

Item	Program Title	Requirements / Guidance	PSAR Section(s)	PSAR Technical Threshold	Implementation Milestone	Remarks
1.	Inservice Inspection Program	10 CFR 50.55a(g) ASME BPVC Section XI IWX 2400, 2017 edition	5.4.2 – Class 1 SSCs 5.4.2 – Class 1 SG tubes 6.6 – Class 2/3 SSCs	High level overview of the program including discussion on expected inspections per the ASME BPVC for the different SMR Class components	Prior to Commercial Service	Not planning to discuss inspection techniques or procedures until FSAR
2.	Inservice Testing Program	10 CFR 50.55a(f) ASME OM Code, 2017 edition	3.9.6 – Pumps, valves, dynamic restraints 5.2.4 – Class 1 SSCs 5.4.2 – Class 1 SG tubes 6.6 – Class 2/3 SSCs	High level overview of the program including discussion on expected testing per the ASME OM Code for the different SMR Class components	Prior to Commercial Service (after main generator online on nuclear heat)	Not planning to discuss testing techniques or procedures until FSAR
3.	Environmental Qualification Program	10 CFR 50.49(a)	3.11	High level overview of the EQ program including general scope	Prior to initial fuel load	
4.	Preservice Inspection Program	10 CFR 50.55a(g) ASME BPVC Section XI IWX 2200, 2017 edition	5.2.4 – Class 1 SSCs 5.4.2 – Class 1 SG tubes 6.6 – Class 2/3 SSCs	Similar to Inservice Inspection Program, high level overview of the program including discussion on expected inspections per the ASME BPVC for the different SMR Class components	Completion prior to initial plant startup	If necessary, considering potential commitment in CPA to deliver full scope with sufficient time for NRC review and completion of program prior to initial plant startup

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5.	Reactor Vessel Material Surveillance Program	10 CFR 50.60 10 CFR Part 50, App. H ASTM E-185 – 2021	5.3.1.6	High level overview of program	Prior to initial criticality	Per previous discussions regarding concerns predicting RPV neutron embrittlement, SMR intends include discussion on how to use Reactor Vessel Material Surveillance Program data in the PSAR. Full details of the program may not be developed.
6.	Preservice Testing Program	10 CFR 50.55a(f) ASME OM Code, 2017 edition	3.9.6 – Pumps, valves, dynamic restraints 5.2.4 – Class 1 SSCs 5.4.2 – Class 1 SG tubes 6.6 – Class 2/3 SSCs	Similar to Inservice Testing Program, high level overview of the program including discussion on expected testing per the ASME OM Code for the different SMR Class components	Completion prior to initial fuel load	If necessary, considering potential commitment in CPA to deliver full scope with sufficient time for NRC review and completion of program prior to initial plant startup
7.	Containment Leakage Rate Testing Program	10 CFR 50.54(o) 10 CFR 50, App. A, GDC 32 10 CFR 50, App. J	6.2.6	Containment will be described including anticipated leakage rates to be verified in testing program	Prior to initial fuel load	App J has two options to follow, specific details will be included in the FSAR
8	Fire Protection Program	10 CFR 50.48 RG 1.189, Rev. 4 Also: 10 CFR 30.32 10 CFR 40.31 10 CFR 70.22	9.5.1	FP Program definition, design basis, general system(s) overview, codes and standards; programmatic controls / administration; quality assurance; general FP design features for key plant areas; safe-shutdown capability; RG 1.189 conformance	Prior to receipt of fuel onsite (to support receipt and storage of fuel on site); Prior to initial fuel load (to support fuel load and plant operation)	Portions applicable to radioactive material will be in place to support materials licensing (10 CFR Parts 30, 40, 70)

