INSPECTION PROCEDURE 71111 ATTACHMENT 15

OPERABILITY DETERMINATIONS AND FUNCTIONALITY ASSESSMENTS

Effective Date: July 1, 2026

PROGRAM APPLICABILITY: IMC 2515 A

CORNERSTONES: Mitigating Systems
Barrier Integrity

INSPECTION BASES: See IMC 0308 Attachment 2

SAMPLE REQUIREMENTS

Sample Requirements		Minimum Baseline Completion Sample Requirements		Budgeted Range	
Sample Type	Section	Frequency	Sample Size	Samples	Hours
Operability Determination or Functionality Assessment	03.01	Annual	13 at one reactor unit sites	13 to 19 at one reactor unit sites	87 to 113 hours at one reactor unit sites
			17 at two reactor unit sites	17 to 23 at two reactor unit sites	107 to 137 hours at two reactor unit site
			20 at three reactor unit sites	20 to 28 at three reactor unit sites	127 to 161 hours at three reactor unit sites
			7 at Vogtle Units 3 & 4	7 to 9 at Vogtle Units 3 & 4	
Temporary and Permanent Modifications	03.02	Annual	2 temporary and/or permanent modifications per site	2 per site	50 to 60 hours at Vogtle Units 3 & 4

71111.15-01 INSPECTION OBJECTIVE

To review operability determinations of technical specification (TS) SSCs (including support systems as defined in the TS), functionality assessments associated with non-TS SSCs affecting mitigating systems and barrier integrity, and selected temporary and permanent modifications, to ensure that operability or functionality is properly justified and the SSC remains capable of performing its specified safety function or current licensing basis (CLB) function, such that no unrecognized increase in risk has occurred.

71111.15-02 GENERAL GUIDANCE

Selection of operability determinations or functionality assessments should involve risk significant SSCs. Operability is a term solely associated with TS compliance. Functionality assessments do not involve compliance with TS. Inspectors should apply risk-informed insights together with other factors, such as engineering analysis and judgment, operating experience, and performance history, to determine which operability determinations or functionality assessments should be selected for review. Selection of operability determinations or functionality assessments can emerge from the inspector's review of plant status documents such as operator shift logs, emergent work documentation, deferred modifications, and standing orders to determine if an operability determination or functionality assessment is warranted for a degraded or nonconforming condition.

The following can be used to assist the inspector in identifying SSCs that have a risk priority:

Operating - Mitigating systems and barrier integrity features as determined by plant-specific risk information such as Risk Achievement Worth. Examples: High Pressure Coolant Injection (HPCI) system or Reactor Core Isolation Cooling (RCIC) system.

Shutdown - Mitigating systems and barrier integrity features that perform key safety functions during shutdown. Examples: SSCs associated with decay heat removal, inventory control, electrical power availability, reactivity control, core configuration, or containment.

IMC 0326, “Operability Determinations” provides guidance to NRC inspectors to assist in their review of licensee determinations of operability. This section contains excerpts and discussions from IMC 0326. More detailed information can be found in IMC 0326. IMC 0326 no longer contains guidance on assessments of functionality. However, pertinent guidance is retained in this Inspection Procedure (IP). In addition, Attachment 1 of this IP contains a high-level visual representation of Operability Determinations / Functionality Assessments as they relate to SSCs described and in the TS and SSCs not described in the TS.

Operability refers to the capability of a TS SSC to perform its specified safety function. The scope of SSCs considered within the operability determination process are: 1) SSCs that are required to be operable by TS (these SSCs may perform required support functions for other SSCs required to be operable by TS); and 2) SSCs that are not explicitly required to be operable by TS, but that perform support functions as defined in the TS for SSCs required to be operable by TS.

Operability determinations are appropriate whenever a condition calls into question the ability of an SSC to perform its specified safety functions. The operability determination process is used

to assess operability of SSCs and their support functions for compliance with TS when a condition is identified for a specific SSC required to be operable by TS, or when a condition is identified which impacts a necessary and related support function. Ensuring operability for any SSC described in TSs is a continual process. Licensees should evaluate operability upon discovery of a condition that results in the loss of the presumption of operability.

