

RESPONSE TO AUDIT ISSUES

APR1400 Topical Reports

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

Docket No. PROJ0782

Review Section	TR Realistic Evaluation Methodology for LBLOCA of the APR1400
Application Section	Topical Report: APR1400-F-A-TR-12004 Realistic Evaluation Methodology for Large-Break LOCA of the APR1400
Issue Date	08/13/2015

Audit Issues No. 56-a, b and c

The guidance in RG 1.157, Section 3.3 establishes acceptable controls for the determination of thermal/physical parameters. Section 5.1.3 of the topical report provides details of indirectly capturing the []^{TS} Address the following:

- a. Section 5.1.3 states that []^{TS} Although this is technically reasonable, justification has not been provided for the selected range of []^{TS} Demonstrate the selected range of []^{TS} is either related to gap temperatures of interest based on burn-up and operational cycle or to available data.
- b. The mean value and the []^{TS} are determined using a fuel performance code that is not referenced. The fuel performance analysis code may have its own effect on the uncertainty in []^{TS} Provide details of the uncertainty in the calculation of []^{TS} in the fuel performance analysis code, and describe how any such uncertainty is accounted for.
- c. Provide the actual values of the []^{TS} that are determined and are used in the analysis.

Response (Rev. 1)

a) ~ c)

As described in the topical report, initial fuel rod conditions from the fuel performance analysis code (FATES3B) are reflected to RELAP5. And LBLOCA analysis with TCD will not treat []^{TS}

Fuel average temperatures including centerline temperatures will be modeled by []^{TS} And calculated fuel average and centerline temperatures will be confirmed with fuel performance analysis code (FATES3B) results which are []^{TS} The limiting burnup for average rod is selected as average burnup of []^{TS}, and burnup for hot pin and hot assembly will be selected based on the burnup sensitivity results.

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 Specifications.

Impact on Technical/Topical/Environmental Report

Topical report will be changed to consider TCD effects. Additional technical report for TCD consideration will be released.

There is no impact on Environmental Report.