

POLICY ISSUE (Information)

August 26, 2009

SECY-09-0119

FOR: The Commissioners

FROM: R. W. Borchardt
Executive Director for Operations

SUBJECT: STAFF PROGRESS IN RESOLVING ISSUES ASSOCIATED WITH
INSPECTIONS, TESTS, ANALYSES, AND ACCEPTANCE CRITERIA

PURPOSE:

This paper informs the Commission on the progress by the staff toward resolving issues concerning inspections, tests, analyses, and acceptance criteria (ITAAC) maintenance and reporting, including the threshold for notification of events that may result in the acceptance criteria of successfully completed ITAAC no longer being satisfied. This paper also summarizes the staff's approach to making its recommendation to the Commission regarding the finding under title 10 of the *Code of Federal Regulations*, part 52, section 103(g) (10 CFR 52.103(g)) that all acceptance criteria in the combined license are met. This paper responds to actions from the staff requirements memorandum (SRM) dated January 14, 2009, entitled, "SECY-08-0117 Staff Approach to Verify Closure of Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) 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. This paper does not address any new commitments or resource implications.

SUMMARY:

This paper and its enclosures inform the Commission of progress and ongoing development of guidance for ITAAC completion and closure documentation, including the definition of ITAAC maintenance and the programs that maintain ITAAC conclusions. The paper describes three

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new types of notifications that licensees may make to the U.S. Nuclear Regulatory Commission (NRC) after the initial ITAAC closure letter, as appropriate: a supplemental ITAAC closure letter, an ITAAC component replacement summary letter, and an ITAAC-all-complete letter.

The staff and industry expect that instances may occur where licensee activities affect previously completed ITAAC after the licensee submits an ITAAC closure letter to the NRC. Supplemental ITAAC closure letters will ensure that the staff and public have accurate and complete information on those situations. The discussion of supplemental ITAAC closure letters introduces the need for reporting thresholds, for the licensee to use in determining when supplemental notification is necessary. Those thresholds are under development, as discussed below. This paper also discusses component replacement letters and the ITAAC-all-complete letter as additional licensee notifications to the NRC. Finally, this paper presents key attributes the staff will consider in assessing ITAAC completion when making a recommendation to the Commission in support of the 10 CFR 52.103(g) determination on whether all ITAAC acceptance criteria are met.

BACKGROUND:

In SECY-08-0117 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML081220237), the staff provided an update on plans to inspect and perform closure verification of licensee-completed ITAAC. The staff also described how it intends to implement 10 CFR 52.99, "Inspection During Construction," and the related provision of 10 CFR 52.103(g) on the Commission finding that all ITAAC acceptance criteria are met. The SRM related to SECY-08-0117 (ADAMS Accession No. ML090140136), directed the staff to keep the Commission informed of progress in resolving issues associated with ITAAC, including instances where successfully completed ITAAC are no longer satisfied. The Commission also directed the staff to identify policy issues as they arise. The staff hosted nine public workshops in the last 12 months to solicit input and exchange views on issues related to ITAAC completion, closure documentation, and ITAAC maintenance. The Nuclear Energy Institute (NEI), industry representatives, and other external stakeholders participated in the public workshops.

DISCUSSION:

ITAAC Maintenance

Under both 10 CFR 52.97(b) and Section 185b. of the Atomic Energy Act of 1954, as amended (AEA), the combined license (COL) must contain those ITAAC that are "necessary and sufficient to provide reasonable assurance that the facility *has been constructed and will be operated* in conformity with" the license, the AEA, and NRC regulations (emphasis added). Operation cannot commence until the Commission finds that all ITAAC acceptance criteria in the COL "are met," as required by 10 CFR 52.103(g) and AEA Section 185b. This Commission finding will not occur until construction is complete, near the date for scheduled initial fuel load.

As required by 10 CFR 52.99(c)(1), the licensee must submit ITAAC closure letters containing "sufficient information to demonstrate that the prescribed inspections, tests, and analyses have been performed and that the associated acceptance criteria have been met." Following these notifications, the licensee needs to maintain the validity of the completed ITAAC so that the basis for the 10 CFR 52.103(g) "are met" finding is consistent in material respects with the as-constructed facility at the time the finding is made. ITAAC maintenance provides the

confidence that the ITAAC continue to be met and that no activity has invalidated the basis for determining that ITAAC are met. The time between the closure letter and the Commission finding is defined as the ITAAC maintenance period in NEI 08-01, "Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52," Revision 3, issued January 2009 (ADAMS Accession No. ML090270415). The staff plans to endorse NEI 08-01 in Regulatory Guide 1.215, "Guidance for ITAAC Closure Under 10 CFR Part 52."

Licensee Programs That Maintain ITAAC Conclusions

One essential element in ensuring the maintenance of successfully completed ITAAC involves the use of established licensee programs such as the Quality Assurance Program, Problem Identification and Resolution Program, Maintenance/Construction Program, and Design and Configuration Management Program. Each program credited with supporting the maintenance of completed ITAAC should contain attributes that maintain the validity of the ITAAC determination basis. These program attributes include the following:

- licensee screening of activities for impact on ITAAC
- licensee determination of whether supplemental ITAAC notification is required
- licensee supplement to the ITAAC closure package as appropriate to demonstrate that the acceptance criteria continue to be met

The staff expects these programs to be fully implemented and effective before the licensee takes credit for them as an appropriate means of supporting ITAAC maintenance. These programs would be subject to NRC inspection.

Additional ITAAC Notifications

The staff's confidence in the licensee's ability to maintain the validity of completed ITAAC conclusions relies on timely communication. Currently, 10 CFR 52.99 specifies two ITAAC notification requirements for licensees. These notifications are the ITAAC closure letter required by 10 CFR 52.99(c)(1) and the notification required by 10 CFR 52.99(c)(2) no less than 225 days before the scheduled fuel load, which identifies the uncompleted ITAAC and describes the licensee's plan to complete those ITAAC.

