



## U.S. NUCLEAR REGULATORY COMMISSION

# STANDARD REVIEW PLAN

### 13.4 OPERATIONAL PROGRAMS

#### REVIEW RESPONSIBILITIES

**Primary -** Licensing organization

#### I. AREA OF REVIEW

The areas of review for this standard review plan (SRP) section have been changed to address review and implementation of operational programs required by regulations for a combined license (COL) application submitted under Title 10 of the *Code of Federal Regulations* (10 CFR), Part 52,<sup>1</sup> "Licenses, Certifications, And Approvals For Nuclear Power Plants." The former content regarding the review of the applicant's plan for conducting reviews of operating phase quality assurance activities that are important to safety is addressed in SRP Section 17.5, "Quality Assurance Program Description - Design Certification, Early Site Permit and New License Applicants."

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<sup>1</sup> This section is not applicable to an application submitted in accordance with 10 CFR Part 50. In 2007, the NRC issued a revised SRP Section 13.4 to address operational programs in lieu of prospective submittals under 10 CFR Part 52. The content of former SRP Section 13.4, Draft Rev. 3, "Operational Review," is addressed in SRP Section 17.5. This SRP Section is procedural in nature and provides guidance for treatment of operational programs.

Draft Revision 4 - September 2018

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#### USNRC STANDARD REVIEW PLAN

This Standard Review Plan, NUREG-0800, has been prepared to establish criteria that the U.S. Nuclear Regulatory Commission staff responsible for the review of applications to construct and operate nuclear power plants intends to use in evaluating whether an applicant/licensee meets the NRC's regulations. The Standard Review Plan is not a substitute for the NRC's regulations, and compliance with it is not required. However, an applicant is required to identify differences between the design features, analytical techniques, and procedural measures proposed for its facility and the SRP acceptance criteria and evaluate how the proposed alternatives to the SRP acceptance criteria provide an acceptable method of complying with the NRC regulations.

The standard review plan sections are numbered in accordance with corresponding sections in Regulatory Guide 1.70, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants (LWR Edition)." Not all sections of Regulatory Guide 1.70 have a corresponding review plan section. The SRP sections applicable to a combined license application for a new light-water reactor (LWR) are based on Regulatory Guide 1.206, "Combined License Applications for Nuclear Power Plants (LWR Edition)."

These documents are made available to the public as part of the NRC's policy to inform the nuclear industry and the general public of regulatory procedures and policies. Individual sections of NUREG-0800 will be revised periodically, as appropriate, to accommodate comments and to reflect new information and experience. Comments may be submitted electronically by email to [NRO\\_SRP@nrc.gov](mailto:NRO_SRP@nrc.gov).

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The specific area of review is as follows:

Operational Program Description and Implementation. For a COL application, the staff reviews the final safety analysis report (FSAR) Table 13.4-x to ensure that all required operational programs are included. The staff review of each operational program description and the proposed implementation milestones is performed within the identified substantive SRP section reviews.

#### Review Interfaces

The SRP sections referenced in the attached sample FSAR Table 13.4-x include the specific acceptance criteria and review procedures.

### II. ACCEPTANCE CRITERIA

#### Requirements

There are no specific requirements for this SRP section. The applicable requirement for each operational program is identified in the attached sample FSAR Table 13.4-x.

#### SRP Acceptance Criteria

The SRP sections referenced in the attached sample FSAR Table 13.4-x include SRP acceptance criteria for operational programs.

#### Technical Rationale

In the Staff Requirements Memorandum on SECY-05-0197, the Commission provided the following directions regarding operational programs:

1. Include license conditions to govern the implementation of operational programs in the COL if implementation requirements are not specified in the regulations.
2. Identify the list of operational programs required to be included in a COL application.
3. Use the generic emergency planning/emergency preparedness (EP) inspections, tests, analyses, and acceptance criteria (ITAAC) in Attachment 2 to SECY-05-0197 as a model for EP ITAAC to be included in COL applications, but review proposed plant-specific EP ITAAC on a case-by-case basis.

