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## REVISED RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

### APR1400 Design Certification

Korea Electric Power Corporation / Korea Hydro & Nuclear Power Co., LTD

Docket No. 52-046

RAI No.: 96-8073  
SRP Section: 16 – Technical Specifications  
Application Section: 16  
Date of RAI Issue: 07/22/2015

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### **Question No. 16-6**

The LCO section of the Bases for generic TS 3.8.2 is missing the second paragraph that is in the STS. The missing paragraph discusses capabilities of a qualified offsite circuit. Justify this difference or include the missing STS 3.8.2 Bases paragraph.

### **Response – Rev. 0**

The second paragraph of the STS 3.8.2 Bases is as follows:

“The qualified offsite circuit must be capable of maintaining rated frequency and voltage, and accepting required loads during an accident, while connected to the Engineered Safety Feature (ESF) bus(es). Qualified offsite circuits are those that are described in the FSAR and are part of the licensing basis for the unit.”

Since the above paragraph is applicable to the generic TS B 3.8.2 for the APR1400, KHNP will add the statement to the TS B 3.8.2.

### **Response – Rev. 1**

This response is being revised to change only the markup previously provided to reword “DCD Tier 2” to “FSAR” in Reference 1 which was added to TS B 3.8.2.

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### **Impact on DCD**

Same as changes described in Impact on Technical Specifications section.

### **Impact on PRA**

There is no impact on the PRA.

**Impact on Technical Specifications**

TS B 3.8.2 will be revised as shown in the Attachment.

**Impact on Technical/Topical/Environmental Reports**

There is no impact on any Technical, Topical, or Environmental Report.

## BASES

## APPLICABLE SAFETY ANALYSES (continued)

During MODES 5 and 6, performance of a significant number of required testing and maintenance activities is also required. In MODES 5 and 6, the activities are generally planned and administratively controlled. Relaxations from MODE 1, 2, 3, and 4 LCO requirements are acceptable during shutdown modes based on:

- a. The fact that time in an outage is limited. This is a risk prudent goal as well as a utility economic consideration.
- b. Requiring appropriate compensatory measures for certain conditions. These may include administrative controls, reliance on systems that do not necessarily meet typical design requirements applied to systems credited in operating MODE analyses, or both.
- c. Prudent utility consideration of the risk associated with multiple activities that could affect multiple systems.
- d. Maintaining, to the extent practical, the ability to perform required functions (even if not meeting MODE 1, 2, 3, and 4 OPERABILITY requirements) with systems assumed to function during an event.

In the event of an accident during shutdown, this LCO ensures the capability to support systems necessary to avoid immediate difficulty, assuming either a loss of all offsite power or a loss of all onsite emergency diesel generator (EDG) power.

The AC sources satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

## LCO

One offsite circuit capable of supplying the onsite Class 1E power distribution division of LCO 3.8.10, "Distribution Systems – Shutdown," ensures that all required loads are powered from offsite power. Two OPERABLE EDGs, associated with a distribution system division required to be OPERABLE by LCO 3.8.10, ensures a diverse power source is available to provide electrical power support, assuming a loss of the offsite circuit. Together, OPERABILITY of the required offsite circuit and EDG ensures the availability of sufficient AC sources to operate the unit in a safe manner and to mitigate the consequences of postulated events during shutdown (e.g., fuel handling accidents involving handling irradiated fuel).

add

The qualified offsite circuit must be capable of maintaining rated frequency and voltage, and accepting required loads during an accident, while connected to the Engineered Safety Feature (ESF) bus(es). Qualified offsite circuits are those that are described in Section 8.2 (Reference 1) and are part of the licensing basis for the unit.

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**BASES**

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**SURVEILLANCE  
REQUIREMENTS**SR 3.8.2.1

SR 3.8.2.1 requires the SRs from LCO 3.8.1 that are necessary for ensuring the OPERABILITY of the AC sources in other than MODES 1, 2, 3, and 4. SR 3.8.1.8 is not required to be met since only one offsite circuit is required to be OPERABLE. SR 3.8.1.12 and SR 3.8.1.19 are not required to be met because the ESF actuation signal is not required to be OPERABLE. SR 3.8.1.17 is not required to be met because the required OPERABLE EDG(s) is not required to undergo periods of being synchronized to the offsite circuit. SR 3.8.1.20 is excepted because starting independence is not required with EDG(s) that are not required to be OPERABLE.

This SR is modified by a Note. The reason for the Note is to preclude requiring the OPERABLE EDG(s) from being paralleled with the offsite power network or otherwise rendered inoperable during performance of SRs, and to preclude deenergizing a required 4,160V ESF bus or disconnecting a required offsite circuit during performance of SRs. With limited AC Sources available, a single event could compromise both the required circuit and the EDG. It is the intent that these SRs must still be capable of being met, but actual performance is not required during periods when the EDG and offsite circuit is required to be OPERABLE. Refer to the corresponding Bases for LCO 3.8.1 for a discussion of each SR.

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**REFERENCES**

None



1. FSAR, Section 8.2