PMComanchePeakPEm Resource

From: Woodlan, Don [Donald.Woodlan@luminant.com]
Sent: Friday, August 27, 2010 1:33 PM
To: Monarque, Stephen; ComanchePeakCOL Resource
Cc: Otto, Ngola; Russ Bywater; Weeks, Matthew; Kazuya Hayashi; Evans, Todd; joseph tapia; Diane Yeager; Conly, John; nicholas_kellenberger@mnes-us.com
Subject: 2010-08-27 Woodlan re Comanche Peak RCOL Chapter 14, Section 14.2 - RAI Number 173
Attachments: RAI 4682 (RAI 173).docx; 2010-01-24 ISG-15 FinalML093561416.pdf

Steve,

The Luminant COLA team has reviewed this RAI and believes a conference call is needed. We have two areas to clarify:

- The question relies heavily on information IBRed from the DCD. There appears to be some inconsistency between what the DCD says (including which activities require COL applicant action) and what the question says. We would like to clarify these. We will have a detailed list to talk from for the conference call.

- The question asks for certain activities to be addressed via license conditions. It appears to us that some of these requests are not consistent with ISG-15. We would like to understand how ISG-15 requires these items to be license conditions in lieu of regulatory commitments. Some related quotes from ISG-15 are:
    - A COL applicant that references a certified design is required to provide information in their application that addresses the COL action items (see Section IV.A.2.e of the DCRs).
    - Although RG 1.206, Section C.III.4.3, specifically discusses COL action or information items that cannot be completed until after the COL has been issued, the information necessary for the NRC staff to issue the license cannot be deferred by a COL action or information item. This may necessitate the partial closure of COL items defined in the referenced certified design or ESP, with the remaining portions of the COL items associated with information that is not necessary to issue the license identified as post-licensing commitments.
    - This guidance identifies the following options for treatment of these post-licensing commitments:
        - Inspection, test, analysis, and acceptance criteria (ITAAC)
        - License conditions
        - FSAR (or other licensing basis document) information commitments
    - Therefore, a COL action item cannot be deferred until after a COL is issued if resolution of that item is necessary for the NRC staff findings required to issue the license.
    - This guidance provides the COL applicant with the following options for ensuring the completion, after license issuance, of those COL action items that are not necessary for the NRC staff license determination. This guidance is also applicable to post-licensing information commitments that were identified during COL application reviews that were not associated with COL action items.
        - 1. Consider the COL item unnecessary if it is found to be completely redundant to an ITAAC from the referenced certified design that will be included or incorporated by reference in the COL application.
        - 2. Identify new site-specific ITAAC to resolve the COL item. COL applicants may also propose, in accordance with the appropriate change process, new or revised ITAAC for items within the scope of a referenced certified design.
        - 3. Identify a new condition to the license or an existing license condition (e.g., Technical Specifications) to govern the matter addressed by the COL item (e.g., the license condition on operational programs discussed in Section C.IV.4). The license condition should include implementation schedules, where appropriate.
        - 4. Ensure that the COL applicant describes in its application (e.g., within an appropriate section of the COL application) the proposed approach to addressing a COL information item in sufficient detail to support the NRC licensing finding. The COL applicant should also describe how it intends to update any affected licensing basis documents (e.g., the FSAR) or otherwise inform the NRC staff of the final disposition of the COL item. The descriptions provided should include implementation schedules, where appropriate.
    - The actions that holders of a COL must complete following issuance of a COL are: ITAAC and license conditions. FSAR information commitments, including commitments to update other licensee controlled documents, are those actions that may not warrant a license condition but may be controlled by regulations such as 10 CFR 50.71(e) and licensee programs that manage such commitments.

- A license condition; however, is not necessary for those matters already covered by the license, including Technical Specifications, or regulations.
- However, there may be some conditions specifically included in the license that require the licensee to notify the NRC of the schedule of availability of information for inspection or implementation schedules of programs or activities to be inspected.
- License conditions may be used to include implementation schedules for operational programs as discussed in RG 1.206, Sections C.I and C.III.1, Table 13.4.
- Completion of COL action items via an FSAR commitment cannot be used to provide information to the NRC that is necessary to make a finding required for license issuance. However, completion of post-licensing information commitments or a COL action item that does not include information necessary for licensing via an FSAR commitment could be used to ensure that the licensing basis for the facility is updated.
- The licensing project manager, with support from the identified technical reviewers, determines the most appropriate post-licensing commitment option for any COL action items that cannot be completely resolved before license issuance, as well as any post-licensing information commitments made to the NRC as part of the license application review.

The list above is not complete but I tried to find the excerpts that applied to this RAI. As OGC was involved in the development of this ISG, it seems appropriate to have a representative from OGC on our clarifying conference call.

Thanks,

Donald R. Woodlan
Manager, Nuclear Regulatory Affairs
Luminant Power
O- 254-897-6887 C- 214-542-7761

From: Monarque, Stephen [mailto:Stephen.Monarque@nrc.gov]
Sent: Wednesday, August 25, 2010 2:59 PM
To: Conly, John; Woodlan, Don; cp34-rai-luminant@mnes-us.com; Diane Yeager; Evans, Todd; joseph tapia; Kazuya Hayashi; Weeks, Matthew; MNES RAI mailbox; Russ Bywater
Cc: ComanchePeakCOL Resource; Otto, Ngola
Subject: Comanche Peak RCOL Chapter 14, Section 14.2 - RAI Number 173

The NRC staff has identified that additional information is needed to continue its review of the combined license application. The NRC staff's request for additional information (RAI) is contained in the attachment. Luminant is requested to inform the NRC staff if a conference call is needed.

The response to this RAI is due within **35** calendar days of August 25, 2010.

Note: If changes are needed to the safety analysis report, the NRC staff requests that the RAI response include the proposed changes.

thanks,

Stephen Monarque
U. S. Nuclear Regulatory Commission
NRO/DNRL/NMIP
301-415-1544

Hearing Identifier: ComanchePeak_COL_Public
Email Number: 1028

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From: Woodlan, Don

Created By: Donald.Woodlan@luminant.com

Recipients:
"Otto, Ngola" <Ngola.Otto@nrc.gov>
Tracking Status: None
"Russ Bywater" <russell_bywater@mnes-us.com>
Tracking Status: None
"Weeks, Matthew" <Matthew.Weeks@luminant.com>
Tracking Status: None
"Kazuya Hayashi" <kazuya_hayashi@mnes-us.com>
Tracking Status: None
"Evans, Todd" <Eric.Evans@luminant.com>
Tracking Status: None
"joseph tapia" <joseph_tapia@mnes-us.com>
Tracking Status: None
"Diane Yeager" <diane_yeager@mnes-us.com>
Tracking Status: None
"Conly, John" <John.Conly@txu.com>
Tracking Status: None
"nicholas_kellenberger@mnes-us.com" <nicholas_kellenberger@mnes-us.com>
Tracking Status: None
"Monarque, Stephen" <Stephen.Monarque@nrc.gov>
Tracking Status: None
"ComanchePeakCOL Resource" <ComanchePeakCOL.Resource@nrc.gov>
Tracking Status: None

Post Office: MDCEXMB02.tceh.net

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Request for Additional Information (RAI) No. 4682, COLA Revision 1

RAI Number 173

8/25/2010

Comanche Peak Units 3 and 4
Luminant Generation Company, LLC.
Docket No. 52-034 and 52-035
SRP Section: 14.02 - Initial Plant Test Program - Design Certification and New License Applicants
Application Section: 14.2

QUESTIONS for Quality and Vendor Branch 1 (AP1000/EPR Projects) (CQVP)

14.02-19

Consistent with the guidance in RG 1.206, Regulatory Position C.III.4.3, "Combined License Information Items That Cannot Be Resolved Before the Issuance of a License," the applicant identified in Comanche Peak Nuclear Power Plant (CPNPP) Units 3 and 4 FSAR Table 13.4-201, “Operational Programs Required by NRC Regulation and Program Implementation,” Item 19, Initial Test Program (ITP) activities that will be subject to a license condition. In addition to the ITP activities identified in Table 13.4-201, the NRC staff has identified the following post-COL items in FSAR Section 14.2.13, "COL Information Items" as license conditions. Accordingly, Luminant is requested to implement these license conditions.

