

Brent Ballard

From: Brent Ballard
Sent: Friday, September 25, 2026 7:31 AM
To: ext_Dennis_Moore; 'ext_Christian_Williams'
Cc: Justin Poole; Ilka Berrios
Subject: Crane Clean Energy Center - Final RAI for OL and TS LAR (EPID L-2025-LLA-0123)
Attachments: Crane Clean Energy Center - OL and TS LAR RAI-11283-R1 FINAL.pdf

Good morning, Dennis and Christian,

By application dated July 31, 2025 (Agencywide Documents Access and Management System Accession No. ML25212A076), Constellation Energy Generation, LLC (CEG, the licensee), submitted a license amendment request to make certain changes to the Renewed Facility License (RFL) DPR-50 for the Christopher M. Crane Clean Energy Center, (CCEC). Specifically, CEG requested an amendment to revise the RFL and Appendix A, Technical Specifications (TSs) to support resumption of power operations at CCEC.

The NRC staff has determined that additional information is needed to complete its review. Attached is NRC staff's request for additional information (RAI).

The questions were discussed with Constellation staff during an audit (ML25325A200). As discussed during the audit, the NRC staff is requesting a response within 30 days of the date of this email, which is October 26, 2026. Please let me know if you have any questions.

Thank you,
Brent

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Office of Nuclear Reactor Regulation
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301-415-0680

REQUEST FOR ADDITIONAL INFORMATION
BY THE OFFICE OF NUCLEAR REACTOR REGULATION
CRANE CLEAN ENERGY CENTER - LICENSE AMENDMENT TO REVISE THE RENEWED
FACILITY LICENSE TO SUPPORT RESUMPTION OF POWER OPERATIONS
CONSTELLATION ENERGY GENERATION, LLC
CRANE CLEAN ENERGY CENTER
DOCKET NO. 05000289
ISSUE DATE: 09/25/2026

By application dated July 31, 2025 (Agencywide Documents Access and Management System Accession No. ML25212A076), Constellation Energy Generation, LLC (CEG, the licensee), submitted a license amendment request to make certain changes to the Renewed Facility License (RFL) DPR-50 for the Christopher M. Crane Clean Energy Center, (CCEC). Specifically, CEG requested an amendment to revise the RFL and Appendix A, Technical Specifications (TSs) to support resumption of power operations at CCEC.

The following requests for additional information (RAI) are needed for the NRC staff to complete the technical review. The NRC staff requests as part of the submitted response, please provide a markup of the affected pages for the staff's review.

Requirement:

Section 50.90, "Application for amendment of license, construction permit, or early site permit," of 10 CFR requires that whenever a licensee desires to amend the license, an application for an amendment must be filed with the Commission fully describing the changes desired and following as far as applicable, the form prescribed for original applications.

Under paragraph (a) of 10 CFR 50.92, Issuance of amendment," determinations on whether to grant a license amendment are to be guided by the considerations that govern the issuance of initial licenses or construction permits to the extent applicable and appropriate. Both the common standards for licenses and construction permits in paragraph (a) of 10 CFR 50.40, "Common standards," (regarding, among other things, consideration of the operating procedures, the facility and equipment, the use of the facility, and other technical specifications, or the proposals), and those specifically for issuance of operating licenses in paragraph (a)(3) of 10 CFR 50.57, "Issuance of operating license," provide that there must be "reasonable assurance" that the activities at issue will not endanger the health and safety of the public, and that the applicant will comply with the Commission's regulations.

Section 50.36, "Technical specifications," of 10 CFR establishes the regulatory requirements related to the content of TS. The five categories of items required to be in the TS are listed in 10 CFR 50.36(c) and include (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation (LCOs); (3) surveillance requirements (SRs); (4) design features; and (5) administrative controls.

RAI 1

Issue: Amendment no. 297 to transition to permanently defueled TS deleted the several TS related to Control Room Envelope Habitability Program (CREHP) which were the originally adopted in amendment No 264 (TSTF-448).

