

## KHNPDCDRAIsPEm Resource

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**Sent:** Monday, July 06, 2015 1:43 PM  
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**Subject:** APR1400 Design Certification Application RAI 62-7995 (03.09.03 - ASME Code Class 1, 2, and 3 Components)  
**Attachments:** APR1400 DC RAI 62 MEB 7995.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. However, KHNP requests, and we grant, 45 days to respond to this RAI. We may adjust the schedule accordingly.

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

Thank you,

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**Hearing Identifier:** KHNP\_APR1400\_DCD\_RAI\_Public  
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image001.jpg	5020	

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# REQUEST FOR ADDITIONAL INFORMATION 62-7995

Issue Date: 07/06/2015

Application Title: APR1400 Design Certification Review – 52-046

Operating Company: Korea Hydro & Nuclear Power Co. Ltd.

Docket No. 52-046

Review Section: 03.09.03 - ASME Code Class 1, 2, and 3 Components

Application Section:

## QUESTIONS

### 03.09.03-1

Section 3.9.3.3, "Pump and Valve Operability Assurance," including Section 3.9.3.3.1, "Operability Assurance Program," Section 3.9.3.3.2, "Pump Operability," Section 3.9.3.3.3, "Valve Operability," and Section 3.9.3.3.4, "Non-NSSS Active ASME Code Class 2 and 3 Pumps and Class 1, 2, and 3 Valves," in the APR1400 Design Control Document (DCD) Tier 2 describes the functional design and qualification of pumps and valves for the APR1400 reactor. Section 3.9.3.3.1 states that functional design and qualification of safety-related pumps and valves are performed in accordance with ASME Standard QME-1-2007 as endorsed by NRC Regulatory Guide (RG) 1.100. In that the APR1400 DCD specifies the application of ASME QME-1-2007 as endorsed in RG 1.100, the NRC staff requests that the APR1400 design certification applicant clarify the subsections in DCD Section 3.9.3.3 such that they are consistent with the provisions of ASME QME-1-2007 as accepted by RG 1.100 (Revision 3). The following are examples where clarification of these DCD sections is requested:

1. These DCD sections refer to the "operability" of pumps and valves when describing the provisions for the functional capability of pumps and valves. The NRC staff notes that the term "operability" is typically used as part of Technical Specifications in U.S. nuclear power plants. Therefore, the term "functionality" should be used when discussing the qualification of pumps and valves for the APR1400 design.
2. These DCD sections allow the manufacturer to use analysis, test, or a combination of analysis and test in qualifying pumps and valves. Based on performance experience, these provisions should specify that the manufacturer will demonstrate the functionality of pumps and valves by test or a combination of test and analysis consistent with ASME QME-1-2007 as accepted by RG 1.100 (Revision 3).
3. These DCD sections that refer to the use of the ASME OM Code should be revised to include the phrase "as incorporated by reference in 10 CFR 50.55a."
4. These DCD sections that refer to the use of RG 1.100 should be revised to include the use of ASME QME-1-2007 as accepted in RG 1.100 (Revision 3).
5. These DCD sections should be revised to be consistent with Section 3.9.6.1 when that section is clarified to specify that the functional design and qualification of pumps, valves, and dynamic restraints will be implemented in accordance with ASME QME-1-2007 as accepted in Revision 3 (or later revision) to RG 1.100 unless specific approval for a modification to that methodology is provided by the NRC.