License Conditions for Post Combined License (COL) Items

License Condition for Preoperational and Startup Test Specifications and Procedures, US-APWR DCD Section 14.2.13, COL License Information

During the post-licensing period, preoperational and startup test specification, and test procedures will be subject to a license condition for NRC inspections to verify that the licensee implements the ITP. This process will allow for the performance of necessary plant as-built inspections and walk downs. The licensee will make available to on-site NRC inspectors preoperational and startup test specifications and test procedures 60 days prior to their intended use.

License Condition for Preoperational and Startup Test Specifications and Procedures, US-APWR DCD Section 14.2.13, COL License Information

Prior to initiating the plant’s ITP, a site specific startup administration manual (SAM) (procedures), which includes administrative procedures and requirements that govern the activities associated with the plant ITP is to be provided to on-site NRC inspectors.

License Condition for the Power Ascension Test Phase, US-APWR DCD Section 14.2.13, COL License Information, COL Item 14.2,

Certain milestones in the startup testing phase of the ITP (e.g., pre-critical testing, criticality testing and low-power testing) should be controlled through this license condition to ensure that the designated licensee management reviews, evaluates, and

approves relevant test results before proceeding to the power ascension test phase. Accordingly, the licensee shall perform the following:

(a) Complete all pre-critical and criticality testing and confirm that the test results are within the range of values predicted in the FSAR acceptance criteria. After completing and evaluating criticality test results, the licensee will conduct low-power tests and will operate the facility at reactor steady-state core power levels not in excess of 5 percent power, in accordance with the conditions of the license.

(b) Complete all low-power testing and confirm that the test results are within the range of values predicted in the acceptance criteria in the facility's FSAR. After completing and evaluating low-power test results, the licensee will conduct power ascension testing and will operate the facility at reactor steady-state core power levels not in excess of 100 percent power, in accordance with the conditions of the license.

The licensee is responsible for the review and evaluation of the adequacy of these test results, as well as final review of overall test results. Test results, which do not meet acceptance criteria, are identified and corrective actions and retests are performed. These results shall be made available to on-site NRC inspectors.

License Condition for the Test Program Schedule, US-APWR DCD Section 14.2.13, COL License Information, COL Item 14.2

Prior to initial fuel load, the licensee shall submit a schedule, no later than 12 months after issuance of the COL, and updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until either the operational program for the ITP in Comanche Peak Nuclear Power Plant (CPNPP) COL FSAR Table 13.4-201, Item 19, has been fully implemented or the plant has been placed in commercial service, whichever comes first. This schedule shall support implementation details of the ITP and planning for the conduct of NRC inspections of operational programs listed in the operational program CPNPP COL FSAR Table 13.4-201, Item 19.

License Condition for Test Changes

Within one month of any ITP changes described in CPNPP Units 3 and 4 FSAR Section 14.2, the licensee shall evaluate these changes in accordance with the provisions of 10 CFR 50.59 or Section VIII of Appendix A to 10 CFR Part 52 and report them in accordance with 10 CFR 50.59(d).

Interim Staff Guidance on Post-Combined License Commitments
ESP/DC/COL-ISG-015

Issuance Status:

Final

Purpose:

Through this document, the staff of the U.S. Nuclear Regulatory Commission (NRC) provides interim staff guidance (ISG) regarding the completion of action or information items identified in the Final Safety Analysis Report (FSAR) for a certified design that should be addressed in a combined license (COL) application. Specifically, the guidance discusses options regarding completion of COL items that cannot be completed until after issuance of the COL. This guidance supplements the guidance previously provided for COL applicants in Section C. III.4.3, "Combined license information items that cannot be resolved before issuance of a license," of Regulatory Guide (RG) 1.206, "Combined License Applications for Nuclear Power Plants (LWR Edition)," June 2007. In addition, this guidance supplements the guidance provided for NRC staff review of applications contained in NUREG-0800, Standard Review Plan (SRP) Chapter 1.0, dated November 2007.

Background:

RG 1.206, Section C.III.4, "Combined License Action or Information Items," provides a definition of COL action or information items and a discussion of how COL applicants should address these items. A definition of COL action item is also provided in SRP Chapter 1.0. COL action or information items are documented in the FSAR for a certified design, which is also known as a design control document (DCD). The definition for COL action items (COL license information) is provided in Section II.E.3 of each design certification rule (DCR) in the appendices to Title 10 of the *Code of Federal Regulations*, Part 52 (10 CFR Part 52). A COL applicant that references a certified design is required to provide information in their application that addresses the COL action items (see Section IV.A.2.e of the DCRs). Likewise, an early site permit (ESP) may require a COL applicant that references an ESP to address COL action items identified in the ESP. In addition, a COL applicant may include a commitment to perform an action (e.g., update information, provide schedules, etc.) that is related to site-specific design features or programs for the facility that were not identified in an ESP or DCD that it references.

It should be noted that the Commission did not intend for DCDs to identify, as COL action items, all of the requirements that a COL applicant needs to meet to demonstrate compliance with 10 CFR Part 52, "Subpart C – Combined Licenses." Therefore, for a COL application that references a certified design or ESP, it may not be sufficient for the COL applicant to address only those COL action items contained in the referenced DCD or ESP in order to demonstrate compliance with the regulations governing a COL application. The COL applicant must demonstrate compliance with all the regulatory requirements in 10 CFR 52.79 and 10 CFR 52.80 whether they are addressed by a COL item or not.

Further, a COL applicant must provide all information in the COL application that is necessary for the NRC staff to make the findings required to issue the license. Although RG 1.206, Section C.III.4.3, specifically discusses COL action or information items that cannot be completed until after the COL has been issued, the information necessary for the NRC staff to issue the license cannot be deferred by a COL action or information item. This may necessitate the partial closure of COL items defined in the referenced certified design or ESP, with the remaining portions of the COL items associated with information that is not necessary to issue the license identified as post-licensing commitments.

Issue:

As a result of reviewing design certification (DC) and COL applications, the NRC staff determined that additional guidance and clarification on the review of COL items that cannot be resolved prior to issuance of a COL should be provided to ensure consistency. In addition, the existing guidance for COL applicants contained in RG 1.206, Section C.III.4, "Combined License Action or Information Items," should be clarified and supplemented to facilitate common understanding by applicants preparing their COL applications. The guidance should provide options and illustrative examples to assist in determining the most appropriate post-licensing commitments for ensuring completion of these COL action items following license issuance.

Discussion:

During NRC reviews of DC applications and COL applications, several issues regarding COL items were identified for which additional clarification is provided in this ISG to benefit applicants and the NRC staff:

- Identification of COL action items in DC applications as "COL holder items"
- Addressing COL action items that cannot be completed until after the COL is issued
- Options available to licensees for closing out COL action items that cannot be completed until after the COL is issued

In addition to the above, issues were raised regarding post-licensing information commitments that were identified during COL application reviews, but were not associated with COL action items. These included updated information on site-specific design features or portions of the design not included in a referenced certified design, operational, training or procedural issues, schedule information for program implementation, etc. The following provides additional discussion on the issues identified above.

COL action items identified in DCDs for certified designs or in ESPs contain information requirements that must be addressed by the COL applicant. During the reviews of DC applications, some applicants attempted to facilitate the NRC staff's review by differentiating between COL action items that can be completed as part of or during the COL application review and prior to license issuance and those items that cannot be completed until after the COL is issued. The COL action items that could not be completed until after license issuance were characterized as "COL holder items." Although some designs that were previously certified may still include this term, the NRC staff halted this practice for DC applications under review because there is no definition for "COL holder item" and the determination of when a

COL action item can be completed is within the purview of the COL applicant rather than the DC applicant.

This guidance identifies the following options for treatment of these post-licensing commitments:

- Inspection, test, analysis, and acceptance criteria (ITAAC)
- License conditions
- FSAR (or other licensing basis document) information commitments

The above options are not limited to just those COL action items that can only be completed after license issuance, but may also be used for post-licensing information commitments that were identified during COL application reviews that were not associated with COL action items.