- License Condition (LC) 2.c.(18)

- TS 6.20, “Control Room Envelope Habitability Program”
- TS 3.15.1, “Emergency Control Room Air Treatment System”
- SR 4.12.1.5 for the Emergency Control Room Air Treatment System

Constellation proposes not reinstating the LC stating the initial testing periodicities have been satisfied for the control room envelope (air leakage, habitability, and pressure) following implementation of amendment 264. As described in amendment 264, the CREHP, in combination with TS 4.12.1.5, was intended to:

...ensure the operability of the CRE boundary, which as part of an operable Emergency Control Room Air Treatment System will ensure that CRE habitability is maintained such that CRE occupants can control the reactor safely under normal conditions and maintain it in a safe condition following a radiological event, hazardous chemical release, or a smoke challenge. The program shall ensure that adequate radiation protection is provided to permit access and occupancy of the CRE under DBA conditions without personnel receiving radiation exposures in excess of 5 rem TEDE for the duration of the accident.

Elements of the CREHP involved CRE configuration control and preventative maintenance, as well as data collection and trending for assessment of CRE habitability and CRE boundary operability.

Request: Considering the time between defueled operations and reinstating the CREHP:

- Provide information to justify why a new license condition with implementation requirements is not necessary to ensure the reinstatement of the CREHP, in combination with TS 4.12.1.5, would meet the intent described in amendment 264.
- Please describe how Constellation will obtain data used to determine unfiltered air leakage past the CRE boundary and assess CRE habitability per TS 6.20.c and data used for the 24 month assessment of TS 6.20.d.

RAI 2

Issue: Section 3.10 of the TS was deleted by amendment 297, which transitioned to permanently defueled technical specifications (PDTS). The TS in this section provided specifications to assure that leakage from byproduct, source, and special nuclear radioactive material sources does not exceed allowable limits. The staff’s justification for approving deleting Section 3.10 in the amendment 297 safety evaluation was because the TSs did not apply to safe storage and handling of spent fuel in the spent fuel pool, and once certifications required by 10 CFR 50.82(a)(1) are docketed, the license would no longer authorize operation of the reactor or placement or retention of fuel in the reactor vessel, per 10 CFR 50.82(a)(2). Constellation intends to restart the reactor and has requested an exemption to 10 CFR 50.82(a)(2) and submitted several amendments (to include this one) to support potential restart, and as such, the staff’s previous basis for approving deletion of the TS will no longer be valid if the restart is approved. The LAR proposes not reinstating TS 3.10 and 4.13 on the basis that the requirements are not credited in the safety analysis and not required as they do not meet the screening criteria of 10 CFR 50.36(c)(2)(ii). The phrase “not credited in the safety analysis” does not explicitly state whether the safety analysis referred to is only for shutdown or if the phrase was meant to include those analyses for operations.

Request: Please provide further detailed discussion clarifying which analysis/analyses support these statements to not reinstate TS 3.10 and TS 4.13. Specify whether the safety analysis refers only to shutdown conditions or includes operational analyses.

RAI 3

Issue: Amendment no. 297 deleted PDTS TS 3/4.1.4, "Handling of Irradiated Fuel with Fuel Handling Building Crane," previously TS 3.11, "Handling of Irradiated Fuel." Constellation proposes not reinstating TS 3.11 because the crane has been replaced with a single-failure-proof crane. The Fuel Handling Building Crane remains on site. Constellation has not proposed a new TS requirement for the single-failure-proof crane or controls to prevent use of the Fuel Handling Building Crane for functions that would necessitate a TS.

Request: Please provide justification for not including TS requirements for the non single-failure-proof crane.

RAI 4

Issue: Section 6.11 of the TS, "Radiation Protection Program," was deleted by amendment 297, which transitioned to permanently defueled technical specifications. The NRC staff's justification for approval was the same as described above for TS 3.10, and similarly, may no longer be valid if restart of CCEC is approved. The LAR proposes not reinstating the TS on the basis that the Radiation Monitoring Program is not required per 10 CFR 50.36, and therefore not required to be in the TS.

Request: Please provide a clarification as to whether or not the requirements in TS 6.11 are needed for safe operation of the facility as an operational site, as opposed to a site in decommissioning.