Functionality assessments generally refers to the capability of a non-TS SSC to perform its function set forth in the CLB. Functionality assessments may be performed for SSCs not described in TS, but which warrant programmatic controls to ensure that SSC availability and reliability are maintained. In general, these SSCs and the related controls are included in programs related to Appendix B to 10 CFR Part 50, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," and the maintenance rule (10 CFR 50.65). Additionally, SSCs not described in TS may warrant functionality assessments within the processes used to address conditions because they perform functions described in the Updated Final Safety Analysis Report (UFSAR), technical requirements manual, emergency plan, fire protection plan, regulatory commitments, or other elements of the CLB.

Normally, functionality is assessed and documented through other plant processes such as the corrective action process. It is appropriate to consider safety significance in determining the appropriate depth of a functionality assessment. Also, the effect of nonfunctional SSCs on compliance with other regulatory requirements (e.g., Appendix R, station blackout, ATWS, environmental qualification, maintenance rule) should be determined. In addition, other licensee processes and programs may need to be considered (e.g., availability, maintenance rule, reportability) when SSCs are not functional.

When evaluating the effect of a condition, a licensee may decide to implement compensatory measures as an interim action until final corrective action to resolve the condition is completed. IMC 0326 contains guidance on the use of compensatory measures. In addition, compensatory measures that substitute manual operator actions for automatic actions should be resolved expeditiously. IMC 0326 contains additional guidance on the temporary use of manual actions instead of automatic actions. A licensee may refer to these compensatory measures as "Operator Work Arounds (OWAs)."

In addition, if a compensatory measure involves a temporary facility or procedure change, 10 CFR 50.59 should be applied to the temporary change with the intent to determine whether the temporary change/compensatory measure itself (not the condition) impacts other aspects of the facility or procedures described in the UFSAR. In considering whether a temporary facility or procedure change impacts other aspects of the facility, a licensee should apply 10 CFR 50.59, paying particular attention to ancillary aspects of the temporary change that result from actions taken to directly compensate for the condition. Licensees may use the guidance in NEI 96-07, Revision 1, "Guidelines for Implementing 10 CFR 50.59," which is endorsed by Regulatory Guide 1.187, "Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments." NEI has also published a NEI 96-07, Revision 1, Appendix E, "User's Guide for NEI 96-7, Revision 1, Guidelines for 10 CFR 50.59 Implementation." However, NEI 96-07, Revision 1, Appendix E has not been reviewed or endorsed by the NRC. If needed, questions regarding potential 10 CFR 50.59 issues as a result of a licensee's use of Appendix E can be raised with the DORL PM.

For Section 03.02 samples, inspectors should consider selecting temporary or permanent modifications affecting risk-significant SSCs, including modifications associated with degraded or nonconforming conditions, compensatory measures, or other conditions that could affect

operability or functionality. For specific guidance on review of modifications, refer to IP 71111.18, “Plant Modifications.”

For each sample, a routine review of problem identification and resolution activities should be conducted. Consider if the licensee is identifying problems with operability determinations and functionality assessments at an appropriate threshold, entering them in the corrective action program, and is identifying and implementing appropriate corrective actions. IP 71152, “Problem Identification and Resolution (PI&R),” contains background information with regards to conducting reviews of Problem Identification and Resolution activities during the conduct of baseline inspection procedures.

71111.15-03 INSPECTION SAMPLES

03.01 Review the licensee’s operability determination or functionality assessment to verify that operability or functionality is justified and that the licensee is taking appropriate actions.

Specific Guidance

The intent of this inspection is to sample licensee’s operability determinations and functionality assessments for risk significant SSCs to determine if operability determinations and functionality assessments are justified, such that operability and/or availability are assured, and no unrecognized increase in risk has occurred. Also, the inspections should determine if operability and functionality concerns associated with plant issues and events are being identified.

