

Resolution of Comments for

IMC 2506, Revision 2

Source	Comment	Added	Remarks
RII Lansbury	In Section 03.01 remove the words “construction permit and operating” from in front of “license (COL). These added words are not part of what COL stands for. Following “(COL)” add “(a combined construction permit and operating license).”	Yes	
RII Lansbury	In Section 04.01 add a definition for CAM, DCD, EDV, and FSAR.	Yes	
RII Lansbury	The definition in 04.01.u for preoperational testing is not correct. As defined in IMC 2513, 07.05.b.b on page 21, preoperational tests come after construction tests. What is written here defines the preoperational test program (includes construction tests and preoperational tests) but not preoperational tests. Use the definition from IMC 2513, 07.05.b.b on page 21.	Yes	
RII Lansbury	The definition in 04.01.z has an ML number in the middle of the sentence for some reason – remove.	Yes	
RII Lansbury	2506-06: In the fourth full paragraph on page 12 that starts “During the pilot...”, there is no need to spell out CAM since this was done earlier.	Yes	

Source	Comment	Added	Remarks
RII Lanksbury	2506-07.b: Change “and will be operated in conformity” to “and will operate in conformity.” This will make it consistent with the definition of an ITAAC in 2506-04.p. Additionally, use of the current wording reflects on how the licensee’s future operation of the plant will be conducted versus how the plant itself will operate.	Yes	
RII Lanksbury	07.02: In the second sentence remove the unnecessary “and” following “NRC will conduct.”	Yes	
RII Lanksbury	07.02, second paragraph: In the last sentence add “and IMC 0617, as appropriate” at the end. Since this paragraph deals with both CCI and CQV inspections IMC 0617 should be added to reflect the guidance for vendor inspection reports.	Yes	
RII Lanksbury	07.03: In the second full paragraph on page 16 that starts “IMC 2504, which is” in item d., add the word “correctly” in front of “translated.” It’s not that a licensee just translates requirements but that they be correctly translated to meet Appendix B requirements.	Yes	
RII Lanksbury	07.05, item a.1 on page 18: This is the first time this term has been introduced and there is nothing that indicates what it means. Consider adding some discussion prior to this on targeted ITAAC, adding it to the definitions section up front, and discussing it in Appendix B (which talks about the concept but does not fully use the term).	Yes	Definition was not added, but Section 07.05 and Appendix were clarified to explain the ITAAC targeting process.

Source	Comment	Added	Remarks
RII Lanksbury	07.05.a, last paragraph: This section does not discuss the NRO staffs involvement in closing out ITAAC, nor does this topic appear to be discussed elsewhere in this document. This process should be discussed. With what is written it could lead somebody to believe that all that's needed is for CCI to document completion of inspection.	No	This section is not intended to provide a description of the ITAAC closure process. It specifically states: These recommendations will be rolled up by the assessment process in IMC 2505 as part of making the final recommendation to the Commission that the acceptance criteria in the COL have been met. However, we plan to add a section to IMC 2506 describing the ITAAC closure process in a future revision.
RII Lanksbury	07.05.b.1, first paragraph: The second sentence states that an initial team inspection <u>will</u> be conducted within the first six months of construction. This is more restrictive than what is stated in IP 35007 which only <u>recommends</u> that this be done. As we have seen at Vogtle, with an LWA the work may not proceed at the pace it would under a COL. It may not be reasonable under some circumstances to go in the first six months if there is little activity.	Yes	
RII Lanksbury	07.05.b.1, second paragraph: In the second sentence replace the word "effective" with "adequate." This is consistent with the terminology in the enforcement policy.	Yes	
RII Lanksbury	07.06, last paragraph, page 22: In the last sentence should the "will be contained" be changed to "is contained?" If NRO issues the revision to IMC 2504 that is in draft then this will be included.	Yes	