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9.	Process and Effluent Monitoring and Sampling Program	<p>10 CFR 20.1301 and 20.1302</p> <p>10 CFR 50.34a</p> <p>10 CFR 50.36a</p> <p>10 CFR 50, App. I, Sect. II and IV</p>	<p>11.4 – Process Control Program</p> <p>11.5 – Radiological Effluent Technical Specifications / Standard Radiological Effluent Controls</p> <p>11.5 – Offsite Dose Calculation Manual</p> <p>11.5 – Radiological Environmental Monitoring Program</p>	<p>Description of the preliminary design of equipment to be installed to maintain control over radioactive materials in gaseous and liquid effluents produced during normal reactor operations, including expected operational occurrences. Also identify the design objectives, and the means to be employed, for keeping levels of radioactive material in effluents to unrestricted areas ALARA.</p>	<p>Prior to initial fuel load</p> <p>Prior to initial fuel load</p> <p>Prior to initial fuel load</p> <p>Prior to initial fuel load</p>	<p>Guides on design objectives set forth in 10 CFR 50, App. I, Sect. II may be used by an applicant for a construction permit. Guides on limiting conditions for operation for light-water-cooled nuclear power reactors set forth in 10 CFR 50, App. I, Sect. IV may be used by an applicant for Part 50 License.</p>

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10.	Radiation Protection Program (including ALARA principle)	10 CFR 20.1101 10 CFR 20.1406 10 CFR Part 37	11.4 12.1 12.5	Information presented in the PSAR provides reasonable assurance that the applicant will comply with the requirements in 10 CFR Part 20 (Radwaste and Effluent Control)	1. Radioactive source control (assignment of RP supervisor); Minimization of contamination prior to receipt of by-product, source, or SNM 2. Personnel dosimetry; Radiation monitoring and surveys; Radiation work permits prior to receipt of fuel on site 3. Assignment of RP manager; Respiratory protection; Bioassay prior to initial fuel load 4. Effluents and environmental monitoring and assessment; Job coverage; Radioactive waste shipping prior to first shipment of radioactive waste)	
11.	Non-licensed Plant Staff Training Program	10 CFR 50.120 10 CFR 50.34(a)(6) Also: 10 CFR 30.32 10 CFR 40.31 10 CFR 70.22	13.2.2	A preliminary plan for the applicant's training of personnel	18 months prior to scheduled date of initial fuel load Prior to initial receipt of byproduct, source, or special nuclear materials (excluding Exempt Quantities as described in 10 CFR 30.18)	Portions applicable to radioactive material will be in place to support materials licensing (10 CFR Parts 30, 40, 70)

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12.	Reactor Operator Training Program	10 CFR 55.13 10 CFR 55.31 10 CFR 55.41 10 CFR 55.43 10 CFR 55.45 10 CFR 50.34(a)(6)	13.2.1	A preliminary plan for the applicant's training of personnel	18 months prior to scheduled date of initial fuel load	
13.	Reactor Operator Requalification Program	10 CFR 50.34(b) 10 CFR 50.54(i) 10 CFR 55.59 10 CFR 50.34(a)(6)	13.2.1	A preliminary plan for the applicant's requalification of personnel	Within 3 months after the issuance of an operating license	
14.	Emergency Planning	10 CFR 50.47 10 CFR Part 50, App.E 10 CFR 50.34(a)(10)	13.3	Discussion of the applicant's preliminary plans for coping with emergencies as set forth in 10 CFR 50 App.E	Full participation exercise conducted within 2 years of scheduled date for initial loading of fuel Onsite exercise conducted within 1 year before the schedule date for initial loading of fuel Applicant's detailed implementing procedures for its emergency plan submitted at least 180 days prior to scheduled date for initial loading of fuel	
15.	Security Program:	10 CFR 50.34(c) 10 CFR 73.1 10 CFR 73.67 10 CFR 73.55(b) 10 CFR 73.55(c)(3) 10 CFR 73.56 10 CFR 73.57	13.5.2.2.8, 13.6 – Physical Protection Program 13.6 – Physical Security Program	Design of physical security systems – plans, training and quals, safeguards contingency plans, CAS, comms, power sources Access authorization	Prior to initial receipt of SNM Prior to receipt of fuel onsite	

