



U.S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF NUCLEAR REGULATORY RESEARCH  
**REGULATORY GUIDE**

July 2015  
Revision 2

Technical Lead  
James Gaslevic

**REGULATORY GUIDE 1.215**

*(Draft was issued as DG-1316, dated December 2014)*

**GUIDANCE FOR ITAAC CLOSURE UNDER 10 CFR PART 52**

**A. INTRODUCTION**

**Purpose**

This regulatory guide (RG) describes a method that the staff of the U.S. Nuclear Regulatory Commission (NRC) considers acceptable for use in satisfying the requirements for documenting the completion of inspections, tests, analyses, and acceptance criteria (ITAAC) for the implementation of Title 10 of the *Code of Federal Regulations*, (10 CFR) 52.99 “Inspection during construction; ITAAC schedules and notifications; NRC notices” (Ref. 1).

**Applicable Regulations**

- As required by 10 CFR 52.99, licensees must notify the NRC that the prescribed inspections, tests, and analyses have been performed and that the prescribed acceptance criteria are met for each ITAAC included in their combined license (COL). The ITAAC closure notifications (ICNs) shall contain sufficient information to demonstrate that the prescribed inspections, tests and analyses have been performed and that the prescribed acceptance criteria are met. Licensees must also notify the NRC of new information that materially alters the determination basis for a previously completed ITAAC, including how this new information was resolved, during the ITAAC maintenance phase. At or before 225 days before scheduled fuel load, licensees must notify the NRC on how uncompleted ITAAC will be completed, including the specific procedures and analytical methods to be used to complete the ITAAC. Lastly, the licensee must notify the NRC when all ITAAC included in its COL have been completed.
- As required by 10 CFR 52.97 “Issuance of combined licenses,” COLs must contain ITAAC that are necessary and sufficient to provide reasonable assurance that the facility has been constructed and will be operated in accordance with the license; the Atomic Energy Act of 1954, as amended; and NRC rules and regulations.

**Purpose of Regulatory Guides**

The NRC issues RGs to describe to the public methods that the staff considers acceptable for use in implementing specific parts of the agency’s regulations, to explain techniques that the staff uses in evaluating specific problems or postulated events, and to provide guidance to applicants. Regulatory

---

Written suggestions regarding this guide or development of new guides may be submitted through the NRC’s public Web site under the Regulatory Guides document collection of the NRC Library at <http://www.nrc.gov/reading-rm/doc-collections/reg-guides/contactus.html>.

Electronic copies of this regulatory guide, previous versions of this guide, and other recently issued guides are available through the NRC’s public Web site under the Regulatory Guides document collection of the NRC Library at <http://www.nrc.gov/reading-rm/doc-collections/>. The regulatory guide is also available through the NRC’s Agencywide Documents Access and Management System (ADAMS) at <http://www.nrc.gov/reading-rm/adams.html>, under ADAMS Accession No. ML15105A447. The regulatory analysis may be found in ADAMS under Accession No. ML14258B184 and the staff responses to the public comments on DG-1316 may be found under ADAMS Accession No. ML15105A446.

---

guides are not substitutes for regulations and compliance with them is not required. Methods and solutions that differ from those set forth in RGs are acceptable if they provide a basis for licensing or other regulatory findings by the Commission.

### **Paperwork Reduction Act**

This RG contains information collection requirements covered by 10 CFR Part 52 (“Licenses, Certifications, and Approvals for Nuclear Power Plants”) that the Office of Management and Budget (OMB) approved under OMB control number 3150-0151. The NRC may neither conduct nor sponsor, and a person is not required to respond to, an information collection request or requirement unless the requesting document displays a currently valid OMB control number.

## **B. DISCUSSION**

### **Reason for Revision**

This revision (Revision 2) of RG 1.215 approves for use Nuclear Energy Institute (NEI) 08-01, “Industry Guideline for the ITAAC Closure Process under 10 CFR Part 52,” Revision 5 – Corrected (Ref. 2), subject to certain exceptions and additional guidance described in this regulatory guide under Section C, Staff Regulatory Guidance. NEI 08-01, Revision 5 – Corrected, was updated to include additional guidance related to ITAAC maintenance, lessons learned from simulated ITAAC closure implementation, changes to the information and formatting guidance for uncompleted ITAAC notifications, and other enhancements. The revised industry guidelines also contain additional examples of ITAAC closure notifications (ICNs) that were discussed during numerous public meetings between the NRC and industry.

