

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.: 138-8067
SRP Section: 16 - Technical Specifications
Application Section: 16.3.0 LCO and SR Applicability
Date of RAI Issued: 08/07/2015

Question No. 16-34

10 CFR 50.36 requires that each operating license issued by the Commission contain technical specifications (TS) that set forth the limits, operating conditions, and other requirements imposed upon facility operation for the protection of public health and safety. 10 CFR 52.47(a)(11) provides that a design certification (DC) applicant is 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.

On July 22, 1993, the NRC issued its Final Policy Statement (58 FR 39132) on Technical Specifications improvements, expressing the view that satisfying the guidance in the policy statement also satisfies Section 182a of the Atomic Energy Act and 10 CFR 50.36. In the final policy statement, the NRC stated its "intent that the wording and Bases of the improved STS be used in the Technical Specification related submittal to the extent practicable." Encouraging and maintaining standardization of TS requirements, such as contained in the STS, is therefore the policy of the NRC. In the final policy statement, the NRC encouraged "all licensees who submit Technical Specification related submittals based on this Policy Statement to emphasize human factors principles."

STS LCO 3.0.9 stipulates actions when one or more barriers are unable to perform their intended support function. LCO 3.0.9 was developed as a risk-informed technical specification improvement and was designated TSTF-427. TSTF-427 included in its justification a generic risk evaluation applicable to operating plants. The applicant is requested to justify including TSTF-427 and LCO 3.0.9 in the proposed generic TS; the

technical basis for the justification needs to include the APR1400 design and an applicable generic risk evaluation. Since STS LCO 3.0.9 is risk-informed, it is inappropriate to remove the requirement to ensure “risk is assessed and managed” and omit the associated Reviewer’s Note when adopting STS LCO 3.0.9 in the generic TS.

This information is needed to ensure APR1400 DCD provides an adequate basis for including LCO 3.0.9, consistent with TSTF-427.

Response

For LCO 3.0.9 pertaining to barriers and supported system operability, the requirement to ensure that the risk is assessed and managed and the Reviewer’s note will be added into the TS and Bases respectively, however those requirements pertain to requirements of the operating facility. KHNP plans to include the specific APR1400 design information and generic risk evaluation for justifying the technical basis of the specification, however, providing this basis cannot be effectively completed at this time due to current PSA update plans. KHNP anticipates that this supporting justification can be provided in the third quarter of 2016 when the update is completed.

Impact on DCD

Same as changes described in the impact on Technical Specifications section.

Impact on PRA

There is no impact on the PRA.

Impact on Technical Specifications

Technical Specification 3.0.9 and the associated Bases will be changed as shown in the attachment.

Impact on Technical/Topical/Environmental Reports

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

3.0 LCO Applicability

LCO 3.0.9

When one or more required barriers are unable to perform their related support function(s), any supported system LCO(s) are not required to be declared not met solely for this reason for up to 30 days provided that at least one train or subsystem of the supported system is OPERABLE and supported by barriers capable of providing their LCO related support function(s)

← , and risk is assessed and managed

This specification may be concurrently applied to more than one train or subsystem of a multiple train or subsystem supported system provided at least one train or subsystem of the supported system is OPERABLE and the barriers supporting each of these trains or subsystems provide their related support function(s) for different categories of initiating events.

If the required OPERABLE train or subsystem becomes inoperable while this specification is in use, it must be restored to OPERABLE status within 24 hours or the provisions of this specification cannot be applied to the trains or subsystems supported by the barriers that cannot perform their related support function(s).

At the end of the specified period, the required barriers must be able to perform their related support function(s) or the supported system LCO(s) shall be declared not met.

BASES

LCO 3.0.9

LCO 3.0.9 establishes conditions under which systems described in the TS are considered to remain OPERABLE when required barriers are not capable of providing their related support function(s).

