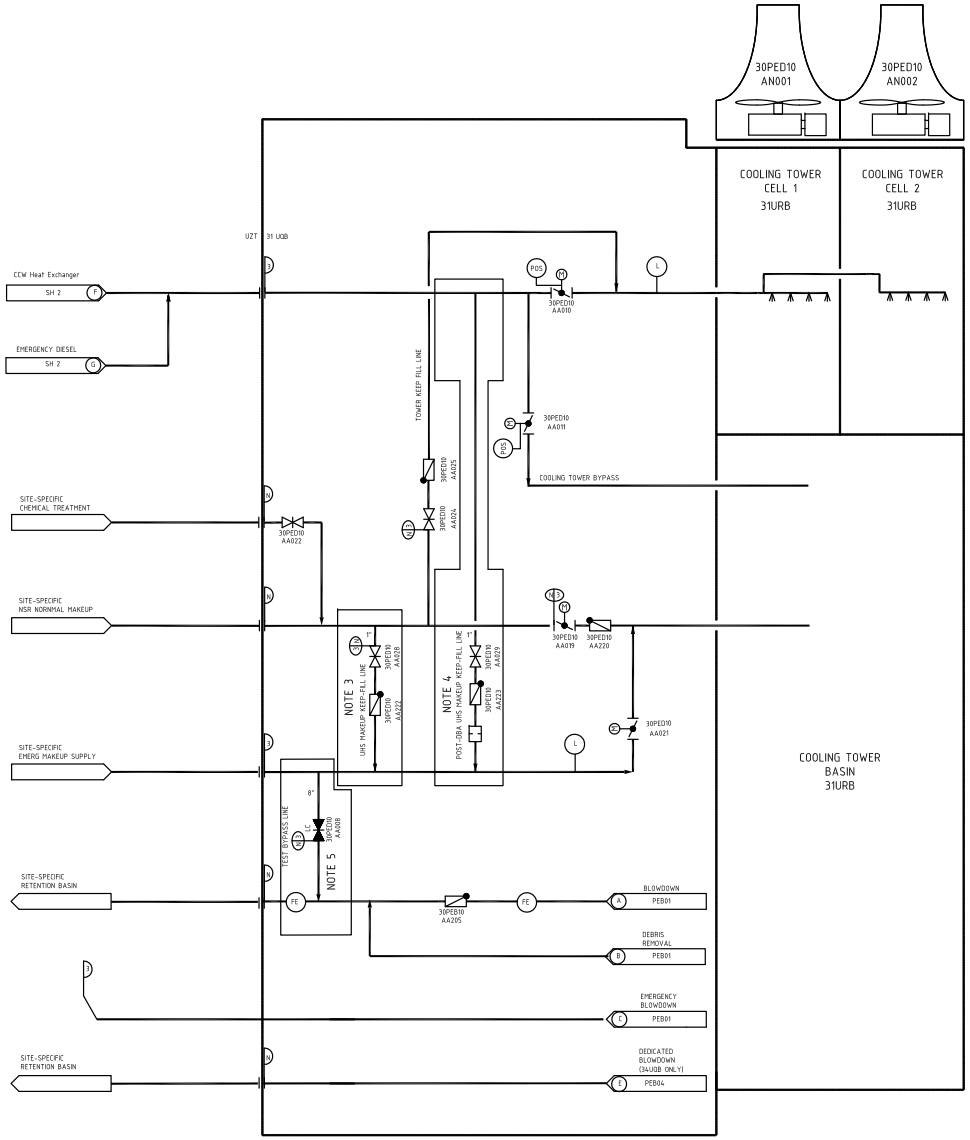
Figure 2.4-3— {ESWS Emergency Makeup Water System Functional Arrangement}



NOTE:

1. THIS DRAWING IS A GENERAL REPRESENTATION OF U.S. EPR FSAR FIGURES 9.2.1-1 & 9.2.5-1 OF TRAIN 1. TRAINS 2, 3, AND 4 ARE SIMILAR, EXCEPT WHERE NOTED.
2. DEFINITION FOR ABBREVIATION USED IN THIS DIAGRAM.
   - PEB - ESSENTIAL SERVICE WATER PIPING SYSTEM
   - PED - ESSENTIAL SERVICE WATER RECIRCULATING SYSTEM
   - 31UQB - ESSENTIAL SERVICE WATER PUMP BUILDING, DIVISION 1.
   - UZT - OUT DOOR AREA.
   - 31URB - ESSENTIAL SERVICE WATER COOLING TOWER STRUCTURE, DIVISION 1.
   - LC - LOCK CLOSED
3. THE UHS MAKEUP KEEP-FILL LINE PROVIDES DESALINATED WATER FROM NON-SAFETY RELATED MAKEUP WATER SYSTEM TO KEEP THE EMERGENCY MAKEUP WATER SYSTEM LINE FULL DURING PLANT NORMAL OPERATION..
4. THE POST-DBA UHS MAKEUP KEEP-FILL LINE PROVIDES MAKEUP WATER FROM SAFETY-RELATED ESW SYSTEM RETURN LINE TO KEEP THE EMERGENCY MAKEUP WATER SYSTEM LINE FULL DURING POST DBA.
5. THE UHS MAKEUP WATER SYSTEM TEST BYPASS LINE PROVIDES CAPABILITY TO FILLING OF THE UHS TOWER WITH SALINE WATER DURING MAKEUP WATER SYSTEM TESTING.

LEGEND:

- GATE VALVE
- CHECK VALVE
- BUTTERFLY VALVE
- LEVEL
- FLOW
- REDUCER/INCREASER
- ELECTRIC MOTOR, GENERAL

N	N/A	II
3	3	I
DESIGN AREA	ASME CLASS	SSC SEISMIC CLASS

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