The required operational programs are referenced in the attached sample FSAR Table 13.4-x.

### III. REVIEW PROCEDURES

1. The licensing organization coordinates the overall review of operational programs. The staff performs the substantive review of each operational program in accordance with the guidance in the SRP section identified for each program in the attached sample FSAR Table 13.4-x. The review ensures that the COL applicant fully describes each operational program required by regulations and its implementation, including EP and security, each of which is listed in the attached sample FSAR Table 13.4-x. In addition, non-programmatic aspects of the EP, security and fire protection programs (e.g., fire

detection/suppression systems and fire barriers), will be subject to ITAAC. The review of ITAAC is performed under SRP Section 14.3, "Inspections, Tests, Analyses, and Acceptance Criteria."

In this context, "fully described"<sup>2</sup> indicates that the program is clearly and sufficiently described in terms of the scope and level of detail to allow a reasonable assurance finding of acceptability. Required programs should always be described at a functional level and at an increased level of detail when implementation choices could materially and negatively affect the program effectiveness and acceptability.

The technical reviewer may consider the applicant's incorporation by reference of a Nuclear Energy Institute (NEI) generic program for which the staff has prepared a safety evaluation (SE), with the SE being appended to the approved version of the generic program. The technical reviewer may consider the applicability of an NEI generic operational program for the purpose of making the required regulatory finding. Nonetheless, a plant and site-specific operational program may be changed in accordance with an applicable change process set forth in the regulations before the program is implemented in accordance with the condition in COL. The staff reviews the applicable commitments and implementation milestones to ensure that the program is properly referenced and that the licensee has followed the applicable change process in regard to any program revisions or changes. The staff may inspect changes the licensee made without prior NRC approval to confirm that the licensee correctly implemented the applicable change process and the program as implemented is acceptable.

If an applicant proposes to use an operational program to meet a regulatory requirement that does not call for an operational program, the staff reviews the proposed augmentation of programmatic elements to an existing operational program or a new program. In doing so, the staff assesses the adequacy of the programmatic elements and the resulting effects on the development of a plant and site-specific operational program by the implementation milestone. The staff's evaluation and conclusion of the acceptability of the augmented programmatic elements or new program is addressed in FSAR Section 13.4 and applicable sections of the FSAR where applicable SSCs or regulatory requirements are described. The staff's evaluation of the augmented programmatic elements or new program would confirm that the relevant requirements and guidance identified in FSAR, Section 13.4 and Table 13.4-x are not adversely impacted and, if required for implementation, the design includes the necessary plant systems and components identified in the supplemental programmatic elements or new program.

2. If an applicant included ITAAC in lieu of implementation information for a specific operational program, staff reviews the ITAAC information under SRP Section 14.3. The staff also notes that unique circumstances involving a particular application may raise an implementation issue on an operational program that is best resolved by an ITAAC. The staff expects such circumstances to be rare. The staff should inform the Commission of any such licensee-proposed ITAAC.

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<sup>2</sup> Defined by the Commission in a May 14, 2004, SRM for SECY-04-0032, "Programmatic Information Needed for Approval of a Combined License Application without Inspections, Tests, Analyses, and Acceptance Criteria."

3. COL applicants may choose to use an operational program not explicitly required by regulation. For example, a COL applicant might adopt a sump strainer cleanliness program to satisfy the emergency core cooling system requirements in the regulations. In such instances, the COL applicant should add the operational program to its list of programs in Section 13.4-x of the FSAR and should fully describe the program and its implementation in the FSAR.

#### IV. EVALUATION FINDINGS

The staff should include in the SER evaluation findings similar to the following:

The staff of the NRC has reviewed FSAR Table 13.4-x and concludes that it is an accurate summary of the operational programs evaluated in the sections of the safety evaluation report noted in the table. The COL will contain suitable license conditions regarding those operational programs for which implementation requirements are not specified in the regulations.

