Bell Bend Nuclear Power Plant

Combined License Application

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

Revision 3
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This COLA Part includes RCOLA generic text. Site Specific Text is enclosed in braces: {Site Specific Information}

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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.

COL Item 3.4-4 in Section 3.4.1

{PPL Bell Bend, LLC} will perform internal flooding analyses prior to fuel load for the Safeguard Buildings and Fuel Building to demonstrate that the impact of internal flooding is contained within the Safeguard Buildings or Fuel Building division of origin.

COL Item 3.4-5 in Section 3.4.1

{PPL Bell Bend, LLC} will perform an internal flooding analysis prior to fuel load for the Reactor Building and Reactor Building Annulus to demonstrate that the essential equipment required for safe shutdown is located above the internal flood level.

COL Item 3.4-6 in Section 3.4.1

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.

COL Item 3.4-7 in Section 3.4.2

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.

COL Item 3.5-1 in Section 3.5.1.2.3

{PPL Bell Bend, LLC} shall 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 seismically restrained to prevent it from becoming a missile. Prior to initial fuel load, this requirement shall be incorporated into a plant procedure that controls the conduct of maintenance.

COL Items 3.6-1 and 3.6-2 in Sections 3.6.1 and 3.6.2.1

{PPL Bell Bend, LLC} shall perform a pipe break hazard analysis as part of the piping design. It is used to identify postulated break locations and layout changes, support, design, whip restraint design, and jet shield design. The final design for these activities shall be completed prior to fabrication and installation of the piping and connected components. The as-built reconciliation of the pipe break hazards analysis shall be completed prior to fuel load.

COL Item 3.6-4 in Section 3.6.2.5.1

{PPL Bell Bend, LLC} shall provide the diagrams showing the final as-designed 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 3.6-3 in Section 3.6.3

{PPL Bell Bend, LLC} shall confirm that the design Leak-Before-Break (LBB) analysis remains bounding for each applicable as-built piping system. A summary of the results of the actual as-built, plant-specific LBB analysis, including material properties of piping and welds, stress analyses, leakage detection capability, and degradation mechanisms will be provided prior to fuel load.

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

{PPL Bell Bend, 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

{PPL Bell Bend, 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

{PPL Bell Bend, LLC} will compare the NI common basemat site-specific predicated angular distortion to the angular distortion in the relative differential settlement contours in 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

{PPL Bell Bend, LLC} will compare the EPGB site-specific predicted angular distortion to the angular distortion in the total differential settlement contours in 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 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

{PPL Bell Bend, LLC} will compare the ESWB site-specific predicted angular distortion to the angular distortion in the total differential settlement contours in 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

{PPL Bell Bend, 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

{PPL Bell Bend, LLC} shall prepare the design specifications and design reports for ASME Class 1, 2, and 3 components that comply with and are certified to the requirements of Section III of the ASME Code. 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, will also be addressed prior to fuel load. The design specifications shall be prepared prior to procurement of the components while the ASME code reports shall be prepared during as-built reconciliation of the systems and components conducted prior to fuel load.

COL Item 3.9-11 in Section 3.9.3.1

{PPL Bell Bend, LLC} shall provide a summary of the maximum total stress, deformation (where applicable), and cumulative usage factor values for each of the component operating conditions for ASME Code Class 1 components. For those values that differ from the allowable limits by less than 10 percent, {PPL Bell Bend, LLC} shall provide the contribution of each of the loading categories (e.g., seismic, pipe rupture, dead weight, pressure, and thermal) to the total stress for each maximum stress value identified in this range. This information shall be supplied prior to procurement of the ASME Code Class 1 components.

The maximum total stress and deformation values for each operating condition for Class 2 & 3 components required for safe shutdown of the reactor, or mitigation of consequences of a postulated piping failure without offsite power will be provided prior to fuel load.

Identification of those values that differ from the allowable limits by less than 10 percent will also be provided prior to fuel load.

COL Item 3.9-5 in Section 3.9.3.1.1

{PPL Bell Bend, 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 Items 3.9-3 and 3.9-4

{PPL Bell Bend, LLC} shall:

- Confirm that thermal deflections do not create adverse conditions during hot functional testing.
- Examine the feedwater line welds after hot functional testing prior to fuel loading and at the first refueling outage, and will report the results of the inspections to the NRC, in accordance with NRC Bulletin 79-13.

COL Item 3.9-7 in Section 3.9.6

{PPL Bell Bend, 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 {PPL Bell Bend, LLC} 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

{PPL Bell Bend, 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

{PPL Bell Bend, LLC} shall provide a table identifying the safety-related systems and components that use snubbers in their 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,{PPL Bell Bend, LLC} 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 3.9-14 in Section 3.9.5.2

A summary of reactor core support structure maximum total stress, deformation, and cumulative usage factor values will be provided for each component and each operating condition in conformance with ASME Section III Subsection NG prior to fuel load.

COL Item 3.10-1 in Section 3.10.4

{PPL Bell Bend, LLC} shall create and maintain the Seismic Qualification Data Package (SQDP) file. This activity shall be initiated during the equipment selection and procurement phase. The SQDP file shall be maintained for the life of the plant.

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

{{PPL Bell Bend, LLC} } shall develop and maintain 1) a list of electrical equipment meeting the criteria of 10 CFR 50.49 and 2) a record of qualification for each applicable electrical equipment type. The record shall contain the necessary environmental qualification information to meet the requirements of 10 CFR 50.49. This information will be stored and retained in accordance with the Quality Assurance Program Description or QAPD. This information will remain current and in an auditable form that meets requirements of 10 CFR 50.49(j) and the QAPD.

COL Item 3.11-3 in Section 3.11.3

{PPL Bell Bend, 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

{PPL Bell Bend, 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

{PPL Bell Bend, LLC} shall use piping analysis programs listed in Section 5.1 of the referenced topical report (ANP-10264 NP-A).

COL Item 3.12-3 in Section 3.12.5.9

The RHR/SIS/ EBS injection piping from the RCS to the first isolation valve (all four trains), and RHR/SIS suction piping from the RCS to the first isolation valve (trains 1 and 4) will be monitored during the first cycle of the first U.S. EPR initial plant operation to verify that operating conditions have been considered in the design unless data from a similar plant's operation demonstrates that thermal oscillation is not a concern for piping connected to the RCS.

COL Item 3.12-4 in Section 3.12.5.10.1

The pressurizer surge line temperatures will be monitored during the first fuel cycle of initial plant operation to verify that the design transients for the surge line are representative of actual plant operations unless data from a similar plant's operation determines that monitoring is not warranted.

COL Item 3.12-5 in Section 3.12.5.10.3

The normal spray line temperatures will be monitored during the first cycle of the first U.S. EPR initial plant operation to verify that the design transients for the normal spray are representative of actual plant operations unless data from a similar plant's operation determines that monitoring is not warranted.

COL Item 3.12-6 in Section 3.12.5.10.4

The temperature of the main feedwater lines will be monitored during the first cycle of the first U.S. EPR initial plant operation to verify that the design transients for the main feedwater lines are representative of actual plant operations unless data from a similar plant's operation determines that monitoring is not warranted.

COL Item 3.13-1 in Section 3.13.2

{PPL Bell Bend, 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 {{PPL Bell Bend, LLC} } 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 1, prior to initial fuel load.

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

{PPL Bell Bend, 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, {PPL Bell Bend, 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 6.4-2 in Section 6.4.3

{PPL Bell Bend, 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 {PPL Bell Bend, LLC}.

COL Item 7.1-1 in Section 7.5.2.2.1

{PPL Bell Bend, LLC} will confirm the inventory list of PAM variables in Table 7.5-1 upon completion of the emergency operating and abnormal operating procedures prior to fuel loading.

COL Item 7.1-2 in Section 7.7.2.3.5

{PPL Bell Bend, LLC} will, following selection of the actual plant operating instrumentation and calculation of the instrumentation uncertainties of the operating plant parameters, prior to fuel load, calculate the primary power calorimetric uncertainty. The calculations will be completed using an NRC acceptable method and confirm that the safety analysis primary power calorimetric uncertainty bounds the calculated values.

COL Item 8.3-1 in Section 8.3.1.1.5

Prior to initial fuel load, {PPL Bell Bend, 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

{PPL Bell Bend, LLC} will provide a cask design acceptable for interfacing with the SFCTF prior to initial cask loading operations. The design of the spent fuel cask must meet the following interface requirements:

- The mating surface of the cask maintains a leak-tight connection with the penetration assembly when the cask is connected to the penetration.
- The dose rates from a loaded cask during cask handling operations do not exceed those identified in Section 12.3.
- A structural and seismic analysis of the SFCTM and cask demonstrates that the fluid boundary between the penetration assembly and connected cask is maintained to preclude the loss of significant inventory in the spent fuel pool during cask loading operations, including safe shutdown earthquake (SSE), and the postulated drop of a fuel assembly from the maximum handling height in the cask loading pit onto a connected cask.

COL Item 9.5-16 in Section 9.5.1.2.1

{{PPL Bell Bend, LLC} } shall perform an as-built, post-fire Safe Shutdown Analysis, including final plant cable routing, fire barrier ratings, purchased equipment, equipment arrangement and a review against the assumptions and requirements contained in the Fire Protection

Analysis. The post-fire Safe Shutdown Analysis will demonstrate that safe shutdown performance objectives are met prior to fuel loading and will include a post-fire safe shutdown circuit analysis based on the methodology described in NEI 00-01 (NEI, 2001).

COL Item 9.5-17 in Section 9.5.1.3

{{PPL Bell Bend, LLC} } shall evaluate the differences between the as-designed and as-built plant configuration to confirm the Fire Protection Analysis remains bounding. This evaluation will consider the final plant cable routing, fire barrier ratings, combustible loading, ignition sources, purchased equipment, equipment arrangement and includes a review against the assumptions and requirements contained in the Fire Protection Analysis. A summary of the results of the evaluation, including any identified deviations from the FSAR and confirmation that the Fire Protection Analysis remains bounding, will be provided prior to fuel load.

COL Item 10.2-2 in Section 10.2.3.1

Following procurement of the {PPL Bell Bend, LLC} turbine generator, {PPL Bell Bend, LLC} shall submit to the NRC the applicable material data for the turbine rotor.

COL Item 10.2-3 in Section 10.2.3.2

Following procurement of the {PPL Bell Bend, LLC} turbine generator, {PPL Bell Bend, LLC} shall submit to the NRC the applicable 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

{PPL Bell Bend, LLC} will include ultrasonic examination of the turbine rotor welds or provide an analysis which demonstrates 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 10.3-2 in Section 10.3.6.3

{PPL Bell Bend, 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 prior to initial fuel loading.

COL Item 11.5-3 in Section 11.5.2

{PPL Bell Bend, 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 14.2-2 in Section 14.2.11

{PPL Bell Bend, LLC} shall develop a test program that considers the components identified in FSAR Section 14.2.11 and shall provide copies of approved test procedures to the NRC at least 60 days prior to their scheduled performance date.

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

{PPL Bell Bend, LLC} will provide, prior to the first cycle of operation, a report 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.

COL Item 18.1-1 in Section 18.1

{PPL Bell Bend, LLC} shall execute the NRC approved Human Factors Engineering program as described in U.S. EPR FSAR Section 18.1.

