KHNPDCDRAIsPEm Resource

From: Ciocco, Jeff
Sent: Wednesday, October 14, 2015 7:44 AM
To: apr1400rai@khnp.co.kr; KHNPDCDRAIsPEm Resource; Harry (Hyun Seung) Chang; Andy Jiyong Oh; Christopher Tyree
Cc: Reddy, Devender; Dias, Antonio; Umana, Jessica; Wunder, George; Lee, Samuel
Subject: APR1400 Design Certification Application RAI 246-8307 (09.02.02 - Reactor Auxiliary Cooling Water Systems)
Attachments: APR1400 DC RAI 246 SPSB 8307.pdf

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. However, KHNP requests, and we grant, 60 days to respond to RAI questions 09.02.02-1 and 09.02.02-2 We may adjust the schedule accordingly.

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

Thank you,

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United States Nuclear Regulatory Commission
Protecting People and the Environment

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REQUEST FOR ADDITIONAL INFORMATION 246-8307

Issue Date: 10/14/2015
Application Title: APR1400 Design Certification Review – 52-046
Operating Company: Korea Hydro & Nuclear Power Co. Ltd.
Docket No. 52-046
Review Section: 09.02.02 - Reactor Auxiliary Cooling Water Systems
Application Section: 9.2.8

QUESTIONS

09.02.02-1

Question 9.2.8-1:

10CFR 20.1406(b) specifies that “Applicants for standard design certifications, standard design approvals, and manufacturing licenses under part 52 of this chapter, whose applications are submitted after August 20, 1997, shall describe in the application how facility design will minimize, to the extent practicable, contamination of the facility and the environment, facilitate eventual decommissioning, and minimize, to the extent practicable, the generation of radioactive waste.”

Regulatory Guide 4.21 describes a method acceptable to the U.S. Nuclear Regulatory Commission (NRC) for use in the implementation of Title 10, Section 20.1406, “Minimization of Contamination and Radioactive Waste Generation: Life-Cycle Planning.

COL Item 9.2(34) appears to be incomplete as it simply states “The COL applicant is either to prepare or include operational procedures and maintenance.” As written, the COL item does not specifically identify what it is for and what is required of the applicant. The COL item is also unclear as to what the procedures need to address and whether the guidance in Regulatory Guide 4.21 will be used in their development.

The applicant is requested to revise COL item 9.2(34) so that:

a) The system (or systems) to which the COL item is referring to is clearly identified. Such system may be the Turbine Building Closed Cooling Water (TBCCW) system, but that is not clear.

b) The operational procedures and maintenance the COL item is referring to are clearly identified. Such procedures could be: leak detection, contamination control, etc. Also inconsistent is the use of “either” in the COL Item. Such word is not found in other COL Items.

c) The COL item clearly indicates if the procedures will be developed to be consistent with Regulatory Guide 4.21.

09.02.02-2

Question 9.2.8-2:

10 CFR 52.47(a)(2) requires that a standard design certification applicant provide a description and analysis of the structures, systems, and components (SSCs) of the facility, with emphasis upon performance requirements, the bases, with technical justification therefor, upon which these requirements have been established, and the evaluations required to show that safety functions will be accomplished.

SRP 9.2.2, Section III, Item 9, indicates that the reviewer should also consider the appropriateness of identified COL action items.

COL item 9.2(35) requires the COL applicant to maintain complete documentation of system design, construction, design modifications, field changes, and operations. The items addressed by this COL item, with the exception of the system design and design modifications, are post licensing actions that cannot be completed prior to the issuance of a COL license. Since the Turbine Building Closed Cooling Water (TBCCW) system is part of the design being certified, when referenced by a COL application, it will become part of the licensing basis for the COL. Design modification to the TBCCW in the COL application would likely be considered a departure and would be required to be identified as such in a COL application, and the NRC will review the change if required. Once a COL is issued, changes to the COL must be in accordance with 10CFR 52.98, “Finality of combined license; information requests,” which provides information on what is required for changes to or departures from information within the scope of the reference design.

Also, since the TBCCW is a non-safety-related system, and is presented in the DCD as part of the to-be-certified design, with no conceptual design information requirements, the staff is unclear what information the COL applicant needs to submit as part of its COL application regarding the TBCCW. The staff is also unclear as to what post licensing commitments are being sought.

The applicant is requested to provide the basis for the COL item and to discuss why post licensing aspects such field changes and operations are included.

09.02.02-3

Question 9.2.8-3:

Regulatory Guide 4.21 describes a method acceptable to the U.S. Nuclear Regulatory Commission (NRC) for use in the implementation of Title 10, Section 20.1406, “Minimization of Contamination and Radioactive Waste Generation: Life-Cycle Planning”

COL Item 9.2(36) states “The COL applicant is to include a site-wide radiological environmental monitoring program to monitor both the horizontal and vertical variability of the onsite hydrogeology and potential effects of the construction and operation of the plant.”

The applicability of this COL item to the Turbine Building Closed Cooling Water (TBCCW) system is not clear. Radiological programs would generally be addressed in Chapter 11, and 12 of the DCD. In fact, the requirement for the development of the radiological environmental monitoring program is included in several COL items in this application including four times in Chapter 11 (COL 11.2(11), COL 11.3(6), COL 11.4(5) and COL 11.5(9). At the same time, Chapter 12 identifies in detail a site-wide environmental program and has an associated COL Item.

The staff questions the need for such repetitive approach when identifying almost identical COL Items throughout the application. Instead, there should be a singular, encompassing COL item addressing the whole plant operation. A COL Item addressing radiological monitoring program would be better identified under Chapter 12 in the DCD. The existence of multiple (and almost identical) COL Items can become a burden to any COL applicant and the staff.

The applicant is requested to clarify the reason for such multitude of COL Items throughout the application.


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