The NRC reviews mentioned above included COL applications that referenced either a DCR or a DC application under NRC staff review, and DC applications. Some COL applications also referenced an ESP. Due to the timeframe and commercial environment during which some designs were certified, the nature and specificity of certain COL action items in those certified designs may differ from those proposed in DC applications currently under review. The involvement of COL applicants in discussions regarding the DC applications that are being referenced in their COL applications, along with the NRC staff reviews, have helped to improve the specificity of COL action items and of the ITAAC included in those DC applications. As a result, ITAAC have been proposed for items in DC applications where COL action items were previously specified for the same or similar items in certified designs. This creates certain challenges when providing illustrative examples to accompany the associated guidance since the most appropriate option may depend on whether the referenced design has already been certified or not. The examples provided will discuss these differences.

Some COL applicants have proposed ITAAC, license conditions, or FSAR commitments for their post-licensing information commitments and COL action items that can only be completed after license issuance. Other applicants have only proposed ITAAC and FSAR information commitments and have not included license conditions because of their expectation that the appropriate license conditions would be imposed by the NRC staff. Although applicants are not prohibited from proposing options for their post-licensing commitments, the NRC staff will make the final determination as to the most appropriate option. The following provides interim guidance to applicants and the NRC staff on determining the most appropriate post-licensing commitment type.

The draft guidance of ESP/DC/COL-ISG-015 was issued for public comment via notice in the *Federal Register (FR)*, dated October 27, 2009 (74 FR 55274). Public comments on draft ESP/DC/COL-ISG-015 were provided by the Nuclear Energy Institute (NEI) in their letter, dated November 24, 2009. These comments are available in the NRC's Agencywide Documents Access and Management System (ADAMS) at Accession Number ML093430227. A discussion and slide presentation on ESP/DC/COL-ISG-015 held during a public meeting on December 17, 2009, documents the NRC's responses to these comments (see ADAMS Accession Number ML093520068).

Interim Staff Guidance:

The NRC will revise RG 1.206 and the guidance contained in Section C.III.4.3 of RG 1.206 will be replaced with the following:

C.III.4.3 Combined license information items that cannot be resolved before the issuance of a license

For each COL action or information item, whether its source is the referenced certified design or an ESP, the COL applicant should provide the requested information or justify why that item cannot be completed prior to issuance of the license. For example, items that call for plant walkdowns cannot be completed because the plant has not been constructed at the time the application is submitted. The COL applicant must provide sufficient information to support the NRC licensing decision. Therefore, a COL action item cannot be deferred until after a COL is issued if resolution of that item is necessary for the NRC staff findings required to issue the license. If, for example, the COL action item addresses both information necessary for licensing action and information necessary to update the FSAR or other licensing basis documents following license issuance, the COL applicant must provide the information necessary for licensing and should propose a method for ensuring the final closure of the remaining portion of the COL item following issuance of a COL. The COL applicant should identify, in an appropriate section of the COL application, the COL information items that cannot be completely resolved before the COL is issued, as well as any post-licensing information commitments made to the NRC as part of the license application review. This guidance provides the COL applicant with the following options for ensuring the completion, after license issuance, of those COL action items that are not necessary for the NRC staff license determination. This guidance is also applicable to post-licensing information commitments that were identified during COL application reviews that were not associated with COL action items.

1. Consider the COL item unnecessary if it is found to be completely redundant to an ITAAC from the referenced certified design that will be included or incorporated by reference in the COL application.

2. Identify new site-specific ITAAC to resolve the COL item. COL applicants may also propose, in accordance with the appropriate change process, new or revised ITAAC for items within the scope of a referenced certified design.

3. Identify a new condition to the license or an existing license condition (e.g., Technical Specifications) to govern the matter addressed by the COL item (e.g., the license condition on operational programs discussed in Section C.IV.4). The license condition should include implementation schedules, where appropriate.

4. Ensure that the COL applicant describes in its application (e.g., within an appropriate section of the COL application) the proposed approach to addressing a COL information item in sufficient detail to support the NRC licensing finding. The COL applicant should also describe how it intends to update any affected licensing basis documents (e.g., the FSAR) or otherwise inform the NRC staff of the final disposition of the COL item. The descriptions provided should include implementation schedules, where appropriate.

This section provides additional guidance on the most appropriate option for ensuring completion of COL action items that are not necessary for license issuance and which cannot be completed until after issuance of a COL. Completion of these items may be necessary to support coordination of NRC inspection/audit activities and to support operation of the facility. The actions that holders of a COL must complete following issuance of a COL are: ITAAC and license conditions. FSAR information commitments, including commitments to update other licensee controlled documents, are those actions that may not warrant a license condition but may be controlled by regulations such as 10 CFR 50.71(e) and licensee programs that manage such commitments.

As discussed in Section C.III.4.1, COL action or information items are documented in DCDs and a definition for COL action items (COL license information) is provided in Section II.E.3 of each DCR. COL applicants that reference certified designs are required to provide information that address the COL action items (see Section IV.A.2.e of the DCRs). Likewise, an ESP may require a COL applicant that references an ESP to address COL action items identified in the ESP. In reference to the definition for COL action item, it should be noted that the Commission did not intend for DCDs to identify, as COL action items, all of the requirements that a COL applicant needs to meet to demonstrate compliance with 10 CFR Part 52, "Subpart C – Combined Licenses." Therefore, for a COL application that references a certified design or an ESP, it may not be sufficient for the COL applicant to address only those COL action items contained in the referenced DCD or ESP. The COL applicant must demonstrate compliance with all the regulatory requirements in 10 CFR 52.79 and 10 CFR 52.80 whether they are addressed by a COL action item or not.

Further, a COL applicant must provide all information in the COL application that is necessary for the NRC staff to make the findings required to issue the license. Although this section specifically discusses COL action or information items that cannot be completed until after the COL has been issued, the information necessary for the NRC staff to issue the license cannot be deferred by a COL action or information item. This may necessitate the partial closure of COL items defined in the referenced certified design or ESP, with the remaining portions of the COL items associated with information that is not necessary to issue the license identified as post-licensing commitments.

COL applicants may propose the applicable options identified above: ITAAC, license conditions, or FSAR commitments, for their post-licensing information commitments and COL action items that can only be completed after license issuance; however, the NRC staff will make the final determination as to the most appropriate option. The following discussion should be considered by the applicant in determining the most appropriate option:

ITAAC:

The requirement for inclusion of ITAAC in an application for a COL is set forth in 10 CFR 52.80(a), which states that the application must contain:

> The proposed inspections, tests, and analyses, including those applicable to emergency planning, that the licensee shall perform, and the acceptance criteria that are necessary and sufficient to provide reasonable assurance that, if the inspections, tests, and analyses are performed and the acceptance

> criteria met, *the facility has been constructed and will be operated in conformity with the combined license*, the provisions of the Act, and the Commission's rules and regulations. (Emphasis added)

The licensee is required by regulation to provide notification along with sufficient documentation to demonstrate successful completion of ITAAC in accordance with 10 CFR 52.99(c). The NRC is required to ensure that the prescribed ITAAC are performed and to publish notices in the FR of the staff's determination of the licensee's successful completion of ITAAC per 10 CFR 52.99(e). Following that, the licensee may not operate the facility until the Commission finds that the acceptance criteria of the ITAAC are met.

Guidance for development of ITAAC, as well as additional considerations for ITAAC, is provided in RG 1.206, Sections C.II.1, C.III.1, and C.III.7. NRC staff review guidance on ITAAC is provided in SRP Section 14.3. When determining whether a post-licensing information commitment or a COL action item that cannot be completed until after license issuance should be treated in an ITAAC or not, the COL applicant should use the guidance and criteria provided in RG 1.206 and in SRP Section 14.3. ITAAC are license conditions whose focus is on verifying that the completed facility complies with the license for the facility and the Commission's regulations. Another consideration for ITAAC is that *completion of ITAAC, by definition, must take place prior to operation of the facility, including fuel load*. The licensee must successfully complete all ITAAC in order for the Commission to make the findings prerequisite to fuel load as required by 10 CFR 52.103(g).

New ITAAC proposed by a COL applicant referencing a certified design to address completion of designs, reconciliation of portions of the as-built facility with the design of the facility, etc., within the scope of the referenced certified design may only be included in a COL application in accordance with the change process described in Section VIII of the associated DCR.