The original version of this RG was issued in October 2009 (Ref. 3), and approved for use NEI 08-01, Revision 3, issued January 2009 (Ref. 4). NEI 08-01 provided generic guidance for the ITAAC closure program for new nuclear plants licensed under 10 CFR Part 52, and was developed following discussions with the NRC during the period 2007 to 2008. The document provided a common framework and understanding of the 10 CFR Part 52 ITAAC closure process to all stakeholders. Revision 1 of this RG, issued May 2012 (Ref. 5), approved for use NEI 08-01, Revision 4, issued July 2010 (Ref. 6). Revision 4 included additional guidance related to maintaining the validity of ITAAC conclusions following the submittal of ICNs in support of the final ITAAC finding required by 10 CFR 52.103(g) that all acceptance criteria are met.

The current revision of NEI 08-01 has numerous changes and additions from the 2010 version. The first of these changes are updates to and additional definitions in Section 2 of the document. The second set of changes relate to ITAAC maintenance and include the following: (1) changes to conform to the final ITAAC maintenance rule and the guidance in RG 1.215, Rev. 1, (2) guidance on ITAAC maintenance for Design Acceptance Criteria (DAC) and Design Reliability Assurance Program (D-RAP) ITAAC, and (3) revisions to several ITAAC maintenance examples in Appendix H. The third change in the latest revision of NEI 08-01 is the modification of existing ITAAC closure notification guidance and examples to reflect lessons learned regarding content expectations for ITAAC closure notifications. The fourth change is the addition of new ITAAC closure notification examples to cover additional technical areas related to ITAAC. The fifth set of changes is to the information and formatting guidance for uncompleted ITAAC notifications. After these changes, the format of uncompleted ITAAC notifications better match the format of ITAAC closure notifications, which will make it easier for readers to compare an uncompleted ITAAC notification with a later ITAAC closure notification on the same ITAAC. Also, the uncompleted ITAAC notifications now focus more on the methods for completing the ITAAC than on

the schedule for completing ITAAC activities. Furthermore, the NRC staff has accepted NEI's proposal to use ITAAC closure notification examples to inform the content expectations for uncompleted ITAAC notifications because the revised and improved ITAAC closure notification examples meet the "specific procedures and analytical methods" standard for uncompleted ITAAC notifications.

The sixth set of changes adds guidance on the kind of D-RAP ITAAC that is acceptable for inclusion in a COL, on methods for closing such ITAAC, and on the relationship between D-RAP ITAAC closure and engineering design verification inspections. The seventh change adds guidance on the closure of "reference ITAAC," i.e., ITAAC that have an entry in the "Design Commitment" column, but the "Inspections, Tests, Analyses" and "Acceptance Criteria" fields contain only a reference to another ITAAC. The eighth change is a revised discussion on licensee practices for compiling ITAAC completion packages. The ninth change is the addition of guidance on mitigating and managing issues associated with the large number of ITAAC that are expected to be completed in the last year of construction. The tenth change is the incorporation of guidance in RG 1.215, Revision 1, on the topics of sensitive information in ITAAC notifications and partial ITAAC closure notifications.

## **Background**

The regulation 10 CFR 52.99 includes requirements for documenting and reporting that the inspections, tests, and analyses have been performed and that the acceptance criteria for each ITAAC contained in a COL are met. It also sets forth requirements for notifying the NRC of uncompleted ITAAC, of potential changes in the completion status of ITAAC previously reported to the NRC as being met, and when all ITAAC are complete.

This RG provides guidance on licensee notifications to the NRC for completed and uncompleted ITAAC, post-closure notifications on ITAAC maintenance activities, and notifications declaring that the licensee has completed all ITAAC contained in the COL. The NRC uses these notifications to determine whether the licensee has successfully completed ITAAC, to verify that acceptance criteria are met, to facilitate public participation in the ITAAC hearing process, and to plan inspections. This RG, through its approval for use of an industry guidance document, describes methods that the NRC staff considers acceptable for licensees to use for documenting, reporting, and maintaining the satisfactory completion of the ITAAC in the COL as required by 10 CFR 52.99.

## **Types of ITAAC Notifications**

The regulation 10 CFR 52.99 requires licensees to submit several types of ITAAC notifications to the NRC. The first type of ITAAC notification (ITAAC closure notification) must be submitted by the licensees in accordance with 10 CFR 52.99(c)(1). The ITAAC closure notification must inform the NRC of the basis for the licensee's determination that it has successfully completed an ITAAC. ITAAC closure notifications must be submitted for all ITAAC, with the exception of those ITAAC resolved at COL issuance under 10 CFR 52.97(a)(2). The second type of ITAAC notification, an ITAAC post-closure notification (formerly referred to as a supplemental ITAAC closure notification) is governed by 10 CFR 52.99(c)(2) and would apply to ITAAC for which an ITAAC closure notification has previously been submitted. This notification would result from the occurrence and resolution of an event that materially altered the basis for determining that a prescribed inspection, test, or analysis was performed as required, or for finding that a prescribed acceptance criterion is met. This ITAAC post-closure notification would describe the resolution of the circumstances surrounding the identification of new material information, and would need to contain sufficient information to demonstrate that, notwithstanding the new information, the prescribed inspections, tests, or analyses have been performed as required and the prescribed acceptance criteria are met. The third type of ITAAC notification (uncompleted ITAAC notification) must be submitted by licensees in accordance with

10 CFR 52.99(c)(3) at least 225 days before the scheduled initial loading of fuel. An uncompleted ITAAC notification must describe how the licensee will successfully complete all uncompleted ITAAC before fuel is loaded. The final type of notification under 10 CFR 52.99(c)(4) informs the NRC that the licensee has successfully completed all ITAAC in the COL.