COL Item 19.1-9 in Section 19.1.2.2

As-designed and as-built information shall be reviewed, and walk-downs shall be performed, as necessary, to confirm that the assumptions used in the Probabilistic Risk Assessment (PRA), including design certification related PRA assumptions found in U.S. EPR FSAR Table 19.1-109 and PRA inputs to the Reliability Assurance Program and Severe Accident Mitigation Design Alternatives, remain valid with respect to internal events, internal flooding and fire events (routings and locations of pipe, cable and conduit), and Human Reliability Analyses (i.e., development of operating procedures, emergency operating procedures and severe accident management guidelines and training), external events including PRA-based seismic margins, high confidence, low probability of failure fragilities, and low power shutdown procedures. These activities shall be performed prior to initial fuel load.

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 or before initial fuel load.

COL Item 19.1-5 in Section 19.1.2.4.1

The {PPL Bell Bend, LLC} 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 prior to fuel loading 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:

{PPL Bell Bend, LLC} shall implement the programs or portions of programs identified in FSAR Table 13.4-1 on or before the associated milestones in FSAR Table 13.4-1.

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:

{PPL Bell Bend, 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:

{PPL Bell Bend, 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:

{PPL Bell Bend, LLC} shall submit to the appropriate Director of the NRC, a schedule, 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. 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 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:

Any changes to the Initial Startup Test Program described in Chapter 14 of the FSAR made in accordance with the provisions of 10 CFR 50.59 or the relevant portions of Part 52 for the U.S. EPR Design Certification after rulemaking shall be reported in accordance with 50.59(d) within one month of such change.

8. EMERGENCY ACTION LEVELS

The {PPL Bell Bend, LLC} 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.

PROPOSED LICENSE CONDITION:

{PPL Bell Bend, LLC} shall submit a complete set of plant-specific Emergency Action Levels (EALs) for {BBNPP} 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.

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.

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 {BBNPP}. 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 {BBNPP} 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

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

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

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.

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

1. TIER 1 INFORMATION

U.S. EPR FSAR Tier 1 is incorporated by reference {with the following departures.

The U.S. EPR FSAR Tier 1 Section 2.7.11.8, Interface Requirements, and Tier 2, Table 9.2.5-2 Ultimate Heat Sink Design Parameters, identify that the minimum required site-specific emergency makeup water flow to the UHS is 300 gpm. Additionally, the U.S. EPR FSAR Tier 2 Generic Technical Specifications LCO 3.7.19 Surveillance Requirement SR 3.7.19.6 and corresponding Bases B 3.7.19 require verification of the ability to supply makeup water to each UHS basin at ≥ 300 gpm in accordance with the Inservice Testing Program. The BBNPP site-specific design for the UHS makeup water pump requires a flow rate of 200 gpm to the UHS basin to maintain basin level based on the worst case 27 day site-specific historical meteorological conditions after 72 hours post-Design Basis Accident (DBA).

The following changes are required in Section 2.7.11.

Revised text for BBNPP - U. S. EPR Tier 1 FSAR Section 2.7.11.8.1:

The site-specific emergency makeup water system provides ≥ 200 gpm makeup water to each ESW cooling tower basin to maintain the minimum basin water level.}

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.

Table 2.2-1— Physical Security ITAAC

(Page 1 of 4)

Design Commitment	Inspections. Tests. Analyses	Acceptance Criteria
1. Access to vital equipment requires passage through at least two physical barriers.	1. 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 whose path area exceeds the minimum specified in the site-specific Security Assessment are secured and monitored. (c) Unattended openings that intersect a security boundary, such as underground pathways, whose path area exceeds the minimum specified in the site-specific Security Assessment 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) Penetrations through the protected area barrier whose path area exceeds the minimum specified in the site-specific Security Assessment will be inspected. (c) Unattended openings within the protected area whose path area exceeds the minimum specified in the site-specific Security Assessment 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) Penetrations and openings through the protected area barrier whose path area exceeds the minimum specified in the site-specific Security Assessment are secured and monitored by intrusion detection equipment. (c) Unattended openings whose path area exceeds the minimum specified in the site-specific Security Assessment (such as underground pathways) that intersect a security boundary (such as the protected area boundary), whose path area exceeds the minimum specified in the site-specific Security Assessment are protected by a physical barrier and monitored by intrusion detection equipment or provided surveillance at a frequency sufficient to detect exploitation.

Table 2.2-1— Physical Security ITAAC
(Page 2 of 4)

Design Commitment	Inspections. Tests. Analyses	Acceptance Criteria
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, except for areas where permanent buildings do not allow a 20 foot observation distance. (b) Isolation zones are monitored with 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 are an integral part of the protected area barrier) are monitored by 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.	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.

Table 2.2-1— Physical Security ITAAC
(Page 3 of 4)

Design Commitment	Inspections. Tests. Analyses	Acceptance Criteria
4. (a) The perimeter intrusion detection system can detect penetration or attempted penetration of the protected area barrier before completed penetration of the barrier, and subsequent alarms annunciate concurrently in at least two continuously manned onsite alarm stations, (central and secondary alarm stations). (b) The perimeter assessment equipment is capable of providing video image recording with real-time and play-back capability that can provide assessment of detected activities before and after each alarm annunciation at the protected area perimeter barrier. (c) The intrusion detection and assessment equipment at the protected area perimeter remains operable from an uninterruptible power supply in the event of the loss of normal power.	4. (a) Tests, inspections, or a combination of tests and inspections of the intrusion detection system will be performed. (b) Tests, inspections or a combination of tests and inspections of the video assessment equipment will be performed. (c) Tests, inspections or a combination of tests and inspections of the uninterruptible power supply will be performed.	4. (a) The intrusion detection system can detect penetration or attempted penetration of the protected area perimeter barrier before completed penetration of the barrier, and subsequent alarms annunciate concurrently in at least two continuously manned onsite alarm stations, (central and secondary alarm stations). (b) The perimeter assessment equipment is capable of providing video image recording with real-time and play-back capability that can provide assessment of detected activities before and after each alarm annunciation at the protected area perimeter barrier. (c) Intrusion detection and assessment equipment at the protected area perimeter remains operable from an uninterruptible power supply in the event of the loss of normal power.
5. The external 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. 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.	5. 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.
6. (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 could be used to commit radiological sabotage at the protected area personnel access points.	6. (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.	6. (a) Access control points exist for the protected area and are configured to control access. (b) Access control points are established with equipment for the detection of firearms, explosives, incendiary devices or other items which could be used to commit radiological sabotage at the protected area personnel access points.
7. An 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.	7. The access control system and the numbered photo identification badge system will be tested.	7. An 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.

Table 2.2-1— Physical Security ITAAC
(Page 4 of 4)

Design Commitment	Inspections. Tests. Analyses	Acceptance Criteria
8. 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.	8. Tests, inspections or a combination of tests and inspections of emergency exits through the protected area perimeter will be performed.	8. 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.

2.3 Emergency Planning ITAAC

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

Table 2.3-1— {Emergency Planning ITAAC}

(Page 1 of 13)

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 BBNPP Emergency Plan were submitted to the NRC.	1.1 Letters of Agreement (LOA) for the BBNPP 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 BBNPP Emergency Plan, are submitted to the NRC no less than 180 days prior to fuel load.
2.0 Onsite Emergency Organization			
10 CFR 50.47(b)(2) - On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available, and the interfaces among various onsite response activities and offsite support and reponse activities are specified.	2.1 The staff exists to provide minimum and augmented on-shift staffing levels, consistent with Table B-1 of NUREG-0654/ FEMA-REP-1, Rev. 1. [B.5, B.7]	2.1 An inspection of the implementing procedures or staffing rosters will be performed.	2.1 The staff exists to provide minimum and augmented on-shift staffing levels, consistent with NUREG-0654/FEMA-REP-1, Rev. 1 Table B-1 list of response functions.
3.0 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.	3.1 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]	3.1 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.	3.1.1 The parameters specified in the BBNPP U.S. EPR EAL Technical Basis Manual are retrievable and displayed in the Control Room, TSC and EOF. 3.1.2 The ranges of the displays in the Control Room, TSC and EOF encompass the values for the parameters specified in the BBNPP U.S. EPR EAL Technical Basis Manual.

Table 2.3-1— {Emergency Planning ITAAC}

(Page 2 of 13)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
4.0 Notification Methods and Procedures			
10 CFR 50.47(b)(5) – Procedures have been established for notification, by the licensee, of State and local response organizations and for notification of emergency personnel by all organizations; the content of initial and follow-up messages to response organizations and the public has been established; and means to provide early notification and clear instruction to the populace within the plume exposure pathway Emergency Planning Zone have been established.	4.1 The means exist to notify responsible State and local organizations within 15 minutes after the licensee declares an emergency. [E.1]	4.1. 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.	4.1 The Commonwealth of Pennsylvania and the counties of Luzerne and Columbia receive notification within 15 minutes after the declaration of a simulated emergency classification.
	4.2 The means exist to notify emergency response personnel. [E.2]	4.2 A test of the primary and back-up ERO notification systems will be performed.	4.2 BBNPP 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.
	4.3 Each organization shall establish administrative and physical means, and the time required for notifying and providing prompt instructions to the public within the plume exposure pathway Emergency Planning Zone. It shall be the licensee's responsibility to demonstrate that such means exist, regardless of who implements this requirement. It shall be the responsibility of the State and local governments to activate such a system. [E.6]	4.3.1 A test will be performed of the BBNPP Alert and Notification System. The clarifying notes listed in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," will be used for this test.	4.3.1 Greater than 94% of ANS sirens are capable of performing their function.
		4.3.2 The pre-operational Federally evaluated exercise (ITAAC 12.0) will demonstrate the means to provide instructions to the populace within the plume exposure EPZ.	4.3.2 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 12.0.
		4.3.3 A report will be completed that determines whether additional sirens are necessary due to the change in the EPZ boundary for BBNPP.	FEMA concurrence BBNPP that greater than 94% of ANS sirens are capable of performing thier function.

Table 2.3-1— {Emergency Planning ITAAC}

(Page 3 of 13)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
5.0 Emergency Communications			
10 CFR 50.47(b)(6) – Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.	5.1 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]	5.1 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.	5.1 Communications (both primary and secondary methods/systems) are established: 1) Between the BBNPP Control Room, TSC, OSC and the EOF, 2) Between the BBNPP Control Room and TSC and the EOF with the (a) Commonwealth of Pennsylvania warning point and EOC; b) Luzerne County warning point and EOC; and c) Columbia County warning point and EOC and 3) Between the BBNPP TSC and EOF with the BBNPP radiological field monitoring teams.
	5.2 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]	5.2.1 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.	5.2.1 Communications are established from the BBNPP Control Room and TSC and EOF to the NRC headquarters and regional office EOCs utilizing the ENS.
		5.2.2 A test is performed to confirm the capability to communicate between the TSC and EOF with the NRC Operations Center utilizing HPN .	5.2.2 The BBNPP TSC and EOF demonstrate communications with the NRC Operations Center using HPN.
		5.2.3 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.	5.2.3 The access port for ERDS [or its successor system] exists and successfully completes a transfer of data from BBNPP to the NRC Operations Center in accordance with 10 CFR 50 Appendix E.VI, Emergency Response Data System.

