APPENDIX A. POST COMBINED LICENSE ACTIVITIES -- LICENSE CONDITIONS, INSPECTIONS, TESTS, ANALYSES, AND ACCEPTANCE CRITERIA, AND FINAL SAFETY ANALYSIS REPORT COMMITMENTS

A.1 License Conditions

The U.S. Nuclear Regulatory Commission's (NRC's) regulations at Title 10 of the *Code of Federal Regulations* (10 CFR) 52.97, "Issuance of combined licenses," requires a combined license (COL) to specify any terms and conditions of the COL the Commission deems appropriate. A license condition is not needed when an existing NRC regulation requires a future regulatory review of a matter to ensure adequate safety during design, construction, inspection activities or operation for a new plant. The staff is proposing that the Commission include the following license conditions, which are set forth below, to control various safety matters. This list also includes applicable early site permit conditions. Therefore, this appendix includes COL and ESP conditions, recognizing that a COL be issued to the applicant, the ESP will be subsumed into the COL.

Proposed License Condition	SER Section	Description
1-1	1.5.5	Subject to the conditions and requirements incorporated herein, the Commission hereby licenses Southern Nuclear Company (SNC): (a) (i) Pursuant to the Act and 10 CFR Part 70, "Domestic licensing of special nuclear material," to receive and possess at any time, special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, described in the final safety analysis report (FSAR), as supplemented and amended; (ii) Pursuant to the Act and 10 CFR Part 70, to use special nuclear material as reactor fuel, after a Commission finding under 10 CFR 52.103(g) has been made, in accordance with the limitations for storage and amounts required for reactor operation, and described in the FSAR, as supplemented and amended;

Proposed License Condition	SER Section	Description
		(b) (i) Pursuant to the Act and 10 CFR Parts 30, and 70, to receive, possess, and use, at any time, before a Commission finding under 10 CFR 52.103(g), such byproduct, and special nuclear material as: sealed neutron sources for reactor startup; sealed sources for reactor instrumentation and radiation monitoring equipment, calibration; and fission detectors in amounts as required and that do not include natural uranium, depleted uranium and uranium hexafluoride; (ii) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use, after a Commission finding under 10 CFR 52.103(g), any byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment, calibration, and as fission detectors in amounts as required;
		(c) (i) Pursuant to the Act and 10 CFR Parts 30, and 70, to receive, possess, and use, before a Commission finding under 10 CFR 52.103 (g), in amounts not exceeding those specified in 10 CFR 30.72, any byproduct, or special nuclear material that is (1) in unsealed form; (2) on foils or plated surfaces, or (3) sealed in glass, for sample analysis or instrument calibration or other activities associated with radioactive apparatus or components; (ii) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use, after a Commission finding under 10 CFR 52.103(g), in amounts as required, any byproduct, source, or special nuclear material without restriction as to chemical or physical form, for sample analysis or instrument calibration or other activity associated with radioactive apparatus or components, but not uranium hexafluoride; and
		(d) Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

Proposed License Condition	SER Section	Description
1-2	1.5.5	Prior to initial receipt of special nuclear materials (SNM) onsite, the licensee shall implement the SNM Material Control and Accounting program. No later than 12 months after issuance of the COL, the licensee shall submit to the Director of Office of New Reactors (NRO) a schedule that supports planning for and conduct of NRC inspections of the SNM Material Control and Accounting program. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until the SNM Material Control and Accounting program has been fully implemented.
1-3	1.5.5	No later than 12 months after issuance of the COL, the licensee shall submit to the Director of NRO a schedule that supports planning for and conduct of NRC inspection of the non-licensed plant staff training program. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until the non-licensed plant staff training program has been fully implemented.
1-4	1.5.5	Prior to initial receipt of SNM on site, the licensee shall implement the SNM physical protection program. No later than 12 months after issuance of the COL, the licensee shall submit to the Director of NRO a schedule that supports planning for and conduct of NRC inspection of the SNM physical protection program. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until the SNM physical protection program has been fully implemented.
1-5	1.5.5	The licensee shall not revise or modify the provisions of Sections 5.3, 5.4, 5.6, 5.9 and 5.10 of the Special Nuclear Material (SNM) Physical Protection Plan until the requirements of 10 CFR 73.55 are implemented.
2-1	2.5.4.5	The licensee shall either remove and replace, or shall improve, the soils directly above the bluff marl for soils under or adjacent to Seismic Category I structures, to eliminate any liquefaction potential.
3-1	3.6.5	Prior to installation of piping and connected components in their final location, the licensee shall complete the as-designed pipe rupture hazards analysis in accordance with the criteria outlined in the AP1000 Design Control Document (DCD), Sections 3.6.1.3.2 and 3.6.2.5.
3-2	3.7.2.5	Prior to initial fuel load, the licensee shall update the seismic interaction review in the AP1000 DCD Section 3.7.3.5 for as-built information. This review must be performed in parallel with the seismic margin evaluation. The review shall be based on as-procured data, as well as the as-constructed condition.

Proposed License Condition	SER Section	Description
3-3	3.7.2.5	Prior to initial fuel load, the licensee shall reconcile the seismic analyses described in Section 3.7.2 of the AP1000 DCD for detailed design changes, such as those due to as-procured or as-built changes in component mass, center of gravity, and support configuration based on as-procured equipment information. The acceptability of deviations must be based on an evaluation consistent with the methods and procedures in Section 3.7 of the AP1000 DCD provided that the amplitude of the seismic floor response spectra (FRS), including the effects due to these deviations, does not exceed the design basis FRS by more than 10 percent.
3-4	3.8.5.5	No later than 12 months after issuance of the COL, the licensee shall submit to the Director of Office of New Reactor (NRO) a schedule that supports planning for and conduct of NRC inspections of the implementation of construction and inspection procedures for steel concrete composite (SC) construction activities for seismic Category I nuclear island modules (including shield building SC) before and after concrete placement, and inspection of such construction before and after concrete placement. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until the procedures have been fully implemented.
3-5	3.9.6.5	Prior to initial fuel load, the licensee shall implement the preservice testing and the motor-operated valve (MOV) testing programs.
3-6	3.9.6.5	No later than 12 months after issuance of the COL, the licensee shall submit to the Director of NRO a schedule that supports planning for and conduct of NRC inspections of the inservice testing program (including preservice and MOV testing). The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until the inservice testing program (including preservice and MOV testing) has been fully implemented.
3-7	3.11.5	Prior to initial fuel load, the licensee shall implement the Environmental Qualification Program.
3-8	3.11.5	No later than 12 months after issuance of the COL, the licensee shall submit to the Director of NRO a schedule that supports planning for and conduct of NRC inspections of the Environmental Qualification Program. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until the Environmental Qualification Program has been fully implemented.

Proposed License Condition	SER Section	Description
3-9	3.12.5	Prior to installation of the piping and connected components in their final location, the licensee shall complete the as-designed piping analysis for the piping lines chosen to demonstrate all aspects of the piping design as identified in FSAR Section 3.9.8 and shall inform the Director of NRO of the availability of the piping design information and design reports for the piping packages.
4-1	4.5	Prior to initial fuel load, the licensee shall calculate the instrumentation uncertainties of the actual plant operating instrumentation to confirm that either the design limit departure from nucleate boiling ratio (DNBR) values remain valid or that the safety analysis minimum DNBR bounds the new design limit DNBR values plus DNBR penalties, such as rod bow penalty.
5-1	5.2.4.5	No later than 12 months after issuance of the COL, the licensee shall submit to the Director of the Office of New Reactors (NRO) a schedule that supports planning for and conduct of NRC inspections of the preservice inspection (PSI)/inservice inspection (ISI) programs (including the augmented ISI program). The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until either the PSI/ISI programs (including the augmented ISI program) have been fully implemented or the plant has been placed in commercial service, whichever comes first.
5-2	5.3.2.5	The licensee shall implement the Reactor Vessel (RV) Material Surveillance program prior to initial criticality.
5-3	5.3.2.5	No later than 12 months after issuance of the COL, the licensee shall submit to the Director of NRO a schedule that supports planning for and conduct of NRC inspections of the RV Material Surveillance program. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until either the RV Material Surveillance program has been fully implemented.
5-4	5.3.3.5	Prior to initial fuel load, the licensee shall update the pressure temperature (P-T) limits using the pressure temperature limits report (PTLR) methodologies approved in the AP1000 DCD using the plant-specific material properties or confirm that the RV material properties meet the specifications and use the Westinghouse generic PTLR curves.
5-5	5.3.4.5	Prior to initial fuel load, the licensee shall complete verification of plant-specific belt line material properties consistent with the requirements in FSAR Section 5.3.3.1 and FSAR Tables 5.3-1 and 5.3-3. The verification shall include a pressurized thermal shock (PTS) evaluation based on as-procured RV material data and the projected neutron fluence for the plant design objective of 60 years. This evaluation report shall be submitted for an NRC confirmatory review at least 18 months prior to initial fuel load.

