

Appendix A

Post COL Activities: License Conditions; Inspections, Tests, Analyses, and Acceptance Criteria; and Final Safety Analysis Report Commitments

A.1 License Conditions

The 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.

Proposed License Condition in FSER	FSER Section	License Condition Description
1-1	1.5.1	Primary and secondary financial protection per 10 CFR 140.11(a)(4) and 10 CFR 50.54(w)
1-2	1.5.1	Financial assurance – deferred reporting of 10 CFR 140.21 for guarantee of payment
1-3	1.5.5	10 CFR Parts 30, 40, and 70 licenses governing the possession and use of applicable source, byproduct and special nuclear materials
1-4	1.5.5	Implementation schedule submission requirements for Special Nuclear Material Control and Accounting Program
1-5*	1.5.5	Implementation schedule submission requirements for Non-Licensed Plant Staff Training Program
1-6	1.5.5	Implementation of Special Nuclear Material Physical Protection Program
2-1	2.5.3.5	Geologic mapping
3-1	3.6.5	As-designed pipe rupture hazards analysis
3-2	3.7.2.5	Seismic interaction analysis update to reflect as-built information
3-3	3.7.2.5	Seismic analyses reconciliation to account for detailed design changes
3-4	3.8.5.5	Implementation schedule submission requirements for construction and inspection procedures for steel concrete composite construction activities for seismic Category I nuclear island modules

Proposed License Condition in FSER	FSER Section	License Condition Description
3-5	3.8.5.5	Roller compacted concrete strength verification and constructability testing
3-6	3.9.6.5	Preservice Testing Operational Program and the Motor-Operated Valve Testing Operational Program
3-7	3.9.6.5	Implementation schedule submission requirements for Inservice Testing program (including preservice and motor-operated valve testing)
3-8	3.9.6.5	Squib valve surveillance and maintenance
3-9	3.11.5	Implementation of Environmental Qualification Program
3-10	3.11.5	Implementation schedule submission requirements for Environmental Qualification Program
3-11	3.12.5	As-designed individual piping segments and reporting requirements
4-1	4.5	Instrument uncertainty for measuring departure from nucleate boiling ratio values
5-1**	5.2.4.5	Implementation schedule submission requirements of operational programs in FSAR Table 13.4-201 (Preservice Inspection and Inservice Inspection Programs)
5-2	5.3.2.5	Implementation of Reactor Vessel Material Surveillance Program
5-3	5.3.2.5	Implementation schedule submission requirements for Reactor Vessel Material Surveillance program
5-4	5.3.3.5	Updating the pressure-temperature limits using the approved pressure-temperature limits report methodologies for reactor vessel material properties
5-5	5.3.4.5	Plant-specific belt line material properties
5-6**	5.4.5	Implementation schedule submission requirements for Preservice Inspection and Inservice Inspection Programs
6-1	6.2.5	Implementation of containment leakage rate testing program
6-2	6.2.5	Implementation schedule submission requirements for containment leakage rate testing program
6-3**	6.6.5	Implementation schedule submission requirements for Preservice Inspection and Inservice Inspection Programs
9-1	9.1.2.5	Implementation of and implementation schedule submission requirements for spent fuel rack Metamic Coupon Monitoring Program
9-2	9.5.1.5	Implementation of Fire Protection Program
9-3	9.5.1.5	Implementation schedule submission requirements for Fire Protection Program
10-1	10.1.5	Implementation of and implementation schedule submission requirements for flow accelerated corrosion program

Proposed License Condition in FSER	FSER Section	License Condition Description
10-2	10.2.5	Implementation of and implementation schedule submission requirements for turbine maintenance and inspection program
11-1	11.2.5	Radionuclide inventory of unpackaged wastes
11-2	11.4.5	Implementation of operational program for process and effluent monitoring and sampling (including process control program)
11-3	11.4.5	Implementation schedule submission requirements for operational program for process and effluent monitoring and sampling (including process control program)
11-4	11.5.5	Implementation of operational program for process and effluent monitoring and sampling, including (1) Radiological Effluent Technical Specifications/Standard Radiological Effluent Controls, (2) Offsite Dose Calculation Manual, and (3) Radiological Environmental Monitoring Program
11-5	11.5.5	Implementation schedule submission requirements for operational program for process and effluent monitoring and sampling, including (1) Radiological Effluent Technical Specifications/Standard Radiological Effluent Controls, (2) Offsite Dose Calculation Manual, and (3) Radiological Environmental Monitoring Program
12-1	12.5.5	Implementation of Radiation Protection Program (including the as low as reasonably achievable (ALARA) principle)
12-2	12.5.5	Implementation schedule submission requirements for Radiation Protection Program (including the ALARA principle)
13-1	13.2.5	Implementation of Reactor Operator Training Program
13-2*	13.2.5	Implementation schedule submission requirements for Non-Licensed Plant Staff Training Program, Reactor Operator Training Program, and Reactor Operation Requalification Program
13-3	13.3.5	Implementation schedule submission requirements for operational programs in FSAR Table 13.4-201, including emergency plan implementing procedures
13-4	13.3.5	Schedule submission requirements for a fully developed set of site-specific emergency action levels
13-5	13.3.5	10 CFR Part 50 Appendix E letters of agreement with emergency organizations
13-6	13.3.5	Initial public information distribution, consistent with LNP Emergency Plan
13-7	13.3.5	NEI 10-05, detailed staffing analysis
13-8	13.6.5	Implementation schedule submission requirements for physical security programs