License Conditions:

The license for a nuclear facility contains terms and conditions for operation. 10 CFR 50.54, "Conditions of Licenses," identifies the standard conditions, with some exceptions, which are applicable to every COL issued. In addition to those standard conditions, additional license conditions may be proposed by the COL applicant to address completion of post-licensing information commitments or COL action items that cannot be completed until after license issuance. For example, a license condition may be necessary to govern those tests that can be performed only after fuel is loaded into the reactor. A license condition; however, is not necessary for those matters already covered by the license, including Technical Specifications, or regulations. License conditions proposed by COL applicants should be consolidated in an appropriate section of their COL application. The following discussion should be considered by COL applicants for proposing license conditions in their application:

- License conditions remain in effect for the licensee until satisfactorily completed and their removal is approved via the license amendment process per 10 CFR 52.98(f). Note that there is no requirement for a licensee to remove a condition from its license following satisfactory completion of the condition.

- License conditions are enforceable the same way a regulation or order is enforceable. The terms of the FSAR are not similarly enforceable, but changes to the FSAR must comport with the provisions of 10 CFR 50.59 and 50.71(e), which are enforceable regulations.

- In contrast to completion of an ITAAC, where a licensee is required to make a submission to the NRC staff documenting satisfactory completion of the ITAAC, submission requirements may not be associated with completion of a license condition. However, there may be some conditions specifically included in the license that require the licensee to notify the NRC of the schedule of availability of information for inspection or implementation schedules of programs or activities to be inspected. For example, license conditions may be used to identify notification commitments to the NRC on when activities associated with completion of structure, system, and component (SSC) design governed by design acceptance criteria (DAC) have been completed following issuance of the license and are available for inspection by the NRC.

- License conditions may be used to include operational restrictions for the facility, impose restrictions on operating power levels, require performance of special tests, impose operational constraints associated with implementation of specific design features (e.g., containment sump screen sweepers), etc.

- License conditions may be used to include implementation schedules for operational programs as discussed in RG 1.206, Sections C.I and C.III.1, Table 13.4.

FSAR Commitments:

Another way for COL applicants to address completion of post-licensing information commitments or COL actions items that cannot be completed until after license issuance is through an FSAR commitment. In this context, an FSAR commitment is a commitment to provide updated information in the FSAR, which contains the design basis portion of the licensing basis, or other licensing basis documents that have been considered appropriate by the NRC staff to ensure that the licensing basis for the facility is up to date. This approach may also be used for other licensee controlled documents such as Quality Assurance plans, emergency plans, etc. Based on past experience with currently operating reactors, it is important for licensees to maintain their licensing bases documents up-to-date. The NRC and its licensees have dealt with several issues resulting in significant efforts over the years that emphasize the importance of maintaining a current licensing basis and a discussion on current licensing basis is provided for information following this section. These efforts have involved issues related to loss of configuration control, design basis reconstitution, commitment management and commitment change control.

The NRC staff has identified two approaches for providing the information necessary to maintain the design basis for the facility: 1) include specific design basis information items in a license condition, and; 2) include design basis information in FSAR updates required by 10 CFR 50.71(e). In the first approach, the focus is on ensuring that FSAR information that is identified during the COL review process and is necessary to include in the design basis is

included in an FSAR update. In the second approach, the focus is on ensuring that routine FSAR updates that have traditionally occurred following issuance of an operating license (OL) are performed. These routine FSAR updates are typically associated with:

- Changes to the facility in accordance with the requirements of 10 CFR 50.59
- Changes to the facility resulting from approved exemptions and departures from a referenced certified design
- Changes to the facility resulting from approved variances from a referenced ESP
- Amendments to the license in accordance with the requirements of 10 CFR 50.90 and 10 CFR 52.98

The two approaches for FSAR information commitments are discussed below:

FSAR information commitment included in a license condition

The regulations in 10 CFR 50.71(e) and the appendices to 10 CFR Part 52 that contain the DCRs include requirements for holders of COLs to update their FSARs. Specifically, § 50.71(e)(3)(iii) requires that an update of the FSAR be submitted annually to the NRC during the period from the docketing of a COL application until the Commission makes the finding under § 52.103(g). In addition, § 50.71(e)(4) requires that subsequent FSAR revisions be filed annually or 6 months after each refueling outage provided the interval between successive updates does not exceed 24 months. These revisions must reflect all changes up to a maximum of 6 months prior to the date of the filing. Although these requirements for FSAR updates currently exist, the focus of FSAR information commitment items included in a license condition is to ensure the inclusion of specific information identified during the initial licensing review that should be included in the design bases for the facility. This includes the information that should be reviewed as part of the design bases for the facility when reviews and evaluations such as those performed in accordance with 10 CFR 50.54(f), 10 CFR 50.59, and 10 CFR 50.65, etc. are required. The license condition should also include a milestone schedule for ensuring that the specific FSAR information identified is included in an FSAR update required by 10 CFR 50.71(e).

Examples of the types of information that may be included in this license condition are:

- FSAR level design information from completed digital instrumentation and controls (I&C) DAC
- FSAR level design information from completed piping DAC and as-built reconciliations of piping
- Update to turbine missile generation analyses, as necessary, based on as-procured material data (i.e., if no changes to facility design or procedures are necessary)

- Update to reactor vessel materials data, as necessary, based on as-procured vessel material data (i.e., if no changes to facility design or procedures are necessary)

- A specific subset of FSAR information that was identified during the original licensing review (e.g., the licensee could provide a commitment to include information associated with vendors in an FSAR update at least 60 days prior to the initiation of construction).

The NRC staff considers the above types of information to be appropriate to include in a timely submittal that may be separate from a complete FSAR update and on a schedule that is more suitable to ensuring an updated design basis for initial operation of new plants than that required by 10 CFR 50.71(e). For example, the updated information submitted either separately or as part of an FSAR update submitted before facility operation would ensure that the design basis for the facility is up to date to support facility operation. This also ensures that those specific COL action items that identified FSAR information update needs from the initial licensing review are completed prior to operation of the facility. The COL applicant should specifically identify these FSAR information requirements and consolidate them under a license condition that includes a proposed milestone for implementation.

The NRC staff considers this information to have sufficient importance, compared to the other significant types of information typically included in routine FSAR updates, to warrant its inclusion in a license condition. Together with the requirements of 10 CFR 50.71(e) and Part 52, this type of license condition furthers the NRC's goal of ensuring that the most significant elements of design basis for the facility (i.e., in the FSAR) are up-to-date when operation of the facility begins. A license condition proposed by COL applicants that includes such FSAR commitments should be included in an appropriate section of the COL application to facilitate identification and tracking.

FSAR information commitments included in routine FSAR update:

Updated information that does not warrant inclusion in the above categories or that occurs after the milestone associated with the license condition should be included in the periodic FSAR updates required by 10 CFR 50.71(e). Guidance on FSAR updates is provided in RG 1.181, "Content of the Update Final Safety Analysis Report in Accordance with 10 CFR 50.71(e)," which endorses Revision 1 of NEI 98-03, "Guidelines for Updating Final Safety Analysis Reports." The guidance for these routine FSAR updates is contained in RG 1.181 and NEI 98-03 and is typically associated with:

- Changes to the facility in accordance with the requirements of 10 CFR 50.59

- Changes to the facility resulting from approved exemptions and departures from a referenced certified design

- Changes to the facility resulting from approved variances from a referenced ESP

- Amendments to the license in accordance with the requirements of 10 CFR 50.90

The following additional guidance should be considered by COL applicants when proposing FSAR information commitments in their applications:

- Completion of COL action items via an FSAR commitment cannot be used to provide information to the NRC that is necessary to make a finding required for license issuance. However, completion of post-licensing information commitments or a COL action item that does not include information necessary for licensing via an FSAR commitment could be used to ensure that the licensing basis for the facility is updated.

- For COLs referencing certified designs that include as-built reconciliation activities in COL action items rather than in ITAAC, a license condition containing a specific subset of FSAR information requirements can be made to include the relevant as-built facility information from these activities in the FSAR (e.g., fire hazards analysis, pipe break hazards analysis, site-specific seismic responses and their impacts on design features, etc.), as necessary. License conditions should not, however, be proposed to ensure that design reconciliations are performed. In this case, the COL applicant should consider proposing new ITAAC to ensure performance of the design reconciliation and only propose a license condition to provide the results of the completed reconciliation as updated information for the FSAR, as necessary. The FSAR updating process under 10 CFR 50.71(e) may be used to include those facility changes. Note – This reconciliation update may be accomplished via the normal FSAR update process regardless of whether there are design or procedure changes.