### Definitions and Terminology in NEI 08-01 for ITAAC Notifications

Section 2 of NEI 08-01 provides a list of definitions for terminology. Some of these definitions will reappear in other documents, such as COL applications, design certification applications, and other supporting documents. However, the COL licensees referencing the design certification are, of course, bound by the definitions in the design certification rather than by the definitions in NEI 08-01, unless they seek an exemption from the Tier 1 definition. The NRC staff believes that the NEI 08-01 definitions could form the basis for a Tier 1 definition in future design certifications, design certification amendments, and plant-specific exemptions to already certified designs.

### **Appendices to this Regulatory Guide**

Appendix A to this RG is derived from Enclosure 1 to SECY-10-0100, “Staff Progress in Resolving Issues Associated with Inspections, Tests, Analyses, and Acceptance Criteria,” dated August 5, 2010 (Ref. 7). Enclosure 1 to SECY-10-0100 presents a detailed discussion of when a license amendment is required in the ITAAC maintenance context. Although Sections 3.2, 8.1, and 8.2 of NEI 08-01 discuss the need for license amendments and exemptions in the ITAAC context, Appendix A to this RG is a more detailed discussion specifically focused on issues associated with ITAAC maintenance.

Appendix B to this RG contains a flowchart and description for the implementation of 10 CFR 52.99 and 10 CFR 52.103(g) that the staff developed, as described in Enclosure 3 of SECY-08-0117, “Staff Approach To Verify Closure of Inspections, Tests, Analyses, and Acceptance Criteria and To Implement Title 10 CFR 52.99, ‘Inspection during Construction,’ and Related Portion of 10 CFR 52.103(g) on the Commission Finding,” dated August 7, 2008 (Ref. 8). This flowchart has been updated to reflect developments since SECY-08-0117. The process flowchart blocks are accompanied by numbered descriptions to further delineate each major milestone in the regulatory process for ITAAC closure and verification, up to and including the 10 CFR 52.103(g) finding.

### **Harmonization with International Standards**

The NRC staff reviewed guidance from the International Atomic Energy Agency (IAEA), International Organization for Standardization (ISO), and International Electrotechnical Commission (IEC) and did not identify any standards that provide useful guidance to NRC staff, applicants, or licensees on ITAAC notifications, which is a regulatory concept unique to the U.S., and therefore is not within the scope of IAEA activities, the ISO or the IES.

### **Documents Discussed in Staff Regulatory Guidance**

This RG approves for use, in part, a third-party guidance document. This third-party guidance document may contain references to other codes, standards or third party guidance documents (“secondary references”). If a secondary reference has itself been incorporated by reference into NRC regulations as a requirement, then licensees and applicants must comply with that standard as set forth in the regulation. If the secondary reference has been endorsed in an RG as an acceptable approach for meeting an NRC requirement, then the standard constitutes a method acceptable to the NRC staff for meeting that regulatory requirement as described in the specific RG. If the secondary reference has neither been incorporated by reference into NRC regulations nor endorsed in an RG, then the secondary

reference is neither a legally-binding requirement nor a “generic” NRC approved acceptable approach for meeting an NRC requirement. However, licensees and applicants may consider and use the information in the secondary reference, if appropriately justified, consistent with current regulatory practice, and consistent with applicable NRC requirements.

## **C. STAFF REGULATORY GUIDANCE**

### **1. Use of NEI 08-01**

The NRC staff considers the methods discussed in NEI 08-01, Revision 5 - Corrected, to be acceptable for complying with the provisions of 10 CFR 52.99, with the exceptions and additional guidance discussed below. The NEI 08-01 guidance for ITAAC closure notification development is considered to be applicable to all ITAAC, regardless of whether the source of the ITAAC is a generic design certification or a site-specific application. Operation (which includes loading fuel) cannot commence until the NRC finds under 10 CFR 52.103(g) that all acceptance criteria in the COL are met.