Source	Comment	Added	Remarks
RII Lanksbury	07.08, fourth full paragraph on page 24 that starts “The final entry”: Since DAC inspections, as stated, as led by CCI why do we need to say that the results will be forwarded to CCI?	Yes	
RII Lanksbury	A03.02.01: In the last sentence of the first paragraph remove “necessary to assure the safe construction of the plant.” Using terminology like “safe construction” sounds like what OSHA oversees. We are interested in the quality of construction.	Yes	
RII Lanksbury	A03.03: The first two paragraphs on page A-6 discuss the assignment of residents by the host region to the construction site but there is no discussion about how this will actually work. For instance, if the operational residents are helping with preop testing inspections due they provide input to the construction residents (preferred) or issue their own inspection reports. This IMC states that CRIs are not backups for the operational RIs – what about the operational RIs assigned to do construction work? These are just a couple of examples. Things like this need to be spelled out in advance so there are no misunderstandings between regions on how to implement this process.	No	The words in this Appendix regarding input were provided by Region II. Please provide a change request with the exact wording changes that are necessary to clarify responsibilities.

Source	Comment	Added	Remarks
RII Lanksbury	B03.03, last paragraph on page B-5: Remove “combined construction and operating license” and just use COL. Already spelled out earlier and this is not what COL stands for anyway. Also, remove spelling out of ITAAC since it was spelled out earlier. The same for CIP.	Yes	
RII Lanksbury	B03.08: Spell out SSC’s – first time used in this Appendix.	Yes	
RII Lanksbury	B03.10, Fifth full paragraph on page B-10 starting with “In addition”: In the fourth sentence, spell out DCD since it’s the first time it’s been used in this Appendix.	Yes	
RII Lanksbury	B03.10, under e. on page B-13: Delete the last sentence. What is written was the original concept but subsequently the decision was made that we would not go back and input a new value for this item based on licensee performance. The original value assigned was 3 (on a 1-5 scale) making it basically a null value. It will always be 3.	Yes	
RII Ogle	2506-06, last paragraph on page 11: The definitions for Design/Engineering and Procurement/Fabrication are too tight. It is recommended that they be loosened up so that other things that we inspect are considered. The construction/installation definition has the right level of detail.	Yes	

Source	Comment	Added	Remarks
RII Ogle	2506-06, last paragraph on page 12: Good discussion. Would there be any benefit in having a similar level of discussion of baseline/reactive inspection program above?	No	Please provide specific recommendations for addition.
RII Ogle	07.03, second full paragraph on page 16: In the first sentence it is not really clear what the impact of putting positive in here is. Won't an inspection of these programs be completed prior to our recommendation to the commission?	Yes	
RII Ogle	07.06, last paragraph on page 22: Is the statement in the last paragraph true? A word search of 2504 doesn't show the word "reactive." It would seem like it is time for this to be developed and added if this is really not in 2504.	N/A	Wording changed. Reactive inspection guidance is contained in the latest version of IMC 2504 that is in the process of being issued.
R-II JBrady	Change the title to cROP for Part 52 plants. Write another IMC for Part 50 plants. Another option would be to make a more Generic IMC that will cover both 50 and 52. Then have separate specific attachments for Part 50 and 52 since they will be slightly different. With the TVA Bellefonte announcement, there will clearly be a part 50 plant beyond WBN2, and if TVA builds SMRs, the first one or two will be 50s. Pilot the 50 portion on WBN2. Go ahead and issue the generic IMC with the part 52 attachment and then add a part 50 if that attachment can not be completed in time.	No	IMC 2506 will be modified as necessary so that it applies to all reactors under construction once construction activities for part 50 reactors beyond WBN2 and SMRs begin.

Source	Comment	Added	Remarks
R-II JBrady	There needs to be a provision or option for CCI management to extend a CRI if a plant is within one year of completing construction. It makes no sense for the agency to pay moving expenses to fill a position that will be vacated within one year.	No	There are processes in place to allow the region to request an extension to the time limits for a CRI.
RII JBlake	<p>General Comment 1: Revise the document to include reference to 10 CFR Part 50 Construction Permit activities</p> <p>Justification: TVA is continuing to build WB2 under a Part 50 CP and have announced that Bellefonte U1 will also be completed under Part 50.</p> <p>The NRO website also shows that construction permits for TVA's Clinch River mPower reactors are expected in CY 2012.</p> <p>Note: for the mPower applications, IMC 2511 (or equivalent) should be activated and consideration should be given to scheduling of a pre-application QA inspection to support the CP review.</p>	No	IMC 2506 does not apply to WBN2. IMC 2506 will be modified as necessary so that it applies to all reactors under construction once construction activities for part 50 reactors beyond WBN2 and SMRs begin.