Current Licensing Basis:

The Office of Nuclear Reactor Regulation (NRR) Office Instruction (OI) LIC-100, Revision 1, "Control of Licensing Bases for Operating Plants," provides the following discussion and definition for the term "current licensing basis":

> "Although the terms "current licensing bases" and "licensing bases" are widely used in matters related to power reactors operating in accordance with the regulations in 10 CFR Part 50, the terms are not defined in Part 50 or major regulatory guidance related to Part 50. The following definition is provided by 10 CFR 54.3 pertaining to license renewal for power reactor facilities.
>
> Current licensing basis (CLB) is the set of NRC requirements applicable to a specific plant and a licensee's written commitments for ensuring compliance with and operation within applicable NRC requirements and the plant-specific design basis (including all modifications and additions to such commitments over the life of the license) that are docketed and in effect. The CLB includes the NRC regulations contained in 10 CFR Parts 2, 19, 20, 21, 26, 30, 40, 50, 51, 54, 55, 70, 72, 73, 100 and appendices thereto; orders, license conditions, exemptions, and technical specifications. It also includes the plant-specific design-basis information defined in 10 CFR 50.2 as documented in the most recent FSAR as required by 10 CFR 50.71 and the licensee's commitments remaining in effect that were made in docketed licensing correspondence such as licensee responses to NRC bulletins, generic letters, and enforcement actions, as well as licensee commitments documented in NRC safety evaluations or licensee event reports.

> Establishing a common understanding of the existing licensing bases and related processes is especially important to our efforts to make significant revisions to the NRC's regulatory approach. Improvements in this area are necessary as the NRC measures its performance not only in terms of maintaining safety, but also in how it accomplishes that objective. The NRC has established performance goals that include ensuring openness in our regulatory processes and ensuring that NRC actions are effective, efficient, realistic and timely. Revising long-standing requirements and technical positions requires that we understand the complicated nature of how the licensing bases for power reactors has evolved over several decades. Establishing a common understanding of the various elements of the licensing bases for operating reactors can help in deciding how best to change the licensing bases for large or small sets of licensees."

A DCR is not a license and Part 52 is not listed as one of the sets of requirements that form part of the current licensing basis, as defined in Part 54. However, the DCD information, when referenced in a COL application, becomes part of the licensing basis for that COL. The FSAR for a certified design (also known as the DCD) contains design basis information. Because the design basis information in the DCD becomes part of the licensing basis for a COL referencing that DCR, this guidance uses the term "licensing basis information" and is understood to include the design information in the DCD which is approved in a DCR proceeding and incorporated by reference into a COL.

The NRC will revise NUREG-0800, SRP Chapter 1.0, as follows:

For Item 8, Interfaces with Standard Design in Section I. <u>AREAS OF REVIEW</u>, add the following statement at the end of the discussion on COL Action Items:

> "COL applicants may also include a consolidation, in an appropriate section of the COL application, of those COL action items that cannot be completely resolved before the COL is issued as well as any post-licensing information commitments made to the NRC as part of the license application review. The COL applicant may propose such post-licensing commitments as ITAAC, license conditions or FSAR commitments to ensure completion of these items."

Add the following discussion to Section III. <u>REVIEW PROCEDURES</u>:

> "4. Post-licensing commitments
>
> The licensing project manager will review any post-licensing commitments proposed by the COL applicant and will consult with the organization responsible for the review of the technical areas associated with these commitments. The project manager should ensure that no post-licensing information commitment involves information that is necessary for the staff's determination regarding COL issuance."

Add the following discussion to Section IV. <u>EVALUATION FINDINGS</u>:

"The licensing project manager, with support from the identified technical reviewers, determines the most appropriate post-licensing commitment option for any COL action items that cannot be completely resolved before license issuance, as well as any post-licensing information commitments made to the NRC as part of the license application review. The project manager should ensure that no post-licensing information commitment involves information that is necessary for the staff's determination regarding COL issuance. Guidance for making this determination is provided in Appendix A. This evaluation should be included in the safety evaluation report associated with the NRC staff's review of the COL application.

For DC applications, the licensing project manager, with support from the identified technical reviewers, verifies that COL action items are identified correctly and that the scope of responsibility is appropriately defined for the COL applicant. See definition of "COL action item" in Section V for further discussion."

The first paragraph of the definition of COL action item in Section VI. DEFINITIONS, should be replaced with the following:

"Combined license (COL) action items identify certain matters that shall be addressed in the FSAR by an applicant who submits a COL application that references a DC and/or an ESP. The term "COL holder item" is not defined and shall not be used. COL action items constitute information requirements but do not form the only acceptable set of information in the FSAR. An applicant may depart from or omit these items, provided that the departure or omission is identified and justified in the FSAR. In addition, these items do not relieve an applicant from any requirement in 10 CFR Parts 50 and 52 that govern the application. That is, DCs were not intended to identify, as COL action items, all the requirements that a COL applicant needs to meet to demonstrate compliance with 10 CFR Part 52, "Subpart C – Combined Licenses." Therefore, for a COL application that references a DC or an ESP, it may not be sufficient for the COL applicant to address only those COL action items contained in the referenced DC or ESP. The COL applicant must demonstrate compliance with all the regulatory requirements in 10 CFR 52.79 and 10 CFR 52.80 whether they are addressed by a COL action item or not.

COL action items may contain requirements for information that are necessary for the NRC to review to make its license determination. This information must be provided as part of the COL application and cannot be deferred until after license issuance. COL action items may also include requirements for providing updated FSAR information or updates to other licensing basis documents. Completion of these types of COL action items may be deferred as post-licensing commitments. After issuance of a construction permit or COL, these items are not requirements for the licensee unless such items are restated as conditions of the license."

The following review guidance should be included as Attachment A to SRP Chapter 1.0:

Guidance for NRC Review of Post-Combined License Commitments on Completion of COL Items

Background:

COL action or information items may be included in ESPs, DCs or applications for ESPs and DCs. Although the terms COL action item and COL information item are used interchangeably by the NRC staff, historically, DC applicants have included the term "COL information item" in their DCDs, while the NRC staff has used the term "COL action item" in its safety evaluation reports (SERs) and regulations. This is also discussed in RG 1.206, Section C.III.4, "COL Action or Information Items." Applicants for COLs that reference ESPs or DCDs are required to address the ESP or DCD COL action or information items in their applications. The scope of information typically requested in these COL action or information items is beyond the scope of information requirements necessary to obtain an ESP or DC. This information typically includes site specific facility design information and operational information for the facility such as programs and procedures.

Information Required for License Determination:

COL action or information items contained in an ESP or DCD may include information requirements that are necessary for the NRC staff to make findings required to issue a COL and information requirements that are not needed for license issuance. Information necessary for the NRC staff to issue a license cannot be deferred by a COL action or information item and must be provided during the COL application review. COL action or information items may also include information requirements that are not necessary for license issuance and therefore, may be deferred. Deferred actions may include such items as documenting as-built design information or to provide notifications to the NRC regarding schedules for implementation of programs or for commencement of certain activities. During reviews of applications, the NRC staff may request that applicants not combine the two types of information requirements (i.e., licensing and post-licensing) into one COL action or information item but rather include them in separate COL items.

No "COL Holder Items":

Although the timing for providing the two categories of information (i.e., licensing and post-licensing) may be reasonably determined by an applicant for an ESP or DCD, it is not the purview of these applicants to determine the appropriate timing for the COL applicant to complete these items. Recently, attempts have been made by applicants to distinguish COL action or information items by the timing of their completion. Those COL action or information items that could not be completed until after the license was issued were sometimes identified as "COL holder items." The term "COL holder item" is not defined in NRC regulations or guidance; therefore, during the development of ESP and DC applications, the staff should ensure that applicants refrain from using the term "COL holder item." Although some designs that were previously certified may still include this term, the NRC staff should ensure that during its review of DC applications the term "COL holder item" is not used.

