

From: Ed Miller
Sent: Friday, March 1, 2024 12:37 PM
To: Yan.Gao@dominionenergy.com
Subject: RAI for VC Summer Inverter LAR
Attachments: VC Summer RAIs Second Round Final R2.docx

Yan,

By letter dated June 8, 2023, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML23159A233) Dominion Energy South Carolina submitted to the U.S. Nuclear Regulatory Commission (NRC) a request for review and approval of an amendment to the license for VC Summer Nuclear Station, Unit 1. The proposed change would modify the emergency plan to allow relocation of the EOF and TSC. By letter date October 31, 2023 (ADAMS Accession No. ML23304A257), Dominion provided supplemental information in support of this request.

The NRC staff has reviewed the information submitted, including the supplement, and needs additional information to complete its review and approval of the licensee's submittal. These requests for additional (RAIs) are attached to this email and are released formally with a 30-day response period (April 1, 2024) requested.

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REQUEST FOR ADDITIONAL INFORMATION (RAI)

LICENSE AMENDMENT REQUEST TO REVISE THE EMERGENCY PLAN

DOMINION ENERGY SOUTH CAROLINA, INC.

VIRGIL C. SUMMER NUCLEAR STATION UNIT NO. 1

DOCKET NO. 50-395

By application dated June 8, 2023 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML23159A233), Dominion Energy South Carolina, Inc. (DESC) submitted a license amendment request (LAR) for Commission review and approval of the Virgil C. Summer Nuclear Station (VCSNS) Unit No. 1 Emergency Plan. The licensee's LAR proposes changes to the VCSNS Emergency Plan pursuant to Section 50.54(q) of Title 10 of the *Code of Federal Regulations* (10 CFR).

By letter dated October 31, 2023 (ADAMS Accession No. ML23304A257), DESC provided a response to an NRC staff RAI. The following clarifications are informed by DESC's response to the first round of RAIs.

RAI-1:

The DESC response to round 1 RAI-1 indicates the proposed changes rely upon unique design characteristics to provide relief for the Shift Manager or Emergency Director functions (command and control) for 90 minutes as indicated in Table B-1a of the VCSNS Emergency Plan.

Because the response to RAI-1 relies upon unique design characteristics and those unique design characteristics are not significantly different from other nuclear power stations, in addition, the design characteristics were already in existence prior to publishing of NUREG-0654, Rev. 2, DESC does not have relief for the Shift Manager or Emergency Director to perform the command-and-control function within 60 minutes, RAI-1 is clarified as follows:

Clarification of RAI-1: Provide clarification indicating how the Shift Manager will be relieved of either the Shift Manager or Emergency Director function (command and control) within 60 minutes of an alert or higher emergency classification.

RAI-2(a):

The DESC response to round 1 RAI-2(a) indicates that the Radiation Protection (RP) qualified individuals are personnel included in the VCSNS Health Physics (HP) Training Program and who are task qualified to perform RP Technician activities.

Because the response to RAI-2(a) does not provide sufficient justification to demonstrate that the RP qualified individuals are fully qualified RP technicians, RAI-2 is clarified as follows:

Clarification RAI-2(a): Provide documentation indicating how the RP qualified individuals are fully qualified RP Technicians per 10 CFR 50.120.

RAI-2(b):

The DESC response to round 1 RAI-2(b) indicates that the proposed change will rely on the use of improvements in dose assessment software and use of an alarming electronic dosimeter and electronic Radiation Work Permits to allow one RP qualified individual to perform both dose assessment and dosimetry/access control functions.

Because the response to RAI-2(b) does not provide sufficient justification to demonstrate how the VCSNS Emergency Plan will maintain two RP qualified individuals that are able to provide radiation protection job coverage for unknown radiological environments or in-plant surveys under emergency conditions, RAI-2(b) is clarified as follows:

Clarification RAI-2(b): Provide clarification indicating how DESC will provide for two RP qualified individuals to perform the RP functions that include the following elements:

- Capability to provide coverage for responders accessing potentially unknown radiological environments during emergency conditions.
- Capability to monitor radiation levels to support individuals performing activities in response to a radiological event.
- Capability to monitor the dose received by workers performing activities in response to a radiological event.
- Capability to establish and perform radiation surveys and establish radiation monitoring and oversight capability for areas that were not established at the initiation of a radiological event.

RAI-4(a)(b)(c)(d)(e)

Round 1 RAI-4(a) was written to obtain justification for the extension in response time from 60 to 90 minutes for electrical and mechanical engineers and technicians. Although DESC provided additional detail related to FLEX, this detail was limited to high level comments.