Source	Comment	Added	Remarks
RII JBlake	<p>General Comment 2: The document should be revised to acknowledge the cROP pilot program that will start in January 2012.</p> <p>The revision could mention the pilot and acknowledge the Secy paper associated with the trial with a comment that the IMC will be revised to include the associated information if the pilot is adopted as the official cROP program.</p> <p>At the very least, an addition should be made to Appendix B acknowledging the pilot program.</p>	Yes	This information is already included in the new Section 2506-06.
RII JBlake	<p>Section 2506-06</p> <p>This section should have a paragraph similar to 06.01 and 06.02 describing “Pre-Construction Permit” inspection activities.</p> <p><u>Justification:</u> TVA has announced that they will be submitting application(s) in calendar year 2012 for CPs to support early construction of mPower reactors at the Clinch River Site. Pre-application QA inspections (in accordance with IMC 2511) should already be in the planning stage for the FY 2012 inspection calendar.</p>	No	IMC 2506 will be modified as necessary so that it applies to all reactors under construction once construction activities for part 50 reactors beyond WBN2 and SMRs begin.

Source	Comment	Added	Remarks
RII JBlake	<p>Section 06.02, final paragraph, final sentence: Select a different example for an inspection or test that is impractical after installation (e.g., internal components of sealed safety-related components, such as sealed main coolant pumps.)</p> <p>Justification: In past construction, PWR RPV internals were always completed (final measurements and tack welding) after the RPV was installed in its final location at the site. For BWRs even the jet pumps and associated internal piping units were installed at the site. Most of this work was done by the NSSS vendors as a site extension of the shop fabrication activities, but it was practicable to inspect at the site.</p>	Yes	
RII JBlake	<p>06.03 Use the correct title for IMC 2503. "Construction Inspection Program: Inspections of Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Related Materials"</p> <p><u>Justification:</u> Typo</p>	Yes	

Source	Comment	Added	Remarks
RII JBlake	<p>06.05 <u>Baseline Inspection Program</u></p> <p>Consideration should be given to separating the construction FFD program from the operational FFD program, especially in the assignment of responsibilities.</p> <p>06.05 b.5. states that “All inspections conducted under this procedure will be led by the host region.”</p> <p>While the initial inspection may be conducted by the “host region” this statement of “All inspections...” would seem to preclude and prevent the Construction SRI or RIs from reviewing anything to do with construction FFD.</p>	partial	<p>Construction and operational FFD programs are separate.</p> <p>Changed wording to host region will usually lead the FFD inspections.</p>
RII JBlake	06.05 b.6. Final two sentences, starting with – “Initial startup testing...” should be broken out as a separate paragraph since the discussion is beyond the scope of the early part of the paragraph.	No	The paragraph talks about the ITP and clearly states that initial startup testing is not part of the construction inspection program. The paragraph flows as intended.
RII JBlake	<p>06.10 Construction Project Resource Estimate. Note c.</p> <p>Comment: The original estimate of 10,000 hours included all testing through 100% power. IMC 2504 has currently been truncated to end at fuel load, and operational testing assigned to IMC 2514, therefor this note should acknowledge that the 10,000 hours needs to be divided between IMCs 2504 and 2514.</p>	No	Tony Cerne and Ron Gardner provided the breakdown of hours estimated for a construction project.
RII JBlake	<p>2506-09</p> <p>Add words to acknowledge the cROP pilot program</p>	No	The pilot is described in Section 2506-06.

Source	Comment	Added	Remarks
RII JBlake	<p>A03.03 paragraphs 3 and 4. In the discussion of the addition of operational SRI and RI personnel, ADD the requirement that to assist in pre-op testing these operational SRI/RIs must be cross-qualified as construction inspectors.</p> <p><u>Justification:</u> A majority of the Pre-op tests-of-interest are also ITAAC. Anyone involved with inspection of ITAAC-related materials and activities should be qualified as a construction inspector.</p>		