- a. As stated in NEI 08-01 Section 3.1.2, licensees should document ITAAC completion under their Quality Assurance (QA) program because ITAAC have special regulatory significance under 10 CFR Part 52. Licensees should refer to NUREG-0800, “Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition,” Chapter 17, “Quality Assurance,” Section 17.5, “Nonsafety-Related SSC Quality Controls,” (Ref. 9) for guidance on QA use during the construction and installation of SSCs. In particular, the licensee should adopt a graded QA approach for the completion of NSR ITAAC and ITAAC associated with the regulatory treatment of NSR systems.
- b. The NRC expects to issue COLs which include an appendix that contains a complete, integrated list of ITAAC for each licensed unit, drawn from the design control document, early site permit (ESP), limited work authorization (LWA), and COL application, as applicable. The NRC expects that licensees will submit ITAAC closure notifications using the nomenclature and numbering scheme of the ITAAC identified in the COL. This will minimize errors and ensure consistent referencing of specific ITAAC by the licensee, the NRC, and the public. The COL ITAAC appendix is considered to be the appropriate reference since it is possible that the site-specific ITAAC could differ from the design certification document (DCD) ITAAC. This clarification is needed because some of the ITAAC notification examples identify the ITAAC as coming from a particular certified design. For the same reason, when the ITAAC notification refers to a table in the ITAAC, the reference should not be to the DCD, but should be to the table in the ITAAC appendix in the license.
- c. All notifications on an ITAAC under 10 CFR Part 52.99 should include the ITAAC Index number and ITAAC Section number assigned to the ITAAC in the COL as part of the subject line. For example, the subject line for all submitted ICNs should state “ITAAC Closure Notification on Completion of {Site Name, Unit No., ITAAC Section No., and ITAAC Index No.}.” When the licenses are issued, the ITAAC are contained in an appendix to the COL and each ITAAC is given an index number that ranges from 1 to the number of ITAAC in the COL (e.g., 875 for Vogtle Unit 3). The Index number format simplifies the future identification of all notifications made on a given ITAAC in a COL. It should be noted that due to possible additions, deletions, and changes to ITAAC after COL issuance, there may not be a direct correlation between the highest ITAAC index number and the total number of

ITAAC in a COL. The ITAAC Section number is the number assigned to the ITAAC in regard to the section of the ITAAC appendix of a COL in which the ITAAC appears.

- d. In numerous ICN examples, the determination basis simply refers to an endorsed or approved code (e.g. ASME Section III). While not required, citing the specific relevant code section(s) or article(s) used in performing the ITAAC can facilitate the staff's review of the ICN. In addition, if the code or article has been endorsed by an RG, the RG should be referenced, especially if there are specific conditions or restrictions on the use of the code or article (e.g., use of ASME Code XXX is conducted as accepted in RG 1.YYY).
- e. Although there is no current guidance in NEI 08-01 for the content of the 10 CFR 52.103(a) scheduled fuel load notification, the staff provides the following: The initial notification should include the anticipated date (270 days in the future) of initial loading of fuel. The updates required by 10 CFR 52.103, "Operation under a combined license," should include updates to the anticipated date, if applicable. In determining the anticipated date, the licensee should use NRC guidance on timeframes for the NRC's completion of its review and the making of the 10 CFR 52.103(g) finding. This NRC guidance will be developed in the future.
- f. The design and configuration control program should include an assessment and evaluation that confirm that the ITAAC potentially affected by a proposed change are still valid and that assure the functionality originally intended.
- g. As described above, Appendix A to this RG includes a detailed discussion of when a license amendment is required in the ITAAC maintenance context.

## 2. Use of Examples in NEI 08-01

NEI 08-01 includes examples for notifications required by 10 CFR 52.99. Although these examples are intended to illustrate and reinforce the guidance in NEI 08-01, the licensee should not consider the NRC's endorsement of this industry guideline document a determination that each example applies to all licensees as it is presented and written in the guide, but rather as an example of what constitutes sufficient information for the ITAAC presented. A licensee should ensure that an example applies to its particular circumstances before implementing it. The "sufficient information," required by 10 CFR 52.99(c)(1), for any individual ITAAC closure notification can only be generically guided by the examples presented in NEI 08-01, Revision 5 - Corrected. Ultimately, "sufficient information" must be determined with respect to the specific facts surrounding each ITAAC performance and closure.

## D. IMPLEMENTATION

The purpose of this section is to provide information on how applicants and licensees<sup>1</sup> may use this guide and information regarding the NRC's plans for using this RG. In addition, it describes how the NRC staff complies with 10 CFR 50.109, "Backfitting," and any applicable finality provisions in 10 CFR Part 52.

### Use by Applicants and Licensees

Applicants and licensees may voluntarily<sup>2</sup> use the guidance in this document to demonstrate compliance with the underlying NRC regulations. Methods or solutions that differ from those described in this RG may be deemed acceptable if they provide sufficient basis and information for the NRC staff to verify that the proposed alternative demonstrates compliance with the appropriate NRC regulations. Current licensees may continue to use guidance the NRC found acceptable for complying with the identified regulations as long as their current licensing basis remains unchanged.

