

Vogle PEmails

From: Gleaves, Bill
Sent: Thursday, May 31, 2018 4:15 PM
To: Vogle PEmails
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Subject: Vogle LAR-17-024 Draft RAI No3 3Q version 5-31-2018
Attachments: Vogle LAR-17-024 Draft RAI No3 3Q 5-31-2018.docx

By this email, I am entering the draft RAI#3 for Vogle 3&4 LAR-17-024 into public ADAMS. This version was based on comments received from SNC during the 5.31.18 public meeting.

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Request for Additional Information #3

Vogle 3 & 4 LAR-17-024

“Technical Specification Updates for Reactivity Controls and other Miscellaneous Changes”

Issue Date: 05/31/2018

Operating Company: Southern Nuclear Operating Co.

Docket No. 52-025 and 52-026

Application Section: Technical Specifications

This request for additional information relates to SNC’s application for license amendment request (LAR) 17-024, titled, “Technical Specification Updates for Reactivity Controls and other Miscellaneous Changes,” dated July 28, 2017 (ML17209A755) as supplemented January 23 and March 23, 2018 (ML17209A755 and ML18082B370, respectively). By this request, the staff is informing SNC that it requires additional information in order to complete its review.

Title 10, “Energy,” of the Code of Federal Regulations (10 CFR) Section 50.36(c)(2)(i), “Limiting conditions for operation,” states that limiting conditions for operation (LCO) are the lowest functional capability or performance levels of equipment required for safe operation of the facility. 10 CFR 50.36(c)(2)(ii)(C), “Limiting conditions of operation” Criterion 3 establishes criterion for operation of a nuclear reactor and states, “a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.”

Also, Title 10, “Energy,” of the Code of Federal Regulations (10 CFR) Section 50.36(c)(3), “Surveillance requirements,” requires, “test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met.”

Technical Specification (TS) LCO 3.3.5 requires that the RTS manual actuation channels for each Function in Table 3.3.5-1 shall be OPERABLE. SR 3.3.5.1 requires that the licensee perform a TADOT for each RTS manual actuation channels for each Function in TS Table 3.3.5- 1 every 24 months. TS 1.1, “Definitions,” states that a TADOT shall consist of operating the trip actuating device and verifying the OPERABILITY of all devices in the channel required for trip actuating device OPERABILITY. Also, SR 3.3.5.1 TS Bases state that the test shall independently verify the OPERABILITY of the undervoltage and shunt trip mechanisms for the Manual Reactor Trip Function for the Reactor Trip Breakers. However, the proposed changes to Table 3.3.5-1, read together with the title of Table 3.3.5-1, Column 3, “REQUIRED CHANNELS,” creates an ambiguity in TS 3.3.5 about whether the operability and surveillance requirements apply to the identified equipment within the channels (undervoltage and shunt trip mechanisms) for accomplishing each function identified in Table 3.3.5-1.

Question 1

Function 1 in Table 3.3.5-1 under the “REQUIRED CHANNELS” column states “2” while LAR- 17-024 proposes to change “2” to “2 switches.”

- (a) Explain why the proposed amendment does not create the ambiguity described above.
- (b) Additionally, justify how testing “2 switches” verifies all equipment associated with the channel performing the manual reactor trip function, not including reactor trip circuit breakers, is operable.

Question 2

Function 2 in Table 3.3.5-1 under the “REQUIRED CHANNELS” column states “2” while LAR-17-024 proposes to change “2” to “2 switches.”

- (a) Explain why the proposed amendment does not create the ambiguity described in the paragraph preceding Question 1.
- (b) Additionally, justify how testing “2 switches” verifies all equipment associated with the channel performing the Safeguards Actuation Input from Engineered Safety Feature Actuation System - Manual and associated manual reactor trip function, not including reactor trip circuit breakers, is operable.

Question 3

Section 7.3.1.2.3, “Core Makeup Tank Injection,” in Chapter 7, “Instrumentation and Controls,” within Revision 6 of the licensee’s UFSAR, states, in part, “Condition 5 [Manual initiation] consists of two momentary controls. Manual actuation of either of the two controls will align the core makeup tanks for injection.” Additionally, on Sheet 12 of 21 of Figure 7.2-1, “Functional Diagram Core Makeup Tank Actuation,” it depicts the manual activation of the core makeup tank being carried out via an “or” gate, such that either of the two switches will initiate the requested functionality, in this case that being a manual reactor trip. Also on Sheet 12 of 21, the “Manual CMT Actuation” logic directs the reader to Note 2, which reads, “Manual Actuation of either of the momentary controls will actuate all divisions of the core makeup tanks and trip all reactor coolant pumps.”

In addition, the Institute of Electrical and Electronic Engineers Standards (page 1035 of Institute of Electrical and Electronic Engineers, IEEE 100, “The Authoritative Dictionary of IEEE Standards Terms,” Seventh Edition, 2000) defines a “set” as “*A unit or units and necessary assemblies, subassemblies and basic parts connected or associated together to perform an operational function.*” Accordingly, the term “switch set,” as used in Table 3.3.5-1, refers to all the equipment in a required channel, including undervoltage and shunt trip mechanisms. Additionally, based upon the information provided above, as either of the two switches are capable of performing the requested operation independently and do not rely on each other to perform or complete that operation, the staff’s understanding is that the phrase “switch sets” would not apply to the equipment relied upon to actuate Function 4 in TS Table 3.3.5-1. However, based upon a review of the TS definitions and the TS bases the staff understands the licensee’s request is not simply editorial in nature or to provide additional clarity.

Function 4 in Table 3.3.5-1 under the “REQUIRED CHANNELS” column states “2 switch sets” while LAR-17-024 proposes to change “2 switch sets” to “2 switches.”

- (a) Explain why the proposed amendment does not create the ambiguity described in the paragraph preceding Question 1.

- (b) Additionally, justify how testing “2 switches” verifies all equipment associated with the channel performing the Core Makeup Tank Actuation Input from Engineered Safety Feature Actuation System - Manual and associated manual reactor trip function, not including reactor trip circuit breakers, is operable.