Regulatory Requirements and Guidance:

The regulations in 10 CFR Part 52 and the guidance provided in RG 1.206, "Combined License Applications for Nuclear Power Plants (LWR Edition)," provide several options for a COL applicant to provide the information necessary for a license application. A COL application may incorporate by reference an ESP, a DCD, neither, or both. As such, during its reviews of license applications, the NRC staff may encounter COL applications that include different combinations of the permitted options. In addition, the regulation in 10 CFR 52.55(c) permits a COL applicant to reference, at its own risk, a design for which a DC application has been docketed but not granted. Only a few of the designs that have been certified by the NRC are currently being referenced by COL applicants. Certification of those designs took place several years ago and, as a result, the scope and nature of COL action or information items included in those certified designs may vary from those being proposed in DC applications recently submitted to the NRC. The NRC staff should expect that the nature and scope of COL action or information items included in more recent applications are more clearly defined. This expectation is a reasonable outcome of the implementation and on-going maturation of the new licensing process specified in 10 CFR Part 52. The NRC staff should be cognizant of the differing nature and scope of COL action or information items that were included in previously certified designs that are now being referenced in COL applications and the ramifications on completion of these items. For example, in more recent applications, ITAAC have been used to verify the as-built reconciliation of piping designs whereas COL action or information items may have been used for this purpose in previously certified designs. For COL action or information items that cannot be completed until after license issuance, appropriate post-licensing commitments should be identified for these items.

The following review guidance is provided for the NRC staff in determining post-licensing commitment options and includes examples that illustrate differences in COL items as discussed above.

Guidance on Post-Combined License Commitment Options:

A COL applicant that references a certified design is required to provide information that addresses the COL action items (see Section IV.A.2.e of the DCRs). Likewise, an ESP may require a COL applicant that references an ESP to address COL action items identified in the ESP to allow NRC staff issuance of the COL. In addition, a COL applicant may include a commitment to perform an action following issuance of the license (e.g., update information, provide schedules, etc.) that is related to site-specific design features or programs for the facility that were not identified in an ESP or DCD that it references. COL items associated with information that is not necessary to issue the license are identified as post-licensing commitments. The following options are provided for identifying these post-licensing commitments:

- ITAAC
- License conditions
- FSAR (or other licensing basis document) information commitments

The above options are not limited to COL action items that cannot be completed prior to license issuance but may also be used for post-licensing information commitments that were identified

during COL application reviews that were not associated with COL action items. COL applicants may propose one or more of the options above for completing COL items as post-licensing commitments but are not required to do so. In the case where a COL applicant proposes post-licensing commitments, the NRC staff will review the COL applicant's proposals and will either verify that those proposals are appropriate or will provide a determination that the applicant's proposals should be modified, as necessary, and will document those determinations in their safety evaluation.

If the staff determines that changes to the applicant's proposals are necessary, those changes should either be included by the COL applicant in an update to the application or will be included as a license condition. In particular, if the proposal involves an FSAR commitment that the staff determines should be modified or an FSAR commitment that the applicant failed to include in their application, the modified or missing FSAR commitment should either be included in an update to the COL application in response to a request for additional information (RAI) or be included by the staff as a condition to the license.

If the COL applicant does not provide a proposal on post-licensing commitments, the NRC staff, based on its review of the COL application and other docketed correspondence, including RAI responses, may include appropriate post-licensing commitments in the safety evaluation report. These post-licensing commitments should either be included in an update to the COL application in response to an RAI or be included by the staff as a condition to the license.

In either case, the NRC staff should provide the final determination of the most appropriate post-licensing commitment from the options provided above and the applicant's FSAR should be revised to conform to the staff's FSER determination, as necessary.

ITAAC:

The requirement for inclusion of ITAAC in an application for a COL is set forth in 10 CFR 52.80(a), which states that the application must contain:

> The proposed inspections, tests, and analyses, including those applicable to emergency planning, that the licensee shall perform, and the acceptance criteria that are necessary and sufficient to provide reasonable assurance that, if the inspections, tests, and analyses are performed and the acceptance criteria met, *the facility has been constructed and will be operated in conformity with the combined license*, the provisions of the Act, and the Commission's rules and regulations. (Emphasis added)

The licensee is required by regulation to provide notification along with sufficient documentation to demonstrate successful completion of ITAAC in accordance with 10 CFR 52.99(c). The NRC is required to ensure that the prescribed ITAAC are performed and to publish notices in the FR of the NRC staff's determination of the licensee's successful completion of ITAAC per 10 CFR 52.99(e). Following that, the licensee may not operate the facility until the Commission finds that the acceptance criteria of the ITAAC are met.

Guidance for development of ITAAC, as well as additional considerations for ITAAC, is provided in RG 1.206, Sections C.II.1, C.III.1, and C.III.7. NRC staff review guidance on ITAAC is

provided in SRP Section 14.3. When determining whether a post-licensing information commitment or a COL action item that cannot be completed until after license issuance should be treated in an ITAAC or not, the NRC staff should use the same guidance and criteria provided in SRP Section 14.3. ITAAC are considered a post-licensing verification program whose focus is on ensuring that the as-built condition of the plant complies with the license for the facility and the Commission's regulations. Another consideration for ITAAC is that completion of ITAAC, by definition, "must take place prior to fuel load." The licensee must successfully complete all ITAAC in order for the Commission to make the findings prerequisite to fuel load as required by 10 CFR 52.103(g).

New ITAAC proposed by a COL applicant referencing a certified design to address completion of designs, reconciliation of portions of the as-built facility with the design of the facility, etc., within the scope of the referenced certified design may only be included in a COL application in accordance with the change process described in Section VIII, "Processes for Changes and Departures," of the associated DCR. The NRC staff should review any new ITAAC proposed by a COL applicant in accordance with the guidance provided in SRP Section 14.3. In addition, NRC staff review should include the applicant's use of and compliance with the change processes described in Section VIII of the associated DCR. COL applicants have typically included their ITAAC and any necessary departures and exemptions in Part 10 of their applications. The NRC staff should use caution in attempting to create/impose new ITAAC to address a COL action item that cannot be completed until after issuance of the license. Section VI.D.3 of the DCRs explicitly states:

> D. Except in accordance with the change processes in Section VIII of this appendix, the Commission may not require an applicant or licensee who references this appendix to:
>
> 1. Modify structures, systems, components, or design features as described in the generic DCD;
>
> 2. Provide additional or alternative structures, systems, components, or design features not discussed in the generic DCD; or
>
> 3. Provide additional or alternative design criteria, testing, analyses, acceptance criteria, or justification for structures, systems, components, or design features discussed in the generic DCD.

Please note that the above requirements do not apply when a COL application references an application for DC. In this case, the NRC staff has more latitude within the context of the design-centered working group to discuss with the DC and COL applicants the potential for adding new ITAAC in the DCD. For site-specific elements or custom COL applicants, which do not reference certified designs, the NRC staff should review the application, as appropriate, to determine if the proposed ITAAC are necessary and sufficient for the Commission to make the findings required by the Atomic Energy Act.

License Conditions:

The license for a nuclear facility contains terms and conditions for operation. Section 50.54 of the Commission's regulations identifies the standard conditions, with some exceptions, that are

applicable to every COL issued. In addition to those standard conditions, additional license conditions may be proposed by the COL applicant to address completion of post-licensing information commitments or COL action items that cannot be completed until after license issuance. A license condition, however, is not necessary for those matters already covered by the license, including Technical Specifications, or regulations. License conditions may be proposed by COL applicants; however, there is no requirement to do so. Any license conditions proposed by the COL applicant shall be reviewed by the NRC staff. The NRC staff will make the final determination as to the appropriateness of the proposed license conditions, may modify proposed license conditions or include new conditions. In addition, in cases where COL applicants have not proposed any license conditions, appropriate license conditions may be imposed by the NRC staff for completion of COL items following license issuance. The NRC staff should document any such license conditions necessary to complete COL items in the SER.

The following discussion should be considered by the NRC staff for review of license conditions proposed by a COL applicant and for those license conditions that the NRC staff determines are necessary to impose on the licensee:

- License conditions remain in effect for the licensee until satisfactorily completed and their removal is approved via the license amendment process per 10 CFR 52.98(f).

- License conditions are enforceable the same way a regulation or order is enforceable.