Licensees may use the information in this RG for actions that do not require NRC review and approval such as changes to a facility design under 10 CFR 50.59, "Changes, Tests, and Experiments". Licensees may use the information in this RG or applicable parts to resolve regulatory or inspection issues.

### Use by NRC Staff

The NRC staff does not intend or approve any imposition or backfitting of the guidance in this RG. The NRC staff does not expect any existing licensee to use or commit to using the guidance in this RG, unless the licensee makes a change to its licensing basis. The NRC staff does not expect or plan to request licensees to voluntarily adopt this RG to resolve a generic regulatory issue. The NRC staff does not expect or plan to initiate NRC regulatory action that would require the use of this RG. Examples of such unplanned NRC regulatory actions include issuance of an order requiring the use of the RG, requests for information under 10 CFR 50.54(f) as to whether a licensee intends to commit to use of this RG, generic communication, or promulgation of a rule requiring the use of this RG without further backfit consideration.

During regulatory discussions on plant-specific operational issues, the staff may discuss with licensees various actions consistent with staff positions in this RG, as one acceptable means of meeting the underlying NRC regulatory requirement. Such discussions would not ordinarily be considered backfitting even if prior versions of this RG are part of the licensing basis of the facility. However, unless this RG is part of the licensing basis for a facility, the staff may not represent to the licensee that the licensee's failure to comply with the positions in this RG constitutes a violation.

If an existing licensee voluntarily seeks a license amendment or change and (1) the NRC staff's consideration of the request involves a regulatory issue directly relevant to this new or revised RG and (2) the specific subject matter of this RG is an essential consideration in the staff's determination of the

---

1 In this section, "licensees" refers to licensees of nuclear power plants under 10 CFR Parts 50 and 52; and "applicants," refers to applicants for licenses and permits for (or relating to) nuclear power plants under 10 CFR Parts 50 and 52, and applicants for standard design approvals and standard design certifications under 10 CFR Part 52.

2 In this section, "voluntary" and "voluntarily" mean that the licensee is seeking the action of its own accord, without the force of a legally binding requirement or an NRC representation of further licensing or enforcement action.

acceptability of the licensee's request, then the staff may request that the licensee either follow the guidance in this RG or provide an equivalent alternative process that demonstrates compliance with the underlying NRC regulatory requirements. This is not considered backfitting as defined in 10 CFR 50.109(a)(1) or a violation of any of the issue finality provisions in 10 CFR Part 52.

Additionally, an existing applicant may be required to comply with new rules, orders, or guidance if 10 CFR 50.109(a)(3) applies.

If a licensee believes that the NRC is either using this RG or requesting or requiring the licensee to implement the methods or processes in this RG in a manner inconsistent with the discussion in this Implementation section, then the licensee may file a backfit appeal with the NRC in accordance with the guidance in NUREG-1409, "Backfitting Guidelines," (Ref. 10) and the NRC Management Directive 8.4, "Management of Facility-Specific Backfitting and Information Collection" (Ref. 11).



## REFERENCES<sup>1</sup>

1. *U.S. Code of Federal Regulations* (CFR), Title 10, "Energy," Section 52.99, "Inspection during construction; ITAAC schedules and notifications; NRC notices," U.S. Nuclear Regulatory Commission, Washington, DC.
2. Nuclear Energy Institute (NEI) technical report 08-01, "Industry Guideline for the ITAAC Closure Process under 10 CFR Part 52," Revision 5 - Corrected, Washington, DC, June 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14182A158).
3. U.S. Nuclear Regulatory Commission (NRC) Regulatory Guide (RG) 1.215, "Guidance for ITAAC Closure Under 10 CFR Part 52," Revision 0, Washington, DC (ADAMS Accession No. ML091480076).
4. NEI 08-01, "Industry Guideline for the ITAAC Closure Process under 10 CFR Part 52," Revision 3, Washington, DC, January 2009 (ADAMS Accession No. ML090270415).
5. NRC, RG 1.215, "Guidance for ITAAC Closure Under 10 CFR Part 52," Revision 1, Washington, DC (ADAMS Accession No. ML112580018).
6. NEI 08-01, "Industry Guideline for the ITAAC Closure Process under 10 CFR Part 52," Revision 4, Washington, DC, July 2010 (ADAMS Accession No. ML102010051).
7. NRC, SECY-10-0100, "Staff Progress in Resolving Issues Associated with Inspections, Tests, Analyses, and Acceptance Criteria," Washington, DC, August 5, 2010 (ADAMS Accession No. ML101660706).
8. NRC, SECY-08-0117, "Staff Approach To Verify Closure of Inspections, Tests, Analyses, and Acceptance Criteria and To Implement Title 10 CFR 52.99, 'Inspection During Construction,' and Related Portion of 10 CFR 52.103(g) on the Commission Finding," August 7, 2008, Washington, DC (ADAMS Accession No. ML081220237).
9. NRC, NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," Washington, DC.
10. NRC, NUREG-1409, "Backfitting Guidelines," Washington, DC, July 1990 (ADAMS Accession No. ML032230247).
11. NRC, Management Directive 8.4, "Management of Facility-Specific Backfitting and Information Collection," Washington, DC.
12. NRC Inspection Manual Chapter 2503, "Construction Inspection Program: Inspections of Inspections, Tests, Analyses and Acceptance Criteria (ITAAC) Related Work," Washington, DC.