Table 2.3-1— {Emergency Planning ITAAC}

(Page 4 of 13)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
6.0 Public Education and Information			
10 CFR 50.47(b)(7) – Information is made available to the public on a periodic basis on how they will be notified and what their initial actions should be in an emergency (e.g., listening to a local broadcast station and remaining indoors), the principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations) are established in advance, and procedures for coordinated dissemination of information to the public are established.	6.1 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 BBNPP, the space for the news media is provided in the Joint Information Center (JIC), co-located with the EOF.	6.1 An inspection of the JIC will be conducted to verify adequate space is provided for a limited number of news media.	6.1 The JIC is co-located with the EOF, and has at least 8,700 square feet of space. A portion of this space can adequately accommodate a limited number of news media.

Table 2.3-1— {Emergency Planning ITAAC}

(Page 5 of 13)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
7.0 Emergency Facilities and Equipment			
10 CFR 50.47(b)(8) – Adequate emergency facilities and equipment to support the emergency response are provided and maintained.	7.1 The licensee has established a Technical Support Center (TSC) and onsite Operations Support Center (OSC). [H.1, H.9]	7.1 An inspection of the as-built TSC and OSC will be performed including a test of the capabilities.	7.1.1 The BBNPP TSC contains a minimum working space of square feet.
			7.1.2 The BBNPP TSC is located on the same floor level as the Control Room.
			7.1.3 The BBNPP TSC is located in the fully hardened Safeguards Building. It is also within the control room envelope (CRE) which maintains habitability during normal, off-normal and emergency conditions.
			7.1.4 The BBNPP TSC communications capabilities are addressed by the ITAAC Acceptance Criterion 5.1.1.
			7.1.5 The BBNPP TSC receives and displays the plant and environmental information for the parameters specified in the BBNPP U.S. EPR EAL Technical Basis Manual and ITAAC Acceptance Criterion 3.1.1.
			7.1.6 The capability to initiate emergency measures and conduct emergency assessment was successfully demonstrated during the pre-operational federally–evaluated exercise required in ITAAC 12.0.
			7.1.7 The BBNPP OSC is located in the BBNPP Access Building within the protected area separate from the Control Room and TSC.
			7.1.8 The U.S. EPR OSC communications capabilities are addressed by the Acceptance Criterion 5.1.

Table 2.3-1— {Emergency Planning ITAAC}

(Page 6 of 13)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
	7.2 The licensee has established an EOF. [H.2]	7.2.1 A test of the capabilities of the EOF will be performed. NOTE: The BBNPP EOF is a shared facility for SSES and BBNPP and was previously inspected for SSES.	7.2.1.1 The BBNPP EOF has at least 8,000 square feet and is large enough for required systems, equipment, records and storage.
			7.2.1.2 The BBNPP EOF communications capabilities are addressed by the Acceptance Criterion 5.1.1.
			7.2.1.3 The BBNPP EOF's plant information system can retrieve and display the radiological, meteorological, plant system data for the parameters specified in the BBNPP U.S. EPR EAL Technical Basis Manual and ITAAC Acceptance Criterion 3.1.1.
			7.2.1.4 The capability to perform offsite protective measures was successfully demonstrated during the pre-operational federally–evaluated exercise required in ITAAC 9.0.
		7.2.2 An inspection of the implementation of the Human Factors Engineering Program EOF design requirements will be performed.	7.2.2 The Human Factors Engineering Program design requirements for the BBNPP are incorporated in the EOF.

Table 2.3-1— {Emergency Planning ITAAC}

(Page 7 of 13)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
8.0 Accident Assessment			
10 CFR 50.47(b)(9) – Adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.	8.1 The means exist to provide initial and continuing radiological assessment throughout the course of an accident. [I.2]	8.1 A test will be performed to demonstrate that the means exist to provide initial and continuing radiological assessment throughout the course of an accident.	8.1 A report exists that confirms an exercise or drill has been accomplished including use of selected monitoring parameters specified in the BBNPP U.S. EPR EAL Technical Basis Manual and ITAAC Acceptance Criterion 3.1.1 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 BBNPP emergency workers made. Protective action recommendations developed and communicated to appropriate authorities.
	8.2 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]	8.2 An analysis of emergency plan implementing procedures will be performed.	8.2 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.

Table 2.3-1— {Emergency Planning ITAAC}
(Page 8 of 13)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
	8.3 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]	8.3 An analysis of emergency plan implementing procedures will be performed.	8.3.1 A methodology has been established accounting for the relationship between effluent monitor readings and onsite and offsite exposures and contamination for various radiological conditions.
			8.3.2 The continuous assessment of the impact of the release of radioactive materials to the environment is addressed in ITAAC Acceptance Criterion 5.1.
	8.4 The means exist to acquire and evaluate meteorological information. [I.5]	8.4 An inspection will be performed to verify the meteorological data/information is available to emergency response personnel in the Control Room, TSC and EOF.	8.4 The BBNPP Control Room, TSC and EOF can acquire
	8.5 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]	8.5 An analysis of emergency plan implementing procedures will be performed.	8.5.1 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.
			8.5.2 The activation, notification means, field team composition, transportation, communication, monitoring equipment, and estimated deployment times are addressed in ITAAC Acceptance Criterion 8.1.

Table 2.3-1— {Emergency Planning ITAAC}

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Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
	8.6 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]	8.6 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.	8.6 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).
	8.7 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]	8.7 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.	8.7 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.

Table 2.3-1— {Emergency Planning ITAAC}

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Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
9.0 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.	9.1 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.	9.1 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.	9.1.1 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.
			9.1.2 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 BBNPP Emergency Plan submitted in accordance with ITAAC 10.0.
10.0 Radiological Exposure Controls			
10 CFR 50.47 (b) (11) - Means for controlling radiological exposures, in an emergency are established for emergency workers. The means for controlling radiological exposures shall include exposure guidelines consistent with EPA Emergency Worker and Lifesaving Activity PAGs	10.1 The means exists to provide onsite radiation protection. [K.2]	10.1 A test will be performed of the capabilities.	10.1 The means to provide onsite radiation protection in accordance with the implementing procedures were demonstrated per ITAAC 14.0 Note E.2.
	10.2 The means exists to provide 24-hour-per-day capability to determine the doses received by emergency personnel and maintain dose records. [K.3]	10.2 A test will be performed of the capabilities.	10.2 The means to provide 24-hour-per-day capability to determine the doses received by emergency personnel and maintain dose records in accordance with the implementing procedures were demonstrated per ITAAC 14.0 Note E.2.
	10.3 The means exists to decontaminate relocated onsite and emergency personnel, including waste disposal. [K.5.b,K.7]	10.3 A test will be performed of the capabilities.	10.3 The means to decontaminate relocated onsite and emergency personnel, including waste disposal in accordance with the implementing procedures were demonstrated per ITAAC 14.0 Note E.8
	10.4 The means exists to provide onsite contamination control measures. [K.6]	10.4 A test will be performed of the capabilities.	10.4 The means to provide onsite contamination control measures in accordance with the implementing procedures were demonstrated per ITAAC 14.0 Note E.9.

Table 2.3-1— {Emergency Planning ITAAC}

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Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
11.0 Medical and Public Health Support			
10 CFR 50.47 (b)(12) - Arrangements are made for medical services for contaminated, injured individuals.	11.1 Each organization shall arrange for local and backup hospital and medical services having the capability for evaluation of radiation exposure and uptake, including assurance that person providing these services are adequately prepared to handle contaminated individuals. [L.1]	11.1 An inspection will be performed to confirm that Letters of Agreement (LOA) for the BBNPP Emergency Plan were submitted to the NRC.	11.1 Letters of Agreement (LOA) for the BBNPP 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.
	11.2 The means exists for onsite first aid capability. [L2]	11.2 A test will be performed of the capabilities.	11.2 The means for onsite first aid capability in accordance with the implementing procedures were demonstrated during the evaluated exercise.
	11.3 Each organization shall arrange for transporting victims of radiological accidents to medical support facilities. [L.4]	11.3 An inspection will be performed to confirm that Letters of Agreement (LOA) for the BBNPP Emergency Plan were submitted to the NRC.	11.3 Letters of Agreement (LOA) for the BBNPP 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.

Table 2.3-1— {Emergency Planning ITAAC}

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
12.0 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.	12.1 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]	12.1 A full participation exercise (test) will be conducted within the specified time periods of Appendix E to 10 CFR Part 50.	12.1.1 See Note
			12.1.2 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.
		12.2 An off-hours/unannounced drill will be conducted prior to full power operation to test mobilization of the onsite ERO.	12.2 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 Supervisor.
		12.3 A drill requiring mobilization and response activities of both the BBNPP and SSES EROs will be conducted prior to operation of BBNPP to demonstrate the ability of all utility emergency facilities to support a concurrent event.	12.3 A drill critique report has been developed with an overall conclusion of PASS for the dual ERO scenario objectives.
13.0 Radiological Emergency Response			
10 CFR 50.47(b)(15) - Radiological emergency response training is provided to those who may be called on to assist in emergency.	13.1 Site-specific emergency response training has been provided for those who may be called upon to provide assistance in the event of an emergency. [O.1]	13.1 An inspection of the requirements in EPIP-904, Emergency Response Training will be performed.	13.1 ERO personnel are qualified per the requirements in EPIP-904, Emergency Response Training.
14.0 Responsibility for the Planning Effort			
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.	14.1 The emergency response plans have been forwarded to all organizations and appropriate individuals with responsibility for implementation of the plans. [P.5]	14.1 An inspection will be performed to confirm that the controlled distribution list of BBNPP emergency planning documents have been forwarded to organizations and appropriate individuals with responsibility for implementation of the plans.	14.1 Documents have been distributed in accordance with the controlled distribution list.

Table 2.3-1— {Emergency Planning ITAAC}

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Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
15.0 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.	15.1 The licensee has submitted detailed implementing procedures for its emergency plan no less than 180 days prior to fuel load. [O.1]	15.1 An inspection will be performed to confirm that the detailed implementing procedures for the BBNPP Emergency Plan were submitted to the NRC.	15.1 Each of the detailed implementing procedures for the BBNPP 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.

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:

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.

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.

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.

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.

2.4 Site-Specific ITAAC

The Site-Specific ITAAC are provided in {Table 2.4-1 through Table 2.4-26}. Site-specific systems were evaluated against selection criteria in {BBNPP} FSAR Section 14.3.

