RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

APR1400 Design Certification

Korea Electric Power Corporation / Korea Hydro & Nuclear Power Co., LTD

Docket No. 52-046

RAI No.:	**154-8064**
SRP Section:	**16 - Technical Specification**
Application Section:	**16 - Technical Specification**
Date of RAI Issue:	**08/17/2015**

Question No. 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.

Response

The process employed in APR1400 TS development is described below.

(1) LCOs selection

To select the LCOs for APR1400 TS, the design characteristics of APR1400 that are different to conventional CE plant design are reviewed by each system engineers. Based on the review results, applicability of existing NUREG-1432 LCOs to APR1400 is examined. Results show that most of the LCOs in NUREG-1432 are applicable to APR1400 in respect to the LCO selection criteria of 10CFR50.36(c)(2)(ii). However, full scope comparison on each individual SSCs applicability to 10CFR50.36(c)(2)(ii) LCOs selection criteria were not performed.

(2) Background, Applicable Safety Analyses, LCO, Applicability Section, and Consistency to DCD

NUREG-1432 Bases sections are examined for applicability of Background, Applicable section, LCOs by each system engineer. Also, safety analysts reviewed to maintain consistency against Applicable Safety Analyses. This process is commonly applicable for whole DCD. No specific process that is used only for DCD 16 Technical Specification exist.

Impact on DCD

There is no impact on the DCD.

Impact on PRA

There is no impact on the PRA.

Impact on Technical Specifications

There is no impact on the Technical Specification.

Impact on Technical/Topical/Environmental Report

There is no impact on any Technical, Topical, or Environment Reports.

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Question No. 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 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.

Response

To enable the licensing process for the Combined License (COL) application or a subsequent license amendment after a COL issuance, KHNP will replace all DCD Tier 2 references in generic Technical Specifications and Bases to FSAR references in Revision 1 of the DCD. Also, the text of DCD Tier 2 Section 16.1.2.4 Combined License Information will be revised as shown in attached markup.

Impact on DCD

Same as changes described in Impact on Technical Specifications section.

Impact on PRA

There is no impact on the PRA.

Impact on Technical Specifications

DCD 16.1.2.4 will be revised as shown in attached markup.

Impact on Technical/Topical/Environmental Report

There is no impact on any Technical, Topical, or Environment Reports.

16.1.2.4 Combined License Information

The intention of the APR1400 Technical Specifications is to be used as a guide for the development of the plant-specific Technical Specifications for plants which will reference the standard APR1400 plant. 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.

16.1.3 Reference

1. 10 CFR 50.36, "Technical Specifications."
2. NUREG-1432, "Standard Technical Specifications, Combustion Engineering Plants," Rev. 4.0, April 2012.

The references in generic TS and Based include FSAR. FSAR will be available in COL step. The main reason of it is to avoid having to process an exemption during the COL application review, or a license amendment after COL issuance to change DCD to FSAR.