Source	Comment	Added	Remarks
RII JBlake	<p>A03.03 discussion of CRI tour length.</p> <p>This section should be re-written as “expectations” with a minimum of absolute limitations on tours.</p> <p>The paragraph should also contain the stipulation that any CRI’s stay that is extended beyond completion of the “fuel-load” of the last unit completed must be cross-qualified as an operational inspector.</p> <p>CRIs should never be surprised by the approach of the completion of construction. They should have completed an Individual development plan (IDP) that shows their career goals and charts the necessary qualifications to assist in transfer to operations, etc.</p> <p><u>Justification:</u> Speed of modular construction, particularly at single unit sites could dictate RI assignments less that 4 years. For the first wave of construction, SRI/RI assignments should be on a case-by-case basis as dictated by agency needs.</p>	No	The words in section A03.03 were provided by region II. Please work with Region II management and provide exact wording change recommendations through a change request.
RII JBlake	Appendix B should be expanded to show the Staff and Commission decisions since March 2007.	No	This information will be included in the next revision.
R-II EHeher	Page 5, Section 04.01.z – There is an ML number that looks out of place in the first sentence.	Yes	

Source	Comment	Added	Remarks
R-II EHeher	Page 12, Section 2506-06, paragraph 7 on page 12 – The first sentence in that paragraph says: “During the pilot, <u>findings</u> identified through the CIP will be screened in accordance with IMC 0613P, Appendix B, ...” This is a little bit confusing because IMC 0613 does not screen findings, but issues that may or may not turn into findings. Then it categorizes the findings, once the issue is greater than minor.	Yes	
R-II EHeher	Page 21, Subsection c, First paragraph – There’s a typo in the second sentence. It says “the program has been developing accordance with...” I believe it should say: “the program has been developed in accordance with...”.	Yes	
R-II EHeher	Page 25, Paragraph 07.10 – At the end of the second sentence there’s a typo. It says consturction instead of construction.	Yes	
R-II EHeher	Page 13, Paragraph 07.02 – In the second sentence there is a typo after the first comma. ...”NRC will conduct <u>and</u> inspections of...”	Yes	
RII NKarlovich	For Section 04.01 the definition of construction, Replace the phrase “10 CFR Part 50” with “10 CFR Part 50 and Part 52” as the described items in the definition could also occur under Part 52 (Page 2)	No	This is the definition in the CFR. Part 52 plants are subject to the requirements in Part 50.
RII NKarlovich	For Section 04.01 the definition of vendor, Remove the random ML # in the definition, or if it is necessary to keep the ML # in, place it in parenthesis (Page 5)	Yes	

Source	Comment	Added	Remarks
RII NKarlovich	For Section 07.05.b.4, a comma should be inserted so it reads “inspections, tests, and analyses” instead of “inspections, tests and analyses”(Page 20)	Yes	
RII NKarlovich	For Section 07.08, 3 rd paragraph in section, last sentence in paragraph (page 23), Replace phrase “synergistic effects” with “benefits” or some other Plain Language wording (e.g. gains).	Yes	
RII NKarlovich	<p>For Section 07.08 4th paragraph last sentence (page 24) replace “Participation by CCI will help their staff to maintain an awareness of the on-going activities and to develop a comprehensive view of licensee oversight of work activities related to the construction of a specific plant, which may contribute to the successful completion of the acceptance criteria of the combined license” with “Participation by CCI will help their staff maintain an awareness of the on-going activities and develop a comprehensive view of licensee oversight of work activities related to the construction of a specific plant, which may contribute to the successful completion of the acceptance criteria of the combined license”</p> <p>Removing the “to”s makes the sentence easier to read and doesn’t change the meaning of the sentence</p>	Yes	

Source	Comment	Added	Remarks
RII NKarlovich	On page 25, two of the changes made for this revision led to small errors. In the first paragraph of 7.10 construction is misspelled. In the first row of the table after the heading, ITAACdirect should be ITAAC direct	Yes	
RII NKarlovich	On page 28, for the Construction allegation Program section, the Region uses the EICS branch to implement the allegation program for the whole region, and do not have a NRR allegations team. Maybe add a sentence saying "Allegations received by the region will be processed through the region's EICS branch, involving the headquarters allegation program as necessary".	Yes	
RII NKarlovich	For Exhibit 3, If we are looking at a Geotechnical/foundation activity in support of the COL who has the lead? Is the wording supposed to indicate that for inspection of geotechincial activity in support of a COL we will only be able to inspect procedures and not the actual activities? The table only addresses the inspection of procedures for geotechnical activities in support of COL and not inspection of the activities	No	This activity is led by NRO QVB staff. The guidance for this is located in IMC 2502. No change is needed.