The license should include the following conditions:

1. The licensee shall implement the programs or portions of programs identified in Table\_\_ on or before the associated milestones in Table\_\_.
- [The table referenced in this license condition will be included in the license. It will be as shown in the attached FSAR Table 13.4-x except it will specify only those operational programs that do not have implementation requirements in the regulations at the time the COL is issued. The resulting table will contain operational program milestones acceptable to the NRC staff. The number of implementation milestones would depend on whether the program will be implemented on a phased basis or all at once. For example, the staff expects that the radiation protection program will have 4 implementation milestones (radioactive sources on site, fuel on site, fuel load, and first shipment of waste) whereas the motor-operated valve (MOV) program will be fully implemented at a specific milestone before plant startup. The portion of the program implemented at a particular milestone would be described in the implementation section of the FSAR.]
2. Within 12 months after issuance of the COL or 12 months after the start of construction as defined at 10 CFR 50.10(a), whichever is later, (Name of the licensee) shall submit to the Director, (the identification of the NRC Headquarters office responsible for oversight of the COL after issuance), or the Director's designee, a schedule for implementation of the operational programs listed in [Table 13.x-xxx, the operational program FSAR table], including the associated estimated date for initial loading of fuel. The [name of licensee] shall update the schedule every 6 months until 12 months before scheduled fuel loading, and every month thereafter until the operational programs in the FSAR table have been fully implemented.

#### V. IMPLEMENTATION

The staff will use this SRP section in performing safety evaluations of license applications submitted by applicants pursuant to 10 CFR Part 52. Except when the applicant proposes an acceptable alternative method for complying with specified portions of the Commission's

regulations, the staff will use the method described herein to evaluate conformance with Commission regulations.

The provisions of this SRP section apply to reviews of applications submitted six months or more after the date of issuance of this SRP section, unless superseded by a later revision.

## VI. REFERENCES

1. U.S. Nuclear Regulatory Commission, "Review of Operational Programs in Combined License Applications and Generic Emergency Planning Inspections, Tests, Analyses, and Acceptance Criteria," SECY-05-0197, October 28, 2005. (ADAMS Accession No. ML052770225)
2. U.S. Nuclear Regulatory Commission, "Review of Operational Programs in Combined License Applications and Generic Emergency Planning Inspections, Tests, Analyses, and Acceptance Criteria," Staff Requirements - SECY-05-0197, February 22, 2006. (ADAMS Accession No. ML060530316)

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### Paperwork Reduction Act

This Standard Review Plan provides guidance for implementing the mandatory information collections covered by 10 CFR Parts 50, and 52, and 73 that are subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et. seq.). These information collections were approved by the Office of Management and Budget (OMB), under control numbers 3150-0011, and 3150-0151, and 3150-0002 respectively. Send comments regarding this information collection to the Information Services Branch, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to [Infocollects.Resource@nrc.gov](mailto:Infocollects.Resource@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0011, and 3150-0151, and 3150-0002) Office of Management and Budget, Washington, DC 20503.

### PUBLIC PROTECTION NOTIFICATION

The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number

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## ATTACHMENT

**Sample FSAR Table 13.4-x  
Operational Programs Required by NRC Regulations**

Item	Program Title	Program Source (Required By)	FSAR (SRP) Section <sup>3</sup>	Implementation	
				Milestone	Requirement
1.	Inservice Inspection Program	10 CFR 50.55a(g)	5.2.4 5.4.2.2 6.6	Prior to Commercial service	10 CFR 50.55a(g) ASME Section XI IWA 2430(b)
2.	Inservice Testing Program	10 CFR 50.55a(f) 10 CFR Part 50, Appendix A	3.9.6 5.2.4	After main generator on-line on nuclear heat	10 CFR 50.55a(f) ASME OM Code
3.	Environmental Qualification Program	10 CFR 50.49(a)	3.11	Prior to initial fuel load	License Condition
4.	Preservice Inspection Program	10 CFR 50.55a(g)	5.2.4 5.4.2.2 6.6	Completion prior to initial plant start-up	10 CFR 50.55a(g) ASME Code Section XI IWB-2200(a)
5.	Reactor Vessel Material Surveillance Program	10 CFR 50.60; 10 CFR Part 50, Appendix H	5.3.1	None specified	License Condition
6.	Preservice Testing Program	10 CFR 50.55a(f)	3.9.6	Prior to initial fuel load	License Condition
7.	Containment Leakage Rate Testing Program	10 CFR 50.54(o); 10 CFR Part 50, Appendix A (GDC 32); 10 CFR Part 50, Appendix J;	6.2.6	Prior to initial fuel load	License condition Option A-Section III Option B-Section III.A
8.	Fire Protection Program	10 CFR 50.48	9.5.1	Prior to fuel receipt for elements of the Fire Protection Program	License Condition