---

1 Publicly available NRC published documents are available electronically through the NRC Library on the NRC's public Web site at: <http://www.nrc.gov/reading-rm/doc-collections/>. The documents can also be viewed online or printed for a fee in the NRC's Public Document Room (PDR) at 11555 Rockville Pike, Rockville, MD; the mailing address is USNRC PDR, Washington, DC 20555; telephone (301) 415-4737 or (800) 397-4209; fax (301) 415-3548; and e-mail [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov).

13. NRC Inspection Manual Chapter 2504, "Construction Inspection Program - Inspection of Construction and Operational Programs," Washington, DC.
14. NRC Inspection Manual Chapter 2514, "Light Water Reactor Inspection Program – Startup Testing Phase," Washington, DC.

## **APPENDIX A**

### **INSPECTIONS, TESTS, ANALYSES, AND ACCEPTANCE CRITERIA MAINTENANCE THRESHOLDS AND ASSOCIATED LICENSE AMENDMENTS<sup>1</sup>**

Four thresholds for identifying when activities would materially alter the determination bases for inspections, tests, analyses, and acceptance criteria (ITAAC) are presented below. Following each threshold is a discussion on license amendments that would be necessary beyond the envelope of the threshold. These discussions describe scenarios that pertain to the threshold and state when a license amendment would be necessary.

#### Threshold 1: Postwork Verification

Will the postwork verification (PWV) use a significantly different approach than the original performance of the inspection, test, or analysis (ITA) as described in the original ITAAC notification?

Threshold 1 involves situations in which the occurrence of an event could call into question whether a licensee continues to meet an acceptance criterion (AC). Such situations could involve many types of maintenance activities, including component replacement. After work is complete, a PWV will be used to confirm that the licensee still meets the AC. The PWV is not a performance of the ITA because the licensee has already satisfied the requirement to perform the ITA; instead, the PWV and its results supplement the performance of the ITA to provide confidence that the licensee continues to meet the AC. The nature and the scope of the PWV will depend upon the nature of the initiating event, the maintenance activities undertaken, and the specific ITAAC that is implicated by the event. If the PWV represents an alternate approach that is significantly different from the approach described in the original ITAAC notification, a supplemental notification is necessary to provide the agency and members of the public information that is material to the agency's determination on ITAAC.

Because the PWV is not a performance of the ITA but rather a supplement to the performance of the ITA, the PWV does not have to comport with the ITA set forth in the license. However, the licensee would need to seek an amendment to that ITA in the license if no reasonable "alternate" PWV approach is available to demonstrate that the AC continues to be met. Whether an alternative PWV is reasonable or not depends on several factors, including the engineering justification provided and the wording of both the ITA and the AC. A reasonable alternative to the original ITA represents a different, yet acceptable, engineering equivalent for performing the activity prescribed in the ITAAC. As an example, if a test was the original prescribed ITA, then the PWV should also be a test, or possibly a combination of a test and analysis or a test and an inspection. The PWV methodology should generally follow the methodology used in the original prescribed ITA.

A license amendment would also be necessary if the PWV reveals that the licensee never met the AC because the original ITA, as worded in the license, was flawed.

---

<sup>1</sup> Appendix A to RG 1.215, Revision 2, is taken largely from Enclosure 1 of SECY-10-0100, "Staff Progress in Resolving Issues Associated with Inspections, Tests, Analyses, and Acceptance Criteria," August 5, 2010 (ADAMS Accession No. ML101660706). The introductory paragraph has been edited to update its content. The descriptions of the thresholds replicate those in Enclosure 1 of SECY-10-0100.

### Threshold 2: Engineering Changes

Will an engineering change be made that materially alters the determination that the acceptance criteria are met?

License amendments would also be necessary if the engineering change results in the need to identify new AC or if the engineering change results in a design for which the AC as written cannot be demonstrated using the original ITAs.

### Threshold 3: Population of Systems, Structures, and Components

Will there be additional items that need to be verified through the ITAAC?

A license amendment would be needed if there are additional items subject to verification through the existing ITAAC, but the licensee proposes not to perform the ITAs specified in the ITAAC. An amendment would also be required if new or amended ITAAC are needed to cover new items (e.g., the new items are of a different type than those covered in the original ITAAC).

