

KHNPDCDRAIsPEm Resource

From: Ciocco, Jeff
Sent: Monday, August 17, 2015 6:39 AM
To: apr1400rai@khnp.co.kr; KHNPDCDRAIsPEm Resource; Harry (Hyun Seung) Chang; Jiyong Andy Oh; Steven Mannon
Cc: Harbuck, Craig; Dias, Antonio; Umana, Jessica; Lee, Samuel; Wunder, George
Subject: APR1400 Design Certification Application RAI 154-8064 (16 - Technical Specifications)
Attachments: APR1400 DC RAI 154 SPSB 8064.pdf

KHNP,

The attachment contains the subject request for additional information (RAI). This RAI was sent to you in draft form. Your licensing review schedule assumes technically correct and complete responses within 30 days of receipt of RAIs. However, KHNP requests, and we grant, 60 days to respond to the RAI question. We may adjust the schedule accordingly.

Please submit your RAI response to the NRC Document Control Desk.

Thank you,

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Request for Additional Information 154-8064

Issue Date: 08/17/2015
Application Title: APR1400 Design Certification Review – 52-046
Operating Company: Korea Hydro & Nuclear Power Co. Ltd.
Docket No. 52-046
Review Section: 16 - Technical Specifications
Application Section: 16

QUESTIONS

16-42

Paragraph (a)(11) of 10 CFR 52.47 and paragraph (a)(30) of 10 CFR 52.79 state that a design certification (DC) applicant and a combined license (COL) applicant, respectively, are to propose TS prepared in accordance with 10 CFR 50.36 and 50.36a. 10 CFR 50.36 sets forth requirements for technical specifications to be included as part of the operating license for a nuclear power facility. NUREG-1432, "Standard Technical Specifications-Combustion Engineering Plants," Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The applicant is requested to describe

- (1) The process employed to ensure identification of technical specification (TS) limiting conditions for operation (LCOs) for all structures, systems, and components (SSCs) as required by 10 CFR 50.36(c)(2)(ii) Criteria 1, 2, 3, and 4.
- (2) The process employed to ensure the
 - (a) accuracy of the "Background," "Applicable Safety Analyses," "LCO," and "Applicability" sections of the generic TS Bases; and
 - (b) consistency of the generic TS Bases with the APR1400 DCD.

16-43

Paragraph (a)(11) of 10 CFR 52.47 and paragraph (a)(30) of 10 CFR 52.79 state that a design certification (DC) applicant and a combined license (COL) applicant, respectively, are to propose TS prepared in accordance with 10 CFR 50.36 and 50.36a. 10 CFR 50.36 sets forth

Request for Additional Information 154-8064

requirements for technical specifications to be included as part of the operating license for a nuclear power facility. NUREG-1432, "Standard Technical Specifications-Combustion Engineering Plants," Rev. 4, provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements. SRP Section 16.0, Part III.2.A states, in part, "when reviewing a difference between the proposed TS provision and the reference TS provision, verify that the applicant's written technical or administrative reasoning in support of the difference is logical, complete, and clearly written." Staff needs to evaluate all technical differences from STS and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

The applicant is requested to place Technical Report APR1400-K-O-NR-14001-NP, "Deviation Report between NUREG-1432, [Standard TS (STS) Combustion Engineering (CE) Plants,] Rev. 4.0 and APR1400 Technical Specifications," on the Docket after updating the report with more informative justifications for technical deviations. An informative justification would describe why the deviation is needed and how it contributes to safety, providing pointers to related design or analyses information in the DCD, including any technical or topical reports submitted with the DC application. Unless the design feature addressed by a deviation is obvious, the justification "This is an intrinsic design characteristic of APR1400" provides insufficient information for the staff to evaluate the deviation's merits.

The applicant is also requested to provide the following information (possibly as a supplement to the referenced deviation technical report, if the report is upgraded and docketed as described above):

- (1) All changes associated with applicable approved technical specifications task force (TSTF) travelers that are included in NUREG-1432 Rev. 4, but are not included in the proposed generic TS and Bases; also provide rationale for not including each such change; and
- (2) All changes associated with applicable TSTF travelers that have been approved since NUREG-1432 Rev. 4, and that
 - (a) are proposed for inclusion in the proposed generic TS and Bases; or
 - (b) are not proposed for inclusion in the proposed generic TS and Bases; also provide rationale for not including each such change.