The staff and industry have agreed on the importance and the need for three additional formal notifications to the NRC that are not currently required by regulation:

1. Supplemental ITAAC closure letters,
2. Component replacement letters, and
3. ITAAC-all-complete letter.

The staff plans to propose that the Commission supplement 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," to include these additional notification requirements in a future rule change. To facilitate NRC inspection planning, the staff expects that informal communications will give the onsite inspection staff advance notice of licensee activities associated with previously completed ITAAC.

Supplemental ITAAC Closure Letters

Events that affect completed ITAAC could involve activities that include, but are not limited to, maintenance and engineering or design changes. The staff expects that these activities will be conducted under established programs to maintain the ITAAC conclusion and that no supplemental notification will be necessary in most instances. The staff can have confidence that prior ITAAC conclusions are maintained so long as the ITAAC determination bases established by the original ITAAC closure letter are not materially altered. If the ITAAC determination bases are not materially altered, licensee activities will remain below the notification threshold. Conversely, if the ITAAC determination bases are materially altered, then the NRC expects the licensee to notify the NRC by submitting a supplemental ITAAC closure letter. In either event, records documenting the licensee's activities will be available at the plant site for NRC review.

Supplemental ITAAC closure letters would explain the need for the supplemental letter, outline the resolution of the issue, and confirm that the ITAAC acceptance criteria continue to be met. The staff expects that the supplemental notification letters will include sufficient information as described in NEI 08-01, similar to the level of information required in ITAAC closure letters under 10 CFR 52.99(c)(1). The NRC staff plans to review the supplemental ITAAC closure letters and publish its conclusions in *Federal Register* notices issued under 10 CFR 52.99(e).

Draft Supplemental ITAAC Closure Letter Thresholds

Through public workshops and stakeholder interaction, the staff is developing thresholds to identify when activities would materially alter the ITAAC determination bases. Three thresholds address the elements of an ITAAC, which are: the design commitment; the inspection, test, or analysis; and the acceptance criteria. Additionally, the staff is developing a threshold that focuses on the complete and valid representation of the completed ITAAC. Enclosure 1, "Draft Supplemental ITAAC Closure Letter Thresholds," provides the thresholds under development, as they currently exist, their intended focus, and an example of their application. The staff is developing these thresholds to clarify paragraph 3.b in "Proposed Supplemental Guidance on Maintaining ITAAC Closure for Section 8 of NEI 08-01 Revised 4/27/09," dated May 5, 2009 (ADAMS Accession No. ML091240094). NEI introduced this proposed supplemental guidance to expand upon the original guidance given in NEI 08-01, Section 8, "Maintaining the Validity of ITAAC Conclusions Post-ITAAC Completion." In addition to the reporting threshold in paragraph 3.b., NEI's proposed supplemental guidance recognized (1) that a supplemental notification would be needed to correct a material error or omission in the original closure letter and (2) that a license amendment is required if ITAAC acceptance criteria can no longer be met following licensee activities.

Component Replacement Letters

NEI also proposed to notify the NRC of the replacement of ITAAC-specified components using the component replacement letter. The guidance regarding component replacement letters is discussed in the "Proposed Supplemental Guidance on Maintaining ITAAC Closure for Section 8 of NEI 08-01 Revised 4/27/09." The proposed guidance instructs the licensee to submit an ITAAC component replacement summary letter 1 year before fuel load and every 30 days thereafter.

ITAAC-All-Complete Letter

Another notification proposed by NEI that will facilitate the staff recommendation regarding the 10 CFR 52.103(g) finding, is the ITAAC-all-complete letter. After or concurrent with the last ITAAC closure letter required by 10 CFR 52.99(c)(1), the licensee will provide a letter to the NRC stating that all ITAAC have been completed and that all ITAAC conclusions are being maintained. At the time the licensee submits the ITAAC-all-complete letter, the staff will expect that all activities requiring supplemental ITAAC closure letters will have been completed and that the associated ITAAC determination bases will have been updated.

Staff Recommendation for 10 CFR 52.103(g) Commission Finding

To support the Commission's 10 CFR 52.103(g) finding, if and when appropriate, the staff will send a recommendation to the Commission.

The staff will consider that all ITAAC "are met" if both of the following conditions hold:

- All ITAAC were verified to be met at one time.
- Licensee provides confidence that the ITAAC determination bases have been maintained and that the ITAAC continue to be met.

The staff approach would allow licensees to have ITAAC-related structures, systems, and components (SSCs) or security/emergency preparedness (EP) related hardware undergoing certain activities at the time of the 10 CFR 52.103(g) finding if the programs credited with maintaining the validity of completed ITAAC guide those activities and the activities are not so significant as to exceed a threshold for reporting. If a reporting threshold has been exceeded, the staff would need to evaluate the licensee's supplemental notification to determine whether the ITAAC continue to be met.

Stakeholder Interaction

To date, the staff interaction with NEI and other stakeholders regarding ITAAC maintenance strategies has resulted in substantive agreement on the majority of issues presented in this paper. The staff and NEI agree on the licensee programs credited with maintaining the validity of completed ITAAC, the attributes of these programs, and the need for additional notifications.