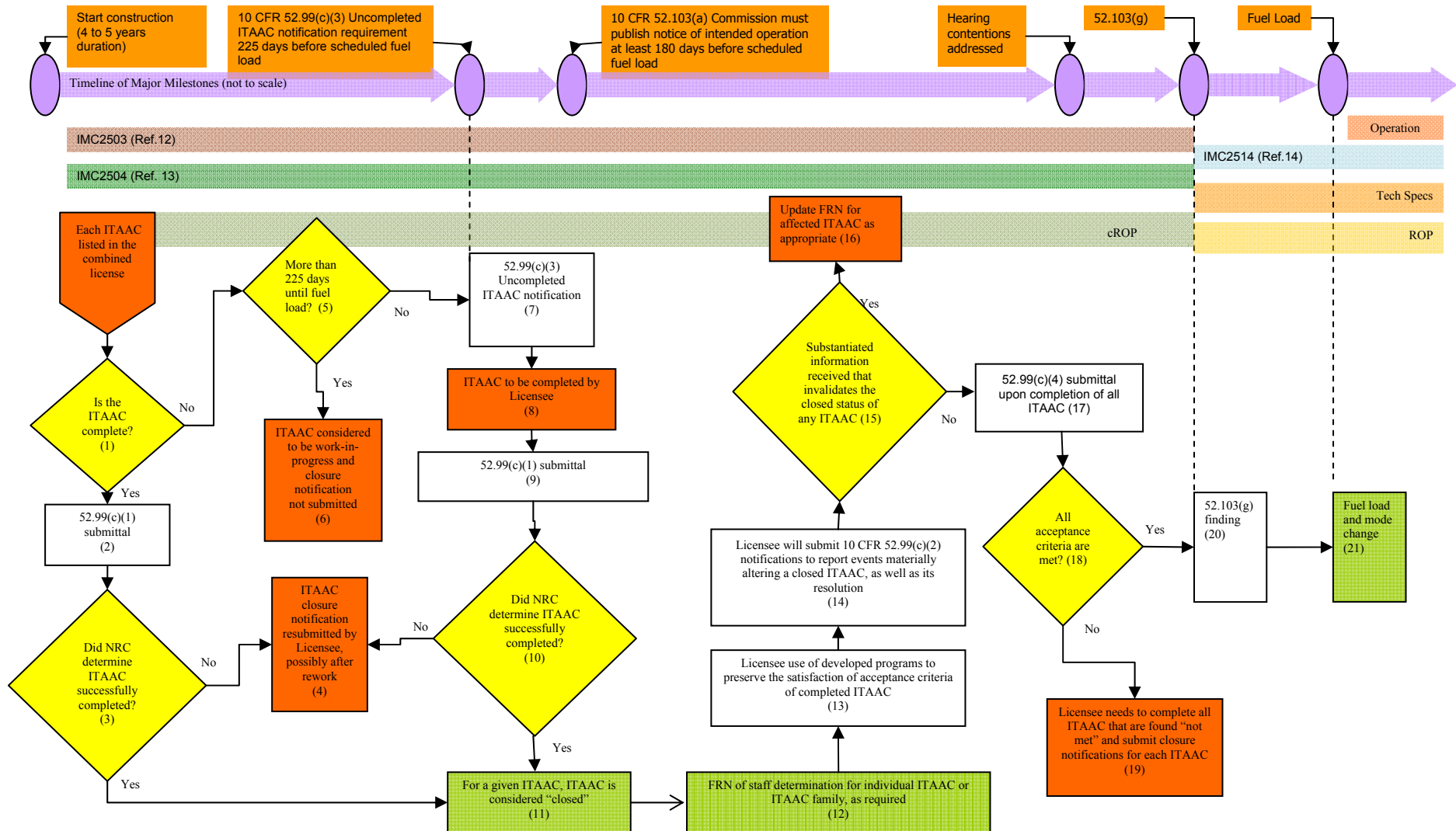
### Threshold 4: Complete and Valid ITAAC Representation

Will any other licensee activities materially alter the ITAAC determination basis?

A license amendment would be needed if an update of the determination basis necessitates a change to any portion of ITAAC in the license for reasons not covered under thresholds 1, 2, and 3.

