KHNPDCDRAIsPEm Resource

From: Ciocco, Jeff
Sent: Wednesday, June 17, 2015 1:17 PM
To: apr1400rai@khnp.co.kr; KHNPDCDRAIsPEm Resource; Harry (Hyun Seung) Chang; Yunho Kim; Steven Mannon
Cc: Ray, Sheila; Zimmerman, Jacob; Steckel, James; Lee, Samuel
Subject: APR1400 Design Certification Application RAI 36-7936 (08.02 - Offsite Power System)
Attachments: APR1400 DC RAI 36 EEB 7936.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 the RAI. 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
jeff.ciocco@nrc.gov

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From: Ciocco, Jeff

Created By: Jeff.Ciocco@nrc.gov

Recipients:
"Ray, Sheila" <Sheila.Ray@nrc.gov>
Tracking Status: None
"Zimmerman, Jacob" <Jacob.Zimmerman@nrc.gov>
Tracking Status: None
"Steckel, James" <James.Steckel@nrc.gov>
Tracking Status: None
"Lee, Samuel" <Samuel.Lee@nrc.gov>
Tracking Status: None
"apr1400rai@khnp.co.kr" <apr1400rai@khnp.co.kr>
Tracking Status: None
"KHNPDCDRAIsPEm Resource" <KHNPDCDRAIsPEm.Resource@nrc.gov>
Tracking Status: None
"Harry (Hyun Seung) Chang" <hyunseung.chang@gmail.com>
Tracking Status: None
"Yunho Kim" <yshh8226@gmail.com>
Tracking Status: None
"Steven Mannon" <steven.mannon@aecom.com>
Tracking Status: None

Post Office: HQCLSTR01.nrc.gov

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REQUEST FOR ADDITIONAL INFORMATION 36-7936

Issue Date: 06/17/2015
Application Title: APR1400 Design Certification Review – 52-046
Operating Company: Korea Hydro & Nuclear Power Co. Ltd.
Docket No. 52-046
Review Section: 08.02 - Offsite Power System
Application Section:

QUESTIONS

08.02-2
DCD Tier 2, Section 8.2.1.3 states that the generator circuit breaker (GCB) "is used as a means of providing immediate access of the onsite ac power systems to the offsite power system by isolating the MG from the MT and the UATs and allowing backfeeding of offsite power to the onsite ac power system. The GCB is capable of interrupting normal load current and maximum fault current during transient and various fault conditions. The APR1400 is designed to follow the guidance in Appendix A of Standard Review Plan (SRP) Section 8.2 (Reference 6)."

SRP Section 8.2, Appendix A states:
"Generator circuit breakers should be designed to perform their intended function during steady-state operation, power system transients and major faults. The ratings and required capabilities of a generator circuit breaker are the designated limits of operating characteristics based on definite conditions as defined in IEEE Std C37.013 [Standard for AC High-Voltage Generator Circuit Breakers Rated on a Symmetrical Current Basis] (Reference K in SRP Section 8.2, Appendix A). This standard describes design test procedures and methods that should be performed to demonstrate the ability of a generator circuit breaker to meet the assigned ratings when operating at rated maximum voltage and power frequency."

Provide information on how the APR1400 design follows the guidance found in SRP section 8.2 in Appendix A, "Guidelines for Generator Circuit Breakers/Load Break Switches." More specifically:

1. Describe how the design of the generator circuit breaker complies with the recommendations of Appendix A, including the required capabilities and the test methods to demonstrate the capabilities
2. Describe the synchronizing scheme and whether the synchronizing provision is available at both the GCB and the upstream switchyard breaker
3. Discuss the auxiliary support systems, including additional cooling for such large circuit breakers
4. Describe maintenance strategies for the specific type of circuit breaker (air-blast or SF6) chosen


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