Item	Program Title	Program Source (Required By)	FSAR (SRP) Section <sup>3</sup>	Implementation	
				Milestone	Requirement
				necessary to support receipt and storage of fuel on-site.  Prior to initial fuel load for elements or the Fire Protection Program necessary to support fuel load and plant operation.	
	(portions applicable to radioactive material) <sup>4</sup>	10 CFR 70.22 10 CFR 30.32 10 CFR 40.31		Prior to byproduct, source, or special nuclear materials (excluding Exempt Quantities as described in 10 CFR 30.18) receipt for elements of the Fire Protection Program necessary to support receipt and storage of byproduct, source, or special nuclear materials	10 CFR 70.22(a) 10 CFR 70.23(a)(3)-(4) 10 CFR 30.32(g) 10 CFR 30.33(a)(2) 10 CFR 40.31(a) 10 CFR 40.32(j)

Item	Program Title	Program Source (Required By)	FSAR (SRP) Section <sup>3</sup>	Implementation	
				Milestone	Requirement
9.	Process and Effluent Monitoring and Sampling Program:				
	(a) Radiological Effluent Technical Specifications/Standard Radiological Effluent Controls (RETS/SREC)	10 CFR 20.1301 and 20.1302 20.1301(e) for 40 CFR Part 190 10 CFR 50.34a 10 CFR 50.36a 10 CFR Part 50, Appendix I, Section II, III, and IV	11.5	Prior to fuel load	License Condition
	(b) Offsite Dose Calculation Manual (ODCM)	Same as above	11.5	Prior to fuel load	License Condition
	(c) Radiological Environmental Monitoring Program (REMP)	Same as above	11.5	Prior to fuel load	License Condition
	(d) Process Control Program (PCP)	Same as above	11.4	Prior to fuel load	License Condition
10.	Radiation Protection Program	10 CFR 20.1101	12.5		License Condition
	(a) Radiation Protection element	10 CFR 20.1101		Prior to receiving reactor fuel	
	(b) ALARA element	10 CFR 20.1101		Prior to initial loading of fuel in the reactor	

Item	Program Title	Program Source (Required By)	FSAR (SRP) Section <sup>3</sup>	Implementation	
				Milestone	Requirement
	(c) Minimization of contamination element	10 CFR 20.1406		Prior to initial transfer, transport or disposal of radioactive materials	
	(d) Source control element <sup>4</sup>	10 CFR 30, 40, 70 10 CFR Part 37		<p>Prior to receipt of Special Nuclear Material</p> <p>Prior to initial receipt of by-product, source, or special nuclear materials (excluding Exempt Quantities as described in 10 CFR 30.18) for those elements of the Radiation Protection Program necessary to support such receipt</p>	
11.	Non licensed Plant Staff Training Program	10 CFR 50.120	13.2.2	18 months prior to scheduled fuel load	10 CFR 50.120(b)
	(portions applicable to radioactive material) <sup>4</sup>	10 CFR 30.32 10 CFR 40.31 10 CFR 70.22		Prior to initial receipt of byproduct, source, or special nuclear materials (excluding Exempt Quantities as described in 10 CFR 30.18)	10 CFR 30.32(a) 10 CFR 40.31(a) 10 CFR 70.22(a)
12.	Reactor Operator Training Program	10 CFR 55.13; 10 CFR 55.31; 10 CFR 55.41;	13.2.1	18 months prior to initial fuel load	License Condition

