

## KHNPDCDRAIsPEm Resource

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**Subject:** APR1400 Design Certification Application RAI 190-8058 (16 - Technical Specifications)  
**Attachments:** APR1400 DC RAI 190 SPSB 8058.pdf; image001.jpg

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.

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

Thank you,

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# REQUEST FOR ADDITIONAL INFORMATION 190-8058

Issue Date: 09/01/2015  
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:

## QUESTIONS

### 16-81

Justify the deviation in the Frequency for Surveillance Requirement (SR) 3.2.2.1.

The Frequency in the STS reads "...but prior to operations above 70% RTP." The generic TS text reads "...but prior to operations above 80% RTP."

The justification is required to ensure the SR is performed at the correct power level (percent RTP).

### 16-82

Clarify the wording in the Note for Required Actions B.1, B.2, and B.3 in generic Technical Specification (TS) 3.2.3, which is inconsistent with the wording in the STS.

The STS Note reads "All subsequent Required Actions must be completed if power reduction commences..." The Note in the generic TS reads "Required Actions up to B.3 must be completed..." This wording may mislead an operator to believe that Required Actions up to but not including B.3 must be completed.

This clarification is required to ensure that the appropriate Required Actions are completed as warranted.

### 16-83

Justify the deviation from the STS in the Bases for generic Technical Specification (TS) 3.2.1 Linear Heat Rate (LHR), generic TS 3.2.3 Azimuthal Power Tilt ( $T_q$ ), and generic TS 3.2.4 Departure from Nucleate Boiling Ratio (DNBR).

The second paragraph in the Bases for Surveillance Requirement (SR) 3.2.1.2 and SR 3.2.3.2, and the paragraph of the Bases for SR 3.2.4.2 omit a sentence that is contained in the STS. The sentence in the STS contains information as to why the Frequency is 31 days and reads "The Surveillance Frequency for testing protection systems was extended to 92 days by CEN 327. Monitoring systems were not addressed in CEN 327; therefore, this Frequency remains at 31 days."

This justification is required to ensure the accuracy and completeness of the Bases.

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16-84

Justify the deviation from the STS in the Bases for generic Technical Specification (TS) 3.2.1 Linear Heat Rate (LHR).

In the third paragraph of the Background section on page B 3.2.1-2, a sentence in the STS Bases has been omitted from the generic TS Bases. The sentence reads “This penalty is correlated with the amount of rod bow determined from the maximum average assembly burnup of the batch.”

This justification is required to ensure the accuracy and completeness of the TS Bases.

16-85

Justify the deviation from the STS in the Bases for generic Technical Specification (TS) 3.2.1 Linear Heat Rate (LHR), or remove it.

In the fourth paragraph of the “Actions” section on page B 3.2.1-6, the generic TS Bases contain an interpretation of the action requirements, which is not in the STS, in an instruction that reads “If LHR cannot be monitored every 15 minutes, assume that there is an adverse trend.”

The generic TS 3.2.1 Actions B and C appear as follows:

B. One OPERABLE core protection calculator (CPC) calculated LHR not within region of acceptable operation when the COLSS is out of service.	B.1 Determine trend in LHR.	Once per 15 minutes
	<u>AND</u>	
	B.2.1 With an adverse trend, restore LHR to within limit.	1 hour
	<u>OR</u>	
	B.2.2 With no adverse trend, restore LHR to within limit.	4 hours
C. Required Action and associated Completion Time not met.	C.1 Reduce THERMAL POWER to $\leq$ 20 % RTP.	6 hours

The Bases can only describe, and explain the reasons for, TS requirements, not provide direction that changes the meaning of the requirements, which the proposed sentence does. The above action requirements contain no text related to a situation in which LHR cannot be monitored. If the trend in LHR cannot be determined every 15 minutes as required by Required Action B.1, then Required Action C.1 applies and must be carried out. Although the operator may assume an adverse trend exists, Required Action B.2.1 cannot be assumed to apply instead of Required Action C.1 based solely on by the proposed instruction located in the Bases.

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This justification is required to ensure the accuracy and clarity of the generic TS and the associated Bases.

16-86

Clarify the text in the Bases for generic Technical Specification (TS) 3.2.3 Azimuthal Power Tilt ( $T_q$ ).

In the first paragraph of the Bases for Required Actions B1, B.2, and B.3 on page B 3.2.3-5, the generic TS Bases text begins with the phrase "Required Actions B1, B.2, and B.3 are modified by a Note that requires Action B.5 be performed..." The actual Note does not state this because there is no Required Action B.5. The actual Note states "Required Actions up to B.3 must be completed..." (The wording of this generic TS Required Actions Note is unclear as described by a separate question.)

The applicant is requested to ensure the Bases accurately reflects the resolution of the staff's question regarding the clarity of this generic TS Required Actions Note.

This clarification is required to ensure the accuracy of the TS Bases.

