
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.: 258-8333
SRP Section: 08.04 – Station Blackout
Application Section: 8.4
Date of RAI Issue: 10/19/2015

Question No. 08.04-11

In RAI 7928, Question 08.04-5, the staff requested the applicant to clarify whether a COL applicant is required to address the training and procedures related to RG 1.155 positions C.1.3, C.2 and C.3.4. In its response letter dated July 7, 2015, the applicant confirmed that the COL applicant will address the training and procedures related to RG 1.155, positions C.1.3 and C.2, and C.3.4 and revised the DCD Tier 2, Section 8.4.2.2 accordingly. However, the applicant did not specifically state in Section 8.4 of the DCD that the COL applicant will address these procedures and training and did not provide the COL items for these positions.

Please revise Section 8.4 of the DCD Tier 2 to clearly indicate that the COL applicant will address procedures related to RG 1.155, positions C.1.3, C.2, and C.3.4 and the training related to RG 1.155 position C.3.4. Also, please provide, in Section 8.4 of the DCD, the COL items in Sections 13.2 and 13.5 that address the procedures and training related to RG 1.155, positions C.1.3, C.2, and C.3.4.

Response

DCD Tier 2, Subsection 8.4.2.2 will be revised to include reference to the COL items that require the COL applicant to address the procedures and training related to RG 1.155 positions C.1.3, C.2 and C.3.4. The procedures that address these positions are included in the plant's emergency operating procedures (EOPs). EOP development is currently specified as COL 13.5(5). Training per NRC RG 1.155 Position C.3.4 is included in the licensed plant staff training program that is currently specified as COL 13.2(3). Therefore, a reference to these existing COL items will be included in Subsection 8.4.2.2 to ensure there is a tie between the RG 1.155 positions and the necessary procedures and training.

Impact on DCD

DCD Tier 2, Subsection 8.4.2.2 will be revised as shown in the Attachment.

Impact on PRA

There is no impact on the PRA.

Impact on Technical Specifications

There is no impact on the Technical Specifications.

Impact on Technical/Topical/Environmental Reports

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

APR1400 DCD TIER 2NRC Regulatory Guide 1.155

The following requirements of NRC RG 1.155 are related to the AAC GTG and the loads applied for SBO coping conditions.

- a. NRC RG 1.155 requires that each nuclear power plant have the capability to withstand and recover from an SBO lasting a specified minimum duration. The specified duration of SBO is based on the four factors as described in Subsection 8.4.1.2. Conformance with NRC RG 1.155 Position C.3.1 is described in Subsection 8.4.1.2.
- b. There are two SBO coping methods. The first method is the “AC-Independent” approach. In this approach, nuclear power plants rely on available process steam, dc power, and compressed air to operate equipment necessary to achieve safe shutdown conditions until offsite power sources or EAC power sources are restored. The second method is the “Alternate AC” approach. This method is named for its use of equipment that is capable of being electrically isolated from the preferred offsite and emergency onsite ac power sources. The “Alternate AC” approach. NRC RG 1.155 specifies that needed if the AAC power source is available within 10 minutes of the start of an SBO. Therefore, the APR1400 is not required to perform a SBO. However, additional coping analysis for the APR1400 is performed for short and extended SBO. Conformance with NRC RG 1.155 Position C.3.1 is described in Subsection 8.4.1 and Section 19.2.

, Position C.1.3 is related to the procedures for the action to restore emergency ac power when the emergency ac power system is unavailable, and Position C.2 is related to the procedures for the actions to restore offsite power when offsite power is unavailable.
- c. NRC RG 1.155 Position C.3.4 is related to the training and procedures for all operator actions necessary to cope with an SBO. ~~Conformance with NRC RG 1.155 position C.3.4 is described in Sections 13.2 and 13.5.~~

RAI 24-7928 Question 08.04-5

RAI 258-8333 Question 08.04-11
- d. NRC RG 1.155 Position C.3.5 is related to the quality assurance (QA) activities and specification for a non-safety-related AAC that is installed to meet an SBO. The non-safety equipment installed to meet an SBO does not degrade the existing safety-related systems. The QA guidance for the AAC GTG is described in Chapter 17.

The procedures that address NRC RG 1.155 Positions C.1.3, C.2 and C.3.4 are addressed in Section 13.5 included in the emergency operating procedures (EOPs), which are to be developed and implemented by the COL applicant as specified in COL 13.5(5).

The and the training that addresses NRC RG 1.155 Position C.3.4 is included in the licensed plant staff training program, which is to be provided by the COL applicant as specified in COL 13.2(3) addressed the in Section 13.2.