Proposed License Condition in FSER	FSER Section	License Condition Description
13-9	13.7.5	Implementation schedule submission requirements for Fitness for Duty operational program
13-10	13.8.5	Implementation schedule submission requirements for Cyber Security program implementation
14-1	14.2.3.5	Implementation schedule submission requirements for implementation of preoperational and startup procedures
14-2	14.2.3.5	Initial startup test program changes
14-3	14.2.5.5	First-plant-only and first-three-plant-only testing
14-4	14.2.8.5	Implementation milestones for initial test program
14-5	14.2.8.5	Implementation schedule submission requirements for initial test program
14-6	14.2.8.5	Pre-operational, pre-critical, initial criticality, low-power, and power ascension testing
15-1	15.0.5	Schedule submission requirements for calculations for power calorimetric uncertainty instrumentation and administrative controls
17-1	17.6.5	Implementation schedule submission requirements for Maintenance Rule program
19-1	19.59.5	AP1000 seismic margin analysis
19-2	19.59.5	AP1000 probabilistic risk assessment
19-3	19.59.5	AP1000 internal fire and internal flood analysis
19-4	19.59.5	Implementation schedule submission requirements for site-specific severe accident management guidelines
19-5	19.59.5	Thermal lag assessment
19-6	Appendix 19F	Malevolent aircraft impact FSAR revisions
19.A-1	19.A.5	Implementation schedule submission requirements for operational and programmatic elements of mitigative strategies for responding to a loss of large areas event
20-1	20.2.5	Mitigation strategies for beyond-design-basis external events
20-2	20.3.5	Reliable spent fuel pool instrumentation
20-3	20.4.5	NEI 12-01, Staffing assessment
20-4	20.4.5	NEI 12-01, Communications capability assessment

* License Conditions 1-5 and 13-2 represent the same reporting requirements for the Non-Licensed Plant Staff Training Program.

** License Conditions 5-1, 5-6, and 6-3 represent the same reporting requirements for the Preservice Inspection Program and Inservice Inspection Program.

Appendix A

License Conditions, Inspections, Tests, Analyses, and Acceptance Criteria, and Final Safety Analysis Commitments

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

The staff has identified the certain Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) that it will recommend the United States Nuclear Regulatory Commission impose with respect to a COL issued to the applicant. 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.

Listing of Levy Site-Specific ITAAC

ITAAC Number from Draft License	ITAAC Description	SER Section
C.2.5.04.04a– C.2.5.04.04c	Feedwater Flow Measurement	15.0
C.2.6.09.01– C.2.6.09.09	Physical Security	13.6.A
C.2.6.12.07	Offsite Power System	8.2.A
C.3.8.01.01.01– C.3.8.01.15.01	Emergency Planning	13.3
C.3.8.02.01	Waterproof Membrane	3.8.5
C.3.8.03.01– C.3.8.03.03	Roller Compacted Concrete ¹	3.8.5
C.3.8.04.01	Turbine Building, Radwaste Building, and Annex Building drilled shaft foundations ¹	3.8.5
C.3.8.05.01	Pipe Rupture Hazards Analysis	3.6
C.3.8.06.01	Piping Design	3.12
C.2.2.05.07e	Main Control Room Emergency Habitability System	21.2
C.2.3.09.03.iii	Containment Hydrogen Control System ²	21.4

¹ The Roller Compacted Concrete ITAAC and the Turbine Building, Radwaste Building, and Annex Building Drilled Shaft Foundations ITAAC are unique to LNP.

² The Main Control Room Emergency Habitability System ITAAC and the Containment Hydrogen Control System ITAAC appear in the AP1000 DCD Revision 19 and were revised in the LNP COL application.

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License Conditions, Inspections, Tests, Analyses, and Acceptance Criteria, and Final Safety Analysis Report Commitments

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	A site-specific construction plan and startup schedule will be provided after issuance of the COL.
1.4	The licensee will update the FSAR to identify additional participants, principal consultants, outside service organizations, or contractors for the design, construction, and operation of LNP. The licensee will also delineate the division of responsibility among the certified plant designer, architect-engineer, constructor, and plant operator as appropriate.
5.2.5	Prior to initial fuel load, the operating procedures that include identifying, monitoring, trending, and managing the prolonged low-level reactor coolant system leakage will be developed.
6.4	FSAR Commitment 6.4-1. The licensee's control room operator training program will address the following: <ul style="list-style-type: none">• 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	The light load handling program, including system inspections, will be implemented prior to receipt of fuel onsite.
9.1.5	The overhead heavy-load handling program, including system inspections, will be implemented prior to receipt of fuel onsite.