Proposed License Condition	SER Section	Description
5-6	5.4.5	No later than 12 months after issuance of the COL, the licensee shall submit to the Director of NRO a schedule that supports planning for and conduct of NRC inspections of the steam generator (SG) PSI/ISI program. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until either the SG PSI/ISI program has been fully implemented or the plant has been placed in commercial service, whichever comes first.
6-1	6.2.5	The licensee shall implement the containment leakage rate testing program prior to initial fuel load.
6-2	6.2.5	No later than 12 months after issuance of the COL, the licensee shall submit to the Director of the Office of New Reactors (NRO) a schedule that supports planning for and conduct of NRC inspections of the containment leakage rate testing program. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until the either the containment leakage rate testing program has been fully implemented.
6-3	6.6.5	No later than 12 months after issuance of the COL, the licensee shall submit to the Director of the NRO a schedule that supports planning for and conduct of NRC inspections of the PSI and ISI programs. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until either the PSI and ISI programs have been fully implemented or the plant has been placed in commercial service, whichever comes first.
9-1	9.1.2.5	Prior to initial fuel load, the licensee shall implement the spent fuel rack Metamic Coupon Monitoring Program. No later than 12 months after issuance of the COL, the licensee shall submit to the Director of the Office of New Reactors (NRO) a schedule that supports planning for and conduct of NRC inspections of the spent fuel rack Metamic Coupon Monitoring Program. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until the spent fuel rack Metamic Coupon Monitoring Program has been fully implemented.

Proposed License Condition	SER Section	Description
9-2	9.5.1.5	The licensee shall implement the Fire Protection (FP) Program or portions of the FP Program identified below on or before the associated milestones identified below: 1. Applicable portions of the FP Program – prior to initial receipt of byproduct, source, or special nuclear materials onsite (excluding Exempt Quantities as described in 10 CFR 30.18). 2. Applicable portions of the FP Program – prior to initial receipt of fuel onsite. 3. FP Program – prior to initial fuel load.
9-3	9.5.1.5	No later than 12 months after issuance of the COL, the licensee shall submit to the Director of NRO a schedule that supports planning for and conduct of NRC inspections of the FP Program. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until the FP Program has been fully implemented.
10-1	10.1.5	Prior to initial fuel load, the licensee shall implement the flow accelerated corrosion (FAC) program including construction phase activities. No later than 12 months after issuance of the COL, the licensee shall submit to the Director of the Office of New Reactors (NRO) a schedule that supports planning for and conduct of NRC inspections of the FAC program implementation including construction phase activities. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until the FAC program has been fully implemented.
10-2	10.2.5	Prior to initial fuel load, the licensee shall implement a turbine maintenance and inspection program, which will be consistent with the maintenance and inspection program plan activities and inspection intervals identified in FSAR Section 10.2.3.6. No later than 12 months after issuance of the COL, the licensee shall submit to the Director of NRO a schedule that supports planning for and conduct of NRC inspections of the turbine maintenance and inspection program. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until the turbine maintenance and inspection program has been fully implemented.
11-1	11.4.5	Prior to initial fuel load, the licensee shall implement an operational program for process and effluent monitoring and sampling. The program shall include the subprogram and documents for a Process Control Program.

Proposed License Condition	SER Section	Description
11-2	11.4.5	No later than 12 months after issuance of the COL, the licensee shall submit to the Director of the Office of New Reactors (NRO) a schedule that supports planning for and conduct of NRC inspections of the operational program for process and effluent monitoring and sampling (including process control program). The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until the operational program for process and effluent monitoring and sampling (including process control program) has been fully implemented.
11-3	11.5.5	Prior to initial fuel load, the licensee shall implement an operational program for process and effluent monitoring and sampling. The program shall include the following subprograms and documents: a. Radiological Effluent Technical Specifications/Standard Radiological Effluent Controls b. Offsite Dose Calculation Manual c. Radiological Environmental Monitoring Program
11-4	11.5.5	No later than 12 months after issuance of the COL, the licensee shall submit to the Director of NRO a schedule that supports planning for and conduct of NRC inspections of the operational program for process and effluent monitoring and sampling (including Radiological Effluent Technical Specifications/Standard Radiological Effluent Controls, Offsite Dose Calculation Manual, and Radiological Environmental Monitoring Program). The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until the above operational program has been fully implemented.
12-1	12.5.5	The licensee shall implement the Radiation Protection Program (RPP) including the as low as is reasonably achievable (ALARA) principle (or applicable portions thereof) on or before the associated milestones identified below: – Receipt of Materials – Prior to initial receipt of byproduct, source, or special nuclear materials onsite (excluding exempt quantities as described in 10 CFR 30.18, “Exempt quantities) – Fuel Receipt – Prior to initial receipt of fuel onsite – Fuel Loading – Prior to initial fuel load – Waste Shipment – Prior to initial radioactive waste shipment

Proposed License Condition	SER Section	Description
12-2	12.5.5	No later than 12 months after issuance of the COL, the licensee shall submit to the Director of the Office of New Reactors a schedule that supports planning for and conduct of NRC inspections of the operational program (RPP). The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until this operational program has been fully implemented.
13-1	13.2.5	The licensee shall implement the Reactor Operator Training Program at least 18 months prior to the scheduled date of initial fuel load.
13-2	13.2.5	No later than 12 months after issuance of the COL, the licensee shall submit to the Director of the Office of New Reactors (NRO) a schedule that supports planning for and conduct of NRC inspections of the operational programs (the Non-Licensed Plant Staff Training Program (required in accordance with 10 CFR 50.120), Reactor Operator Training Program, and Reactor Operator Requalification Program). The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until these operational programs have been fully implemented.
13-3	13.3.5	The licensee shall submit a fully developed set of plant-specific emergency action levels (EALs) for VEGP Units 3 and 4 in accordance with Nuclear Energy Institute (NEI) 07-01, "Methodology for Development of Emergency Action Levels Advanced Passive Light Water Reactors," Revision 0, with no deviations. The EALs shall have been discussed and agreed upon with State and local officials. These fully developed EALs shall be submitted to the NRC for confirmation at least 180 days prior to initial fuel load.
13-4	13.3.5	No later than 12 months after issuance of the COL, the licensee shall submit to the Director of NRO a schedule that supports planning for and conduct of NRC inspections of the emergency planning (EP) program implementation. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until the EP operational program has been fully implemented.
13-5	13.6.5	No later than 12 months after issuance of the COL, the licensee shall submit to the Director of NRO a schedule that supports planning for and conduct of NRC inspections of the physical security programs. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until the physical security program has been fully implemented.

Proposed License Condition	SER Section	Description
13-6	13.7.5	No later than 12 months after issuance of the COL, the licensee shall submit to the Director of NRO a schedule that supports planning for and conduct of NRC inspections of the fitness for duty (FFD) operational program. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until the FFD operational program has been fully implemented.
13-7	13.8.5	No later than 12 months after issuance of the COL, the licensee shall submit to the Director of NRO a schedule that supports planning for and conduct of NRC inspections of the cyber security program implementation. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until the cyber security program has been fully implemented.
14-1	14.2.3.5	No later than 12 months after issuance of the COL, the licensee shall submit to the Director of the Office of New Reactors (NRO) a schedule that supports planning for and conduct of NRC inspections of the approved preoperational and startup procedures (including the site-specific startup administration manual.) The schedule shall be updated every 6 months until the approved preoperational and startup procedures have been implemented. Prior to initiating the initial test program, the approved preoperational and startup procedures (including the site-specific startup administration manual) shall be available.
14-2	14.2.3.5	Within one month of a change, any changes to the Initial Startup Test Program described in Chapter 14 of the VEGP COL FSAR made in accordance with the provisions of 10 CFR 50.59, "Changes, tests and experiments," or Section VIII, "Processes for Changes and Departures of Appendix D, "Design Certification Rule for the AP1000 Design," to 10 CFR Part 52, "Licenses, certifications, and approvals for nuclear power plants," shall be reported in accordance with 10 CFR 50.59(d).
14-3	14.2.5.5	<u>First-Plant-Only and First-Three-Plant-Only Testing</u> The licensee shall notify the Director of the NRO, in writing, when it determines that is has completed the design-specific testing identified below and confirmed that the test results are within the range of acceptable values predicted or otherwise confirm that the tested systems perform their specific functions in accordance with the FSAR: a. The licensee shall perform "first plant only" tests. b. The licensee shall perform "first three plants" tests.