## APPENDIX B

### Flowchart and Description of Implementation under 10 CFR 52.99 and 10 CFR 52.103(g)



## Process Block Descriptions:

- (1) This is the first decision block for any given inspection, test, analysis, and acceptance criterion (ITAAC). Each ITAAC can enter this block at any time during construction regardless of its completed or uncompleted status for processing through this flowchart.
- (2) If (1) is “yes,” then the licensee must submit an ITAAC Closure Notification (ICN) pursuant to 10 CFR 52.99(c)(1).
- (3) The NRC performs ITAAC closure verification activities, including direct inspection, engineering reviews, and consideration of licensee performance within an ITAAC family<sup>5</sup>. Licensee performance within an ITAAC family is taken into consideration for determination of subsequent licensee ITAAC submittals. “Yes” indicates that the staff has determined that the ITAAC was successfully completed and is “closed”. “No” indicates that the ITAAC is not “closed” and remains uncompleted.
- (4) If (3) is “no,” the NRC has determined that either the 10 CFR 52.99(c)(1) ICN information is insufficient or that the licensee has not met the acceptance criteria for the given ITAAC. The licensee will either resubmit an ICN that contains sufficient information demonstrating that it has completed the ITAAC, or the licensee will rework the ITAAC and redo the inspections, tests, and analyses. In either case, the licensee will resubmit the 10 CFR 52.99(c)(1) ICN.
- (5) If (1) is “no,” the licensee needs to determine if the time to scheduled fuel load is greater than 225 days. At the 225-day milestone, the licensee is required to submit pursuant to 10 CFR 52.99(c)(3) Uncompleted ITAAC Notifications (UINs) for those ITAAC that are not yet completed and for which the 10 CFR 52.99(c)(1) ICN has not yet been submitted.
- (6) If (5) is “yes,” there is no 10 CFR 52.99(c)(3) UIN required for this ITAAC, and the ITAAC under consideration is in the “work-in-progress” population.
- (7) If (5) is “no,” the licensee needs to submit to the NRC a 10 CFR 52.99(c)(3) UIN. This notification should contain sufficient information to demonstrate that the licensee will successfully perform the ITAAC.
- (8) Entry here indicates that an individual ITAAC remains in the uncompleted population. Once the licensee concludes that it has met the acceptance criteria, process block (9) is entered.
- (9) Upon successfully meeting the acceptance criteria for a given ITAAC, the licensee can submit the 10 CFR 52.99(c)(1) ICN to the NRC.
- (10) The NRC will perform ITAAC closure verification activities. This decision block is identical to block (3).
- (11) If (10) is “yes,” the NRC staff has determined that the licensee has met the acceptance criteria.

---

5 A grouping of ITAAC that are related through similar construction processes, resulting products, and general inspection attributes; the intersection of a row and a column of the ITAAC Matrix. (SECY-08-117 and NRC Inspection Manual Chapter 2503, “Construction Inspection Program: Inspections of Inspections, Tests, Analyses and Acceptance Criteria (ITAAC) Related Work”)

- (12) The NRC determination that the licensee has successfully completed an ITAAC is published in the *Federal Register* until the last date for submission of requests for hearings under 10 CFR 52.103(a). The NRC can publish a *Federal Register* notice (FRN) for individual ITAAC (if needed) or multiple ITAAC (such as an entire family). The NRC is not required to publish an FRN after the last date for submission of requests for hearings under 10 CFR 52.103(a).
- (13) The licensee will apply developed programs, such as quality assurance and maintenance programs, to preserve the satisfaction of acceptance criteria for completed ITAAC and ensure the validity of ITAAC conclusions.
- (14) The licensee will submit 10 CFR 52.99(c)(2) ITAAC Post-Closure Notifications to report an event materially altering a closed ITAAC, as well as its resolution. Reporting thresholds for an event altering a closed ITAAC are described in NEI 08-01 as approved for use by this Regulatory Guide.
- (15) Any substantiated information received by the NRC, including information gained through inspection activities or allegations, can invalidate the closed status of any ITAAC.
- (16) If (15) is “yes,” then, depending on the severity of the substantiated information received, the FRN for each affected ITAAC could be updated accordingly. Also depending on the severity of the situation, the licensee may or may not have options available to act accordingly to preserve the FRN for the affected ITAAC.
- (17) The licensee will submit an “All ITAAC Complete” notification pursuant to 10 CFR 52.99(c)(4) upon completion of all ITAAC in a combined license and confirmation that all acceptance criteria remain met in preparation for the 10 CFR 52.103(g) finding.
- (18) This process block reflects consideration of whether the licensee has met all ITAAC acceptance criteria.
- (19) If (18) is “no,” then the licensee needs to complete all ITAAC and ensure that it meets, and continues to meet, all the acceptance criteria to support the 10 CFR 52.103(g) finding.
- (20) At the time of the 10 CFR 52.103(g) finding, all acceptance criteria must be met, such as when (18) is “yes”. Also, this timeline and flowchart does not cover an interim operation scenario whereby the Commission could authorize a period of interim operation that would allow the licensee to load fuel per 10 CFR 52.103(c).
- (21) With the 10 CFR 52.103(g) finding, the licensee will be authorized to load fuel and enter operational status.