16-44

Paragraph (a)(11) of 10 CFR 52.47 and paragraph (a)(30) of 10 CFR 52.79 state that a design certification (DC) applicant and a combined license (COL) applicant, respectively, are to propose TS prepared in accordance with 10 CFR 50.36 and 50.36a.

Request for Additional Information 154-8064

DCD Tier 2 Section 16.1.2.4 states "Single brackets ([]) are used to identify the preliminary design information or plant-specific information. Double brackets ([[]]) indicate the conceptual design information for those portions of the plant for which the application does not seek certification." SRP Section 16.0 explains that COL action items, also referred to as site-specific information, are indicated in the generic technical specifications (TS) and Bases, DCD Tier 2 Chapter 16, usually by use of square brackets. Section 182a of the Atomic Energy Act requires TS to be included with any operating license for a utilization facility issued by the NRC. Consequently, the plant-specific TS issued with a COL must be complete and useable for facility operation. Therefore, a COL applicant must resolve all COL action items in the generic TS and Bases in order to complete the plant-specific TS for issuance with the COL in accordance with 10 CFR 52.97. Since it is possible for "conceptual design information" to not be finalized until after COL issuance, generic TS and Bases cannot contain placeholders for such information. The applicant is requested to revise DCD Tier 2 Section 16.2.4 to omit discussion of the possible use of double bracketed conceptual design information, and delete any placeholders for such information from the generic TS and Bases, or replace it with placeholders for site-specific information in square brackets, which can be finalized by a COL applicant before COL issuance. (Staff observed that double brackets are only used in generic TS 3.7.9, Ultimate Heat Sink.)

In addition, the applicant is requested to provide a list of the Chapter 16 COL Action Items, providing a concise description of each. Staff suggests enumerating each action item using a prefix consisting of either (a) the numerical label designation of the affected generic TS section or subsection, that contains the bracketed TS information (e.g., COL Action Item 3.8.1-1, 3.3.1-3, 2.0-1, 1.1-2, 5.5.4-2); or (b) the alpha numerical designation of the affected generic TS Bases section or subsection (e.g., B 3.8.1-1, B 3.3.1-3, B 2.1.2-1, B 3.0-1, B 3.6.3-2, etc.), that contains the bracketed TS Bases information. To the prefix append a hyphen and a sequential number of the item in that section or subsection, as appropriate.

As necessary, provide guidance to clarify expectations for properly completing or resolving each COL action item needing such guidance. This guidance has been presented by previous design certification applications as bracketed reviewer's notes in the generic TS Bases or in a table listing the action items located in the introductory part of DCD Tier 2 Chapter 16.

16-45

Paragraph (a)(11) of 10 CFR 52.47 and paragraph (a)(30) of 10 CFR 52.79 state that a design certification (DC) applicant and a combined license (COL) applicant, respectively, are to propose TS prepared in accordance with 10 CFR 50.36 and 50.36a. Staff needs to evaluate all technical differences from standard TS (STS) NUREG-1432, STS Combustion Engineering Plants, Rev. 4, which is referenced by the DC applicant in DCD Tier 2 Section 16.1, and the docketed rationale for each difference because conformance to STS provisions is used in the safety review as the initial point of guidance for evaluating the adequacy of the generic TS to ensure adequate protection of public health and safety, and the completeness and accuracy of the generic TS Bases.

Regarding generic TS and Bases references to the APR1400 DCD, COL plant-specific TS and Bases will need to change DCD to FSAR, or add FSAR to references to the FSAR, following

Request for Additional Information 154-8064

COL issuance by way of (1) the license amendment process, as we have seen with the Vogtle Units 3 and 4, and Summer Units 2 and 3; or (2) the generic TS exemption process, as we have seen with the South Texas Project (STP) Units 3 and 4 COL application. Staff concludes that it is more efficient to use "FSAR" instead of "DCD" in generic TS and Bases, thus avoiding having to process an exemption during the COL application review, or a license amendment after COL issuance to change DCD to FSAR. Accordingly, the applicant is requested to replace all DCD Tier 2 references in the proposed generic TS and Bases to FSAR references, and add FSAR to DCD references that do not include the modifier DCD or DCD Tier 2. Staff also suggests revising DCD Tier 2 Section 16.1.2.4 Combined License Information, with a statement to explain that in the generic TS and Bases, FSAR means DCD Tier 2.



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