Inspectors should consider the following aspects:

- The selected operability determination or functionality assessment has appropriately considered the potential cause(s), extent of the condition, and adverse effects on associated SSC specified safety functions or CLB functions. Refer to the updated final safety analysis report (UFSAR) and other design basis documents during the review.

- The licensee is looking beyond the prominent symptoms of the condition to ensure that a narrow focus or non-conservative assumption does not compromise the justification that the SSC remains capable of performing its specified safety functions or CLB functions.

- If the operability or functionality assessment involves compensatory measures: The measures are in place, work as intended, do not cause system operation in a manner inconsistent with the specified safety function or CLB function, and are appropriately controlled. The licensee is considering other conditions and their impact on any compensatory measures for the condition being evaluated. The licensee is considering whether use of a compensatory measure requires a license amendment.

- If operability or functionality are not justified, appropriate actions are taken including a determination of impact on any TS limiting condition for operation (LCO).

Depending on the complexity and risk significance of an issue, an inspector may consider consulting with regional specialists to complete a review of a licensee's operability determination or functionality assessment. The regional specialist's time spent on reviewing the issue should be charged to this procedure.

03.02 Review selected temporary and permanent modifications to verify that the modifications have not adversely affected operability, functionality, design bases, licensing bases, or the ability of SSCs to perform their specified safety functions or current licensing basis functions.

Specific Guidance

The intent of this inspection is to sample selected temporary and permanent modifications affecting risk-significant SSCs to determine if the modifications have adversely affected operability, functionality, design bases, licensing bases, or the ability of SSCs to perform their specified safety functions or current licensing basis functions, such that no unrecognized increase in risk has occurred. Also, the inspections should determine if concerns associated with plant modifications are being identified and appropriately addressed. Inspectors should consider the following aspects:

- The selected temporary or permanent modification has appropriately considered the potential adverse effects on associated SSC specified safety functions or CLB functions. Refer to the updated final safety analysis report (UFSAR), Technical Specifications, and other design basis documents during the review.
- The modification and associated documentation, as applicable, are consistent with the design and licensing bases, including configuration control, affected procedures, equipment tagging, and post-installation or restoration testing.
- If the licensee is appropriately considering whether the modification affects interfacing systems, support systems, compensatory measures, or other SSCs that could affect operability or functionality.
- If the modification involves compensatory measures or temporary facility or procedure changes, the measures are in place, work as intended, do not cause system operation in a manner inconsistent with the specified safety function or CLB function, and are appropriately controlled.
- Inspectors should consider selecting modifications associated with degraded or nonconforming conditions, compensatory measures, or other conditions that could affect operability or functionality.

For specific guidance on review of modifications, refer to IP 71111.18, "Plant Modifications." For operability-related considerations associated with modifications, refer to IMC 0326, "Operability Determinations."

Depending on the complexity and risk significance of a modification, an inspector may consider consulting with regional specialists to complete a review of the temporary or permanent modification. The regional specialist's time spent reviewing the modification should be charged to this procedure.

71111.15-04 REFERENCES

IP 71152, “Problem Identification and Resolution (PI&R)”

IP 71111.18, “Plant Modifications”

IMC 0326, “Operability Determinations”

IMC 2515, “Light-Water Reactor Inspection Program - Operations Phase”