Table 2.4-1— {Concrete Fill, Structural Fill, Backfill, and Cohesive Fill for Seismic Category I and Seismic Category II-SSE Structures Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	Seismic Category I structures, except the ESWEMS Retention Pond, and utilities are supported on bedrock, or concrete or structural fill extending down to bedrock.	Inspections will be performed.	Seismic Category I structures, except the ESWEMS Retention Pond, and utilities are supported on bedrock, or concrete or structural fill extending down to bedrock.
2	The Seismic Category I ESWEM Retention Pond liner is comprised of cohesive fill extending down to bedrock.	Inspection will be performed.	The Seismic Category I ESWEM Retention Pond liner is comprised of cohesive fill extending down to bedrock.
3	Seismic Category II - SSE structures are supported on bedrock, or concrete or structural fill extending down to bedrock.	Inspections will be performed.	Seismic Category II-SSE structures are supported on bedrock, or concrete or structural fill extending down to bedrock.
4	For Seismic Category I and Seismic Category II - SSE structures, the installed concrete fill meets the minimum compressive strength requirements.	Tests will be performed to establish the acceptability of the concrete fill.	For Seismic Category I and Seismic Category II - SSE structures, the installed concrete fill meets the minimum compressive strength requirements.
5	For Seismic Category I and Seismic Category II-SSE structures, structural fill and backfill is selected to meet acceptable material requirements.	Tests will be performed to establish the acceptability of the structural fill and backfill.	For Seismic Category I and Seismic Category II-SSE structures, structural fill and backfill material quality and gradation complies with design specification requirements.
6	The installed structural fill and backfill for Seismic Category I and Seismic Category II-SSE foundations and walls meets the minimum design density requirements.	Tests will be performed during placement of the structural fill and backfill materials.	For Seismic Category I and Seismic Category II-SSE Structures, installed structural fill and backfill will be tested for compaction to meet design specification density requirements.
7	Seismic Category I cohesive fill placed outside the zones of Seismic Category I granular structural fill and backfill is selected to meet acceptable material requirements.	Tests will be performed to establish the acceptability of the cohesive fill.	The Seismic Category I cohesive fill material quality conforms to the design specification requirements.
8	Installed Seismic Category I cohesive fill placed outside the zones of Seismic Category I granular structural fill and backfill meets the minimum design density requirements.	Tests will be performed during placement of the cohesive fill materials.	For Seismic Category I cohesive fill placed outside the zones of Seismic Category I granular structural fill and backfill, installed cohesive fill will be tested for compaction to meet design specification density requirements.

Table 2.4-2— {ESWEMS Pumphouse Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 1 of 2)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The ESWEMS Pumphouse is Seismic Category I and can withstand design basis seismic loads without a loss of structural integrity.	An inspection of the as-built structure will be conducted.	The as-built ESWEMS Pumphouse conforms to the approved design and is capable of withstanding the design basis seismic loads, without a loss of structural integrity.
2	The pumpwell for the ESWEMS Pumphouse can withstand water surge and wave forces.	An inspection of the as-built structure will be conducted.	The as-built pumpwell for the ESWEMS Pumphouse conforms to the approved design is capable of withstanding water surge and wave forces.
3	The configuration of the ESWEMS Pumphouse separates each division of the ESWEMS. The separation measures are: 1. 3-hour rated fire barriers. 2. Door openings, ventilation system openings, and ductwork penetrations that penetrate 3-hour rated fire barriers will have at least 3-hour fire rated doors or 3-hour fire rated dampers. 3. Penetrations through fire rated walls, floors, and ceilings are sealed or otherwise closed with rated penetration seal assemblies.	a. Type tests, analyses, or a combination of type tests and analyses will be performed to establish that the fire barriers, doors, dampers, and penetrations are properly qualified. b. An inspection of the as-built fire barriers, doors, dampers, and penetrations will be conducted.	a. The fire barriers, doors, dampers, and penetrations that separate each division of the as-built ESWEMS consist of the following: 1. 3-hour rated fire barriers. 2. Door openings, ventilation system openings, and ductwork penetrations that penetrate 3-hour rated fire barriers are at least 3-hour fire rated doors or 3-hour fire rated dampers. 3. Penetrations through fire rated walls, floors, and ceilings are sealed or otherwise closed with 3-hour rated fire barrier penetration seal assemblies. b. The as-built configuration of fire barriers, doors, dampers, and penetrations that separate each division of the ESWEMS conforms to the design.
4	Each division of the ESWEMS will be protected from an internal flood within another division by: a. Construction joints in structural walls will be provided with a water seal to prevent leakage. b. Through wall penetrations being provided with water seals. c. Floors that are sloped and provided with trenches to route water to the pumpwell.	a. An inspection of the water seals installed in construction joints of structural walls will be conducted. b. An inspection of the water seals installed in through wall penetrations will be conducted. c. An inspection of the ESWEMS Pumphouse floors will be conducted.	a. Water seals in the construction joints of the structural walls for the as-built ESWEMS Pumphouse are installed in accordance with manufacturer's recommendations. b. Water seals for through wall penetrations in the as-built ESWEMS Pumphouse are installed in accordance with manufacturer's recommendations. c. ESWEMS Pumphouse floors are sloped and provided with trenches that route water to the pumpwell.

Table 2.4-2— {ESWEMS Pumphouse Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 2 of 2)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
5	Cohesive fill will be placed in front of the side walls of the pumpwell for the ESWEMS Pumphouse.	Inspections will be conducted during placement of the cohesive fill.	Cohesive fill is placed in front of the as-built sidewalls for the ESWEMS Pumphouse.

Table 2.4-3— {ESWEMS Retention Pond Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The ESWEMS Retention Pond is a Seismic Category I component and can withstand design basis loads, including seismic loads and water surge and wave forces.	An inspection of the as-built structure will be conducted.	The as-built ESWEMS Retention Pond conforms to the approved design, and can withstand the design basis loads.
2	The volume of the ESWEMS Retention Pond is greater than or equal to 50.3 acre-ft.	An inspection of the as-built structure will be performed.	The water retaining volume of the as-built ESWEMS Retention Pond is greater than or equal to 50.3 acre-ft.
3	The earthen liner has a permeability of less than or equal to 1E-08 m/s.	A test of the as-built earthen liner will be performed.	The as-built earthen liner has a permeability of less than or equal to 1E-08 m/s.

Table 2.4-4— {Buried Duct Banks and Pipes Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 1 of 2)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	Seismic Category I buried electrical duct banks traverse from: 1. Each ESWEMS Pumphouse bay to the respective ESWS Cooling Tower. 2. The Safeguards Buildings to the four Essential Service Water Buildings and both Emergency Power Generating Buildings.	Inspections of the as-built buried Seismic Category I electrical duct banks will be conducted.	The as-built, buried, Seismic Category I electrical duct banks are located as designed.
2	Seismic Category I buried ESW piping consists of: 1. Large diameter supply and return pipes between the Safeguards Buildings and the ESW Buildings. 2. Small diameter supply and return pipes from the Emergency Power Generating Buildings which tie in directly to the aforementioned pipes. 3. Supply pipes from each ESWEMS Pumphouse bay to the ESWS Buildings.	Inspections of the as-built buried Seismic Category I pipes will be conducted.	The as-built, buried, Seismic Category I pipes are located as designed.
3	Concrete components of buried Seismic Category I electrical duct banks and pipes will be designed in accordance with ACI 349-2001, including the exceptions specified in Regulatory Guide 1.142.	Analysis of the as-designed concrete components of buried Seismic Category I electrical duct banks and pipes will be performed.	The as-designed concrete components of buried Seismic Category I electrical duct banks and pipes conform to ACI 349-2001, including the exceptions specified in Regulatory Guide 1.142.
4	Steel components of buried Seismic Category I electrical duct banks and pipes will be designed in accordance with ANSI/AISC N690-1994 (R2004), including Supplement 2.	Analysis of the as-designed steel components of buried Seismic Category I electrical duct banks and pipes will be performed.	The as-designed steel components of buried Seismic Category I electrical duct banks and pipes conform to ANSI/AISC N690-1994 (R2004), including Supplement 2.
5	The buried Seismic Category I electrical duct banks and pipes can withstand design basis loads without loss of structural integrity. These loads are: 1. Strains imposed by seismic ground motion. 2. Static surface surcharge loads due to vehicular loads on designated haul routes. 3. Static surface surcharge loads during construction activities. 4. Tornado missiles and, within their zone of influence, turbine generated missiles. 5. Ground water effects.	An inspection of the as-built buried Seismic Category I electrical duct banks and pipes will be conducted.	As-built buried Seismic Category I electrical duct banks and pipes conform to the approved design and can withstand the design basis loads without loss of structural integrity.
6	The Seismic Category 1 electrical duct banks and pipes will be designed in accordance with ACL 349-2001, including the exceptions specified in Regulatory Guide 1.142	Analysis of the Seismic Category 1 electrical duct banks and pipes will be performed.	The as-designed Seismic Category 1 electrical duct banks and pipes conform to ACL 349-2001, including the exceptions specified in Regulatory Guide 1.142.

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

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
7	The buried Seismic Category I conduit and duct banks, and pipe and pipe ducts provide separation between divisions of systems.	a. Analyses will be performed on the buried Seismic Category I electrical conduit and duct banks, and pipe and pipe ducts.	a. A report exists that concludes buried Seismic Category I electrical conduit and 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 Seismic Category I conduit and duct banks, and pipe and pipe ducts are constructed and installed as specified on the construction drawings and deviations will be reconciled to analyses.	b. Inspection reports exist and conclude that the as-built buried Seismic Category I conduit and duct banks, and pipe and pipe ducts are constructed and installed as specified on the construction drawings and deviations have been reconciled to analyses.

Table 2.4-5— {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 conducted.	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 Seismic Category II-SSE, and can withstand the applicable structural design basis loads without losing its structural integrity and will remain functional during and after an SSE.	a. An analysis of the as-designed structure will be conducted. b. An inspection of the as-built structure will be conducted.	a. A report exists and concludes that the as-designed Fire Protection Building can withstand the applicable structural seismic design basis loads without loss of structural integrity. b. A report exists and concludes that the as-built Fire Protection Building conforms to the approved design.

Table 2.4-6— {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 conducted. b. An analysis of the as-built structure's location and orientation will be conducted.	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 will not impact the ability of any safety-related structure, system, or component to perform its safety function following a seismic event.	An analysis of the as-built structure will be conducted.	A report exists and concludes that under seismic loads the as-built Turbine Building will not impact the ability of any safety-related structure, system or component to perform its safety function.
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 conducted.	The as-built Turbine Building houses the components of the steam condensate main feedwater cycle, including the turbine-generator, in accordance with the design.

Table 2.4-7— {Switchgear Building Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 1 of 2)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Switchgear Building will not impact the ability of any safety-related structure, system, or component to perform its safety function following a seismic event.	a. An analysis of the Switchgear Building structure design will be performed to determine that it will not impact the ability of any safety-related structure, system, or component to perform its safety function following a seismic event. b. An inspection of the as-built Switchgear Building will be performed and all deviations from the approved design will be reconciled with the design.	1. A report exists and concludes that the design of the Switchgear Building structures will withstand the design basis loads so that it will not impact the ability of any safety-related structure, system, or component to perform its safety function following a seismic event. 2. A report exists and concludes that the as-built Switchgear Building conforms to the approved design.
2	The Switchgear Building contains the power supplies and the instrumentation and controls for the Turbine Island, the balance of plant, and the Station Blackout diesel generators.	An inspection of the as-built structure will be conducted.	The as-built Switchgear Building houses the power supplies and the instrumentation and controls for the Turbine Island, the balance of plant, and the Station Blackout diesel generators, in accordance with the design.