Source	Comment	Added	Remarks
RII NKarlovich	<p>On page A-6 it states “However, the construction residents (as well as any other qualified NRC inspectors) could be directed to provide coverage for a site event if they are on site and no operating resident inspectors are available, at least until the operating resident inspection staff can arrive on site.”</p> <p>It may be that there will be different badging with different permissions for the construction and operating sites, providing an additional barrier to construction inspectors. Will there be future guidance for how this might work?</p>	N/A	<p>No further guidance is planned. Site coverage arrangements should be coordinated by the respective branch chiefs and site access should be part of that coordination.</p>

Source	Comment	Added	Remarks
<p style="text-align: center;">RII FULLER</p>	<p>[2506-06, "REVISED cROP ASSESSMENT PROGRAM PILOT]</p> <p>Regarding the construction cornerstones of safety:</p> <p>Under the ROP (IMC 0308) the cornerstone objectives are defined in terms of what the LICENSEE must do.</p> <p>For example (initiating events) "The objective of this cornerstone is to limit the frequency of those events that upset plant stability and challenge critical safety functions, during shutdown as well as power operations. If not properly mitigated and multiple barriers are breached, a reactor accident could result which would compromise the public health and safety. Licensees can reduce the likelihood of a reactor accident by maintaining a low frequency of these initiating events. Such events include reactor trips due to turbine trips, loss of feedwater, loss of off-site power, and other reactor transients."</p> <p>In the CROP we use the phrase <i>"to independently assess."</i> I wonder if we need to rephrase this <u>to be clear that the cornerstone must be met by the licensee's actions. Then the NRC will "independently assess"....</u></p>	<p style="text-align: center;">No</p>	<p>The cornerstone definitions were agreed upon through numerous interactions with stakeholders. Findings will be assigned to the cornerstones and therefore, it is clear that licensees must perform adequately in each area of the cornerstones. During the pilot, the definitions will be evaluated to determine if clarifications are needed to ensure licensees' must perform adequately in the cornerstones.</p>

Source	Comment	Added	Remarks
<p>RII FULLER</p>	<p>[2506-06, "REVISED cROP ASSESSMENT PROGRAM PILOT]</p> <p>Regarding the construction cornerstones of safety:</p> <p>With the current plan to build the new plants under EPC contracts, and as a turn-key project, the licensee's oversight of their contractors and subcontractors may be one of the most important cornerstones. This may be covered by the "procurement/fabrication" cornerstone, but I wonder if it would be important enough for it's own cornerstone.</p> <p>Similarly, I wonder if "problem identification and resolution" and/or "training and qualification of personnel" would warrant specific cornerstones.</p>	<p>No</p>	<p>They cornerstones were agreed upon through numerous interactions with stakeholders. The areas mentioned in the comments are believed to be adequately covered by the existing cornerstones. The cornerstones and their definitions will be evaluated during the pilot and any necessary changes based on experience gained during the pilot will be incorporated.</p>

Source	Comment	Added	Remarks
<p>RII FULLER</p>	<p>[2506-06, "REVISED cROP ASSESSMENT PROGRAM PILOT] & Exhibit 2 "Construction Regulatory Oversight Framework"</p> <p>Regarding the construction cornerstones of safety:</p> <p>Perhaps it would be prudent to identify several "cross-cutting areas" in the construction regulatory framework - to mirror the ROP. The ROP cross-cutting areas are: Human performance, SCWE, and PI&R.</p> <p>If PI&R is not added as a cross-cutting aspect, then I would recommend that PI&R be its own cornerstone.</p>	<p>partial</p>	<p>The cROP has two cross-cutting areas: Baseline Program and SCWE. Human performance and corrective actions are covered by cross-cutting aspects for the Baseline Program cross-cutting area. As part of the pilot, we will evaluate the need to change the cross-cutting areas to either be consistent with the ROP, or to add other areas (e.g. Quality Assurance).</p> <p>The cross-cutting areas were added to the framework as a result of this comment.</p>