- In contrast to completion of an ITAAC, where a licensee is required to make a submission to the NRC staff documenting satisfactory completion of the ITAAC, submission requirements may not be associated with completion of a license condition. However, there may be some conditions specifically included in the license that require the licensee to notify the NRC of the schedule of availability of information for inspection or implementation schedules of programs or activities to be inspected. For example, license conditions may be used to identify notification commitments to the NRC on when activities associated with completion of SSC design governed by DAC have been completed following issuance of the license and are available for inspection by the NRC. The NRC staff should use caution when including requirements in license conditions such as “submission” and “staff review” since these typically describe actions taking during the license review. The NRC staff should instead consider use of terms like “reporting requirements” or “make available for inspection,” as more appropriate.

- License conditions may be used to include operational restrictions for the facility, impose restrictions on operating power levels, require the performance of special tests, impose operational constraints associated with implementation of specific design features (e.g., containment sump screen sweepers), etc.

- License conditions may be used to include implementation schedules for operational programs as discussed in RG 1.206, Sections C.I and C.III.1, Table 13.4.

Examples:

(1) *In a section of a previously certified design describing spent fuel racks, the DCD identifies that the COL holder will implement a spent fuel rack Metamic coupon monitoring program when the plant is placed into commercial operation. This program will include tests to monitor bubbling, blistering, cracking, or flaking; and a test to monitor for corrosion, such as weight loss measurements and or visual examination.* In this example, the commitment was previously characterized as a "COL holder item" since it cannot be completed until after license issuance. Based on the guidance above, either the COL applicant could propose or the NRC staff could impose a license condition to address this item. The licensee should develop a program for performing spent fuel rack coupon monitoring and evaluation. Although this program is not considered an operational program as discussed in RG 1.206, Sections C.I and C.III.1, Table 13.4, implementation of this program following issuance of a license can be imposed using a schedule milestone contained in a license condition.

(2) *In a section of a previously certified design describing turbine design and the requisite maintenance and inspection that form part of the basis for turbine missile generation assumptions, the DCD identifies that the COL holder will submit to the NRC staff for review prior to fuel load, and then implement a turbine maintenance and inspection program. The program will be consistent with the maintenance and inspection program plan activities and inspection intervals identified in another section of the DCD. The COL holder will have available plant-specific turbine rotor test data and calculated toughness curves that support the material property assumptions in the turbine rotor analyses after the fabrication of the turbine and prior to fuel load.* In this example, the commitment was previously characterized as a "COL holder item" since it cannot be completed until after license issuance. Based on the guidance above, either the COL applicant could propose or the NRC staff could impose a license condition to address this item. In this example, it is important to point out the sensitivity and appropriateness of using the phrase, "submit to the NRC staff for review prior to fuel load," in a license condition. A licensing decision must be based on turbine missile generation information already provided to the NRC in the DCD or the COL application. The license condition allows for confirmation by the NRC via inspection that the as-built information is bounded by the original assumptions regarding turbine missile generation. In this example, the NRC staff should use more appropriate language such as, "available for NRC inspection," in the final language for the license condition, although a more detailed reporting requirement may be appropriate. It should be noted that more recent DC applications have included this as-built confirmation in an ITAAC rather than a COL action item. In addition, the licensee must implement a maintenance and inspection program that is not an operational program as discussed in RG 1.206, Sections C.I and C.III.1, Table 13.4, but implementation of the program validates assumptions related to turbine missile probability. Scheduling the availability of the confirmatory evaluation and implementation of the program for NRC inspection following issuance of a license can be performed using a schedule milestone contained in a license condition.

FSAR Commitments:

Another way for COL applicants to address completion of post-licensing information commitments or COL actions items that cannot be completed until after license issuance is through an FSAR commitment. In this context, an FSAR commitment is a commitment to provide updated information in the FSAR, which contains the design basis portion of the licensing basis, or other licensing basis documents that have been considered appropriate by the NRC staff to ensure that the licensing basis for the facility is up to date. This approach may also be used for other licensee controlled documents such as Quality Assurance plans, emergency plans, etc. Based on past experience with currently operating reactors, it is important for licensees to maintain their licensing bases documents up-to-date. The NRC and its licensees have dealt with several issues resulting in significant efforts over the years that emphasize the importance of maintaining a current licensing basis and a discussion on current licensing basis is provided for information following this section. These efforts have involved issues related to loss of configuration control, design basis reconstitution, commitment management and commitment change control.

The NRC staff has identified two approaches for providing the information necessary to maintain the design basis for the facility: 1) include specific design basis information items in a license condition, and; 2) include design basis information in FSAR updates required by 10 CFR 50.71(e). In the first approach, the focus is on ensuring that FSAR information that is identified during the COL review process and is necessary to include in the design basis is included in an FSAR update. In the second approach, the focus is on ensuring that routine FSAR updates that have traditionally occurred following issuance of an OL are performed. These routine FSAR updates are typically associated with:

- Changes to the facility in accordance with the requirements of 10 CFR 50.59
- Changes to the facility resulting from approved exemptions and departures from a referenced certified design
- Changes to the facility resulting from approved variances from a referenced ESP
- Amendments to the license in accordance with the requirements of 10 CFR 50.90 and 10 CFR 52.98

The two approaches for FSAR information commitments are discussed below:

FSAR information commitment included in a license condition

The regulations in 10 CFR 50.71(e) and the appendices to 10 CFR Part 52 that contain the DCRs include requirements for holders of COLs to update their FSARs. Specifically, § 50.71(e)(3)(iii) requires that an update of the FSAR be submitted annually to the NRC during the period from the docketing of a COL application until the Commission makes the finding under § 52.103(g). In addition, § 50.71(e)(4) requires that subsequent FSAR revisions be filed annually or 6 months after each refueling outage provided the interval between successive updates does not exceed 24 months. These revisions must reflect all changes up to a

maximum of 6 months prior to the date of the filing. Although these requirements for FSAR updates currently exist, the focus of FSAR information commitment items included in a license condition is to ensure the inclusion of specific information identified during the initial licensing review that should be included in the design bases for the facility. This includes the information that should be reviewed as part of the design bases for the facility when reviews and evaluations such as those performed in accordance with 10 CFR 50.54(f), 10 CFR 50.59, and 10 CFR 50.65, etc., are required. The NRC staff believes that use of a license condition for inclusion of specific FSAR information commitments provides an appropriate enforcement mechanism for ensuring an up to date licensing basis. The license condition should also include a milestone schedule for ensuring that the specific FSAR information identified is included in an FSAR update required by 10 CFR 50.71(e).

Examples of the types of information that may be included in this license condition are:

- FSAR level design information from completed digital I&C DAC
- FSAR level design information from completed piping DAC and as-built reconciliations of piping
- Update to turbine missile generation analyses, as necessary, based on as-procured material data (i.e., if no changes to facility design or procedures are necessary)
- Update to reactor vessel materials data, as necessary, based on as-procured vessel material data (i.e., if no changes to facility design or procedures are necessary)
- A specific subset of FSAR information that was identified during the original licensing review (e.g., the licensee could provide a commitment to include information associated with vendors in an FSAR update at least 60 days prior to the initiation of construction).

The NRC staff considers the above types of information to be appropriate to include in a timely submittal that may be separate from a complete FSAR update and on a schedule that is more suitable to ensuring an updated design basis for initial operation of new plants than that required by 10 CFR 50.71(e). For example, the updated information submitted either separately or as part of an FSAR update submitted before facility operation would ensure that the licensing basis for the facility is up to date to support facility operation. This also ensures that those specific COL action items that identified FSAR information update needs from the initial licensing review are completed prior to operation of the facility. The COL applicant should specifically identify these FSAR information requirements and consolidate them under a license condition that includes a proposed milestone for implementation.

The NRC staff considers this information to have sufficient importance, as compared to other types of information typically included in routine FSAR updates, to warrant its inclusion in a license condition. This type of licensing basis information is associated with the original licensing review in contrast to the updated information that is required via 10 CFR 50.71(e) as a result of changes to the facility or procedures. However, together with the requirements of 10 CFR 50.71(e) and Part 52, this type of license condition furthers the NRCs goal of ensuring

that the most significant elements of the design basis for the facility (i.e., in the FSAR) are up-to-date to support facility operation. A license condition proposed by COL applicants that includes such FSAR commitments should be included in an appropriate section of the COL application to facilitate identification and tracking.