Table 2.4-7— {Switchgear Building Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 2 of 2)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
3	The configuration of the Switchgear Building separates each Station Blackout Diesel Generator and its supporting equipment from the other equipment in the Switchgear Building or Turbine Building by barriers, doors, dampers and penetrations as follows: 1. 3-hour fire rated barriers separate the Station Blackout diesel tank rooms from the other adjacent areas. 2. 3-hour fire rated barriers separate the adjacent Turbine Building. 3. 2-hour rated fire barriers separate all other inter-connected areas, as well as redundant trains within those areas. 4. Door openings, ventilation system openings, and ductwork penetrations that penetrate 3-hour rated fire barriers will have at least 3-hour fire rated doors or 3-hour fire rated dampers. 5. Door openings, ventilation system openings, and ductwork penetrations that penetrate 2-hour rated fire barriers will have at least 1-½ hour fire rated doors or 1-½ hour fire rated dampers. 6. Penetrations through fire rated walls, floors, and ceilings are sealed or otherwise closed with rated penetration seal assemblies.	a. An analysis will be performed to establish that the fire barriers, doors, dampers, and penetrations have the appropriate fire rating. b. An inspection of the as-built barriers, doors, dampers, and penetrations will be conducted.	a. The fire barriers, doors, dampers, and penetrations that separate each Station Blackout Diesel Generator and its supporting equipment from the other equipment in the as-built Switchgear Building or as-built Turbine Building consist of the following: 1. 3-hour fire rated barriers separate the Station Blackout diesel tank rooms from the other adjacent areas. 2. 3-hour fire rated barriers separate the adjacent Turbine Building. 3. 2-hour rated fire barriers separate all other inter-connected areas, as well as redundant trains within those areas. 4. Door openings, ventilation system openings, and ductwork penetrations that penetrate 3-hour rated fire barriers are at least 3-hour fire rated doors or 3-hour fire rated dampers. 5. Door openings, ventilation system openings, and ductwork penetrations that penetrate 2-hour rated fire barriers are at least 1-½ hour fire rated doors or 1-½ hour fire rated dampers. 6. Penetrations through fire rated walls, floors, and ceilings are sealed or otherwise closed with 3-hour rated fire barrier penetration seal assemblies. b. The configuration of fire barriers, doors, dampers, and penetrations that separate each Station Blackout Diesel Generator and its supporting equipment from the other equipment in the as-built Switchgear Building or as-built Turbine Building conforms to the design.

Table 2.4-8— {Security Access Building Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Security Access Building will not impact the ability of any safety-related structure, system, or component to perform its safety function following a seismic event.	An analysis of the as-built structure will be conducted.	A report exists and concludes that under seismic loads the as-built Security Access Building will not impact the ability of any safety-related structure, system or component to perform its safety function.
2	The Security Access Building controls access to the plant's controlled areas.	An inspection of the as-built structure will be conducted.	The as-built Security Access Building provides access to the plant's controlled areas.

Table 2.4-9— {Central Gas Supply Building Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Central Gas Supply Building will not impact the ability of any safety-related structure, system, or component to perform its safety function following a seismic event.	An analysis of the as-built structure will be conducted.	A report exists and concludes that under seismic loads the as-built Central Gas Supply Building will not impact the ability of any safety-related structure, system or component to perform its safety function.

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

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Warehouse Building will not impact the ability of any safety-related structure, system, or component to perform its safety function following a seismic event.	An analysis of the as-built structure will be conducted.	A report exists and concludes that under seismic loads the as-built Warehouse Building will not impact the ability of any safety-related structure, system or component to perform its safety function.

Table 2.4-11— {Grid Systems Control Building Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Grid Systems Control Building will not impact the ability of any safety-related structure, system, or component to perform its safety function following a seismic event.	An analysis of the as-built structure will be conducted.	A report exists and concludes that under seismic loads the as-built Grid Systems Control Building will not impact the ability of any safety-related structure, system or component to perform its safety function.

Table 2.4-12— {Circulating Water System Cooling Tower Structures Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Circulating Water Sytem Cooling Tower Structures will not impact the ability of any safety-related structure, system, or component to perform its safety function following a seismic event.	An analysis of the as-built structures will be conducted.	A report exists and concludes that under seismic loads the as-built Circulating Water System Cooling Tower Structures will not impact the ability of any safety-related structure, system or component to perform its safety function.

Table 2.4-13— {Circulating Water System Pumphouse Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Circulating Water System Pumphouse will not impact the ability of any safety-related structure, system, or component to perform its safety function following a seismic event.	An analysis of the as-built structures will be conducted.	A report exists and concludes that under seismic loads the as-built Circulating Water Sytem Pumphouse will not impact the ability of any safety-related structure, system or component to perform its safety function.

Table 2.4-14— {Water Treatment Building}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Water Treatment Building will not impact the ability of any safety-related structure, system, or component to perform its safety function following a seismic event.	An analysis of the as-built structures will be conducted.	A report exists and concludes that under seismic loads the as-built Water Treatment Building will not impact the ability of any safety-related structure, system or component to perform its safety function.

Table 2.4-15— {Meteorological Tower}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Meteorological Tower will not impact the ability of any safety-related structure, system, or component to perform its safety function following a seismic event.	An analysis of the as-built structures will be conducted.	A report exists and concludes that under seismic loads the as-built Meteorological Tower will not impact the ability of any safety-related structure, system or component to perform its safety function.

Table 2.4-16— {BBNPP Intake Structure Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The BBNPP Intake Structure will not impact the ability of any safety-related structure, system, or component to perform its safety function following a seismic event.	An analysis of the as-built structure will be conducted.	A report exists and concludes that under seismic loads the as-built BBNPP Intake Structure will not impact the ability of any safety-related structure, system or component to perform its safety function.

Table 2.4-17— {ESWEMS Pumphouse HVAC System Inspections, Tests, Analyses, and Acceptance Criteria}

(Page 1 of 2)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	There are four divisions of the ESWEMS Pumphouse HVAC System.	Inspection of the as-built system shall be conducted.	The as-built ESWEMS Pumphouse HVAC System has four divisions.
2	Each mechanical division of the ESWEMS Pumphouse HVAC System shall be physically separated.	Inspections of the as-built system shall be conducted.	Each mechanical division of the as-built ESWEMS Pumphouse HVAC System is physically separated from other mechanical divisions by structural or fire barriers.
3	The condenser section for each division of the ESWEMS Pumphouse is housed in a missile protected enclosure outside of the ESWEMS pumphouse.	Inspections of the as-built system will be conducted.	The as-built condenser section for each division of the ESWEMS Pumphouse is housed in a missile protected enclosure outside of the ESWEMS pumphouse.
4	Each division of the ESWEMS Pumphouse HVAC System shall be electrically independent.	Inspections of the as-built system shall be conducted.	For the as-built ESWEMS Pumphouse HVAC System, electrical isolation exists between each division of Class 1E components and between Class 1E components and non-Class 1E components.
5	Each division of the ESWEMS Pumphouse HVAC System is powered by their respective Class 1E division.	Tests are conducted by powering each Class 1E division separately.	Only the Class 1E division under test is powered.
6	The ASME AG-1 ESWEMS Pumphouse HVAC System equipment is designed and constructed in accordance with the applicable ASME AG-1 Code.	An inspection of the as-built system will be conducted.	The as-built ASME AG-1 ESWEMS Pumphouse HVAC System equipment conforms to the applicable ASME AG-1 Code.
7	ESWEMS Pumphouse HVAC System equipment, piping, and ducting designated as Seismic Category I can withstand a design basis seismic load without loss of safety function.	a. Type tests, tests, analyses, or a combination of tests and analyses will be performed on the equipment, piping, and ducting. b. Inspections will be conducted of the as-built equipment, piping, and ducting. c. Inspections will be conducted of the as-built equipment supports and restraints.	a. A report exists and concludes that under seismic design basis loads the as-built Seismic Category I ESWEMS Pumphouse HVAC System components retain structural integrity. b. The as-built ESWEMS Pumphouse HVAC System equipment, piping, and ducting designated as Seismic Category I are installed as designed. c. The as-built ESWEMS Pumphouse HVAC System supports and restraints are installed as designed.

Table 2.4-17— {ESWEMS Pumphouse HVAC System Inspections, Tests, Analyses, and Acceptance Criteria}

(Page 2 of 2)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
8	ESWEMS Pumphouse HVAC System equipment, piping, and ducting designated as Seismic Category II can withstand a design basis seismic load without impacting the capability of equipment designated as Seismic Category I from performing its safety function.	a. Type tests, tests, analyses, or a combination of tests and analyses will be performed on the equipment, piping, and ducting. Inspections will be conducted of the as-built equipment, piping, and ducting.	a. A report exists and concludes that the as-built Seismic Category II ESWEMS Pumphouse HVAC System components can withstand a design basis seismic load without impacting the capability of equipment designated as Seismic Category I from performing its function. b. The ESWEMS Pumphouse HVAC System equipment, piping, and ducting designated as Seismic Category II are installed as designed.
9	Each division of the ESWEMS Pumphouse HVAC System will support the operation of its associated division of the ESWEMS by maintaining a minimum temperature of 41°F (5 °C) and a maximum temperature of 104°F (40 °C).	Tests, analyses, or a combination of tests and analyses will be performed.	Each division of the as-built ESWEMS Pumphouse HVAC System maintains the temperature ≥ 41°F (5 °C) and ≤ 104 °F (40 °C).
10	Each division of the ESWEMS Pumphouse HVAC System is initiated automatically in conjunction with ESWEMS pump operation.	Test of the as-built system will be conducted by supplying a simulated signal to each as-built division.	Each division of the as-built ESWEMS Pumphouse HVAC System starts in conjunction with ESWEMS pump operation.

Table 2.4-18— {Fire Protection Building Ventilation System Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Fire Protection Building Ventilation System equipment, piping, and ducting are designated as Seismic Category II-SSE, and can withstand design basis seismic loads without loss of function.	a. Type tests, tests, analyses, or a combination of tests and analyses will be performed on the equipment, piping, and ducting. b. Inspections will be conducted of the as-built equipment. c. Inspections will be conducted of the as-built equipment supports and restraints.	a. The equipment, piping, and ducting designated as Seismic Category II-SSE for the as-built Fire Protection Building Ventilation System can withstand design basis seismic loads without loss of function. b. The as-built Fire Protection Building Ventilation System equipment, piping, and ducting designated as Seismic Category II-SSE are installed as designed. c. The as-built Fire Protection Building Ventilation System supports and restraints are installed as designed.
2	The Fire Protection Building Ventilation System will maintain the environment of the Fire Protection Building within the most limiting operating requirements for the diesel driven fire pumps, and its supporting equipment.	Tests, analyses, or a combination of tests and analyses will be performed.	The as-built Fire Protection Building Ventilation System maintains the temperature within a range that supports operation of the diesel driven fire pumps, and its supporting equipment.
3	The Fire Protection Building Ventilation System is initiated automatically.	A test of the as-built system will be conducted by supplying a simulated signal to the system.	The as-built Fire Protection Building Ventilation System starts upon receipt of a simulated automatic initiation signal.

Table 2.4-19— {Essential Service Water Emergency Makeup Water System Inspections, Tests, Analyses, and Acceptance Criteria}

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	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The arrangement of the ESWEMS is physically separated into four electrically independent divisions as shown on Figure 2.4-19a.	a. Type tests, analyses, or a combination of type tests and analyses shall be conducted.	a. A report exists and concludes that the ESWEMS conforms to the arrangement as shown in Figure 2.4-19a and is physically separated into four electrically independent divisions as shown on Figure 2.4-19a.
2	Each division of the ESWEMS listed in Table 2.4-19a is independently powered by their respective Class 1E division.	Tests will be performed.	A report exists that concludes each division of the as-built ESWEMS listed in Table 2.4-19a is independently powered by their respective Class 1E division.
3	Not Used.		
4	Each division of the ESWEMS equipment identified in Table 2.4-19a shall be physically separated in accordance with IEEE-384 and Reg. Guide 1.75.	Inspections and/or analysis of the as-built system shall be conducted.	A report exists which demonstrates that physical separation exists between each division of Class 1E components and between Class 1E components and non-class 1E components for the as-built ESWEMS in accordance with IEEE-384 and Reg. Guide 1.75.