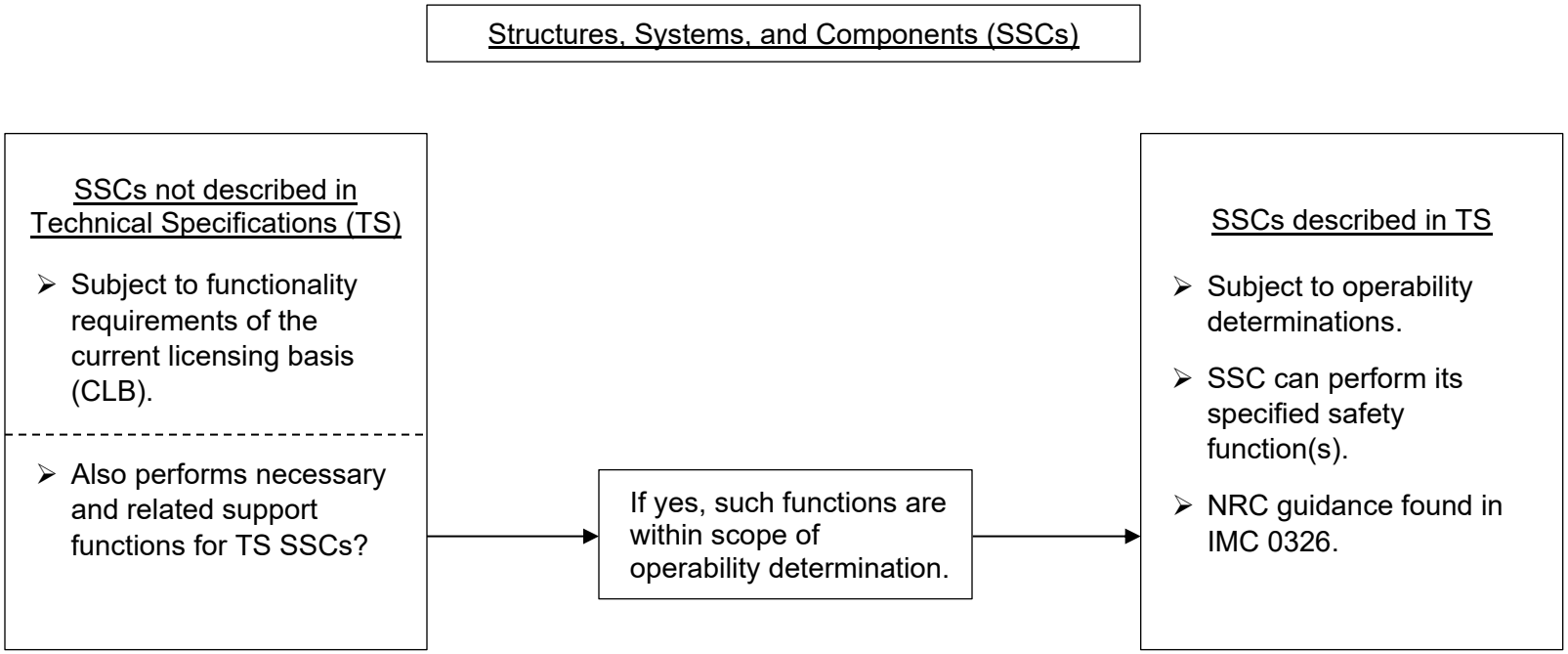
10 CFR 50.59, “Changes, tests, and experiments.”

NRC Regulatory Guide 1.187, “Guidance for Implementation of 10 CFR 50.59, Changes, Test, and Experiments,” Jun 2021. (ML21109A002)

NEI 96-07, Revision 1, “Guidelines for 10 CFR 50.59 Evaluations,” (Nov 2000). (ML003771157)