Proposed License Condition	SER Section	Description
14-4	14.2.8.5	The licensee shall implement the initial test program (applicable portions) on or before the associated milestones identified below: 1. Construction Testing - Prior to initial construction testing 2. Preoperational Testing - Prior to initial preoperational testing 3. Startup Testing - Prior to initial fuel load
14-5	14.2.8.5	No later than 12 months after issuance of the COL, the licensee shall submit to the Director of NRO a schedule that supports planning for and conduct of NRC inspections of the operational program (initial test program). The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until this operational program (ITP) has been fully implemented.
14-6	14.2.8.5	<u>Pre-operational Testing</u> Following completion of pre-operational testing, the licensee shall review and evaluate individual test results and confirm the test results are within the range of acceptable values predicted or otherwise confirm that the tested systems perform their specific functions in accordance with the FSAR. <u>Pre-critical and Criticality Testing</u> 1. Following completion of pre-critical and criticality testing, the licensee shall review and evaluate individual test results and confirm the test results are within the range of acceptable values predicted or otherwise confirm that the tested systems perform their specific functions in accordance with the FSAR. 2. The licensee shall provide written notification to the Director of the NRO upon completion of pre-critical and criticality testing. Upon submission of this notification, the licensee is authorized to perform low-power testing as described in the FSAR and operate the facility at reactor steady-state core power levels, not in excess of 170 megawatts thermal (5-percent power), in accordance with the conditions specified herein. <u>Low-Power (<5% Rated Thermal Power) Testing</u> 1. Following completion of low-power testing (<5% RTP), the licensee shall review and evaluate individual test results and confirm that the test results are within the range of acceptable values predicted or otherwise confirm that the

Proposed License Condition	SER Section	Description
		tested systems perform their specific functions in accordance with the FSAR. 2. The licensee shall provide written notification to the Director of the NRO upon completion of low power testing. Upon submission of this notification, the licensee is authorized to perform power ascension testing as described in the FSAR and operate the facility at reactor steady-state core power levels, not in excess of 3400 megawatts thermal (100 percent power), in accordance with the conditions specified herein. <u>At-Power (5%-100% RTP) Testing</u> 1. Following completion of at-power testing (at or above 5% RTP up to and including testing at 100% RTP), the licensee shall review and evaluate individual test results and confirm that the results are within the range of acceptable values predicted or otherwise confirm that the tested systems perform their specific functions in accordance with the FSAR. 2. The licensee shall provide written notification to the Director of NRO upon completion of the at-power testing.
15-1	15.0.5	No later than 12 months after issuance of the COL, the licensee shall submit to the Director of the Office of New Reactors a schedule that supports planning for and conduct of NRC inspections of license calculations for power calorimetric uncertainty and administrative controls to implement maintenance and contingency activities related to the power calorimetric uncertainty instrumentation. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until the license condition has been fully implemented. This schedule shall address: • The availability of documented instrumentation uncertainties to calculate a power calorimetric uncertainty (prior to initial fuel load). • The availability of administrative controls to implement maintenance and contingency activities related to the power calorimetric uncertainty instrumentation (prior to initial fuel load).

Proposed License Condition	SER Section	Description
17-1	17.6.5	No later than 12 months after issuance of the COL, the licensee shall submit to the Director of the Office of New Reactors a schedule that supports planning for and conduct of NRC inspections of the Maintenance Rule (MR) program. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until the MR program has been fully implemented.
19-1	19.59.5	The licensee shall review differences between the as-built plant and the design used as the basis for the AP1000 seismic margin analysis prior to initial fuel load. The licensee shall perform a verification walkdown to identify differences between the as-built plant and the design. The licensee shall evaluate any differences and shall modify the seismic margin analysis as necessary to account for the plant-specific design and any design changes or departures from the certified design. The licensee shall compare the as-built structure, system, and component (SSC) high confidence, low probability of failures (HCLPFs) to those assumed in the AP1000 seismic margin evaluation prior to initial fuel load. The licensee shall evaluate deviations from the HCLPF values or assumptions in the seismic margin evaluation due to the as-built configuration and final analysis to determine if vulnerabilities have been introduced.
19-2	19.59.5	The licensee shall review differences between the as-built plant and the design used as the basis for the AP1000 probabilistic risk assessment (PRA) and Table 19.59-18 prior to initial fuel load. The plant-specific PRA-based insight differences shall be evaluated and the plant-specific PRA model modified as necessary to account for the plant-specific design and any design changes or departure from the certification PRA.
19-3	19.59.5	The licensee shall review differences between the as-built plant and the design used as the basis for the AP1000 internal fire and internal flood analysis prior to initial fuel load. The licensee shall evaluate the plant-specific internal fire and internal flood analyses and shall modify the analyses as necessary to account for the plant-specific design and any design changes or departures from the certified design.
19-4	19.59.5	Prior to startup testing, the license shall implement the site-specific severe accident management guidelines. No later than 12 months after issuance of the COL, the licensee shall submit to the Director of the Office of New Reactors (NRO) a schedule that supports planning for and conduct of NRC inspections of the implementation of site-specific severe accident management guidelines. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until the site-specific severe accident management guidelines have been fully implemented.

Proposed License Condition	SER Section	Description
19-5	19.59.5	Prior to initial fuel load, the licensee shall perform a thermal lag assessment of the as-built equipment listed in Tables 6b and 6c in Attachment A of APP-GW-GLR-069, “Equipment Survivability Assessment,” to provide additional assurance that this equipment can perform its severe accident functions during environmental conditions resulting from hydrogen burns associated with severe accidents. This assessment is required only for equipment used for severe accident mitigation that has not been tested at severe accident conditions. The license shall assess the ability of the as-built equipment to perform during accident hydrogen burns using the environment enveloping method or the test based thermal analysis method described in Electric Power Research Institute (EPRI) NP-4354, “Large Scale Hydrogen Burn Equipment Experiments.”
19.A-1	19.A.5	Prior to initial fuel load, the licensee shall implement the operational and programmatic elements of its mitigative strategies for responding to a LOLA event developed in accordance with 10 CFR 50.54(hh)(2). No later than 12 months after issuance of the COL, the licensee shall submit to the Director of the Office of New Reactors a schedule that supports planning for and conduct of NRC inspection of the operational and programmatic elements of responding to an event associated with a loss of large areas of the plant due to explosions or fires. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until these operational and programmatic elements have been fully implemented. The licensee shall maintain the guidance and strategies developed in accordance with10 CFR 50.54(hh)(2).

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

The staff has identified the certain ITAAC that it will recommend the Commission impose with respect to a COL issued to the applicant. The list also includes the applicable ESP ITAAC from the ESP. The following is a list of those ITAAC. In addition to the ITAAC contained in this list, the ITAAC found in the AP1000 DCD, Revision 19 Tier 1 material will also be incorporated into the COL should a COL be issued to the applicant.

1. The licensee shall perform and satisfy the pipe rupture hazards analysis ITAAC defined in SER Table 2.5-1, "Pipe Rupture Hazards Analysis ITAAC."

Table 2.5-1 Backfill ITAAC

Design Requirement	Inspections, Tests, Analyses	Acceptance Criteria
Backfill material under Seismic Category 1 structures is installed to meet a minimum of 95 percent modified Proctor compaction.	Required testing will be performed during placement of the backfill materials.	A report exists that documents that the backfill material under Seismic Category 1structures meets the minimum 95 percent modified Proctor compaction
Backfill shear wave velocity is greater than or equal to 1,000 fps at the depth of the NI foundation and below.	Field shear wave velocity measurements will be performed when backfill placement is at the elevation of the bottom of the Nuclear Island foundation and at finish grade.	A report exists and documents that the as built backfill shear wave velocity at the NI foundation depth and below is greater than or equal to 1,000 fps.

2. The licensee shall perform and satisfy the pipe rupture hazards analysis ITAAC defined in SER Table 3.6-1, “Pipe Rupture Hazards Analysis ITAAC.”