At this juncture, the staff and NEI have differing views on two issues. The first difference concerns draft threshold 1, which addresses post-work verification (PWV) different from the performance of the inspection, test, or analysis (ITA) as described in the ITAAC closure letter. The second difference concerns the supplemental notification thresholds affecting the staff recommendation for the 10 CFR 52.103(g) finding. NEI presents its views in a letter from Russell J. Bell, NEI, to Glenn Tracy, Office of New Reactors dated July 8, 2009 (ADAMS Accession No. ML091950256) (Enclosure 2). NEI does not believe that ongoing work related to an activity requiring supplemental notification should prevent the staff from recommending to the Commission that all ITAAC are met. In creating the reporting thresholds, however, the staff sought to obtain information needed to support the Commission's ITAAC finding. Therefore, the staff believes that the supplemental ITAAC closure letter thresholds and the 10 CFR 52.103(g) finding are linked.

Planned ITAAC Work

The staff plans continued interaction with industry and the public to further develop the draft supplemental ITAAC closure letter thresholds. In addition, the staff will work with stakeholders to address specialized areas such as security and EP to determine if any additional ITAAC maintenance strategies are needed. The staff plans to incorporate these principles in a future revision of Regulatory Guide 1.215. The staff also plans to recommend that the Commission include the notifications discussed in this paper in a future rule change. An additional challenge related to ITAAC completion and closure, for which the staff will continue its interactions with industry and the public, is planning and scheduling of NRC inspection activities for the high percentage of ITAAC expected to be closed during the later phases of plant construction.

COORDINATION:

This paper has been coordinated with the Office of General Counsel (OGC). OGC has no legal objection to this paper.

/RA/ Martin J. Virgilio for

R. W. Borchardt
Executive Director
for Operations

Enclosures:

1. Draft Supplemental ITAAC Closure Letter Thresholds
2. NEI Letter w/enclosures dated July 8, 2009

Draft Supplemental ITAAC Closure Letter Thresholds

This enclosure provides information on the development of draft threshold concepts related to the supplemental ITAAC closure letter. The information provided below reflects the outcome of staff and stakeholder work to date. Development of these thresholds is ongoing and will continue during future public workshops and meetings, and may result in modification to some or all of the thresholds.

The licensee is responsible for maintaining the ITAAC after completion of the ITAAC. If the ITAAC determination basis is materially altered, the licensee is expected to notify the NRC by submitting a supplemental ITAAC closure letter. The staff and stakeholders are developing thresholds to further define “materially altered.”

Draft Threshold 1:

When post-work verification (PWV) is not the same as the testing method described in the ITAAC closure letter, can the PWV objectively stand alone (i.e., without an engineering justification to support it) as evidence that the specified acceptance criteria continue to be met?

This threshold focuses on the significance of the inspections, tests, and analyses (ITA). Under 10 CFR 52.99(c)(1), a licensee must demonstrate that it complied with the ITA in the COL by describing in its closure letter the manner in which it performed the ITA. Based on the closure letter and any other available information (including the results of inspections), the NRC staff will determine whether the ITA have been successfully completed. A PWV should not be considered a re-performance of the ITA because the ITA was previously performed. However, consistent with the principles underlying 10 CFR 52.99(c)(1), the NRC should be formally notified if the manner in which the PWV is performed could materially affect the Commission’s finding under 10 CFR 52.103(g).

If the PWV is the same as the method described in the original inspections, tests, analyses, and acceptance criteria (ITAAC) closure letter, then no notification would be needed because the licensee chose to use an already approved method. The staff, however, recognizes that the ITA as originally performed may not be practicable or possible to repeat during all phases of construction. When the PWV differs from the performance of the ITA as described in the original ITAAC closure letter and relies on an engineering justification to justify the method for verifying that the acceptance criterion continues to be met, the staff believes that the licensee should notify the NRC by submitting a supplemental ITAAC closure letter. If an engineering justification is not needed, then the method in which the PWV is performed should not materially affect the Commission’s finding under 10 CFR 52.103(g). The threshold would not be exceeded, therefore, if either the PWV is the same method described in the original ITAAC closure letter or the PWV can objectively stand alone. At the time of the 10 CFR 52.103(g) finding, ITAAC related affected structures, systems, and components (SSCs) may be “out of service” while the NRC continues to have confidence that the ITAAC criteria continue to be met if the threshold is not exceeded.

For example, if a pump in a system is replaced, it might be the case that the original performance of an ITA that tests flow through the system cannot feasibly be repeated in full. It would be acceptable in such a situation to perform the part of the test affected by the

maintenance through a test loop because the PWV does not need an engineering justification to support it. That is, a reasonable engineer would agree that the PWV ensures that the acceptance criteria is met in a manner consistent with the principles underlying the original performance of the ITA as described in the closure letter and approved by the Staff. Therefore, no supplemental ITAAC closure letter is needed. Of course, using the test method described in the ITAAC closure letter also allows the staff to have confidence that the acceptance criteria continue to be met and to proceed with the recommendation to the Commission that all ITAAC are met.

However, in a particular system, if a supply valve is replaced and no test loop exists to verify the required flow, the licensee may have to perform another type of PWV and an analysis to justify why the PWV is acceptable for ensuring that the acceptance criterion continues to be met. In this case, a supplemental ITAAC closure letter is needed.

Draft Threshold 2:

Has an engineering change been implemented to specifically address a condition, related to a previously closed ITAAC, that invalidates the acceptability of the affected SSCs?

This threshold focuses on the significance of the acceptance criteria (AC). If a licensee learns that the original AC conclusion is no longer valid and implements an engineering change to address the issue, then the ITAAC determination basis has been altered, and the licensee should notify the staff by submitting a supplemental ITAAC closure letter. If the licensee initiates an engineering change for another reason (for example, to repair damage caused by other construction activities), then supplemental notification is not needed under this threshold.