Barriers are doors, walls, floor plugs, curbs, hatches, installed structures or components, or other devices, not explicitly described in TS, that support the performance of the safety function of systems described in the TS. This LCO states that the supported system is not considered to be inoperable solely due to required barriers not capable of performing their related support function(s) under the described conditions. LCO 3.0.9 allows 30 days before declaring the supported system(s) inoperable and the LCO(s) associated with the supported system(s) not met. A maximum time is placed on each use of this allowance to ensure that as required barriers are found or are otherwise made unavailable, they are restored.

However, the allowable duration may be less than the specified maximum time based on the risk assessment.

If the allowed time expires and the barriers are unable to perform their related support function(s), the supported system's LCO(s) must be declared not met and the Conditions and Required Actions entered in accordance with LCO 3.0.2.

This provision does not apply to barriers which support ventilation

-----REVIEWER'S NOTE-----

Adoption of LCO 3.0.9 requires the licensee to make the following commitments:

1. [LICENSEE] commits to the guidance of NUMARC 93-01, Revision 3, Section 11, which provides guidance and details on the assessment and management of risk during maintenance.
 2. [LICENSEE] commits to the guidance of NEI 04-08, "Allowance for Non Technical Specification Barrier Degradation on Supported System OPERABILITY (TSTF-427) Industry Implementation Guidance," March 2006.
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The introductory sentence to the B 3.0 LCO section refers to "LCO 3.0.1 through LCO 3.0.6 ...", though there are also LCO 3.0.7, LCO 3.0.8 and LCO 3.0.9, as included in the STS. The Deviation Report, "APR1400-K-O-NR-14001-NP," does not address this difference. The applicant is requested to correct the introductory sentence to the B 3.0 LCO section to refer to

“LCO 3.0.1 through LCO 3.0.9 ...”, and make the sentence consistent with the STS and the resolution of the above RAI questions regarding LCO 3.0.8 and LCO 3.0.9.

Response

The LCO 3.0 Bases will be modified to include the additional LCOs that are provided in section B 3.0.

Impact on DCD

Same as changes described in the impact on Technical Specifications section.

Impact on PRA

There is no impact on the PRA.

Impact on Technical Specifications

The LCO 3.0 Bases will be modified as indicated in the Attachment.

Impact on Technical/Topical/Environmental Reports

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

B 3.0 LIMITING CONDITIONS FOR OPERATION (LCO) APPLICABILITY

BASES

BASES	
LCOs	LCO 3.0.1 through LCO 3.0.6 establish the general requirements applicable to all Specifications and apply at all times, unless otherwise stated.
LCO 3.0.1	LCO 3.0.1 establishes the Applicability statement within each individual Specification as the requirement for when the LCO is required to be met (i.e., when the unit is in the MODES or other specified conditions of the Applicability statement of each Specification).
LCO 3.0.2	<p>LCO 3.0.2 establishes that upon discovery of a failure to meet an LCO, the associated ACTIONS shall be met. The Completion Time of each Required Action for an ACTIONS Condition is applicable from the point in time that an ACTIONS Condition is entered. The Required Actions establish those remedial measures that must be taken within specified Completion Times when the requirements of an LCO are not met. This Specification establishes that:</p> <ol style="list-style-type: none"> Completion of the Required Actions within the specified Completion Times constitutes compliance with a Specification; and Completion of the Required Actions is not required when an LCO is met within the specified Completion Time, unless otherwise specified. <p>There are two basic types of Required Actions. The first type of Required Action specifies a time limit in which the LCO must be met. This time limit is the Completion Time to restore an inoperable system or component to OPERABLE status or to restore variables to within specified limits. If this type of Required Action is not completed within the specified Completion Time, a shutdown may be required to place the unit in a MODE or condition in which the Specification is not applicable. (Whether stated as a Required Action or not, correction of the entered Condition is an action that may always be considered upon entering ACTIONS).</p> <p>The second type of Required Action specifies the remedial measures that permit continued operation of the unit that is not further restricted by the Completion Time. In this case, compliance with the Required Actions provides an acceptable level of safety for continued operation. Completing the Required Actions is not required when an LCO is met or is no longer applicable, unless otherwise stated in the individual Specifications.</p>