Table 3.6-1. Pipe Rupture Hazards Analysis ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
Systems, structures, and components (SSCs) that are required to be functional during and following a design basis event shall be protected against or qualified to withstand the dynamic and environmental effects associated with analyses of postulated failures in high and moderate energy piping.	Inspection of the as-designed pipe rupture hazard analysis report will be conducted. The report documents the analyses to determine where protection features are necessary to mitigate the consequence of a pipe break. Pipe break events involving high-energy fluid systems are analyzed for the effects of pipe whip, jet impingement, flooding, room pressurization, and temperature effects. Pipe break events involving moderate-energy fluid systems are analyzed for wetting from spray, flooding, and other environmental effects, as appropriate.	An as-designed pipe rupture hazard analysis report exists and concludes that the analysis performed for high and moderate energy piping confirms the protection of SSCs required to be functional during and following a design basis event.

3. The licensee shall perform and satisfy the waterproof membrane ITAAC defined in SER Table 3.8-1, “Waterproof Membrane ITAAC.”

Table 3.8-1. Waterproof Membrane ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
The friction coefficient to resist sliding is 0.7 or higher.	Testing will be performed to confirm that the mudmat-waterproofing-mudmat interface beneath the nuclear island basemat has a minimum coefficient of friction to resist sliding of 0.7.	A report exists and documents that the as-built waterproof system (mudmat-waterproofing-mudmat interface) has a minimum coefficient of friction of 0.7 as demonstrated through material qualification testing.

4. The licensee shall perform and satisfy the piping design analysis ITAAC in SER Table 3.12-1, “Piping Design ITAAC.”

Table 3.12-1. Piping Design ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
The American Society of Mechanical Engineers (ASME) Code, Section III piping is designed in accordance with the ASME Code, Section III requirements.	Inspection of the ASME Code Design Reports (NCA-3550) and required documents will be conducted for the set of lines chosen to demonstrate compliance.	The ASME Code Design Report(s) (NCA-3550) (certified, when required by the ASME Code) exist and conclude that the design of the piping for lines chosen to demonstrate all aspects of the piping design complies with the requirements of the ASME Code section.

5. The licensee shall perform and satisfy the ITAAC defined in Table 8.2A-1, “Offsite Power System.”

Table 8.2A-1. Offsite Power System

Design Commitment	Inspections, Tests, and Analyses	Acceptance Criteria
1. A minimum of one offsite circuit supplies electric power from the transmission network to the interface with the onsite alternating current (ac) power system.	Inspections of the as-built offsite circuit will be performed.	At least one offsite circuit is provided from the transmission switchyard interface to the interface with the onsite ac power system.
2. Each offsite power circuit interfacing with the onsite ac power system is adequately rated to supply assumed loads during normal, abnormal and accident conditions.	Analyses of the offsite power system will be performed to evaluate the as-built ratings of each offsite circuit interfacing with the onsite ac power system against the load assumptions.	A report exists and concludes that each as-built offsite circuit is rated to supply the load assumptions during normal, abnormal and accident conditions.
3. During steady state operation, each offsite power source is capable of supplying required voltage to the interface with the onsite ac power system that will support operation of assumed loads during normal, abnormal and accident conditions.	Analyses of the as-built offsite circuit will be performed to evaluate the capability of each offsite circuit to supply the voltage requirements at the interface with the onsite ac power system.	A report exists and concludes that during steady state operation each as-built offsite circuit is capable of supplying the voltage at the interface with the onsite ac power system that will support operation of assumed loads during normal, abnormal and accident conditions.

Table 8.2A-1. Offsite Power System

Design Commitment	Inspections, Tests, and Analyses	Acceptance Criteria
4. During steady state operation, each offsite circuit is capable of supplying required frequency to the interface with the onsite ac power system that will support operation of assumed loads during normal, abnormal and accident conditions.	Analyses of the as-built offsite circuit will be performed to evaluate the capability of each offsite circuit to supply the frequency requirements at the interface with the onsite ac power system.	A report exists and concludes that during steady state operation each as-built offsite circuit is capable of supplying the frequency at the interface with onsite ac power system that will support operation of assumed loads during normal, abnormal and accident conditions.
5. The fault current contribution of each offsite circuit is compatible with the interrupting capability of the onsite short circuit interrupting devices.	Analyses of the as-built offsite circuit will be performed to evaluate the fault current contribution of each offsite circuit at the interface with the onsite ac power system.	A report exists and concludes the short circuit contribution of each as-built offsite circuit at the interface with the onsite ac power system is compatible with the interrupting capability of the onsite fault current interrupting devices.
6. The reactor coolant pumps continue to receive power from either the main generator or the grid for a minimum of 3 seconds following a turbine trip.	Analyses of the as-built offsite power system will be performed to confirm that power will be available to the reactor coolant pumps for a minimum of 3 seconds following a turbine trip when the buses powering the reactor coolant pumps are aligned to either the unit auxiliary transformers (UATs) or the reserve auxiliary transformers (RATs).	A report exists and concludes that voltage at the high-side of the generator stepup transformer (GSU), and the RATs, does not drop more than 0.15 per unit (pu) from the pre-trip steady-state voltage for a minimum of 3 seconds following a turbine trip when the buses powering the reactor coolant pumps are aligned to either the UATs or the RATs.

6. The licensee shall perform, and satisfy the acceptance criteria of the EP ITAAC set forth in SER Tables 13.3-1 and 13.3-2.

Table 13.3-1. VEGP Unit 3 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
1.0 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 plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.	1.1 An emergency classification and emergency action level (EAL) scheme must be established by the licensee. The specific instruments, parameters, or equipment status shall be shown for establishing each emergency class, in the in-plant emergency procedures. The plan shall identify the parameter values and equipment status for each emergency class. [D.1]	1.1.1 An inspection of the control room, technical support center (TSC), and emergency operations facility (EOF) will be performed to verify that the displays for retrieving system and effluent parameters specified in Table Annex V2 D.2-1, "Hot Initiating Condition Matrix, Modes 1, 2, 3, and 4"; Table V2 D.2-2, "Cold Initiating Condition Matrix, Modes 5, 6, and De-fueled"; are installed and perform their intended functions; and that emergency implementing procedures (EIPs) have been completed. 1.1.2 An analysis of the EAL technical bases will be performed to verify as-built, site-specific implementation of the EAL scheme.	1.1.1 The parameters specified in Table Annex V2 H-1, "Post Accident Monitoring Variables," are retrievable in the control room, TSC, and EOF. The ranges of values of these parameters that can be displayed encompass the values specified in the emergency classification and EAL scheme. 1.1.2 The EAL scheme is consistent with Regulatory Guide (RG) 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors."

Table 13.3-1. VEGP Unit 3 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
3.0 Emergency Communications			
10 CFR 50.47(b)(6) – Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.	3.1 The means exists for communications between the control room, operations support center (OSC), TSC, EOF, principal State and local emergency operations centers (EOCs), and radiological field monitoring teams. [F.1.d]	3.1 A test will be performed of the communications capabilities between the control room, OSC, TSC and EOF, and to the State and local EOCs, and radiological field monitoring teams.	3.1 Communications are established between the control room, OSC, TSC, and EOF. Communications are established between the control room, TSC, and the Georgia Emergency Management Agency (GEMA) Operation Center; Burke County EOC; SRS Operations Center; South Carolina Warning Point; and Aiken, Allendale, and Barnwell County Dispatchers. Communications are established between the TSC and radiological monitoring teams.
	3.2 The means exists for communications from the control room, TSC, and EOF to the NRC headquarters and regional office EOC, including establishment of the Emergency Response Data System (ERDS) between the onsite computer system and the NRC Operations Center. [F.1.f]	3.2 A test will be performed of the communications capabilities from the control room, TSC and EOF to the NRC, including ERDS.	3.2 Communications are established from the control room, TSC, and EOF to the NRC headquarters and regional office EOCs, and an access port for the ERDS is provided.
5.0 Emergency Facilities and Equipment			
10 CFR 50.47(b)(8) – Adequate emergency facilities and equipment to support the emergency response are provided and maintained.	5.1 The licensee has established a technical support center (TSC) and an onsite operations support center (OSC). [H.1]	5.1 An inspection of the as-built TSC and OSC will be performed, including a test of the capabilities.	5.1.1 The TSC has at least 2,175 square feet of floor space.