For example, a damaged fire protection support requires repairs that bring it outside existing tolerances. Although this is an engineering change, the pipe support is not substantially changed and the engineering change was not needed to ensure that the acceptance criteria continue to be met. This repair does not exceed threshold 2. However, in another example, the support is an American Society of Mechanical Engineers (ASME) support, and certain ITAAC acceptance criteria are no longer met because of damage caused by water hammer. If the ASME pipe support is reengineered to allow the support to withstand all future operational loads, this is a correction to a design flaw. A supplemental ITAAC closure letter is needed because the support was modified to meet the ITAAC acceptance criteria.

Draft Threshold 3:

Has the population of SSCs and subcomponents identified in the ITAAC been increased subsequent to closure notification, which results in more SSCs or subcomponents than were applicable in the original ITAAC closure letter?

This threshold focuses on the significance of the design commitment. Typically, the design commitment establishes the population of SSCs and subcomponents that are subject to the specific ITAAC (e.g., all of the spool pieces, welds, and components within an ASME piping

system). If after ITAAC completion and acceptance, a pipe piece is accidentally gouged, repair may be performed in accordance with the ASME Code without adding any filler material. In such a case, no supplemental notification is required. However, under certain conditions, the repair of the pipe gouge may require additional filler material (i.e., equivalent to a new weld) with additional nondestructive examination and other ASME Code restrictions. Since this adds to the population of SSCs or subcomponents covered by the original ITAAC closure letter, a supplemental notification is required.

Draft Threshold 4:

Does the scope of additional licensee activities warrant augmentation of the statements made in the ITAAC determination basis?

This threshold focuses on the complete and valid representation of the ITAAC in the ITAAC closure letter. If the additional work activities add newly pertinent or technically relevant information that is material to the ITAAC determination basis, then supplemental notification is needed.

For example, the licensee installs a new motor-operated valve operator that has terminal blocks and a torque switch different from the original. If all ITAAC conclusions remain valid (including environmental qualification ITAAC for this valve, the terminal blocks, and the torque switch), then no supplemental ITAAC closure letter is required. However, if in this example, the torque switch and terminal blocks require a supplemental environmental qualification evaluation to meet the acceptance criteria, this constitutes a material change to the original ITAAC determination basis, and a supplemental ITAAC closure letter is required.



NUCLEAR ENERGY INSTITUTE

Russell J. Bell
DIRECTOR
NEW PLANT LICENSING
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July 8, 2009

Mr. Glenn Tracy
Director
Division of Construction Inspection and Operational Programs
Office of New Reactors
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Status of ITAAC closure and maintenance issues

Project Number: 689

Dear Mr. Tracy:

We understand that the staff is preparing to update the Commission on the status of ITAAC closure and maintenance issues. This letter provides the industry's perspective on the status of those issues based on a series of public meetings over the past several months, the most recent of which was June 11, 2009. We believe we have made considerable progress towards ITAAC process guidance that is clear and workable and that relatively few issues remain to be resolved.

The bulk of these interactions has focused on the period after ITAAC Closure Letters required by 10 CFR 52.99(c) are submitted to the NRC and the 10 CFR 52.103(g) requirement for the Commission to ultimately find that "the acceptance criteria in the combined license are met", i.e., that there is reasonable assurance that the facility has been constructed and will be operated in accordance with applicable requirements. The Section 52.103(g) provision is a particular challenge because months or even years may pass between the time the ITAAC Closure Letters are submitted and the time when the Commission will make the final ITAAC finding. The NRC staff has expressed the need to have confidence that prior ITAAC conclusions have been maintained and remain valid in order to make a determination and recommendation to the Commission on the completion status of ITAAC to support the required Commission finding. We expect that this confidence will derive from a combination of the following:

- Licensee programs and NRC inspections thereof that assure and provide confidence that ITAAC conclusions are being effectively maintained,

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- Notifications (both formal and informal) to the NRC concerning events and activities that affect closed ITAAC, and
- Lack of open inspection findings (ITAAC-Related Construction Findings or ITAAC Findings) or other material information indicating that ITAAC are not met.

In addition, as we have discussed with the staff, licensees are expected to submit an "All ITAAC Complete" Letter that affirms that all ITAAC have been performed, all acceptance criteria have been met, and all ITAAC conclusions are being maintained.

Our discussions to date have brought us closer to a common understanding of the conditions that should be present to support the Section 52.103(g) finding. As further input in this regard, two enclosures are provided. Enclosure 1 summarizes important preliminary understandings between NEI and the staff related to 1) ITAAC closure and maintenance; 2) attributes of licensee programs to maintain ITAAC conclusions; 3) proposed post-closure notifications concerning activities affecting closed ITAAC; and 4) the Section 52.103(g) finding that acceptance criteria "are met."

Enclosure 2 identifies a small number of issues that require further discussion and provides industry perspective and input on each for NRC staff consideration. The NRC staff and the industry have not yet reached a preliminary understanding on these matters. These issues include the following:

1. **Threshold for formal notifications concerning events or activities that affect a closed ITAAC** – Initial comments on the thresholds proposed by the NRC staff at the June 11, 2009 meeting for additional formal notifications are provided. Further discussion is needed to finalize and assure common understanding of these thresholds.
2. **Criteria for the Section 52.103(g) finding** – We believe the approach proposed by the staff on June 11 to use the same thresholds for both post-closure notifications related to ITAAC maintenance and as criteria for the Section 52.103(g) finding introduces the potential for unnecessary hold points on the Section 52.103(g) process. In response, we are recommending alternative criteria for the Section 52.103(g) finding that encompass the four thresholds proposed by the staff but would not unduly delay the Section 52.103(g) process for maintenance issues that do not invalidate original ITAAC conclusions.
3. **Proposed adjustment to the notification process for conditions identified very late in construction** – We recommend an adjustment to the staff's proposed process for post-closure notifications related to preserving ITAAC conclusions for maintenance issues that are identified very late in construction.
4. **ASME Section XI applicability prior to the Section 52.103(g) finding** – We do not agree with the NRC staff interpretation that current NRC regulations do not permit transitioning from the ASME Code Section III to Section XI until after the Section 52.103(g)

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finding is made. As discussed on June 11, further discussion and reconsideration of the staff's interpretation of the regulations is needed to assure consistency of NRC and ASME requirements.