END

Attachment 1: Operability Determinations / Functionality Assessments of SSCs



Attachment 2: Revision History for IP 71111.15

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment Resolution and Closed Feedback Form Accession Number (Pre-Decisional, Non-Public Information)
	ML003729444 04/03/00 CN 00-003	Initial Issuance	Yes	
N/A	ML020380579 01/17/02 CN 02-001	Revised to provide minor clarifications to inspection requirements and additional inspection guidance concerning operability determinations. In addition, inspection resource estimates and inspection level of effort are revised to provide a band for more inspection	N/A	N/A
N/A	ML040690557 02/02/04 CN 04-003	Revised to include deferred modifications to the inspection sampling list.	N/A	N/A
N/A	ML060060380 01/05/06 CN 06-001	Increased the estimated resources required to complete this inspection activity based on increased inspection hours charged to this IP during last several ROP cycles. Completed historical CN search.	N/A	N/A
N/A	ML061730334 07/26/06 CN 06-018	Revised to reflect changes of reference documents: GL91-18 was superseded by RIS 2005-20. Revision history reviewed for the last four years.	N/A	N/A
N/A	ML073050448 01/31/08 CN 08-005	Add inspection guidance to verify that licensee has correctly implemented 10 CFR 50.59 regulatory requirements if operability determinations warrant such 50.59 evaluations be performed.	N/A	N/A

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment Resolution and Closed Feedback Form Accession Number (Pre-Decisional, Non-Public Information)
N/A	ML092300320 11/16/09 CN 09-027	Added 6 hours of inspection resources. See 2009 ROP Realignment Results (ML092090312)	N/A	N/A
N/A	ML110030073 04/05/11 CN 11-005	This change clarifies and enhances the sample selection guidance related to functionality assessments associated with TS SSC operability determinations and provides the additional latitude to select risk significant SSCs which may not be identified in TS for sampling (71111.15 – 1597). Added the definition of a degraded condition (71111.15 – 1625).	N/A	ML110630221
N/A	ML112010663 10/28/11 CN 11-025	Resources changed to reflect the 2011 ROP Realignment (ML11178A329).	N/A	N/A
N/A	ML14260A356 12/17/14 CN 14-030	1. Relocate operator workaround from IP 71152 per BIP Enhancement Project Encl. 5 Operability Recommendation 1; 2. Delete 02.01.f. as it is redundant with IMC 0612 App. B; 3. Update 71111.15-06 REFERENCES; This revision addresses or partially addresses ROPFF #'s 71111.15-1742, 71111.15-1974, and beyond-scope administrative comments that were accepted during 30-day comment process (ML14287A037)	Yes 12/31/14	ML14287A037 FBF 71111.15-1742 ML14351A020 FBF 71111.15-1974 ML14351A022

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment Resolution and Closed Feedback Form Accession Number (Pre-Decisional, Non-Public Information)
N/A	ML16147A250 12/22/16 CN 16-035	Revisions are made to address use of mandatory and discretionary language concerns and recommendations found in OIG-16-A-12 (ML16097A515). Requirement to inspect at least one sample associated with OWAs has been deleted.	None	ML16158A083
N/A	ML19113A142 04/30/19 CN 19-013	Editorial revision to support proposed modification to RPS-Inspections for tracking inspection activity / completion.	None	N/A - Editorial change issued without comment period.
N/A	ML19199A089 12/20/19 CN 19-041	Revisions are made to: (1) conform to new IP format requirements found in IMC 0040 (ML18003A122), and (2) reflect revisions to IMC 0326.	None	ML19259A079
N/A	ML20238B973 10/05/20 CN 20-046	Revisions are made to: (1) add inspection samples specifically for Vogtle 3 & 4 as identified in SECY-20-0050, “Planned Revisions To The Baseline Inspection Program For The AP1000 Reactor Design,” (ML20058F491), and (2) remove guidance associated with tornado missile protection compliance issues due to expiration of enforcement discretion.	None	ML20239A738
N/A	ML25083A063 04/09/25 CN 25-006	Periodic 5-year review completed per IMC 0040. Editorial revision to update references section made.	None	N/A - Editorial change issued without comment period.

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment Resolution and Closed Feedback Form Accession Number (Pre-Decisional, Non-Public Information)
N/A	ML26107A190 05/14/26 CN 26-022	Revised to add a new temporary and permanent modifications sample to IP 71111.15 by incorporating selected guidance concepts from IP 71111.18, “Plant Modifications.” Sample requirements were rebalanced to include two modification samples per site while maintaining the existing overall site sample and hour ranges. References and inspection guidance were updated accordingly.	N/A	N/A. No formal comment period.