Table 13.3-1. VEGP Unit 3 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			5.1.2 Communication equipment is installed in the TSC and OSC, and voice transmission and reception are accomplished. 5.1.3 The plant parameters listed in Table Annex V2 H-1, “Post Accident Monitoring Values,” can be retrieved and displayed in the TSC. 5.1.4 The TSC is located within the protected area, and no major security barriers exist between the TSC and the control room. 5.1.5 The OSC is located adjacent to the passage from the annex building to the control room. 5.1.6 The TSC ventilation system includes a high-efficiency particulate air (HEPA) and charcoal filter, and radiation monitors are installed. 5.1.7 A reliable and backup electrical power supply is available for the TSC. 5.1.8 Controls and displays exist in the TSC to control and monitor the status of the TSC ventilation system including heating and cooling, and the activation of the HEPA and charcoal filter system upon detection of high radiation in the TSC.

Table 13.3-1. VEGP Unit 3 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
	5.2 The licensee has established an EOF. [H.2]	5.2 An inspection of the EOF will be performed, including a test of the capabilities.	5.2.1 Voice transmission and reception are accomplished between the EOF and the control room. 5.2.2 The plant parameters listed in Table Annex V2 H-1, "Post Accident Monitoring Values," can be retrieved and displayed in the EOF.
6.0 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.	6.1 The means exists to provide initial and continuing radiological assessment throughout the course of an accident. [I.2]	6.1 A test of the emergency plan will be conducted by performing a drill to verify the capability to perform accident assessment.	6.1 Using selected monitoring parameters listed in Table Annex V2 H-1 of the VEGP emergency plan, simulated degraded plant conditions are assessed and protective actions are initiated in accordance with the following criteria: A. *Accident Assessment and Classification* 1. Demonstrate the ability to identify initiating conditions, determine EAL parameters, and correctly classify the emergency throughout the drill.

Table 13.3-1. VEGP Unit 3 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			B. *Radiological Assessment and Control* 1. Demonstrate the ability to obtain onsite radiological surveys and samples. 2. Demonstrate the ability to continuously monitor and control radiation exposure to emergency workers. 3. Demonstrate the ability to assemble and deploy field monitoring teams within 60 minutes from the decision to do so. 4. Demonstrate the ability to satisfactorily collect and disseminate field team data. 5. Demonstrate the ability to develop dose projections. 6. Demonstrate the ability to make the decision whether to issue radio-protective drugs (KI) to emergency workers. 7. Demonstrate the ability to develop appropriate protective action recommendations (PARs) and notify appropriate authorities within 15 minutes of development.

Table 13.3-1. VEGP Unit 3 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
	6.2 The means exists 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]	6.2 An analysis of the EIPs and the Offsite Dose Calculation Manual (ODCM) will be completed to verify ability to determine the source term and magnitude of releases.	6.2 The EIPs and ODCM correctly calculate source terms and magnitudes of postulated releases.
	6.3 The means exists 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]	6.3 An analysis of the EIPs and the ODCM will be completed to verify the relationship between effluent monitor readings, and onsite and offsite exposures and contamination.	6.3 The EIPs and ODCM calculate the relationship between effluent monitor readings, and onsite and offsite exposures and contamination.
	6.4 The means exists to acquire and evaluate meteorological information. [I.5]	6.4 A test will be performed to verify the ability to access meteorological information in the TSC and control room.	6.4 The following parameters are displayed in the TSC and control room: • Wind speed (at 10 and 60 meters) • Wind direction (at 10 and 60 meters) • Standard deviation of horizontal wind direction (at 10 meters) • Vertical temperature difference (between 10 and 60 meters) • Ambient temperature (at 10 meters) • Precipitation (at the tower base)

Table 13.3-1. VEGP Unit 3 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
	6.5 The means exists to make rapid assessments of actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways, including activation, notification means, field team composition, transportation, communication, monitoring equipment, and estimated deployment times. [I.8]	6.5 A test will be performed of the capabilities to make rapid assessment of actual or potential radiological hazards through liquid or gaseous release pathways.	6.5 Demonstrate the capability to make rapid assessment of actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways.
	6.6 The means exists to estimate integrated dose from the projected and actual dose rates, and for comparing these estimates with the Environmental Protection Agency's (EPA's) protective action guides (PAGs). [I.10]	6.6 An analysis of the methodology contained in the EIPs for estimating dose and preparing PARs, and in the ODCM will be performed to verify the ability to estimate an integrated dose from projected and actual dose rates.	6.6 The EIPs and ODCM estimate an integrated dose.

Table 13.3-1. VEGP Unit 3 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
7.0 Protective Response			
10 CFR 50.47(b)(10) – A range of protective actions has been developed for the plume exposure pathway emergency planning zone (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 pathway EPZ appropriate to the locale have been developed.	7.1 The means exists to warn and advise onsite individuals of an emergency, including those in areas controlled by the operator, including: • Employees not having emergency assignments • Visitors • Contractor and construction personnel • Other persons who may be in the public access areas, on or passing through the site, or within the owner controlled area [J.1]	7.1 A test of the onsite warning and communication capability EIPs including protective action guidelines, assembly and accountability, and site dismissal will be performed during a drill.	7.1.1 Demonstrate the capability to direct and control emergency operations. 7.1.2 Demonstrate the ability to transfer emergency direction from the control room (simulator) to the technical support center (TSC) within 30 minutes from activation. 7.1.3 Demonstrate the ability to prepare for around-the-clock staffing requirements. 7.1.4 Demonstrate the ability to perform assembly and accountability for all onsite individuals within 30 minutes of an emergency requiring protected area assembly and accountability. 7.1.5 Demonstrate the ability to perform site dismissal.
8.0 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.	8.1 The 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 emergency planning zone (EPZ), and each State within the ingestion pathway EPZ. [N.1]	8.1 A full participation exercise (test) will be conducted within the specified time periods of 10 CFR Part 50, Appendix E.	8.1.1 The exercise is completed within the specified time periods of Appendix E to 10 CFR Part 50, onsite exercise objectives listed below have been met and there are no uncorrected onsite exercise deficiencies. A. *Accident Assessment and Classification*

Table 13.3-1. VEGP Unit 3 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			1. Demonstrate the ability to identify initiating conditions, determine 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. Complete the designated checklist and perform the announcement within 5 minutes of the initial event classification for an Alert or higher. b. Activate the emergency recall system within 5 minutes of the initial event classification for an Alert or higher.

Table 13.3-1. VEGP Unit 3 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			2. Demonstrate the ability to notify responsible State and local government agencies within 15 minutes and the NRC within 60 minutes after declaring an emergency. Standard Criteria: a. Transmit information using the designated checklist, in accordance with approved EIPs, within 15 minutes of event classification. b. Transmit information using the designated checklist, in accordance with approved EIPs, within 60 minutes of last transmittal for a follow-up notification to State and local authorities. c. Transmit information using the designated checklist 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 or telephone), using the designated checklist within 15 minutes of notification.

Table 13.3-1. VEGP Unit 3 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			4. Demonstrate the capability of the Prompt Notification System (PNS), for the public, to operate properly when required. Standard Criteria: a. Ninety percent of the sirens operate properly, as indicated by the Whelen feedback system. b. A National Oceanic and Atmospheric Administration (NOAA) tone alert radio is activated. C. *Emergency Response* 1. Demonstrate the capability to direct and control emergency operations. Standard Criteria: a. Command and control is demonstrated by the control room in the early phase of the emergency and the TSC within 60 minutes from TSC activation. 2. Demonstrate the ability to transfer emergency direction from the control room (simulator) to the TSC within 30 minutes from activation. Standard Criteria:

Table 13.3-1. VEGP Unit 3 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			a. Briefings were conducted prior to turnover responsibility. Personnel document transfer of duties. 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 protected area assembly and accountability. Standard Criteria: a. Protected area personnel assembly and accountability completed within 30 minutes of the Alert or higher emergency declaration via public address announcement. D. *Emergency Response Facilities* 1. Demonstrate activation of the OSC, and full functional operation of the TSC and EOF within 60 minutes of activation. Standard Criteria:

Table 13.3-1. VEGP Unit 3 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			a. The TSC, OSC, and EOF are activated within about 60 minutes of the initial notification. 2. Demonstrate the adequacy of equipment, security provisions, and habitability precautions for the TSC, OSC, EOF, and emergency news center (ENC), as appropriate. Standard Criteria: a. Demonstrate the adequacy of the emergency equipment in the emergency response facilities, including availability and general consistency with EIPs. b. The Security Shift Captain implements and follows applicable EIPs. c. The Health Physics Supervisor (TSC) implements the designated checklist if an onsite or offsite release has occurred. d. Demonstrate the capability of TSC and EOF equipment and data displays to clearly identify and reflect the affected unit. 3. Demonstrate the adequacy of communications for all emergency support resources.