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		10 CFR 73.55(c)(5) 10 CFR 73.55(k) 10 CFR Part 73, App.C	13.6 – Safeguards Contingency Program		Prior to receipt of fuel onsite	
		10 CFR 73.55(c)(4) 10 CFR 73.55(d)(3) 10 CFR Part 73, App.B	13.6 – Training and Qualification Program		Prior to receipt of fuel onsite	
16.	Quality Assurance Program — Operation	10 CFR 50.54(a) 10 CFR Part 50, App. A, GDC 1 10 CFR Part 50, App. B	17.5	QAPD	30 - 90 days prior to initial fuel load	
17.	Maintenance Rule	10 CFR 50.65	17.6	High level overview of the program including discussion on expected scope of RAP in MR program	Within 3 months after the issuance of an operating license	
18.	Motor-Operated Valve Testing	10 CFR 50.55a(b)(3)(ii) GL-89-10	3.9.6	Similar to Inservice Testing Program, high level overview of the program including discussion on expected testing per the ASME OM for the different SMR Class components	Prior to initial fuel load	Not planning to discuss testing techniques or procedures until FSAR
19.	Initial Test Program	10 CFR 50.34(b)(6)(iii) 10 CFR 50.34(f)(2)(xxvi) RG 1.68, Rev. 4	14.2	High level overview of the Initial Test Program to be performed following construction	Prior to the first construction test being conducted for the Construction Test Program Prior to the first preoperational test for the Preoperational Test Program Prior to initial fuel load for the Startup Test Program	If necessary, considering potential commitment in CPA to deliver full scope with sufficient time for NRC review of program prior to initial plant startup

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20.	Fitness for Duty Program	10 CFR 26.4(f) 10 CFR Part 26, Subpart K	13.7 - Fitness for Duty Program (FFD) for Construction (Workers and First-Line Supervisors)	Full description of FFD Program required for portions required prior to initiating 10 CFR Part 26 construction activities.	Prior to initiating 10 CFR Part 26 construction activities	
		10 CFR 26.4(e)	13.7 – FFD Program for Construction (Management and Oversight Personnel)		Prior to initiating 10 CFR Part 26 construction activities	
		10 CFR 26.4(a)(5) or (e)(1) 10 CFR Part 26, Subparts A – H, N, and O	13.7 – FFD Program (Security Personnel)		Prior to initiating 10 CFR Part 26 construction activities Prior to the earlier of: A. Licensee’s receipt of SNM in the form of fuel assemblies, or B. Establishment of a protected area, or C. Operating License Issuance	
		10 CFR 26.4(g) 10 CFR Part 26, Subparts A, B, D – H, N, O, and C per licensee’s Discretion	13.7 - FFD Program (FFD Program Personnel)		Prior to initiating 10 CFR Part 26 construction activities	
		10 CFR 26.4(c) 10 CFR Part 26, Subparts A – I, N, and O, except for §§ 26.205 – 209	13.7 – FFD Program (TSC EOF Emergency Responders)		Prior to the conduct of the first full-participation emergency preparedness exercise under 10 CFR Part 50, App. E, Section F.2.a	

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		10 CFR 26.4(a) and (b) 10 CFR Part 26, Subparts A – I, N, and O, except for individuals listed in § 26.4(b), who are not subject to §§ 26.205 – 209	13.7 – FFD Program (Operations)		Prior to the earlier of: A. Establishment of a protected area, or B. Operating License Issuance	
21.	Cyber Security Program	10 CFR 73.54(b) 10 CFR 73.55(b)(8) 10 CFR 73.54(c)(6)	13.7	High level summary	Prior to receipt of fuel onsite	
22.	SNM Material Control and Accounting Program	10 CFR 74, Subpart B (§§ 74.11 – 74.19, excl. § 74.17)	13.5.2.2	High level summary	Prior to initial receipt of special nuclear material	
23.	Physical Security Program (Cat 1 and 2 Quantities of Radioactive Materials)	10 CFR 37 Subparts A, B, C, D, F	11.4 13.5.2.2 13.6	High level summary	Prior to possession of aggregated category 1 or category 2 quantity of radioactive material	