Source	Comment	Added	Remarks
RII FULLER	<p>[Section 07.03, Inspection Subsequent to LWA/COL issuance]</p> <p>Because pre-construction activities (by definition) continue after issuance of COL, we may need to clarify that IMC 2503 will provide for the inspection of ITAAC-related work activities that may be construction activities or pre-construction activities.</p> <p>More broadly, I think the term pre-construction activity is not used correctly throughout our basis documents provided the concept that preconstruction activities continue after COL issuance.</p>	No	<p>Once a license is issued, any activities that were referred to as pre-construction activities become construction related activities. We specifically used the term construction related activities to cover inspection of all activities associated with constructing the plant. So activities that are not construction by definition but are related to construction are covered by IMC 2503 after a license is issued.</p>
RII FULLER	<p>[appendix b, Section B03.10; 6th paragraph "In addition to the ITAAC..."]</p> <p>This paragraph refers to "NRC Region 2 construction staff".. perhaps change this to "CCI" to be consistent with the rest of the IMC.</p>	Yes	

Source	Comment	Added	Remarks
RI Gray	The definitions of “ITAAC Finding” and “ITAAC-Related Construction Finding” should be merged such that an ITAAC Finding does not distinguish whether or not a closure letter has been submitted. The existence of the closure letter can be noted separately (or another definition created). To refer to the numerous findings associated with ITAACs during construction as “ITAAC-Related Construction Finding” would be unnecessarily cumbersome and counter-intuitive, and counter to plain language.	Yes	
RIV Latta	Delete the word ‘controls...’ and insert “affecting programs..”	Yes	
RIV Latta	Second sentence, replace the word “developing...” with “developed in accordance...”	Yes	
CQVA	<p>Under 04.01 General Definitions Add new item U. Pre-construction activity.</p> <p>Any activity conducted prior to issuance of a COL or LWA by the applicant or contracted suppliers on behalf of the applicant associated with a proposed ITAAC for safety-related components or portions of the proposed facility and occurring at other than the final, in-place location at the facility.</p> <p>This is the definition out of IMC 2502 and as used in 2502 and 2506 has very specific meaning.</p> <p>This term is used throughout IMC 2506 - 2506-07 CONSTRUCTION INSPECTION PROGRAM (CIP) and warrants definition.</p>	Yes	

Source	Comment	Added	Remarks
CQVA	References to IP 35007 should read "Quality Assurance Program Implementation During Construction and Pre-Construction Activities" as we added pre-construction activities to cover the regional inspections under 2502.	Yes	
CQVA	<p>07.02 Pre-Combined License (Pre-COL) Inspections. IMC 2502, "Construction Inspection Program: Pre-Combined License (Pre-COL) Phase," provides inspection policy and guidance for the implementation of the inspection program during licensee preparation and NRC review of COL applications submitted under Part 52. Similar to inspections conducted to review ESP activities, NRC will conduct and inspections of an applicant once the COL application is tendered.</p> <p>Change highlighted section to conduct inspections</p>	Yes	

Source	Comment	Added	Remarks
	<p>Add the following definitions from IP 90002: <u>Root Causes</u> are defined as the basic reasons (i.e., hardware, process, or human performance) for a problem, which if corrected, will prevent recurrence of that problem.</p> <p><u>Contributing Causes</u> are defined as causes that by themselves would not create the problem but are important enough to be recognized as needing corrective action. Contributing causes are sometimes referred to as causal factors. Causal factors are those actions, conditions, or events which directly or indirectly influence the outcome of a situation or problem.</p> <p><u>Repeat Occurrences</u> are defined as two or more independent conditions which are the result of the same basic cause(s).</p> <p><u>Common Cause</u> is defined as multiple failures (i.e., two or more) of proper installation of equipment, construction of structures or processes attributable to a shared cause.</p> <p><u>Extent of Condition</u> is defined as the extent to which the actual condition exists with other plant construction processes, equipment, or human performance.</p> <p><u>Extent of Cause</u> is defined as the extent to which the root causes of an identified problem have impacted other plant construction processes, equipment, or human performance.</p> <p><u>Consequences</u> are defined as the actual or potential outcome of an identified problem or condition.</p>	<p>Yes</p>	