Table 13.3-1. VEGP Unit 3 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			Standard Criteria: a. Emergency response communications listed in EIPs are available and operational. b. Communications systems are tested in accordance with TSC, OSC, and EOF activation checklists. c. Emergency response facility personnel are able to operate all specified communication systems. d. Clear primary and backup 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. Health Physics Technicians demonstrate the ability to obtain appropriate instruments (range and type) and take surveys. b. Airborne samples are taken when the conditions indicate the need for the information.

Table 13.3-1. VEGP Unit 3 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			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 (unless the Emergency Director authorizes emergency limits). b. Exposure records are available, either from the as low as is reasonably achievable (ALARA) computer or a hard copy dose report. c. Emergency workers include Security and personnel within all emergency facilities. 3. Demonstrate the ability to assemble and deploy field monitoring teams within 60 minutes from the decision to do so. Standard Criteria: a. One field monitoring team is ready to be deployed within 60 minutes of being requested from the OSC, and no later than 90 minutes from the declaration of

Table 13.3-1. VEGP Unit 3 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			an Alert or higher emergency. 4. Demonstrate the ability to satisfactorily collect and disseminate field team data. Standard Criteria: a. Field team data to be collected is dose rate or counts per minute (cpm) from the plume, both open and closed window, and air sample (gross/net cpm) for particulate and iodine, if applicable. b. Satisfactory data dissemination is from the field team to the Dose Assessment Supervisor, via the field team communicator and field team coordinator. 5. Demonstrate the ability to develop dose projections. Standard Criteria: a. The on-shift Health Physics/Chemistry Shared Foreman or Dose Assessment Supervisor performs timely and accurate dose projections, in accordance with EIPs. 6. Demonstrate the ability to make the decision whether to issue radioprotective drugs (KI) to emergency workers.

Table 13.3-1. VEGP Unit 3 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			Standard Criteria: a. KI is taken (simulated) if the estimated dose to the thyroid will exceed 25 rem committed dose equivalent (CDE). 7. Demonstrate the ability to develop appropriate PARs and notify appropriate authorities within 15 minutes of development. Standard Criteria: a. Total effective dose equivalent (TEDE) and CDE dose projections from the dose assessment computer code are compared to EIPs. b. PARs are developed within 15 minutes of data availability. c. PARs are transmitted to responsible State and local government agencies via voice or fax 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 EIPs.

Table 13.3-1. VEGP Unit 3 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			Standard Criteria: a. Media information (e.g., press releases, press briefings, electronic media) is made available within 60 minutes of notification of the on-call media representative. b. Follow-up information is provided, at a minimum, within 60 minutes of an emergency classification or PAR change. 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 EIPs. 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.

Table 13.3-1. VEGP Unit 3 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			Standard Criteria: a. An exercise time line is developed, followed by an evaluation of the objectives. b. Significant problems in achieving the objectives are discussed to ensure understanding of why objectives were not fully achieved. c. Recommendations for improvement in non-objective areas are discussed. 8.1.2 Onsite emergency response personnel are mobilized in sufficient number to fill the emergency positions identified in emergency plan Section B, “VEGP Emergency Organization,” and they successfully perform their assigned responsibilities as outlined in Acceptance Criterion 8.1.1.D, “Emergency Response Facilities.” 8.1.3 The exercise is completed within the specified time periods of Appendix E to 10 CFR Part 50, offsite exercise objectives have been met, and there are no uncorrected offsite deficiencies, or a license condition requires offsite deficiencies to be corrected prior to operation above 5 percent of rated power.

Table 13.3-1. VEGP Unit 3 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
9.0 Implementing Procedures			
10 CFR Part 50, Appendix E, Section 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.	9.1 The licensee has submitted detailed implementing procedures for its emergency plan no less than 180 days prior to fuel load.	9.1 An inspection of the submittal letter will be performed.	9.1 The licensee has submitted detailed EIPs for the onsite emergency plan no less than 180 days prior to fuel load.

Table 13.3-2. VEGP Unit 4 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
1.0 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 plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.	1.1 An emergency classification and EAL scheme must be established by the licensee. The specific instruments, parameters, or equipment status shall be shown for establishing each emergency class, in the in-plant emergency procedures. The plan shall identify the parameter values and equipment status for each emergency class. [D.1]	1.1.1 An inspection of the control room will be performed to verify that the displays for retrieving system and effluent parameters specified in Table Annex V2 D.2-1, "Hot Initiating Condition Matrix, Modes 1, 2, 3, and 4"; Table V2 D.2-2, "Cold Initiating Condition Matrix, Modes 5, 6, and De-fueled"; are installed and perform their intended functions; and that EIPs have been completed. 1.1.2 An analysis of the EAL technical bases will be performed to verify as-built, site-specific implementation of the EAL scheme.	1.1.1 The parameters specified in Table Annex V2 H-1, "Post Accident Monitoring Variables," are retrievable in the control room. The ranges of values of these parameters that can be displayed encompass the values specified in the emergency classification and EAL scheme. 1.1.2 The EAL scheme is consistent with RG 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors."
3.0 Emergency Communications			
10 CFR 50.47(b)(6) – Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.	3.1 The means exists for communications between the control room, OSC, TSC, and EOF. [F.1.d]	3.1 A test will be performed of the communications capabilities between the control room, OSC, TSC and EOF, and to the State and local EOCs.	3.1 Communications are established between the control room, OSC, TSC, and EOF. Communications are established between the control room, Georgia Emergency Management Agency (GEMA) Operation Center; Burke County EOC; SRS Operations Center; South Carolina Warning Point; and Aiken, Allendale, and Barnwell County Dispatchers.

Table 13.3-2. VEGP Unit 4 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
	3.2 The means exists for communications from the control room to the NRC headquarters and regional office EOC. [F.1.f]	3.2 A test will be performed of the communications capabilities from the control room, TSC and EOF to the NRC, including ERDS.	3.2 Communications are established from the control room, TSC, and EOF, to the NRC headquarters and regional office EOCs, and an access port for the ERDS is provided.
5.0 Emergency Facilities and Equipment			
10 CFR 50.47(b)(8) – Adequate emergency facilities and equipment to support the emergency response are provided and maintained.	5.1 The licensee has established an onsite OSC. [H.1]	5.1 An inspection of the as-built OSC will be performed, including a test of the capabilities.	5.1.1 Communication equipment is installed in the OSC, and voice transmission and reception are accomplished. 5.1.2 The plant parameters listed in Table Annex V2 H-1, “Post Accident Monitoring Values,” can be retrieved and displayed in the TSC. 5.1.3 The OSC is located adjacent to the passage from the annex building to the control room.
	5.2 The licensee has established an EOF. [H.2]	5.2 An inspection of the EOF will be performed, including a test of the capabilities.	5.2.1 Voice transmission and reception are accomplished between the EOF and the control room. 5.2.2 The plant parameters listed in Table Annex V2 H-1, “Post Accident Monitoring Values,” can be retrieved and displayed in the EOF.

