KHNPDCDRAIsPEm Resource

From:	Ciocco, Jeff
Sent:	Thursday, August 13, 2015 7:39 AM
To:	apr1400rai@khnp.co.kr; KHNPDCDRAIsPEm Resource; Harry (Hyun Seung) Chang; Jiyong Andy Oh; Christopher Tyree
Cc:	Bousquet, Earl; Dias, Antonio; Wunder, George; Lee, Samuel
Subject:	APR1400 Design Certification Application RAI 153-8070 (10.04.03 - Turbine Gland Sealing System)
Attachments:	APR1400 DC RAI 153 SPSB 8070.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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image001.jpg	5040	

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REQUEST FOR ADDITIONAL INFORMATION 153-8070

Issue Date: 08/13/2015
Application Title: APR1400 Design Certification Review – 52-046
Operating Company: Korea Hydro & Nuclear Power Co. Ltd.
Docket No. 52-046
Review Section: 10.04.03 - Turbine Gland Sealing System
Application Section:

QUESTIONS

10.04.03-1
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.

DCD Tier 2, Section 10.4.3 indicates the turbine gland sealing system (TGSS) is designed to provide a source of sealing steam to the annulus space where the turbine and large steam valve shafts penetrate their casings to prevent air leakage into and steam leakage out of these components. This includes the equipment to collect and route the system effluents to the appropriate destination.

The staff finds the applicant using two terms: turbine gland sealing system (TGSS) and turbine steam-seal system (TSSS) throughout DCD Chapter 10. It appears these two names are for the same system.

The applicant is requested to clarify the differences between turbine gland sealing steam, TGSS, and turbine steam-seal system, TSSS. The DCD should be modified accordingly.

10.04.03-2
Conformance to GDC 60 requires the turbine gland sealing system (TGSS) design to include means to control the releases of radioactive materials to the environment.

DCD Tier 2, Section 10.4.3.2 states that if radioactivity in the exhaust flow exceeds an acceptable level, the condenser vacuum pump vent effluent monitor actuates an alarm in the main control room (MCR), and then adquate operating procedures are implemented to preclude significant release to the environment.

The staff notes that the DCD does not contain any discussion on the key elements to be included in the procedure, nor does it require the COL applicant to create a procedure that will instruct operators to perform needed actions if the alarm level is reached.

The applicant is requested to provide further information regarding the key elements hat are to be included in the before mentioned procedures, and to create a COL item in the DCD that will direct the COL applicant to create such procedures.

REQUEST FOR ADDITIONAL INFORMATION 153-8070

10.04.03-3

10 CFR 52.47(b)(1) requires the application to contain the proposed inspections, tests, analyses, and acceptance criteria that are necessary and sufficient to provide reasonable assurance that, if the inspections, tests, and analyses are performed and the acceptance criteria met, a facility that incorporates the design certification has been constructed and will be operated in conformity with the design certification, the provisions of the Act, and the Commission's rules and regulations.

In Tier 2, Section 10.4.3.4, "Inspection and Testing Requirements," the DCD states that the testing and the inspection will be performed in accordance with applicable codes and standards and further lists ASME B31.1 and ASME B16.34 as references for the hydrostatic tests of piping and valves. Additional nondestructive inspections are performed in accordance with ASME Section V.

The staff finds that DCD Tier 2, Subsection 10.4.3.2, "Inspection and Testing Requirements," lacks information on how the TGSS will be functionally tested during unit startup.

The staff requests the applicant to describe the procedures by which the functional test of the TGSS will be performed during unit startup.


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