Because the response indicates that the VCSNS FLEX Integrated Plan defines strategies capable of mitigating simultaneous loss of alternating current power and normal access to the ultimate heat sink resulting from a beyond-design-basis events, and relies on the three unique design characteristics describe in RAI-1, RAI-4(a)(b)(c) are clarified as follows:

Clarification RAI-4(a):

- Provide analysis or clarification that the FLEX strategies could be used to mitigate a radiological event for a wide spectrum of events and is not limited to the requirements of 10 CFR 50.155 and that the need for mechanical or electrical engineer input is no longer necessary at 60 minutes as a result of the FLEX strategies.

Clarification RAI-4(b):

- Provide analysis that demonstrates that there is sufficient staff on-shift to effectively implement the FLEX strategy and are trained on implementing the FLEX strategies so that the need for mechanical or electrical engineer coverage is no longer necessary at 60 minutes and can be extended to 90 minutes as a result of the FLEX strategies.
- Provide analysis that demonstrates that the equipment is sufficiently maintained and is reliable to justify extending the response times of mechanical or electrical engineers from 60 to 90 minutes.

Clarification RAI-4(c):

- Provide sufficient technical justification to demonstrate that engineering support would not be needed within 60 minutes for troubleshooting and/or repair activities for emergency core cooling system (ECCS) repair or event mitigation activities; or
- Provide analysis sufficient to show that troubleshooting and/or repair activities for ECCS repair or other event mitigation activities could be provided within 60 minutes prior to the arrival of engineering personnel.

Clarification RAI-4(d) and (e):

- Provide analysis to show that FLEX strategies are sufficiently effective and reliable and do not require support for ECCS equipment, event mitigation and equipment repair within 60 minutes from mechanical and electrical technicians.
- If the DESC FLEX strategies do not justify extending the response times of mechanical and electrical maintenance technicians, clarify who will provide electrical and mechanical maintenance support for ECCS equipment, event mitigation and equipment repair within 60 minutes of an Alert or greater classification.

RAI-5(b)

The DESC response to round 1 RAI-5(b) indicates the proposed changes would extend the electrical and mechanical technician response times from 60 to 90 minutes.

Because the response to RAI-5(b) indicates that the response provides the ability for diagnostic aspects and troubleshooting using existing procedures, but not the repair support needed to restore equipment needed for event mitigation, RAI-5(b) is clarified as follows:

Clarification RAI-5(b): Provide clarification indicating how the analysis of the procedures provides for the ability to maintain the Repair Team Activities function for equipment repair at 60 minutes from the Alert or greater emergency class declaration.

RAI-6 (New RAI)

During a review of the first round of RAI responses one additional RAI (new) was identified regarding the DESC proposed drill requiring Corporate Emergency Response Center (CERC) activation for demonstrating ERO capability.

Regulation

10 CFR 50, Appendix E.8.c.3 requires a licensee's emergency operations facility to have the capability to support response to events occurring simultaneously at more than one nuclear power reactor site if the emergency operations facility serves more than one site.

Issue

VCSNS LAR, attachment 1, section 3.10 states the following:

Dominion Energy plans to conduct a drill requiring CERC activation to demonstrate VCSNS ERO capability. The drill will be conducted prior to implementation of this amendment request.

However, the scope of the drill does not specify that the drill will demonstrate the capability to support a response to events occurring simultaneously at more than one nuclear power reactor site.

In addition, Dominion's license amendments request dated January 16, 2018 (ML18025B4680, Attachment 1, "Discussion of Proposed Change," Section 1.2, "Detailed Description of Change," states,

Dominion Energy Virginia plans to conduct a proof-of-concept demonstration involving response to concurrent events requiring CERC activation with both NAPS and SPS.

It further states,

In addition, the event at one of the two sites will affect multiple units. This proof-of-concept demonstration is scheduled for March 5, 2018 and may be observed by NRC staff.

Additionally, in a response to a request for additional information dated June 13, 2018 (ML18169A224), Dominion stated in Attachment 2, "Marked-up NAPS [North Anna Power Station] Emergency Plan Changes," Section 8.5, "Emergency Drills," states,

At least once every eight-year exercise cycle, at least one drill shall be conducted involving CERC response to simultaneous events at North Anna Power Station and Surry Power Station.

Request

- a. Provide evidence to demonstrate that the scope of the drill includes the demonstration of the capability of the CERC to support a response to events occurring simultaneously at more than one nuclear power reactor site if the CERC serves more than one site.
- b. Provide evidence that the scope of the drill will include an event at one of the sites that will affect multiple units.
- c. Provide evidence that the VCSNS Emergency Plan be revised to include a statement similar the NAPS 8-year cycle?