Item	Program Title	Program Source (Required By)	FSAR (SRP) Section <sup>3</sup>	Implementation	
				Milestone	Requirement
		10 CFR 55.43; 10 CFR 55.45			
13.	Reactor Operator Requalification Program	10 CFR 50.34(b); 10 CFR 50.54(i); 10 CFR 55.59	13.2.1	Within 3 months after issuance of an operating license or the date, the Commission makes the finding under 10 CFR 52.103(g)	10 CFR 50.54 (i-1)
14.	Emergency Planning	10 CFR 50.47 10 CFR Part 50, Appendix E	13.3	<p>Full participation exercise conducted within 2 yrs. before the issuance of first full power operating license. Onsite exercise conducted within 1 yr before issuance of full power operating license.</p> <p>Applicants detailed implementing procedures for it's emergency plan submitted no less than 180 days prior to scheduled issuance of an operating license.</p> <p>Full participation exercise conducted</p>	<p>10 CFR Part 50, Appendix E.IV.F.2a(i) (10 CFR Part 50 applicant)</p> <p>10 CFR Part 50, Appendix E.IV.F.2a(i) (10 CFR Part 50 applicant)</p> <p>10 CFR Part 50, Appendix E.V (10 CFR Part 50 applicant)</p>

Item	Program Title	Program Source (Required By)	FSAR (SRP) Section <sup>3</sup>	Implementation	
				Milestone	Requirement
				<p>within 2 yrs of scheduled date for initial loading of fuel.</p> <p>Onsite exercise conducted within 1 yr before the schedule date for initial loading of fuel.</p> <p>Applicant's detailed implementing procedures for its emergency plan submitted no less than within 180 days prior to scheduled date for initial loading of fuel.</p>	<p>10 CFR Part 50, Appendix E.IV.F.2a(ii)</p> <p>10 CFR Part 50, Appendix E.IV.F.2a(ii)</p> <p>10 CFR Part 50, Appendix E.V.</p>
15.	Security Program				
	(a) Physical Protection Program (applicable to protection of special nuclear material prior to the protected area being declared operational)	10 CFR 73.1, 10 CFR 73.67	13.5.2.2.8 13.6	Prior to initial receipt of special nuclear material	10 CFR 73.1(a), 10 CFR 73.67
	(b) Physical Security Program	10 CFR 73.55(b); 10 CFR 73.55(c)(3); 10 CFR 73.56; 10 CFR 73.57	13.6	Prior to receipt of fuel onsite (protected area)	10 CFR 73.55(a)(4)

Item	Program Title	Program Source (Required By)	FSAR (SRP) Section <sup>3</sup>	Implementation	
				Milestone	Requirement
	(c) Safeguards Contingency Program	10 CFR 73.55(c)(5); 10 CFR 73.55(k); 10 CFR Part 73, Appendix C	13.6	Prior to receipt of fuel onsite (protected area)	10 CFR 73.55(a)(4)
	(d) Training and Qualification Program	10 CFR 73.55(c)(4); 10 CFR 73.55(d)(3); 10 CFR Part 73, Appendix B	13.6	Prior to receipt of fuel onsite (protected area)	10 CFR 73.55(a)(4)
	(e) Fitness for Duty (FFD) Program for Construction (workers and first-line supervisors)	10 CFR 26.3(c)	13.7	Prior to initiating 10 CFR Part 26 construction activities	10 CFR Part 26, Subpart K
	(f) Fitness for Duty (FFD) Program for Construction (management and oversight personnel)	10 CFR 26.3(c)	13.7	Prior to initiating 10 CFR Part 26 construction activities	10 CFR Part 26, Subparts A-H, N, and O
	(g) FFD Program for Security Personnel	10 CFR 26.4(c)(3)	13.7	Prior to initiating 10 CFR Part 26 construction activities	10 CFR Part 26, Subparts A-H, N, and O
				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. The 10 CFR	10 CFR Part 26, Subparts A-I, N, and O

