

## KHNPDCDRAIsPEm Resource

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**From:** Ciocco, Jeff  
**Sent:** Thursday, August 13, 2015 10:39 AM  
**To:** KHNPDCDRAIsPEm Resource  
**Subject:** FW: APR1400 Design Certification Application RAI 100-8008 (09.05.06 - Emergency Diesel Engine Starting System)  
**Attachments:** image001.jpg; APR1400 DC RAI 100 SPSB 8008.pdf

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**From:** Ciocco, Jeff  
**Sent:** Wednesday, July 22, 2015 2:12 PM  
**To:** apr1400rai@khnp.co.kr; KHNPDCDRAIsPEm Resource <KHNPDCDRAIsPEm.Resource@nrc.gov>; Harry (Hyun Seung) Chang <hyunseung.chang@gmail.com>; Yunho Kim <yshh8226@gmail.com>; Christopher Tyree <Christopher.tyree@aecom.com>  
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**Subject:** APR1400 Design Certification Application RAI 100-8008 (09.05.06 - Emergency Diesel Engine Starting System)

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 the RAI question. We may adjust the schedule accordingly.

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

Thank you,

Jeff Ciocco  
New Nuclear Reactor Licensing  
301.415.6391  
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**Hearing Identifier:** KHNP\_APR1400\_DCD\_RAI\_Public  
**Email Number:** 167

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**Subject:** FW: APR1400 Design Certification Application RAI 100-8008 (09.05.06 -  
Emergency Diesel Engine Starting System)  
**Sent Date:** 8/13/2015 10:38:39 AM  
**Received Date:** 8/13/2015 10:38:40 AM  
**From:** Ciocco, Jeff

**Created By:** Jeff.Ciocco@nrc.gov

**Recipients:**  
"KHNPDCDRAIsPEm Resource" <KHNPDCDRAIsPEm.Resource@nrc.gov>  
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MESSAGE	1260	8/13/2015 10:38:40 AM
image001.jpg	5040	
APR1400 DC RAI 100 SPSB 8008.pdf		88411

**Options**  
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**Reply Requested:** No  
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## REQUEST FOR ADDITIONAL INFORMATION 100-8008

Issue Date: 07/22/2015

Application Title: APR1400 Design Certification Review – 52-046

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

Docket No. 52-046

Review Section: 09.05.06 - Emergency Diesel Engine Starting System

Application Section: 9.5.6

### QUESTIONS

#### 09.05.06-1

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 therefore, upon which these requirements have been established, and the evaluations required to show that safety functions will be accomplished.

DCD Tier 2, Section 9.5.6.2.1 for the emergency diesel engine starting system (EDESS) states that “[t]he EDESS consists of two redundant sets of equipment, each completely independent of the other for successful operation. A cross-connecting line with a normally closed valve is provided between the two redundant starting air systems.”

Figure 9.5.6-1 shows the cross-connecting line, but does not show any normally closed valve to isolate the redundant starting air systems.

The applicant is requested to provide the description and location of the normally closed valve and update figure accordingly.

#### 09.05.06-2

10 CFR 52.47(b)(1) requires that a design certification (DC) application contain the proposed inspections, tests, analyses, and acceptance criteria (ITAAC) that are necessary and sufficient to provide reasonable assurance that, if the inspections, tests, and analyses are performed and the acceptance criteria met, a plant that incorporates the DC is built and will operate in accordance with the DC, the provisions of the Atomic Energy Act, and the NRC's regulations.

In DCD Tier 1 Table 2.6.2-3, ITAAC Item 1 requires verification of the as-built emergency diesel generator (EDG) functional arrangement (including support systems) and refers to Tables 2.6.2-1 and 2.6.2-2 for the corresponding design description. Table 2.6.2-1 and Table 2.6.2-2 contain piping list and component list, respectively.

## **REQUEST FOR ADDITIONAL INFORMATION 100-8008**

The staff finds that Tier 1 information does not include any figures for the safety-related EDG support systems to accompany the ITAAC to verify as-built functional arrangement. Also, Tier 2 contains flow diagrams in Section 9.5 and these details are not consistent with these Tier 1 tables.

The applicant is requested to consider adding support system diagrams to Tier 1 information in order to properly address ITAAC, as well as making Tier 2 Section 9.5 information consistent with corresponding Tier 1 information. (This RAI also applies to other EDG support system Section 9.5.4, 9.5.5, 9.5.7, and 9.5.8)