Table 2.4-19— {Essential Service Water Emergency Makeup Water System Inspections, Tests, Analyses, and Acceptance Criteria}

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	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
5	The ESWEMS equipment identified as Seismic Category I in Table 2.4-19a can withstand seismic design basis loads without loss of the function listed in Table 2.4-19a.	a. Type tests, analyses, or a combination of type tests and analyses will be performed on the ESWEMS equipment identified as Seismic Category I in Table 2.4-19a using analytical assumptions, or under conditions which bound the Seismic Category I design requirements. b. Inspections will be performed of the as-built ESWEMS equipment identified as Seismic Category I in Table 2.4-19a to verify that the as-built equipment, including equipment supports and restraints, are installed as specified on the construction drawings and deviations have been reconciled to the seismic qualification reports (SQPD, EQPD, or analyses).	a. Seismic qualification reports (SQPD, EQPD, or analyses) exist and conclude that the Seismic Category I ESWEMS equipment identified in Table 2.4-19a can withstand seismic design basis loads without a loss of the function listed in Table 2.4-19a. b. Inspection reports exist and conclude that the as-built Seismic Category I ESWEMS equipment identified in Table 2.4-19a, including equipment supports and restraints, are installed as specified on the construction drawings and deviations have been reconciled to the seismic qualification reports (SQPD, EQPD, or analyses).

Table 2.4-19— {Essential Service Water Emergency Makeup Water System Inspections, Tests, Analyses, and Acceptance Criteria}

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	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
6	The ESWEMS piping and equipment identified in Table 2.4-19a which 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 design basis seismic 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 ESWEMS piping and equipment identified in Table 2.4-19a using analytical assumptions, or under conditions which bound the Seismic Category II design requirements, to verify the piping and 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 as-built ESWEMS piping and equipment designated Seismic Category II identified in Table 2.4-19a, including anchorage, to verify piping and equipment are installed as specified on the construction drawings and deviations have been reconciled to the seismic qualification reports (SQPD, EQPD, or analyses).	a. Seismic qualification reports (SQPD, EQPD, or analyses) exist and conclude that the Seismic Category II ESWEMS piping and equipment identified in Table 2.4-19a can withstand seismic design basis loads without impacting the capability of equipment designated Seismic Category I from performing its safety function. b. Inspection reports exist and conclude that the as-built ESWEMS piping and equipment designated Seismic Category II identified in Table 2.4-19a, including anchorage, are installed as specified on the construction drawings and deviations have been reconciled to the seismic qualification reports (SQPD, EQPD, or analyses).

Table 2.4-19— {Essential Service Water Emergency Makeup Water System Inspections, Tests, Analyses, and Acceptance Criteria}

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	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
7	The ESWEMS Pumphouse bar screens are designated as Seismic Category II, and can withstand design basis seismic 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 bar screens using analytical assumptions, or under conditions which bound the Seismic Category II design requirements, to verify the piping and 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 as-built bar screens, including anchorage, to verify bar screens are installed as specified on the construction drawings and deviations have been reconciled to the seismic qualification reports (SQPD, EQPD, or analyses).	a. Seismic qualification reports (SQPD, EQPD, or analyses) exist and conclude that the Seismic Category II bar screens can withstand seismic design basis loads without impacting the capability of equipment designated Seismic Category I from performing its safety function. b. Inspection reports exist and conclude that the as-built bar screens, including anchorage, are installed as specified on the construction drawings and deviations have been reconciled to the seismic qualification reports (SQPD, EQPD, or analyses).

Table 2.4-19— {Essential Service Water Emergency Makeup Water System Inspections, Tests, Analyses, and Acceptance Criteria}

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	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
8			
	a. Components listed in Table 2.4-19a as ASME Code Section III are designed to ASME Code Section III requirements. b. Components listed in Table 2.4-19a as ASME Code Section III are fabricated in accordance with the requirements of ASME Section III. c. Components listed in Table 2.4-19a as ASME Code Section III are installed and inspected in accordance with the requirements of ASME Section III.	a. Inspections will be performed for the existence of ASME Code Section III Design Reports. b. Inspections will be performed of the ASME Code Section III Design Reports (NCA-3550) and associated reference documents. c. An inspection of the installed components will be performed.	a. ASME Code Section III design reports (NCA-3550) exist for components listed as ASME Code Section III in Table 2.4-19a. b. For components listed as ASME Code Section III in Table 2.4-19a, the as-built component satisfies design requirements of ASME Code Section III as demonstrated in the Design Report (NCA-3550). c. For components listed as ASME Code Section III in Table 2.4-19a, reports exist and conclude that installation and inspection are in accordance with ASME Code Section III requirements.
9			
	a. Portions of piping shown as in Figure 2.4-19b as ASME Code Section III are designed in accordance with ASME Code Section III requirements. b. Portions of piping shown as ASME Code Section III in Figure 2.4-19b are installed in accordance with Code Section III Design Report. c. Pressure boundary welds in portions of the piping shown as ASME Code Section III in Figure 2.4-19b are in accordance with ASME Code Section III.	a. Inspections of the ASME Code Section III Design Reports (NCA-3550) and associated reference documents will be performed. b. Analyses to reconcile as-built deviations to the ASME Code Design Reports (NCA-3550) will be performed. Piping analyzed using time-history methods will be reconciled to the as-built information. c. Inspections of pressure boundary welds verify that welding is performed in accordance with ASME Code Section III requirements.	a. ASME Code Section III design reports (NCA-3550) exist and conclude that portions of the piping shown as ASME Code Section III in Figure 2.4-19b comply with ASME Code Section III requirements. b. For portions of the piping shown as ASME Code Section III in Figure 2.4-19b, ASME Code Data Reports (N-5) exist and conclude that design reconciliation (NCA-3554) has been completed in accordance with the ASME Code Section III for the as-built system. The report(s) document the as-built condition. c. ASME Code Section III Data Reports exist and conclude that pressure boundary welding for portions of the piping shown as ASME Code Section III in Figure 2.4-19b has been performed in accordance with ASME Code Section III.
10	Pressure boundary welds in portions of the ESWEMS components shown as ASME Code Section III components in Figure 2.4-19b are in accordance with ASME Code Section III.	Inspections of pressure boundary welds verify that welding is performed in accordance with ASME Code Section III requirements.	ASME Code Section III Data Reports exist and conclude that pressure boundary welding for portions of the ESWEMS components shown as ASME Code Section III in Figure 2.4-19b has been performed in accordance with ASME Code Section III.

Table 2.4-19— {Essential Service Water Emergency Makeup Water System Inspections, Tests, Analyses, and Acceptance Criteria}

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	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
11	The ASME Code Section III piping design for the ESWEMS shown in Figure 2.4-19b has been reviewed for susceptibility to water hammer.	a. Analysis of the as-built piping system will be performed to determine if the ESWEMS system piping is susceptible to water hammer and the design modified as necessary to eliminate the possibility of water hammer. b. Tests of the as-built system will be conducted to confirm the absence of water hammer.	a. A report exists and concludes the as-built piping system for the ESWEMS is not susceptible to water hammer. b. Tests of the as-built system confirm the absence of water hammer.
12	Portions of the ESWEMS components shown as ASME Code Section III in Figure 2.4-19b retain their pressure boundary integrity at their design pressure.	Hydrostatic tests will be performed on the system.	For portions of the ESWEMS components shown as ASME Code Section III in Figure 2.4-19b, ASME Code Section III Data Reports exist and conclude that hydrostatic test results comply with ASME Code Section III requirements.
13	Portions of the ESWEMS piping shown as ASME Code Section III in Figure 2.4-19b retain their pressure boundary integrity at their design pressure.	Hydrostatic tests will be performed on the system.	For portions of the ESWEMS piping shown as ASME Code Section III in Figure 2.4-19b, ASME Code Section III Data Reports exist and conclude that hydrostatic rest results comply with ASME Code Section III requirements.
14	The ESWEMS Pumphouse bar screens have a large enough face area that potential blockage to the point of preventing the minimum required flow through them is not a concern.	a. Analyses will be performed of the equipment. b. Inspections will be performed of the as-built equipment.	a. A report exists and concludes that the face area for the as-built ESWEMS Pumphouse bar screens is sufficient to permit the minimum required flow of 310 gpm in the event of worst-case blockage of the screens. b. A report exists and concludes that the as-built face area for the as-built ESWEMS Pumphouse bar screens agrees with construction drawings and deviations from the approved design are reconciled.

Table 2.4-19— {Essential Service Water Emergency Makeup Water System Inspections, Tests, Analyses, and Acceptance Criteria}

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	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
15	Class 1E valves listed in Table 2.4-19a perform the function listed in Table 2.4-19a under system operating conditions.	Tests and analyses or a combination of tests and analyses will be performed to demonstrate the ability of the Class 1E valves listed in Table 2.4-19a to change positions as listed in Table 2.4-19a under system operating conditions.	The valve changes position as listed Table 2.4-19a under system operating conditions.
16	Each division of the ESWEMS identified in Table 2.4-19a can be initiated manually.	Tests of the as-built system will be conducted.	Each division of the as-built ESWEMS identified in Table 2.4-19a starts upon receipt of a manual initiation signal.
17	Each division of the ESWEMS identified in Table 2.4-19a provides ≥310 gallons per minute of makeup water to each ESW cooling tower basin to maintain the minimum basin water level with the minimum design pond level and bus voltage.	a. An analysis will be performed to determine that each division of the ESWEMS identified in Table 2.4-19a provides ≥310 gallons per minute of makeup water to each ESW cooling tower basin to maintain the minimum basin water level with the minimum design pond level and bus voltage. b. Tests of the as-built system will be conducted.	a. A report exists that concludes that each division of the ESWEMS identified in Table 2.4-19a is capable of delivering ≥ 310 gallons per minute of makeup water to each ESW cooling tower basin to maintain the minimum basin water level with the minimum design pond level and bus voltage. b. Each division of the as-built ESWEMS is capable of delivering ≥ 310 gpm of makeup water to each ESW cooling tower basin to maintain the minimum basin water level .
18	The ESWEMS pumps listed in Table 2.4-19a have sufficient NPSH.	Testing and analyses will be performed to verify NPSHA for the ESWEMS pumps listed in Table 2.4-19a.	The ESWEMS pumps listed in Table 2.4-19a have NPSHA that is greater than net positive suction head required (NPSHR) at system rated flow.
19	Check valves listed in Table 2.4-19a will function as listed in Table 2.4-19a.	Tests will be performed for the oepration of the check valves listed in Table 2.4-19a.	The check valves in Table 2.4-19a perform the functions listed in Table 2.4-19a.
20	In response to control inputs from the associated ESWS cooling tower basin, the ESWEMS control valves (10GFA 10/20/30/40/ AA101), work in conjunction with the ESWEMS isolation valves 30PED10/20/30/40/AA021 to modulate the flow of water back to the ESWEMS Retention Pond, so that the ESWEMS pumps can operate within their optimum range.	Tests of the as-built system will be conducted.	A report exists which demonstrates the ESWEMS control valves in each as-built division modulates ESWEMS flow in conjunction with the ESWS valves that isolate ESWEMS flow.
21	Each division of the ESWEMS has a surveillance test recirculation line to the retention pond as shown in FSAR Figure 2.4-19b that allows flow testing of the system during plant operation.	Tests of the as-built system will be conducted.	The as-built surveillance test bypass line to the retention pond for each division the ESWEMS as shown in Figure 2.4-19b allows flow testing of the system during plant operation.