We believe the preliminary understandings and recommended approaches in this letter are reasonable and appropriate. While not specifically required in the regulations, these proposals are not inconsistent with the ITAAC process requirements in 10 CFR 52.99 and 52.103. As such, we do not believe that changes to 10 CFR Part 52 are necessary to codify understandings and recommendations contained in this letter, but rather may be addressed in regulatory guidance. In contrast, as discussed in the enclosures, we find that certain June 11 NRC staff proposals lack a regulatory basis. In any event, the staff has stated its intent to pursue rulemaking to establish new Part 52 requirements based on the resolution of ITAAC closure and maintenance issues. If the staff proceeds with such rulemaking, we believe any rule changes should be minimal and high-level, leaving implementation issues to be largely addressed in regulatory guidance—consistent with the NRC's historic practice. This approach is appropriate considering the untried nature of ITAAC processes and the need for flexibility to deal with unforeseen process issues.

As we have discussed with the staff, we intend to memorialize common understandings related to ITAAC closure and maintenance in a supplement to NEI 08-01, *Industry Guideline for the ITAAC Closure Process Under Part 52*, later this year.

We look forward to continuing the constructive dialogue on ITAAC closure and maintenance issues and to establishing clear and workable guidance for implementing Part 52 requirements in this area. If you have any questions, please contact me.

Sincerely,



Russell J. Bell

Enclosures

c: Mr. Mark Kowal, NRC/NRO
Mr. Richard Laura, NRC/NRO
Ms. Nanette Gilles, NRC/NRO
Mr. Michael Spencer, NRC/OGC

Preliminary Understandings on ITAAC Closure and Maintenance Issues

This enclosure summarizes important preliminary understandings related to ITAAC closure and maintenance that the industry and NRC staff have achieved to date based on a series of public meetings and workshops. To the extent these processes and activities are not already inherent in the new plant rules, they can be addressed through regulatory guidance. At an appropriate time, we plan to memorialize these understandings and resolution of the issues discussed in Enclosure 2 in a supplement to NEI 08-01, *Industry Guideline for the ITAAC Closure Process Under Part 52*, and to submit the supplemental guidance for NRC review and endorsement.

1. **ITAAC closure and maintenance** – As discussed by the staff in a June 11, 2009 public meeting, individual ITAAC are closed and verified to be met at a point in time. After ITAAC Closure Letters are submitted,¹ months or even years may pass before the time comes for the 10 CFR 52.103(g) finding. The NRC staff has expressed the need for confidence during this interim period that prior ITAAC conclusions are being maintained and remain valid so there is a reasonable basis to support a determination and recommendation to the Commission that all acceptance criteria “are met.”

We expect this confidence to derive from a combination of the following:

- a. inspections that verify and provide confidence that licensee programs are effectively maintaining ITAAC conclusions [this item is discussed further in Item 2, below];
- b. notifications (informal and formal) concerning events and activities that affect closed ITAAC [this item is discussed further in Item 3, below]; and
- c. the lack of open inspection findings (ITAAC-Related Construction Findings or ITAAC Findings) or other material information to the contrary.

In addition, we and the staff have envisioned that, while not specifically required by Part 52, licensees may provide the NRC with an “All ITAAC Complete” Letter along with (or following) submittal of the final ITAAC Closure Letter under 10 CFR 52.99. The purpose of this letter would be to affirm that all ITAAC have been performed, all acceptance criteria have been met, and all ITAAC conclusions are being maintained. The letter is also intended to facilitate the staff’s recommendation to the Commission concerning the completed status of all ITAAC in support of the 10 CFR 52.103(g) finding.

¹ The ITAAC closure process is discussed in NEI 08-01, *Industry Guideline for the ITAAC Closure Process Under Part 52*, which is in the process of being endorsed in Regulatory Guide 1.215.

- 2. Attributes of licensee programs to maintain ITAAC conclusions** – As identified in NEI 08-01, licensees will use several programs to maintain ITAAC conclusions after ITAAC Closure Letters are submitted to the NRC. These include the Quality Assurance Program, Problem Identification and Resolution Program, Construction/Maintenance Program and Design/Configuration Control Program.

We recognize that confidence in these programs will be a key factor in the staff's determination and recommendation to the Commission that all acceptance criteria "are met." There is agreement on the set of attributes related to ITAAC maintenance that should be reflected in each of these licensee programs, and we plan to identify these attributes in a supplement to NEI 08-01. Inspection of these programs — and inspection of licensee ITAAC maintenance activities in particular — is expected to provide the NRC staff with substantial confidence that the licensee is effectively maintaining prior ITAAC conclusions.

Program attributes related to ITAAC maintenance must be implemented prior to use of these programs to support ITAAC maintenance, e.g., prior to submittal to the NRC of ITAAC Closure Letters.

- 3. Post-closure notifications on activities affecting closed ITAAC** – Following submittal of original ITAAC Closure Letters, we agree with the staff that under certain circumstances (e.g., when it is discovered that the original ITAAC Closure Letter contained a material error or omission), licensees would submit Supplemental ITAAC Closure Letters to the NRC. The purpose of Supplemental ITAAC Closure Letters is to formally notify the NRC of significant activities related to the maintenance of ITAAC conclusions and to assure a complete and accurate record of information pertinent to ITAAC closure. While not required by 10 CFR 52.99, such notifications appear generally consistent with current regulations (e.g., 10 CFR 52.6) and could be addressed in regulatory guidance.