Item	Program Title	Program Source (Required By)	FSAR (SRP) Section <sup>3</sup>	Implementation	
				Milestone	Requirement
				52.103(g) finding	
	(h) FFD Program for FFD Program personnel	10 CFR 26.3(c);	13.7	Prior to initiating 10 CFR Part 26 construction activities	10 CFR Part 26, Subparts A, B, D– H, N, O, and C, per licensee’s discretion
	(i) FFD Program for persons required to physically report to the Technical Support Center (TSC) or Emergency Operations Facility (EOF)	10 CFR 26.4(c)	13.7	Prior to the conduct of the first full participation emergency preparedness exercise under 10 CFR Part 50, App. E, Section F.2.a	10 CFR Part 26, Subparts A-I, N, and O, except for §§ 26.205-209
	j. FFD Program for Operation	10 CFR 26.4(a) and (b)	13.7	Prior to the earlier of: A. Establishment of a protected area, or B. The 10 CFR 52.103(g) finding	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
	k. Cyber Security Program	10 CFR 73.54(b); 10 CFR 73.55(b)(8); 10 CFR 73.55(c)(6)	13.6	Prior to receipt of fuel onsite (protected area)	10 CFR 73.55(a)(4)
	l. SNM Material Control and Accounting Program	10 CFR 74, Subpart B (§§ 74.11 – 74.19, excl. § 74.17)	13.5.2.2.9	Prior to receipt of special nuclear material	License Condition

Item	Program Title	Program Source (Required By)	FSAR (SRP) Section <sup>3</sup>	Implementation	
				Milestone	Requirement
	m. Security Program for aggregated category 1 or category 2 quantity of radioactive material (applicable to protection of aggregated quantity of radioactive material prior to fuel on site)	10 CFR 37.41(a)(1)	13.5.2.2.8 13.5.2.2.10 13.6 11.4	Prior to the accumulation of aggregated category 1 or category 2 quantity of radioactive material	10 CFR 37.41(a)(1)
16.	Quality Assurance Program - Operation	10 CFR 50.54(a); 10 CFR Part 50, Appendix A (GDC 1); 10 CFR Part 50, Appendix B	17.5	30 days prior to scheduled date for the initial loading of fuel.	10 CFR 50.54(a)(1)
17.	Maintenance Rule	10 CFR 50.65	17.6	Fuel load authorization per 10 CFR 52.103(g)	10 CFR 50.65(a)(1)
18.	Motor-Operated Valve Testing	10 CFR 50.55a(b)(3)(ii)	3.9.6	Prior to initial fuel load	License Condition

<sup>3</sup> Additional FSAR (SRP) sections may be identified under broad operational programs required by regulation (e.g., ISI, IST, etc.).

<sup>4</sup> If the COL applicant submits within the Part 52 application a request for Part 30, 40, and 70 licenses, the COL applicant should identify implementation milestones related to these licenses.

## **SRP Section 13.4, “Operational Programs”**

### **Description of Changes**

The technical changes incorporated in Revision 4, dated August 2018, include incorporation of lessons learned from previous reviews to provide a more detail description of the program requirements and implementation milestones that should be encompassed by an application submitted under 10 CFR Part 52.

Descriptions of the changes in each SRP section are as follows:

#### **I. AREAS OF REVIEW**

1. Added footnote to clarify the applicability of this SRP section.

#### **III. REVIEW PROCEDURES**

1. Added text to address the review of a generic program template that has been accepted by the staff
2. Added text to address the possibility of an applicant proposing to augment an existing operational program or the addition of a new operational program.

#### **IV. EVALUATION FINDINGS**

1. Remove license condition text for Fire Protection Program, Physical Security, Training, and Qualification Plan, and Safeguards Contingency Plan because they are addressed in the sample table.

#### **VI. REFERENCES**

1. Added accession numbers.

#### **ATTACHMENT**

1. Updated the sample table to identify new operational programs and more detailed implementation milestones and requirements due to lessons learned from previous reviews or new regulations.