Examples:

(1) *In a section of a previously certified design describing pipe rupture hazard evaluations, the DCD identifies that after the COL is issued and prior to fuel load, the COL holder will complete the as-built reconciliation of the pipe break hazards analysis in accordance with the criteria outlined in another section of the DCD.* In this example, the commitment was previously characterized as a "COL holder item" since it cannot be completed until after license issuance. Based on the guidance above, the acceptable approach is for the COL applicant to propose new ITAAC for completion of the pipe break hazards analysis and as-built reconciliation. Please note that in this example, completion of the piping design was part of DAC included in the ITAAC and other more recent DC applicants have included the as-built reconciliation of the piping design as ITAAC. In this example, a pipe rupture hazard analysis is to be completed following completion of the piping DAC. The completed design, including the as-built reconciliation, is used to identify postulated break locations and necessary layout changes, support designs and locations, whip restraint designs and locations, and jet shield designs and locations, as necessary. The piping DAC, approved and certified in the DCD, was sufficient for the NRC staff to make its licensing determination. The basis for including completion of the pipe break hazards analysis and the as-built reconciliation in a new ITAAC rather than a license condition is that it is consistent with current guidance on ITAAC. The analysis results and as-built reconciliation results could be included in a license condition to provide a specific subset of FSAR information, as necessary. The FSAR updating process per 10 CFR 50.71(e) may be used if changes to the facility design or procedures are the result of the completed analysis and as-built reconciliation.

(2) *In a section of a previously certified design describing the seismic analysis of nuclear island structures, the DCD identifies that the COL holder will reconcile, prior to fuel load, the seismic analysis described in another section of the DCD for detail-design changes, such as those due to as-procured or as-built changes in component mass, center of gravity, and support configuration based on as-procured equipment information.* In this example, the commitment was previously characterized as a "COL holder item" since it cannot be completed until after license issuance. Based on the guidance above, either the COL applicant or the NRC staff could propose a license condition that includes a specific FSAR information commitment to address this item. Please note that other more recent DC applicants have included the as-built seismic reconciliation in the ITAAC. The basis for including the as-built seismic reconciliation in a license condition with a specific FSAR information commitment in this example is that an analysis was provided either in the COL or in the referenced DCD that was sufficient for the NRC staff to make its licensing determination. The FSAR information commitment is for the as-built reconciliation of this analysis to be included as an update to the licensing basis document and this update can be ensured via a license condition. This update may be accomplished

via the FSAR update process of 10 CFR 50.71(e). Note – This reconciliation update may be accomplished via the normal FSAR update process regardless of whether there are design or procedure changes.

FSAR information commitments included in routine FSAR update:

Updated information that does not warrant inclusion in the above categories or that occurs after the milestone associated with the license condition should be included in the periodic FSAR updates required by 10 CFR 50.71(e). Guidance on FSAR updates is provided in RG 1.181, "Content of the Update Final Safety Analysis Report in Accordance with 10 CFR 50.71(e)," which endorses Revision 1 of NEI 98-03, "Guidelines for Updating Final Safety Analysis Reports." The guidance for these routine FSAR updates is contained in RG 1.181 and NEI 98-03 and is typically associated with:

- Changes to the facility in accordance with the requirements of 10 CFR 50.59
- Changes to the facility resulting from approved exemptions and departures from a referenced certified design
- Changes to the facility resulting from approved variances from a referenced ESP
- Amendments to the license in accordance with the requirements of 10 CFR 50.90

The following additional guidance should be considered by COL applicants when proposing FSAR information commitments in their application:

- Completion of COL action items via an FSAR commitment cannot be used to provide information to the NRC that is necessary to make a finding required for license issuance. However, completion of post-licensing information commitments or a COL action item that does not include information necessary for licensing via an FSAR commitment could be used to ensure that the licensing basis for the facility is updated.
- For COLs referencing certified designs that include as-built reconciliation activities in COL action items rather than in ITAAC, a license condition containing a specific subset of FSAR information requirements can be made to include the relevant as-built facility information from these activities in the FSAR (e.g., fire hazards analysis, pipe break hazards analysis, site-specific seismic responses and their impacts on design features, etc.), as necessary. License conditions should not, however, be proposed to ensure that design reconciliations are performed. In this case, the COL applicant should consider proposing new ITAAC to ensure performance of the design reconciliation and only propose a license condition to provide the results of the completed reconciliation as updated information for the FSAR. The FSAR updating process under 10 CFR 50.71(e) may be used to include those facility changes. Note – This reconciliation update may be accomplished via the normal FSAR update process regardless of whether there are design or procedure changes.

Examples for routine FSAR information updates may be found in RG 1.181 and NEI 98-03.

Current Licensing Basis:

NRR OI LIC-100, Revision 1, "Control of Licensing Bases for Operating Plants," provides the following discussion and definition for the term "current licensing basis":

> Although the terms current licensing bases and licensing bases are widely used in matters related to power reactors operating in accordance with the regulations in 10 CFR Part 50, the terms are not defined in Part 50 or major regulatory guidance related to Part 50. The following definition is provided by 10 CFR 54.3 pertaining to license renewal for power reactor facilities.
>
> Current license basis (CLB) is the set of NRC requirements applicable to a specific plant and a licensee's written commitments for ensuring compliance with and operation within applicable NRC requirements and the plant-specific design basis (including all modifications and additions to such commitments over the life of the license) that are docketed and in effect. The CLB includes the NRC regulations contained in 10 CFR Parts 2, 19, 20, 21, 26, 30, 40, 50, 51, 54, 55, 70, 72, 73, 100 and appendices thereto; orders, license conditions, exemptions, and technical specifications. It also includes the plant-specific design-basis information defined in 10 CFR 50.2 as documented in the most recent FSAR as required by 10 CFR 50.71 and the licensee's commitments remaining in effect that were made in docketed licensing correspondence such as licensee responses to NRC bulletins, generic letters, and enforcement actions, as well as licensee commitments documented in NRC safety evaluations or licensee event reports.
>
> Establishing a common understanding of the existing licensing bases and related processes is especially important to our efforts to make significant revisions to the NRCs regulatory approach. Improvements in this area are necessary as the NRC measures its performance not only in terms of maintaining safety, but also in how it accomplishes that objective. The NRC has established performance goals that include ensuring openness in our regulatory processes and ensuring that NRC actions are effective, efficient, realistic and timely. Revising long-standing requirements and technical positions requires that we understand the complicated nature of how the licensing bases for power reactors has evolved over several decades. Establishing a common understanding of the various elements of the licensing bases for operating reactors can help in deciding how best to change the licensing bases for large or small sets of licensees."

A DCR is not a license and Part 52 is not listed as one of the sets of requirements that form part of the current licensing basis, as defined in Part 54. However, the DCD information, when referenced in a COL application, becomes part of the licensing basis for that COL. The FSAR for a certified design (also known as the DCD) contains design basis information. Because the design basis information in the DCD becomes part of the licensing basis for a COL referencing that DCR, this guidance uses the term, "licensing basis information," and is understood to include the design information in the DCD which is approved in a DCR proceeding and incorporated by reference into a COL.

Final Resolution:

This issue will be resolved in the next revision to RG 1.206 and to NUREG-0800, SRP Chapter 1.0.

Applicability:

This ISG is applicable to all ESP, DC, and COL applicants.

Backfit Determination:

This ISG does not constitute a backfit. This ISG does not contain any new requirements for ESP, DC and COL applicants. Rather, it contains additional guidance and clarification for ESP, DC and COL applicants and the NRC staff on the disposition of COL action items that cannot be completely resolved prior to issuance of a license.

References:

(1) NRC, NRR OI No. LIC-100, "Control of Licensing Bases for Operating Reactors," Revision 1, January 7, 2004.

(2) RG 1.206, "Combined License Applications for Nuclear Power Plants (LWR Edition)," June 2007.

(3) RG 1.181, "Content of the Updated Final Safety Analysis Report in Accordance with 10 CFR 50.71(e)," September 1999.

(4) NUREG-0800, "Standard Review Plans for the Review of Safety Analysis Reports for Nuclear Power Plants," March 2007.

(5) SECY-98-224, "Staff and Industry Activities Pertaining to the Management of Commitments made by Power Reactor Licensees to the NRC," September 28, 1998.

(6) SECY-00-0092, "Combined License Review Process," April 20, 2000.

(7) SRM-SECY-00-0092, "Staff Requirements - SECY-00-0092 - Combined License Review Process," September 5, 2000.