As discussed in NRC public meetings, it is important to avoid unnecessary or excessive post-closure notifications that could confuse the public and/or place undue burdens on new plant licensees and the NRC staff. As such, we and the staff have focused considerable effort on defining appropriate notification thresholds. There is general agreement that a Supplemental ITAAC Closure Letter should be submitted to correct a material error or omission in the original ITAAC Closure Letter, or if events or activities cause the ITAAC Determination Bases as described in the original ITAAC Closure Letter to become inaccurate or incomplete. (We envision that the NRC will apply the same standard of materiality used in interpreting 10 CFR 50.9.) As discussed in the June 11 public meeting, Enclosure 2 provides initial industry comments on the specific additional notification thresholds proposed by the NRC staff as a basis for further discussion.

We and the staff also agree on the importance of normal daily communications with NRC resident inspectors concerning post-closure activities affecting ITAAC conclusions. Licensees are

expected to provide timely information to NRC resident inspectors and Headquarters staff, as appropriate, on post-closure events or activities that will affect the information documented in on-site ITAAC Closure Packages. These daily meetings and other communications will assure that NRC inspection staff have advance knowledge of licensee plans to work on systems, structures, and components (SSC) covered by closed ITAAC, so that inspectors can choose to witness or follow-up on those activities. There is agreement that more formal notification via Supplemental ITAAC Closure Letter would typically follow completion of the work and restoration of SSCs to compliance with ITAAC acceptance criteria.

Additionally, we agree that like-for-like replacement of components specifically identified and verified as part of ITAAC does not affect the validity of the original ITAAC Closure Letter, and no Supplemental ITAAC Closure Letter is necessary. However, for process transparency, we agreed that licensees should inform the NRC by letter when such ITAAC-specified components are replaced. If ITAAC-specified components are replaced, an ITAAC Component Replacement Summary Letter should be provided to the NRC no later than one year prior to the scheduled date for fuel load, with updates provided every 30 days as necessary based on component replacement activity. There is agreement that similar letters to the NRC are not necessary concerning repairs to ITAAC-specified components because the component that was originally subject to the ITAAC remains in place.

4. **10 CFR 52.103(g) finding that acceptance criteria “are met”** – Prior to plant operation, the Commission must find that “the acceptance criteria in the combined license are met.” There has been considerable discussion of the meaning of “are met” in this context, and as discussed in Enclosure 2, more is needed. However, we do agree with the staff that the “are met” language does not mean that the plant must be in perfect condition to receive the Section 52.103(g) finding, and that maintenance may be in progress on ITAAC components at the time the Commission makes an affirmative Section 52.103(g) finding. We and the staff agree that the state of being out-of-service pending restoration in accordance with licensee programs and procedures does not invalidate prior ITAAC conclusions; these ITAAC continue to be met and are being maintained. Components out-of-service for corrective maintenance will be tracked via the licensee’s Problem Identification and Resolution/Corrective Action Program. Thus, the Commission can make the 10 CFR 52.103(g) finding even if maintenance activities are not completed, provided the criteria for making the finding are otherwise satisfied. These important criteria are the subject of continuing discussions and Commission consideration. Enclosure 2 includes a proposed set of criteria for making the Section 52.103(g) finding.

Additionally, there is agreement that the role of ITAAC need not, and should not, be confused with the role of Technical Specifications by effectively requiring all ITAAC components to be “operable” in order for the Commission to make the Section 52.103(g) finding. Satisfying ITAAC provides reasonable assurance that the facility has been constructed in accordance with the approved design, and this is the focus of the Section 52.103(g) finding. Operability requirements

for SSCs are established by Technical Specifications, which take full effect at the time the Section 52.103(g) finding is made. The important distinction between ITAAC and Technical Specifications is further reinforced by the fact that after the Section 52.103(g) finding is made, ITAAC do not constitute regulatory requirements, and ITAAC expire upon final Commission action in the proceeding.

ITAAC Closure and Maintenance Issues that Require Further Discussion

As identified in our most recent public meeting on June 11, 2009, a small number of ITAAC closure and maintenance issues remain to be resolved and require further discussion. The industry perspective on each is provided below as the basis for continued discussion and development of regulatory guidance:

1. Threshold for proposed formal notifications concerning events or activities that affect a closed ITAAC – At the June 11 public meeting, the NRC staff proposed four thresholds for determining when Supplemental ITAAC Closure Letters should be submitted to NRC. The four notification thresholds proposed by the NRC staff are identified below, along with industry's preliminary comments.

1. *When post-work verification (PWV) is not the same as the testing method described in the ITAAC closure letter, can the PWV objectively stand alone (i.e., without an equivalency evaluation engineering justification to support it) as evidence that the specified acceptance criteria remain met?*

As discussed with the staff, we believe "engineering justification" better describes the evaluation performed by a licensee to demonstrate that an alternative PWV test is acceptable for assuring that acceptance criteria continue to be met.

As discussed under Item 3 below, we recommend an adjustment to the notification process for maintenance issues that trigger proposed Threshold #1 very late in construction.

2. *Has an engineering change been implemented to specifically address a condition that invalidates the acceptability of the affected SSC which is related to a previously closed ITAAC?*

No comment at this time.

3. *Has the ITAAC component population been increased (e.g., an added pipe weld), subsequent to closure notification, which results in more SSC than was applicable in the original ITAAC Closure Letter?*

No comment at this time.

