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.: **239-8076**

SRP Section: **16 – Technical Specifications**

Application Section: **16.3.3**

Date of RAI Issue: **10/09/2015**

Question No. 16-94

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.

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.”

Page 26 of Deviation Report between NUREG-1432 Rev. 4.0 and APR1400 Technical Specifications APR1400-K-O-NR-13001-NP states that the following proposed text

The performance shall be completed within 12 hours after THERMAL POWER ≥ 15% RTP.

clarifies the meaning of STS text for the surveillance column Note of SR 3.3.1.6, which states,

Not required to be performed until 12 hours after THERMAL POWER ≥ 15% RTP.

In addition, the report states the difference "is an intrinsic design characteristic of APR1400." NRC staff disagrees with this difference from STS Rev. 4 and its claimed benefits and rationale, and requests that the applicant conform to the STS surveillance column Note of SR 3.3.1.6, whose meaning is adequately described in Specification 1.4.

Response

The phrase “The performance shall be completed within” stated in the column note for SRs 3.3.1.2, 3.3.1.4, 3.3.1.5, and 3.3.1.6 of the APR1400 Technical Specifications will be changed to “Not required to be performed until” to be consistent with STS Rev. 4. Since the change results in the APR1400 being consistent with STS Rev. 4, the Deviation Report APR1400-K-O-NR-13001-NP will be revised to eliminate discussion pertaining to this difference.

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 Technical Specifications SRs 3.3.1.2, 3.3.1.4, 3.3.1.5, and 3.3.1.6 will be revised as indicated in the Attachment.

Impact on Technical/Topical/Environmental Reports

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

SURVEILLANCE REQUIREMENTS

NOTE

Refer to Table 3.3.1-1 to determine which SR shall be performed for each RPS Function.

	SURVEILLANCE	FREQUENCY
SR 3.3.1.1	Perform CHANNEL CHECK of each RPS instrument channel.	12 hours
SR 3.3.1.2	NOTE ~~The performance shall be completed within~~ 12 hours after THERMAL POWER ≥ 80 % RTP.	
	Verify total reactor coolant system (RCS) flow rate indicated by each CPC is less than or equal to the RCS total flow rate. If necessary, adjust CPC addressable constant flow coefficients such that each CPC indicated flow is less than or equal to RCS flow rate.	12 hours
SR 3.3.1.3	Check CPC system event log.	12 hours
SR 3.3.1.4	NOTE 1. ~~The performance shall be completed within~~ 12 hours after THERMAL POWER ≥ 15 % RTP. 2. The daily calibration may be suspended during PHYSICS TESTS, provided calibration is performed upon reaching each major test power plateau and prior to proceeding to next major test power plateau.	
	Perform calorimetric calculation and adjust linear power, CPC ΔT, and CPC neutron flux power to agree with calorimetric calculation if any of the linear power, CPC ΔT, and CPC neutron flux power is less than calorimetric calculation by more than 0.5 %.	24 hours

Not required to be performed until

Not required to be performed until

Not required to be performed until

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.3.1.5	---------- NOTE ---------- ~~The performance shall be completed within~~ 12 hours after THERMAL POWER ≥ 80 % RTP. ---------- Verify total RCS flow rate indicated by each CPC is less than or equal to RCS flow rate determined by secondary calorimetric calculations.	31 days
SR 3.3.1.6	---------- NOTE ---------- ~~The performance shall be completed within~~ 12 hours after THERMAL POWER ≥ 15 % RTP ---------- Verify linear power subchannel gains of excore neutron detectors are consistent with values used to establish shape annealing matrix elements in the CPCs.	31 days
SR 3.3.1.7	---------- NOTE ---------- 1. The CPC CHANNEL FUNCTIONAL TEST includes verification that correct values of addressable constants are installed in each OPERABLE CPC. 2. Not required to be performed for Logarithmic Power Level – High until 2 hours after reducing THERMAL POWER below 10^{-3} % RTP and only if reactor trip switchgears (RTSGs) are open. ---------- Perform CHANNEL FUNCTIONAL TEST for each RPS instrumentation channel in accordance with Setpoint Control Program.	31 days

Not required to be performed until