Table 2.4-19— {Essential Service Water Emergency Makeup Water System Inspections, Tests, Analyses, and Acceptance Criteria}

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	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
22	The dimensions of each ESWEMS pump well and the height of the pump suction above the pump well floor will be verified against the design basis calculations.	Inspections of the as-built system will be conducted.	A report will conclude that the dimensions of each ESWEMS pump well and the height of the pump suction above the pump well floor are consistent with the design basis calculations.
23	Components and piping listed in Table 2.4-19a as ASME Code Section III are accessible for performing periodic inspections.	Inspections of the as-built system will be conducted.	A report will conclude that ASME Code Section III components and piping listed in Table 2.4-19a are accessible for performing periodic inspections.
24	The ESWEMS Pumphouse bar screens are partitioned into maximum 4.9 ft (1.5 m) long sections not to exceed 3,100 in^2 in area. The screen size is 2 in x 0.375 in minimum bars spaced at 0.875 in clear with cross bending bars at 4 in on center. Edges will be banded for added rigidity.	Inspections of the as-built equipment will be conducted.	A report will conclude that ESWEMS Pumphouse bar screens are properly sized for missile barrier protection.
25	The pressure relief backflush process for each ESWEMS automatic strainer listed in Table 2.4-19a is initiated by either the signal of the differential pressure measuring transmitter based on limiting the differential pressure across the strainer to the value assumed in the ESWEMS pump sizing basis calculation or manual operator initiation.	Tests of the as-built system will be conducted.	A report will conclude that ESWEMS automatic strainers functions to limit differential pressure to 5 psid and can be manually actuated.

Table 2.4-20— {Essential Service Water Emergency Makeup System (ESWEMS) Component Mechanical Design}

(Page 1 of 3)

Component Description	Component Tag Number	Component Location	ASME Code Section III	Function	Seismic Category
ESWEMS Pump Division 1	10GFA10AP001	UQF	Class 3	Pressure Boundary /Run	I
Piping to Cooling Tower Division 1		UQF, UZT	Class 3	Pressure Boundary	I
Piping and Manual Valves Division 1		UQF	Class 3	Pressure Boundary	I
Piping Division 1		UQF	B31.1	Pressure Boundary	II
Piping Division 1		UQF	B31.1	Pressure Boundary	NSC
Discharge Strainer Division 1	10GFA10AT001	UQF	Class 3	Pressure Boundary /Run	I
Motor Operated Valves Division 1	10GFA10AA101	UQF	S	Pressure Boundary/Open/ Close	I
Motor Operated Valves Division 1	10GFA10AA401	UQF	S	Pressure Boundary/Open/ Close	I
Check Valve Division 1	10GFA10AA001	UQF	S	Pressure Boundary/Open/ Close	I
ESWEMS Bar Screen Division 1		UQF	NA	-----	II
ESWEMS Pump Division 2	10GFA20AP001	UQF	Class 3	Pressure Boundary /Run	I
Piping to Cooling Tower Division 2		UQF, UZT	Class 3	Pressure Boundary	I
Piping and Manual Valves Division 2		UQF	Class 3	Pressure Boundary	I
Piping Division 2		UQF	B31.1	Pressure Boundary	II
Piping Division 2		UQF	B31.1	Pressure Boundary	NSC
Discharge Strainer Division 2	10GFA20AT001	UQF	Class 3	Pressure Boundary /Run	I
Motor Operated Valves Division 2	10GFA20AA101	UQF	S	Pressure Boundary/Open/ Close	I
Motor Operated Valves Division 2	10GFA20AA401	UQF	S	Pressure Boundary/Open/ Close	I

Table 2.4-20— {Essential Service Water Emergency Makeup System (ESWEMS) Component Mechanical Design}

(Page 2 of 3)

Component Description	Component Tag Number	Component Location	ASME Code Section III	Function	Seismic Category
Check Valve Division 2	10GFA20AA001	UQF	S	Pressure Boundary/Open/ Close	I
ESWEMS Bar Screen Division 2		UQF	NA	-----	II
ESWEMS Pump Division 3	10GFA30AP001	UQF	Class 3	Pressure Boundary /Run	I
Piping to Cooling Tower Division 3		UQF, UZT	Class 3	Pressure Boundary	I
Piping and Manual Valves Division 3		UQF	Class 3	Pressure Boundary	I
Piping Division 3		UQF	B31.1	Pressure Boundary	II
Piping Division 3		UQF	B31.1	Pressure Boundary	NSC
Discharge Strainer Division 3	10GFA30AT001	UQF	Class 3	Pressure Boundary /Run	I
Motor Operated Valves Division 3	10GFA30AA101	UQF	S	Pressure Boundary/Open/ Close	I
Motor Operated Valves Division 3	10GFA30AA401	UQF	S	Pressure Boundary/Open/ Close	I
Check Valve Division 3	10GFA30AA001	UQF	S	Pressure Boundary/Open/ Close	I
ESWEMS Bar Screen Division 3		UQF	NA	-----	II
ESWEMS Pump Division 4	10GFA40AP001	UQF	Class 3	Pressure Boundary /Run	I
Piping to Cooling Tower Division 4		UQF, UZT	Class 3	Pressure Boundary	I
Piping and Manual Valves Division 4		UQF	Class 3	Pressure Boundary	I
Piping Division 4		UQF	B31.1	Pressure Boundary	II
Piping Division 4		UQF	B31.1	Pressure Boundary	NSC
Discharge Strainer Division 4	10GFA40AT001	UQF	Class 3	Pressure Boundary /Run	I
Motor Operated Valves Division 4	10GFA40AA101	UQF	S	Pressure Boundary/Open/ Close	I

Table 2.4-20— {Essential Service Water Emergency Makeup System (ESWEMS) Component Mechanical Design}

(Page 3 of 3)

Component Description	Component Tag Number	Component Location	ASME Code Section III	Function	Seismic Category
Motor Operated Valves Division 4	10GFA40AA401	UQF	S	Pressure Boundary/Open/ Close	I
Check Valve Division 4	10GFA40AA001	UQF	S	Pressure Boundary/Open/ Close	I
ESWEMS Bar Screen Division 4		UQF	NA	-----	II

Table 2.4-21— {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 (1,135,624 liters) within an 8-hour period).	A test of the as-built system will be performed.	The as-built Raw Water Supply System delivers a total flow rate of ≥ 625 gpm (2,366 lpm) to the as-built fire water storage tanks.

Table 2.4-22— {Fire Water Distribution System Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The fire water storage tanks will be in close proximity to the fire protection building.	An inspection of the as-built location of the tanks will be conducted.	The as-built fire water 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	Fire Water Distribution System equipment and piping designated as Seismic Category II-SSE can withstand design basis seismic loads without losing the capability to perform its function.	a. Type tests, tests, analyses, or a combination of tests and analyses will be performed on the equipment and piping. b. Inspections will be conducted of the as-built equipment. c. Inspections will be conducted on the as-built equipment supports and restraints.	a. A report exists and concludes that the as-built Fire Water Distribution System equipment and piping that are designated as Seismic Category II-SSE can withstand design basis seismic loads without losing the capability to perform its function. b. The Fire Water Distribution System equipment and piping designated as Seismic Category II-SSE are installed as designed. c. The Fire Water Distribution System equipment supports and restraints designated as Seismic Category II-SSE are installed as designed.
3	Fire Water Distribution System equipment and piping that could impact the capability of Seismic Category I Structures to perform its safety function are designated as Seismic Category II-SSE, and can withstand design basis seismic loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function.	a. Type tests, tests, analyses, or a combination of tests and analyses will be performed. b. Inspections will be conducted of the as-built equipment and piping.	a. A report exists and concludes that the as-built Fire Water Distribution System equipment and piping that are designated as Seismic Category II-SSE can withstand design basis seismic loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function. b. A report exists and concludes that the as-built Fire Water Distribution System equipment and piping conforms to the approved design.
4	The Fire Water Distribution System utilizing the diesel driven fire pumps can be initiated manually.	Tests of the as-built system will be conducted.	The as-built Fire Water Distribution System utilizing the diesel driven fire pumps starts upon receipt of a manual initiation signal.

Table 2.4-23— {Fire Suppression Systems Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 1 of 2)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Fire Suppression System components for the ESWEMS Pumphouse are designated as Seismic Category II, and can withstand design basis seismic loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function.	a. Type tests, tests, analyses, or a combination of tests and analyses will be performed. b. Inspections will be conducted of the as-built equipment.	a. A report exists and concludes that the as-built Fire Suppression System components for the ESWEMS Pumphouse designated as Seismic Category II can withstand design basis seismic loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function. b. The as-built Fire Suppression System components for the ESWEMS Pumphouse designated as Seismic Category II are installed as designed.
2	The Fire Suppression System components for the Fire Protection Building are designated as Seismic Category II, and can withstand a design basis seismic load without impacting the capability of equipment designated as Seismic Category II-SSE from performing its safety function.	a. Type tests, tests, analyses, or a combination of tests and analyses will be performed. b. Inspections will be conducted of the as-built equipment.	a. A report exists and concludes that the as-built Fire Suppression System components for the Fire Protection Building designated as Seismic Category II can withstand design basis seismic loads without impacting the capability of equipment designated as Seismic Category II-SSE from performing its safety function. b. The as-built Fire Suppression System components for the Fire Protection Building designated as Seismic Category II are installed as designed.
3	The Standpipe and Hose Station components for the ESWEMS Pumphouse are designated Seismic Category II-SSE and can withstand seismic design basis loads without losing the capability to perform their function.	a. Type tests, tests, analyses, or a combination of tests and analysis will be performed. b. Inspections will be conducted of the as-built equipment.	a. The as-built Standpipe and Hose Station components designated as Seismic Category II-SSE can withstand a design basis seismic load without loss of its ability to perform its function. b. The as-built Standpipe and Hose Station components designated as Seismic Category II-SSE are installed as designed. c. The as-built equipment supports and restraints designated as Seismic Category II-SSE are seismically bounded by tested or analyzed conditions.

Table 2.4-23— {Fire Suppression Systems Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 2 of 2)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
4	The Standpipe and Hose Station components for the ESWEMS Pumphouse are designated Seismic Category II-SSE 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, tests, analyses, or a combination of tests and analyses will be performed. b. Inspections will be conducted of the as-built equipment.	1. A report exists and concludes that the as-built Standpipe and Hose Station components for the ESWEMS Pumphouse designated as Seismic Category II-SSE can withstand a design basis seismic load without impacting the capability of equipment designated as Seismic Category I from performing its safety function. 2. The as-built Standpipe and Hose Station components for the ESWEMS Pumphouse designated as Seismic Category II-SSE are installed as designed.