4. *Does the scope of additional licensee work (e.g., repair, rework, replacement) activities warrant augmentation of the statements made in the ITAAC Determination Basis? [Such augmentation would be considered necessary if the additional work activities add new, relevant information to ensure materially affect the accuracy and completeness of the ITAAC Closure Letter.]*

As discussed with the staff, we believe that availability of “new, relevant information” is too broad a standard for determining whether augmentation of the statements made in the ITAAC Determination Basis is necessary. We see no regulatory basis for such a standard, and believe it would be excessively burdensome. The intent here is that licensees should augment the ITAAC Determination Basis when additional work activities “materially affect” the accuracy and completeness of the original ITAAC Closure Letter. We also suggest that it is not necessary to limit or provide examples of the additional licensee work activities that could warrant augmentation of the ITAAC Determination Basis.

In addition to these four notification thresholds, we and the staff have discussed in previous meetings that licensees could send a Supplemental ITAAC Closure Letter to correct a material error or omission discovered after the original ITAAC Closure Letter is submitted. Because this is not clearly captured by any of the four thresholds proposed June 11, we believe this could be considered a fifth notification threshold.

In terms of their period of applicability, the additional notification thresholds could remain in effect until the Section 52.103(g) finding is made. These notifications are typically provided after the work is done and verified. As discussed in Issue 3 below, in the unlikely event that a maintenance issue triggers Threshold #1 just prior to the expected Section 52.103(g) finding, we recommend an adjustment to the normally after-the-fact submittal of Supplemental ITAAC Closure Letters when maintenance issues that trigger Threshold #1 arise at the eleventh hour.

Further discussion is needed to finalize the proposed thresholds for Supplemental ITAAC Closure Letters. Based on these further discussions, we may have additional comments on the proposed notification thresholds. We plan to incorporate appropriate notification thresholds, related guidance, and examples in a supplement to NEI 08-01 that could in turn be endorsed in an update to RG 1.215.

- 2. Criteria for the Section 52.103(g) finding** – At the June 11 public meeting, the NRC staff proposed that the same four thresholds for determining when to submit a Supplemental ITAAC Closure Letter be used as criteria for the Section 52.103(g) finding. The industry does not support this staff proposal. Rather, we recommend an alternative approach that encompasses the four NRC staff-proposed thresholds but would not unduly delay the Section 52.103(g) finding for maintenance issues that do not invalidate original ITAAC conclusions.

Basis for the industry concerns

The problem with applying these same notification thresholds as criteria for the Section 52.103(g) finding is that one of the four (Threshold #1) does not have the same implications as the other three with respect to the Section 52.103(g) finding that all acceptance criteria are met.

We would agree that a condition that triggers threshold 2, 3 or 4 would indicate that either as-built SSCs do not, in fact, meet the ITAAC and a design change is necessary (Threshold #2), or

that the original ITAAC Closure Letter is not accurate/complete in all material respects and needs to be augmented (Thresholds 3 and 4). In these cases, we would concur that SSCs need to be brought into compliance with applicable ITAAC, and/or Supplemental ITAAC Closure Letters should be submitted to NRC to support the Section 52.103(g) finding.

In contrast, proposed Threshold #1 involves a maintenance issue that does not invalidate the original ITAAC conclusion but does require an engineering evaluation to justify use of post-work verification that differs from the original ITAAC. This situation may arise when it is not possible or practical to perform post-work verification that is the same or comparable to the original ITAAC. Provided the staff has confidence that the ITAAC acceptance criterion would still be met after expected replacement/repairs and post work verification are completed, we would expect the NRC staff to consider the ITAAC to be met. In such a case, the staff's confidence would derive from the engineering justification provided for the alternative post-work verification, as well as the effectiveness of licensee maintenance programs, interactions with the licensee, past experience with similar work, and other relevant information.

An additional difficulty is that by applying the proposed notification thresholds as criteria for the Commission's Section 52.103(g) finding, the thresholds become hold points on the final ITAAC finding. There is no regulatory basis for creating such de facto hold points. As a practical matter, if the thresholds do not constitute true non-compliances with ITAAC or Section 52.99 ITAAC closure process requirements — and we believe Threshold #1 does not — this approach could place an undue and costly burden on the licensee by imposing an unnecessary delay in the Section 52.103(g) finding, fuel load, etc.

To illustrate, as proposed by the staff, a routine repair or like-for-like replacement of a valve damaged the day before the Section 52.103(g) finding could trigger Threshold #1 and delay the final ITAAC finding if, due to constraints on the system configuration, water is not flowed through the valve during post-work verification as it was during the original ITAAC. As described by the staff, to enable the Section 52.103(g) process to proceed, the licensee would need to completely resolve the condition that triggered the notification threshold and then submit a Supplemental ITAAC Closure Letter. In the case of the damaged valve, the licensee would need to repair or replace the valve, perform post-work verification, submit a Supplemental ITAAC Closure Letter that includes an engineering justification for PWV that differs from the original ITAAC, and then the NRC would need to find the letter acceptable. At a minimum, this process may take several days to complete — longer if a key component is not readily available. While such an eleventh hour scenario is unlikely, it is certainly quite possible, particularly considering the number of plants expected to traverse the ITAAC process. Even a single such case could have severe consequences for the affected licensee. To avoid this situation, it is essential that the Section 52.103(g) process recognize the difference between a maintenance issue that does not invalidate an ITAAC and true noncompliances with ITAAC requirements.

Proposed alternative criteria for the Section 52.103(g) finding

We propose the following basic criteria, which if met, could establish the conditions for the staff determination and related Commission finding that all acceptance criteria are met. It is important to note that these criteria encompass the four notification thresholds proposed by the NRC staff but, in the case of maintenance issues under Threshold #1, would not impose an undue hold point on the Section 52.103(g) process. Thus, these criteria appropriately recognize the difference between a maintenance issue and a noncompliance with ITAAC requirements.

