ArevaEPRDCPEm Resource

From: Tesfaye, Getachew
Sent: Thursday, June 18, 2009 8:03 PM
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Subject: Draft - U.S. EPR Design Certification Application RAI No. 251 (3070,3062,3064,3066), FSAR Ch. 9
Attachments: Draft RAI_251_SBPA_3070_3062_3064_3066.doc

Attached please find draft RAI No. 251 regarding your application for standard design certification of the U.S. EPR. If you have any question or need clarifications regarding this RAI, please let me know as soon as possible, I will have our technical Staff available to discuss them with you.

Please also review the RAI to ensure that we have not inadvertently included proprietary information. If there are any proprietary information, please let me know within the next ten days. If I do not hear from you within the next ten days, I will assume there are none and will make the draft RAI publicly available.

Thanks,
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Hearing Identifier: AREVA_EPR_DC_RAIs
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Request for Additional Information No. 251 (3070,3062,3064,3066), Revision 0

6/18/2009

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 09.05.04 - Emergency Diesel Engine Fuel Oil Storage and Transfer System
SRP Section: 09.05.05 - Emergency Diesel Engine Cooling Water System
SRP Section: 09.05.06 - Emergency Diesel Engine Starting System
SRP Section: 09.05.07 - Emergency Diesel Engine Lubrication System

Application Section: FSAR Ch. 9

QUESTIONS for Balance of Plant Branch 1 (AP1000/EPR Projects) (SBPA)

09.05.04-20

SRP Section 9.5.4, "Emergency Diesel Engine Fuel Oil Storage and Transfer System," Revision 3, paragraph 9.5.4.III.6.A, specifies that each storage tank has a stick gauge connection for determing its fuel level. Verify that each storage tank has a stick gauge connection for determining its fuel level.

The FSAR should be changed to reflect this information.

09.05.05-7

In RAI 09.05.05-6 the staff asked the applicant to provide descriptions and ITAAC for EDG cooling water system instrumentation and alarms. The applicant responded that the EDG cooling water system does not have alarms, displays, or controls that are required to perform emergency operating procedures. The staff did not concur with the applicant's conclusion. The staff found that some automatic controls are essential for emergency EDG operation (such as controls for the jacket water and intercooler three-way valves and the automatic EDG trips on loss of ESWS flow), and therefore there was no relevance to the applicant's assertion that alarms, controls, or displays were not required for the emergency operating procedures. The staff also noted that a general EDG trouble alarm is annunciated in the main control room.

In view of the above, justify not including these alarms or controls in FSAR Tier 2 Table 18.7-1 or FSAR Tier 1 Table 2.5.4-3. In the absence of ITAAC items to confirm the adequacy of essential EDG cooling water system alarms, displays or controls, justify the satisfactory operations of the EDG under postulated.

09.05.06-9

In Supplement 1 to RAI No. 109, the applicant stated in response to question 03.05.01.01-1g that FSAR Tier 1 Table 2.1.2-2 Items 4.2 and 4.3 would be revised, but the staff did not find the marked up table in Supplement 1 to RAI No. 109.

Provide marked up FSAR pages showing proposed changes to FSAR Tier 1 Table 2.1.2-2 Items 4.2 and 4.3 in accordance with the response to RAI question 03.05.01.01-1g in Supplement 1 to RAI No. 109.

09.05.06-10

In replying to RAI No. 09.05.06-7, the applicant noted that the RAI implied that a design description and ITAAC for EDG starting air system instrumentation and alarms are needed. The applicant stated that the EDG starting air system does not have alarms, displays, or controls that are required to perform emergency operating procedures. Therefore, the applicant stated, there are no EDG starting air system instrumentation and alarms, included in FSAR Tier 1, Table 2.5.4-3, Emergency Diesel Generator Electrical Equipment Design.

Although individual alarms are annunciated on local EDG control panels, a general EDG trouble alarm is annunciated in the main control room. The staff does not concur with the applicant's conclusion regarding descriptions and ITAAC for for EDG starting air system instrumentation and alarms. Whether alarms, displays, or controls are required to perform emergency operating procedures is not relevant to implementing automatic controls that are essential to emergency operation.
Provide further information relative to ITAAC items needed to confirm the adequacy of essential alarms, displays, or controls that are required to assure proper EDG operations under postulated accident conditions.

09.05.06-11

SRP Section 9.5.6, "Emergency Diesel Engine Starting System," Revision 3, paragraph 9.5.6.I.1.H, specfies that the design include the the capability to detect and control system leakage, including the isolation of portions of the system for excessive leakage or component malfunction. Describe the system design for the capability to detect and control system leakage, including isolating system portions in the event of excessive leakage or component malfunction.

The FSAR should be changed to reflect this information.

09.05.07-11

RAI No. 09.05.07-9 stated that Emergency Diesel Generator Auxiliaries Test No. 106 of FSAR Tier 2 Section 14.2 confirms the 7-day requirement for fuel oil storage, but does not confirm the 7-day requirement for lubricating oil storage. The applicant was asked to provide assurance that the lubricating oil storage design will confirm to the 7-day storage requirement.

The applicant responded by stating that a requirement will be added to FSAR Tier 2, Section 14.2.12.9.16, "Emergency Diesel Generator Auxiliaries (Test No. 106)," to determine lube oil consumption during the loaded run and perform an analysis to verify that each EDG has suffiecient lube oil for seven days of continuous operation.

However, the staff noted that the calculated lube oil consumption used for the determination that lube oil storage is adequate to support a bounding 7-day EDG run is based on performance of a new engine.

Provide additional details to justify the determination that lube oil storage is adequate to support the bounding 7-day EDG run to verify that the oil consumption observed for a new engine during startup testing is also applicable for the design life of the EDG during plant operation for 60 years.