Table 2.4-24— {Offsite Power System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 1 of 2)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Offsite Power System supplies at least two preferred power circuits, which will be physically independent and separate.	a. Inspections of the as-built system will be conducted. b. Tests of the as-built system will be conducted by powering only one offsite power circuit / system at a time.	a.1. The as-built Offsite Power System has at least two preferred power circuits. a.2. The as-built preferred power circuits from the switchyard to the emergency and auxiliary transformers are separated by a minimum distance of 50 feet. a.3. The as-built offsite transmission lines do not have a common takeoff structure or use a common structure for support. b. Only the circuit under test is powered.
2	Each offsite power circuit shall be sized to supply the station safety-related and non-safety-related loads during normal and off normal operation. The Emergency Auxiliary Transformers and Normal Auxiliary Transformers shall be sized to supply their load requirements.	a. An analysis of as-designed station safety-related and non-safety-related loads will be performed to determine their load requirements during normal and off normal operation. b. An inspection of the as-built station safety-related and non-safety-related offsite power curcuit ratings will be performed.	a. A report exists and concludes that each as-designed offsite power circuit and switchyard circuit breakers from the transmission network through the main step-up transformer and including the Emergency Auxiliary Transformers and Normal Auxiliary Transformers is sized to meet the load requirements during normal and off normal operation. b. A report exists and concludes that each as-built offsite power circuit and switchyard circuit breakers from the transmission network through the main step-up transformer and including the Emergency Auxiliary Transformers and Normal Auxiliary Transformers conforms to the as-designed system.

Table 2.4-24— {Offsite Power System Inspections, Tests, Analyses, and Acceptance Criteria}
(Page 2 of 2)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
3	Each Emergency Auxiliary Transformer shall be connected to the Switchyard via an independent circuit, sized to supply the four Emergency Power Supply System divisions.	a. An analysis of the designed system will be conducted. b. An inspection of the as-built system will be conducted.	a. A report exists and concludes that each as-designed Emergency Auxiliary Transformer is connected to the designed Switchyard via an independent circuit, sized to supply the four Emergency Power Supply divisions. b. A report exists and concludes that each as-built Emergency Auxiliary Transformer conforms to the as-designed configuration and is connected to the as-built Switchyard via an independent circuit, 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 conducted.	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 conducted.	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 exist and 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 500kV switchyard.	Inspections will be conducted of the as-installed equipment.	A report exists and concludes that the as-built grounding for the 500 kV switchyard is in accordance with the design drawings and documentation.
8	Lightning protection exists for the 500 kV switchyard.	Inspections will be conducted of the as-installed equipment.	A report exists and concludes that the as-built lightning protection for the 500 kV switchyard is in accordance with the design drawings and documentation.

Table 2.4-25— {Power Generation System Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Main Generator Switchyard circuit breakers shall be sized to supply the load requirements.	An analysis will be performed to determine the as-built loading for the Main Generator Switchyard circuit breakers	The as-built Main Generator Switchyard circuit breakers are rated for a load greater than the analyzed load.

Table 2.4-26— {Class 1E Emergency Power Supply Components for Site-Specific Systems Inspections, Tests, Analyses, and Acceptance Criteria}

(Page 1 of 2)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Class 1E electrical distribution equipment is qualified as Seismic Category I, and can withstand design basis seismic loads without loss of safety function, for the following systems: 1. ESWEMS. 2. ESWEMS Pumphouse HVAC System.	a. Type testing, analysis, or a combination of type testing and analysis will be performed. b. An inspection of the Class 1E electrical distribution equipment for the as-built systems will be conducted. c. An inspection of the as-built equipment supports and restraints will be performed.	a. The Class 1E electrical distribution equipment for the as-built ESWEMS and ESWEMS Pumphouse HVAC System can withstand design basis seismic loads without loss of safety function. b. The Class 1E electrical distribution equipment for the as-built ESWEMS and ESWEMS Pumphouse HVAC System are installed as designed. c. The as-built equipment supports and restraints for the Class 1E electrical distribution equipment for the ESWEMS and ESWEMS Pumphouse HVAC System designated as Seismic Category I are installed as designed.
2	Displays for the following Class 1E equipment are retrievable in the main control room: 1. ESWEMS (makeup water pumps, control valves, and strainer blowdown line isolation valves). 2. ESWEMS Pumphouse HVAC System (air conditioning units and heaters).	An inspection of the as-built main control room will be conducted.	The displays for the following Class 1E equipment exist in the as-built main control room 1. ESWEMS (makeup water pumps, control valves, and strainer blowdown line isolation valves). 2. ESWEMS Pumphouse HVAC System (air conditioning units and heaters).
3	Controls for the following Class 1E equipment exist in the main control room: 1. ESWEMS makeup water pumps 2. ESWEMS control valves 3. ESWEMS strainer blowdown line isolation valves. 4. ESWEMS Pumphouse HVAC System Safety Related AC Units.	An inspection of the as-built main control room will be conducted.	The controls for the following Class 1E equipment exist in the as-built main control room: 1. ESWEMS makeup water pumps 2. ESWEMS control valves 3. ESWEMS strainer blowdown line isolation valves. 4. ESWEMS Pumphouse HVAC System Safety Related AC Units.

Table 2.4-26— {Class 1E Emergency Power Supply Components for Site-Specific Systems Inspections, Tests, Analyses, and Acceptance Criteria}

(Page 2 of 2)

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
4	Class 1E switchgear, load centers, motor control centers, and transformers and their feeder breakers and load breakers are sized to supply their load requirements, for the following systems: 1. ESWEMS. 2. ESWEMS Pumphouse HVAC System.	Analysis and inspections will be conducted of the as-built equipment.	A report exists that establishes that the ratings for the as built Class 1E switchgear, load centers, motor control centers, and transformers and their feeder breakers and load breakers are greater than their load requirements, for the following as-built systems: 1. ESWEMS. 2. ESWEMS Pumphouse HVAC System.
5	Electrical grounding exists for the ground bus of the ESWEMS Pumphouse motor control center.	Inspections will be conducted of the as-installed equipment.	A report exists and conlcudes that the as-built electrical grounding for the ground bus of the ESWEMS Pumphouse motor control center is in accordance with the design drawings and documentation.
6	Electrical grounding exists for the neutral point of the ESWEMS distribution transformer.	Inspections will be conducted of the as-installed equipment.	A report exists and concludes that the as-built electrical grounding for neutral point of the ESWEMS Pumphouse distribution transformer is in accordance with the design drawings and documentation.
7	Lightning protection exists for the ESWEMS Pumphouse.	Inspections will be conducted of the as-installed equipment.	A report exists and concludes that the as-built lightning protection for the ESWEMS Pumphouse is in accordance with the design drawings and documentation.
8	ESWEMS Pumphouse lightning protection system is connected to the grounding grid.	Inspections will be conducted of the as-installed equipment.	A report exists and concludes that the as-built lightning protection for the ESWEMS Pumphouse is connected to the grounding grid in accordance with the design drawings and documentation.

Table 2.4-27— {Tanks Storing Radioactive Liquids}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The rooms that house the Reactor Coolant Storage Tanks are lined with stainless steel to preclude leakage.	An inspection of the as-built rooms will be performed.	Stainless steel liners are installed in the as-built rooms housing the Reactor Coolant Storage Tanks up to a height equivalent to the tank capacity.
2	The rooms that house the Liquid Waste Storage Tanks are lined with stainless steel to preclude leakage.	An inspection of the as-built rooms will be performed.	Stainless steel liners are installed in the as-built rooms housing the Liquid Waste Storage Tanks up to a height equivalent to the tank capacity.
3	The room that houses the Volume Control Tank is lined with stainless steel to preclude leakage.	An inspection of the as-built room will be performed.	Stainless steel liners are installed in the as-built room housing the Volume Control Tank up to a height equivalent to the tank capacity.
4	The rooms that house the LHSI Heat Exchangers are lined with stainless steel to preclude leakage.	An inspection of the as-built rooms will be performed.	Stainless steel liners are installed in the as-built rooms housing the LHSI Heat Exchangers up to a height equivalent to the heat exchanger capacity.

Figure 2.4-19a {ESWEMS Electrical Functional Arrangement}

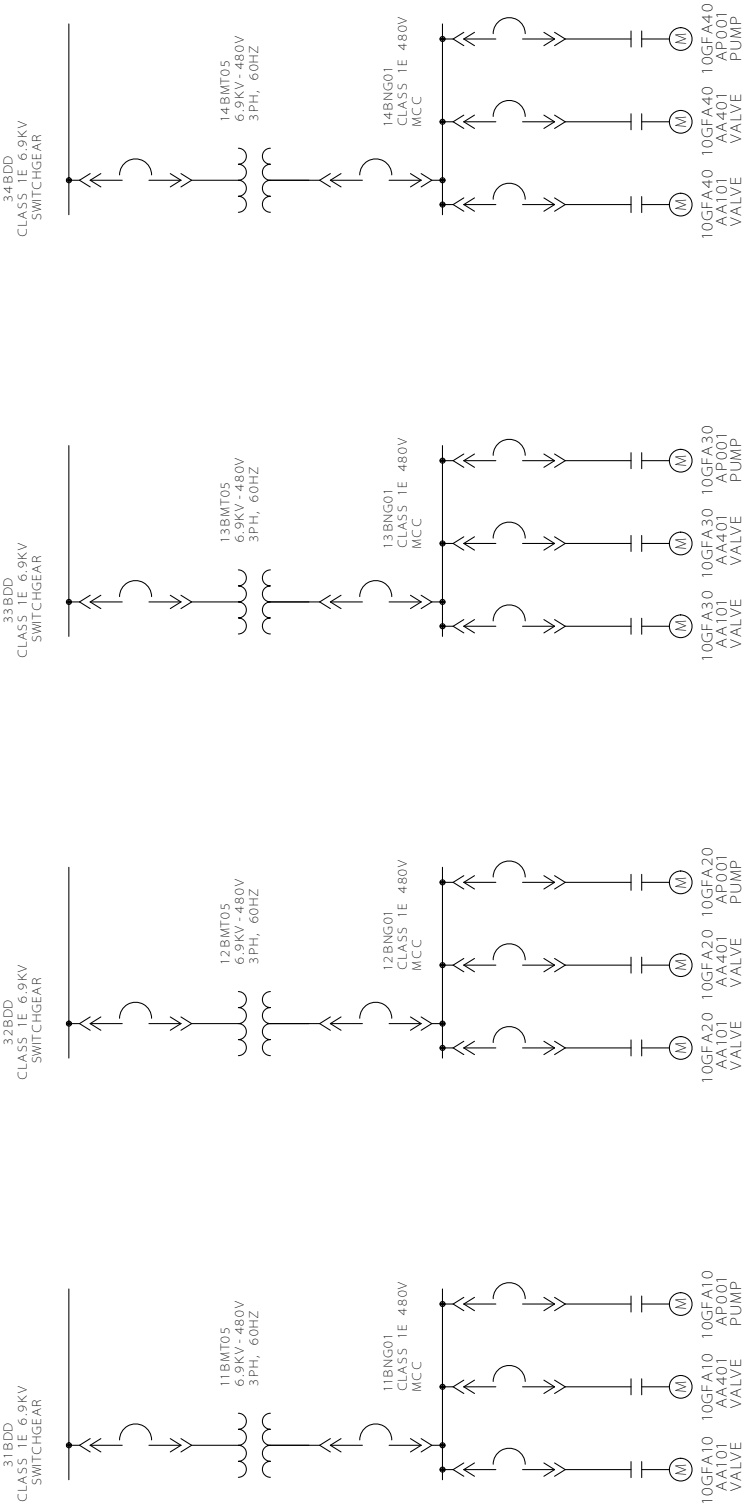

Figure 2.4-19b {ESWEMS Mechanical Functional Arrangement}