Table 13.3-2. VEGP Unit 4 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
6.0 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.	6.1 The means exists to provide initial and continuing radiological assessment throughout the course of an accident. [I.2]	6.1 A test of the emergency plan will be conducted by performing a drill to verify the capability to perform accident assessment.	6.1 Using selected monitoring parameters listed in Table Annex V2 H-1 of the VEGP emergency plan, simulated degraded plant conditions are assessed and protective actions are initiated in accordance with the following criteria: A. *Accident Assessment and Classification* 1. Demonstrate the ability to identify initiating conditions, determine EAL parameters, and correctly classify the emergency throughout the drill. B. *Radiological Assessment and Control* 1. Demonstrate the ability to obtain onsite radiological surveys and samples. 2. Demonstrate the ability to continuously monitor and control radiation exposure to emergency workers. 3. Demonstrate the ability to assemble and deploy field monitoring teams within 60 minutes from the decision to do so. 4. Demonstrate the ability to satisfactorily collect and

Table 13.3-2. VEGP Unit 4 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			disseminate field team data. 5. Demonstrate the ability to develop dose projections. 6. Demonstrate the ability to make the decision whether to issue radio-protective drugs (KI) to emergency workers. 7. Demonstrate the ability to develop appropriate PARs and notify appropriate authorities within 15 minutes of development.
	6.2 The means exists 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]	6.2 An analysis of the EIPs and the ODCM will be completed to verify ability to determine the source term and magnitude of releases.	6.2 The EIPs and ODCM correctly calculate source terms and magnitudes of postulated releases.
	6.3 The means exists 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]	6.3 An analysis of the EIPs and the ODCM will be completed to verify the relationship between effluent monitor readings, and onsite and offsite exposures and contamination.	6.3 The EIPs and ODCM calculate the relationship between effluent monitor readings, and onsite and offsite exposures and contamination.
	6.4 The means exists to acquire and evaluate meteorological information. [I.5]	6.4 A test will be performed to verify the ability to access meteorological information in the TSC and control room.	6.4 The following parameters are displayed in the TSC and control room: • Wind speed (at 10 and 60 meters)

Table 13.3-2. VEGP Unit 4 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			• Wind direction (at 10 and 60 meters) • Standard deviation of horizontal wind direction (at 10 meters) • Vertical temperature difference (between 10 and 60 meters) • Ambient temperature (at 10 meters) • Dew-point temperature (at 10 meters) • Precipitation (at the tower base)
	6.5 The means exists to make rapid assessments of actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways, including activation, notification means, field team composition, transportation, communication, monitoring equipment, and estimated deployment times. [I.8]	6.5 A test will be performed of the capabilities to make rapid assessments of actual or potential radiological hazards through liquid or gaseous release pathways.	6.5 Demonstrate the capability to make rapid assessment of actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways.
	6.6 The means exists to estimate integrated dose from the projected and actual dose rates, and for comparing these estimates with the EPA PAGs. [I.10]	6.6 An analysis of the methodology contained in the EIPs for estimating dose and preparing PARs, and in the ODCM will be performed to verify the ability to estimate an integrated dose from projected and actual dose rates.	6.6 The EIPs and ODCM estimate an integrated dose.

Table 13.3-2. VEGP Unit 4 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
7.0 Protective Response			
10 CFR 50.47(b)(10) – A range of protective actions has been developed for the plume exposure pathway 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 pathway EPZ appropriate to the locale have been developed.	7.1 The means exists to warn and advise onsite individuals of an emergency, including those in areas controlled by the operator, including: • Employees not having emergency assignments • Visitors • Contractor and construction personnel • Other persons who may be in the public access areas, on or passing through the site, or within the owner controlled area [J.1]	7.1 A test of the onsite warning and communication capability emergency implementing procedures (EIPs) including protective action guidelines, assembly and accountability, and site dismissal will be performed during a drill.	7.1.1 Demonstrate the capability to direct and control emergency operations. 7.1.2 Demonstrate the ability to transfer emergency direction from the control room (simulator) to the TSC within 30 minutes of activation. 7.1.3 Demonstrate the ability to prepare for around-the-clock staffing requirements. 7.1.4 Demonstrate the ability to perform assembly and accountability for all onsite individuals within 30 minutes of an emergency requiring protected area assembly and accountability. 7.1.5 Demonstrate the ability to perform site dismissal.
8.0 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.	8.1 The licensee conducts a limited participation exercise to evaluate portions of emergency response capabilities, which includes participation by each State and local agency within the plume exposure EPZ that have not been tested in a previous exercise. [N.1]	8.1 A limited participation exercise (test) will be conducted within the specified time periods of 10 CFR Part 50, Appendix E.	8.1.1 The exercise is completed within the specified time periods of Appendix E to 10 CFR Part 50, onsite exercise objectives listed below have been met and there are no uncorrected onsite exercise deficiencies. A. *Accident Assessment and Classification*

Table 13.3-2. VEGP Unit 4 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			1. Demonstrate the ability to identify initiating conditions, determine 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. Complete the designated checklist and perform the announcement within 5 minutes of the initial event classification for an Alert or higher. b. Activate the emergency recall system within 5 minutes of the initial event classification for an Alert or higher.

Table 13.3-2. VEGP Unit 4 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			2. Demonstrate the ability to notify responsible State and local government agencies within 15 minutes and the NRC within 60 minutes after declaring an emergency. Standard Criteria: a. Transmit information using the designated checklist, in accordance with approved EIPs, within 15 minutes of event classification. b. Transmit information using the designated checklist, in accordance with approved EIPs, within 60 minutes of last transmittal for a follow-up notification to State and local authorities. c. Transmit information using the designated checklist 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 or telephone) using the designated checklist, within 15 minutes of notification.

Table 13.3-2. VEGP Unit 4 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			C. *Emergency Response* 1. Demonstrate the capability to direct and control emergency operations. Standard Criteria: a. Command and control is demonstrated by the control room in the early phase of the emergency and by the TSC within 60 minutes from activation. 2. Demonstrate the ability to transfer emergency direction from the control room (simulator) to the TSC within 30 minutes from activation. Standard Criteria: a. Briefings were conducted prior to turnover responsibility. Personnel document transfer of duties. 3. Demonstrate the ability to prepare for around-the-clock staffing requirements. Standard Criteria: a. Complete 24-hour staff assignments.

Table 13.3-2. VEGP Unit 4 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			4. Demonstrate the ability to perform assembly and accountability for all onsite individuals within 30 minutes of an emergency requiring protected area assembly and accountability. Standard Criteria: a. Protected area personnel assembly and accountability completed within 30 minutes of the Alert or higher emergency declaration via public address announcement. D. *Emergency Response Facilities* 1. Demonstrate timely activation of the OSC. Standard Criteria: a. The OSC is activated within about 60 minutes of the initial notification. 2. Demonstrate the adequacy of equipment, security provisions, and habitability precautions for the OSC, as appropriate. Standard Criteria: a. Demonstrate the adequacy of the emergency equipment in the emergency response facilities,

Table 13.3-2. VEGP Unit 4 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			including availability and general consistency with EIPs. b. The Security Shift Captain implements and follows applicable EIPs. c. The Health Physics Supervisor (TSC) implements the designated checklist if an onsite or offsite release has occurred. 3. Demonstrate the adequacy of communications for all emergency support resources. Standard Criteria: a. Emergency response communications listed in EIPs are available and operational. b. Communications systems are tested in accordance with OSC activation checklist. c. Emergency response facility personnel are able to operate all specified communication systems. d. Clear primary and backup communications links are established and maintained for the duration of the exercise. E. *Radiological Assessment and Control*

Table 13.3-2. VEGP Unit 4 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			1. Demonstrate the ability to obtain onsite radiological surveys and samples. Standard Criteria: a. Health Physics Technicians demonstrate the ability to obtain appropriate instruments (range and type) and take surveys. b. Airborne samples are taken 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 (unless the Emergency Director authorizes emergency limits). b. Exposure records are available, either from the ALARA computer or a hard copy dose report. c. Emergency workers include Security and personnel within all

Table 13.3-2. VEGP Unit 4 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			emergency facilities. 3. Demonstrate the ability to assemble and deploy field monitoring teams within 60 minutes from the decision to do so. Standard Criteria: a. One field monitoring team is ready to be deployed within 60 minutes of being requested from the OSC, and no later than 90 minutes from the declaration of an Alert or higher emergency. 4. Demonstrate the ability to satisfactorily collect and disseminate field team data. Standard Criteria: a. Field team data to be collected is dose rate or counts per minute (cpm) from the plume, both open and closed window, and air sample (gross/net cpm) for particulate and iodine, if applicable. b. Satisfactory data dissemination is from the field team to the Dose Assessment Supervisor, via the field team communicator and field team coordinator. 5. Demonstrate the ability to develop dose projections.