1. All ITAAC Closure Letters have been received by the NRC, including Supplemental ITAAC Closure Letters, as appropriate
2. No new or outstanding ITAAC Findings. The licensee would not have submitted an "All ITAAC Complete" Letter and requested the Section 52.103(g) finding with unresolved ITAAC Findings. This criterion reflects that a condition could be identified after the "All Complete Letter" is sent that results in an eleventh hour ITAAC Finding that one or more ITAAC are, in fact, not met. It is expected that such a finding would need to be resolved to enable the Section 52.103(g) finding.
3. NRC staff determination that licensee's Corrective Action Program (CAP) and other programs have been and are being effective in maintaining ITAAC conclusions in support of a Commission finding under Section 52.103(g) that all ITAAC are met.
4. ITAAC maintenance issues, including corrective maintenance on out-of-service SSCs, are in the licensee's Corrective Action Program. [This would include maintenance issues triggering proposed NRC notification threshold #1.]

This alternative approach encompasses and is intended to be functionally equivalent to the staff's proposal, except that maintenance issues that do not involve a noncompliance with ITAAC requirements would not delay the determination and finding that all acceptance criteria are met (provided the maintenance issues are being tracked to closure in the licensee's CAP).

As discussed in the public meeting on June 11, the Commission could, if it so chose, establish a license condition when it makes the Section 52.103 finding to require that specific maintenance issues be resolved and verified by the NRC prior to exceeding five percent power or other appropriate milestone. (Care would need to be taken to assure that the condition does not conflict with plant Technical Specifications.) However, we believe that use of a license condition is unnecessary because Technical Specifications take effect upon issuance of the Section 52.103 finding, and the plant must comply with applicable operability requirements from that point forward. Thus, even without a separate license condition, the out-of service component(s) would have to be restored to service prior to proceeding to a Mode for which operability of the component is required.

- 3. Proposed adjustment to the notification process for maintenance issues identified late in construction** – As discussed above, conditions that trigger proposed Threshold 2, 3 or 4 would indicate that either as-built SSCs do not, in fact, meet the ITAAC and a design change is necessary (Threshold #2), or the original ITAAC Closure Letter is not accurate and/or complete and needs to be augmented (Thresholds 3 & 4). In these cases, SSCs need to be brought into compliance with applicable ITAAC, and/or Supplemental ITAAC Closure Letters should be submitted to the NRC to support the Section 52.103(g) finding. However, as discussed on June 11, further discussion is needed in the event that a maintenance issue that triggers Threshold #1 is identified very late in construction such that it cannot be corrected/resolved before the scheduled date of fuel load. Threshold #1 conditions involve corrective maintenance that includes post-work verification that differs from the original ITAAC due to constraints on the plant configuration or other reason.

As discussed above, completion of such corrective maintenance should not become a hold point on the Section 52.103(g) finding provided the condition has been entered into the licensee's CAP (proposed Criterion #4 above for the Section 52.103(g) finding). Additionally, we recommend an adjustment to the normally after-the-fact submittal of Supplemental ITAAC Closure Letters when maintenance issues that trigger Threshold #1 arise at the eleventh hour.

In such cases, we propose that licensees would submit a Supplemental ITAAC Closure Letter triggered by Threshold #1 as soon as possible following assessment of the condition and determination of a corrective action plan. The notification should contain sufficient information about the condition — its cause and extent, plans and schedule for corrective action, including plans for post-work verification, and the required engineering justification for PWV that differs from the original ITAAC — to provide the NRC staff with confidence that the ITAAC acceptance criterion would still be met after expected replacement/repairs and post work verification are completed. In addition to the soundness of the licensee's corrective action plan and engineering justification, the staff's confidence would derive from the effectiveness of licensee maintenance and corrective action programs, interactions with the licensee, past experience with similar work, and other relevant information.

The staff's determination and recommendation to the Commission that all ITAAC are met should not be held up pending completion of corrective actions described in a Supplemental ITAAC Closure Letter triggered by proposed Threshold #1. Rather, the staff should make its determination and recommendation provided there is sufficient confidence in the licensee's corrective action plan and the licensee's ability to properly execute it and restore the affected SSCs to service.

If desired by the staff, a second Supplemental ITAAC Closure Letter could be submitted to formally notify and document completion and verification of the actions to resolve the condition that triggered Threshold #1.

- 4. ASME Section XI applicability prior to the Section 52.103(g) finding** – At the June 11 public meeting, the NRC staff stated that the regulations in 10 CFR 50.55a for facilities licensed under Part 52 do not permit transitioning from the ASME Code Section III to Section XI until after the 10 CFR 52.103(g) finding is made. We do not agree with this NRC staff interpretation; rather, we believe that the current regulations do not preclude use of Section XI prior to the Section 52.103(g) finding.

This interpretation is important because it is not practical or desirable to delay Section XI and OM Code implementation until after the 52.103(g) finding is made. There are a number of issues associated with asking a vendor to extend their N-Stamp to the site for repair or replacement of ASME Code components. In addition, it is undesirable to conduct multiple hydros at the elevated pressures required under ASME Code Section III following repair/replacement activities for ITAAC components prior to the Section 52.103(g) finding. During Pre-Operational Testing of components for ITAAC completion, many of the tests will be done under the OM standard for pumps and valves which require the use of ASME Code Section XI, as applicable, for repair and replacement activities. Preservice testing must be completed prior to initial electrical generation; the time between fuel load and initial electrical generation (entry into Mode 1) is insufficient to perform all preservice testing.

As discussed on June 11, we believe further discussion of this issue and reconsideration of the staff's interpretation of the regulations is necessary to assure consistency of NRC and ASME Code requirements.