Table 13.3-2. VEGP Unit 4 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			Standard Criteria: a. The on-shift Health Physics/Chemistry Shared Foreman or Dose Assessment Supervisor performs timely and accurate dose projections, in accordance with EIPs. 6. Demonstrate the ability to develop appropriate PARs and notify appropriate authorities within 15 minutes of development. Standard Criteria: a. Total effective dose equivalent (TEDE) and CDE dose projections from the dose assessment computer code are compared to EIPs. b. PARs are developed within 15 minutes of data availability. c. PARs are transmitted to responsible State and local government agencies via voice or fax within 15 minutes of PAR development. 8.1.2 Onsite emergency response personnel are mobilized in sufficient number to fill the emergency positions identified in the emergency plan, Section B, “VEGP

Table 13.3-2. VEGP Unit 4 ITAAC

Planning Standard	EP Program Elements (From NUREG-0654/FEMA-REP-1)	Inspections, Tests, Analyses	Acceptance Criteria
			Emergency Organization," and successfully perform their assigned responsibilities as outlined in Acceptance Criterion 8.1.1.D, "Emergency Response Facilities." 8.1.3 The exercise is completed within the specified time periods of Appendix E to 10 CFR Part 50, offsite exercise objectives have been met, and there are no uncorrected offsite deficiencies, or a license condition requires offsite deficiencies to be corrected prior to operation above 5 percent of rated power.
9.0 Implementing Procedures			
10 CFR Part 50, Appendix E, Section 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 plans shall be submitted to the Commission.	9.1 The licensee has submitted detailed implementing procedures for its emergency plan no less than 180 days prior to fuel load.	9.1 An inspection of the submittal letter will be performed.	9.1 The licensee has submitted detailed EIPs for the onsite emergency plan no less than 180 days prior to fuel load.

7. The licensee shall perform and satisfy the ITAAC defined in Table 13.6A-1, "Site-Specific Physical Security Inspections, Tests, Analyses, and Acceptance Criteria."

Table 13.6A-1. Site-Specific Physical Security Inspections, Tests, Analyses and Acceptance Criteria

Design Commitment	Inspections, Tests, and Analyses	Acceptance Criteria
1. The external walls, doors, ceiling, and floors in the location within which the last access control function for access to the protected area is performed are bullet-resistant to at least Underwriters Laboratory Ballistic Standard 752, level 4.	Type test, analysis, or a combination of type test and analysis will be performed for the external walls, doors, ceilings, and floors in the location within which the last access control function for access to the protected area is performed.	The external walls, doors, ceilings, and floors in the location within which the last access control function for access to the protected area is performed are bullet-resistant to at least Underwriters Laboratory Ballistic Standard 752, level 4.
2. Physical barriers for the protected area perimeter are not part of vital area barriers.	An inspection of the protected area perimeter barrier will be performed.	Physical barriers at the perimeter of the protected area are separated from any other barrier designated as a vital area barrier.
3. a) Isolation zones exist in outdoor areas adjacent to the physical barrier at the perimeter of the protected area that allows 20 feet of observation on either side of the barrier. Where permanent buildings do not allow a 20-foot observation distance on the inside of the protected area, the building walls are immediately adjacent to, or an integral part of, the protected area barrier.	Inspections will be performed of the isolation zones in outdoor areas adjacent to the physical barrier at the perimeter of the protected area.	Isolation zones exist in outdoor areas adjacent to the physical barrier at the perimeter of the protected area and allow 20 feet of observation and assessment of the activities of people on either side of the barrier. Where permanent buildings do not allow a 20-foot observation and assessment distance on the inside of the protected area, the building walls are immediately adjacent to, or an integral part of, the protected area barrier and the 20-foot observation and assessment distance does not apply.
b) The isolation zones are monitored with intrusion detection	Inspections will be performed of the intrusion detection equipment within	The isolation zones are equipped with intrusion detection equipment that

Table 13.6A-1. Site-Specific Physical Security Inspections, Tests, Analyses and Acceptance Criteria

Design Commitment	Inspections, Tests, and Analyses	Acceptance Criteria
equipment that provides the capability to detect and assess unauthorized persons.	the isolation zones.	provides the capability to detect and assess unauthorized persons.
4. The intrusion detection and assessment equipment at the protected area perimeter: a) detects penetration or attempted penetration of the protected area barrier and concurrently alarms in both the Central Alarm Station and Secondary Alarm Station; and b) remains operable from an uninterruptible power supply in the event of the loss of normal power.	Tests, inspections or a combination of tests and inspections of the intrusion detection and assessment equipment at the protected area perimeter and its uninterruptible power supply will be performed.	The intrusion detection and assessment equipment at the protected area perimeter: a) detects penetration or attempted penetration of the protected area barrier and concurrently alarms in the Central Alarm Station and Secondary Alarm Station; and b) remains operable from an uninterruptible power supply in the event of the loss of normal power.
5. Access control points are established to: a) control personnel and vehicle access into the protected area. b) detect firearms, explosives, and incendiary devices at the protected area personnel access points.	Tests, inspections, or combination of tests and inspections of installed systems and equipment at the access control points to the protected area will be performed.	The access control points for the protected area: a) are configured to control personnel and vehicle access. b) include detection equipment that is capable of detecting firearms, incendiary devices, and explosives at the protected area personnel access points.

Table 13.6A-1. Site-Specific Physical Security Inspections, Tests, Analyses and Acceptance Criteria

Design Commitment	Inspections, Tests, and Analyses	Acceptance Criteria
6. An access control system with numbered picture badges is installed for use by individuals who are authorized access to protected areas and vital areas without escort.	A test of the access control system with numbered picture badges will be performed.	The access authorization system with numbered picture badges can identify and authorize protected area and vital area access only to those personnel with unescorted access authorization.
7. Access to vital equipment physical barriers requires passage through the protected area perimeter barrier.	Inspection will be performed to confirm that access to vital equipment physical barriers requires passage through the protected area perimeter barrier.	Vital equipment is located within a protected area such that access to vital equipment physical barriers requires passage through the protected area perimeter barrier.
8. a) Penetrations through the protected area barrier are secured and monitored. b) Unattended openings (such as underground pathways) that intersect the protected area boundary or vital area boundary will be protected by a physical barrier and monitored by intrusion detection equipment or provided surveillance at a frequency sufficient to detect exploitation.	 Inspections will be performed of penetrations through the protected area barrier. Inspections will be performed of unattended openings that intersect the protected area boundary or vital area boundary.	 Penetrations and openings through the protected area barrier are secured and monitored. Unattended openings (such as underground pathways) that intersect the protected area boundary or vital area boundary are protected by a physical barrier and monitored by intrusion detection equipment or provided surveillance at a frequency sufficient to detect exploitation.
9. Emergency exits through the protected area perimeter are alarmed and secured with locking devices to allow for emergency egress.	Tests, inspections, or a combination of tests and inspections of emergency exits through the protected area perimeter will be performed.	Emergency exits through the protected area perimeter are alarmed and secured by locking devices that allow prompt egress during an emergency.

8. The licensee shall perform and satisfy the plant calorimetric uncertainty and plant instrumentation performance analysis ITAAC defined in SER Table 15.0-1, "Power Calorimetric Uncertainty Methodology."

Table 15.0-1. Power Calorimetric Uncertainty Methodology

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4. The plant calorimetric uncertainty and plant instrumentation performance is bounded by the 1 percent calorimetric uncertainty value assumed for the initial reactor power in the safety analysis.	Inspection will be performed of the plant operating instrumentation installed for feedwater flow measurement, its associated power calorimetric uncertainty calculation, and the calculated calorimetric values.	a) the as-built system takes input for feedwater flow measurement from a Caldon [Cameron] LEFM CheckPlus™ System; b) the power calorimetric uncertainty calculation documented for that instrumentation is based on an NRC-accepted Westinghouse methodology and the uncertainty values for that instrumentation are not lower than those for the actual installed instrumentation; and c) the calculated calorimetric power uncertainty measure values are bounded by the 1 percent uncertainty value assumed for the initial reactor power in the safety analysis.

A.3 Final Safety Analysis Report (FSAR) Commitments

The following FSAR commitments are identified as the responsibility of the licensee:

SER Section	Description
1.4.5	A site-specific construction plan and startup schedule will be provided after issuance of the COL.
5.2.5.5	Prior to initial fuel load, the operating procedures, that include identifying, monitoring, trending, and managing the prolonged low-level RCS leakage, will be developed.
6.4.5	FSAR Commitment 6.4-1. The licensee's CR operator training program shall address the following: • Regulatory Position C.5, "Emergency Planning," of RG 1.78 • Regulatory Position 2.5, "Hazardous Chemicals," of RG 1.196 • Regulatory Position 2.2.1, "Comparison of System Design, Configuration, and Operation with Licensing Basis," of RG 1.196 • Regulatory Position 2.7.1, "Periodic Evaluations and Maintenance," of RG 1.196
9.1.4.5	The light load handling program, including system inspections, will be implemented prior to receipt of fuel onsite.
9.1.5.5	The overhead heavy-load handling program, including system inspections, will be implemented prior to receipt of fuel onsite.