RAI 5

Issue: The proposed changes to TS 5.1 do not provide enough information to meet the regulatory requirements of 50.36(c)(4). The staff typically expects the first three sentences of 5.1.1 and a general description of the exclusion area (defined in 10 CFR 100.3) to be sufficient to meet the regulatory requirements of 50.36(c)(4) for other sites. Also, the proposed text referencing the UFSAR as the location of the exclusion area may not be appropriate, since the change controls for TS are different from those of the UFSAR. For TS purposes, an explicit but high level description of the exclusion area is appropriate.

Request: Please update the proposed changes to TS 5.1 with information at a level of detail similar to the Hope Creek and Salem nuclear plants dated February 14, 2022 (ADAMS Accession No. ML22012A435) and Palisades TS 4.1. Provide an explicit, high-level description of the exclusion area within the TS.

RAI 6

Issue: Proposed definition 1.4.4 on TS page 1-3 states there are six control ride drive trip breakers, but amendment 294 TS states there are four.

Request: Please revise proposed definition 1.4.4 with the correct number of control ride drive trip breakers.

RAI 7

Issue: On TS page 3.27, proposed TS 3.5.1.2 phrasing changed from “reactor protection channel may” to “reactor protection channel will.” This change was not discussed in table in Attachment 1.

Request: Please change the phrasing of proposed TS 3.5.1.2 to match that in Amendment 294 or provide a justification for the change.

RAI 8

Issue: The title of proposed Column C of Table 3.5-1 on pages 3-30 to 3-32c was changed from “Operator...” to “Operation.” This change was not discussed in table in Attachment 1.

Request: Please change the proposed title to match that in TS in Amendment 294 or provide justification for the change.

RAI 9

Issue: In some instances, TS requirements can be found to be non-conservative. In some of these cases, plant operation can continue if administrative controls are used to address non-conservative TS requirements, provided the TS are amended in a time frame commensurate with the safety significance of the non-conservatism.

Request: Please describe any non-conservative TS requirements that existed during the last operating cycle and explain how the proposed TS will eliminate these non-conservatisms.

RAI 10

Issue: Table 4.1-1, Function 23.a, “Zone Reference Switch” appears in TS in Amendment 294 but does not appear in the proposed table.

Request: Please provide a justification for removing function 23.a or revise the proposed table to match TS in Amendment 294.

RAI 11

Issue: The channel description in proposed Table 4.1-1, function 28.e appears to be changed from “RM-A21” to “RM-A2I” with no discussion in Attachment 1 page 35 of 51.

Request: Please provide justification for the change or revise the proposed channel description to match TS in Amendment 294.

RAI 12

Issue: In proposed TS 6.1.1, “TMI-1” is changed to “site”. The terminology in Amendment 294 restricted responsibility to Unit 1 areas. Attachment 1 did not provide a discussion regarding whether the proposed phrasing was intended to expand the responsibility for Unit 1 areas to include all Unit 2 areas as well.

Request: Please provide clarification for phrasing in TS 6.1.1 and whether responsibility is expanded beyond Unit 1 areas.

RAI 13

Issue: In proposed In TS 6.7.1.c, the word “Site” is inserted before the title “Vice President” however the same change is not made in TS 6.7.1.b.

Request: Please provide clarification for proposed TS 6.7.1.b phrasing.

RAI 14

Issue: Non-reinstatement of TS 6.13 was justified based on Amendment 297, which stated requirements would not apply in a permanently shutdown and defueled plant. It is unclear if this justification holds once the operating license is restored to CCEC.

Request: Please provide a clarifying discussion as to whether or not the Amendment 297 justification can be extended or applied to operating TS.

RAI 15

Issue: The licensee has proposed adoption of TSTF-372 into TS 3.16 and has proposed non-reinstatement of TS 4.17 based on TSTF-372. The licensee stated it considers proposed LCO 3.16.1 to be functionally equivalent to LCO 3.0.8 from TSTF-372. The justifications for TSTF-372 provided on pages 32 and 39 do not contain a full description of the evaluation of TSTF-372 changes. The model Safety Evaluation for TSFT-372 (part of ML051160013) contained a section listing stipulations for implementing LCO 3.0.8 and stated: “...licensees interested in implementing LCO 3.0.8 must, as applicable, operate in accordance with the following stipulations:...”(pdf page 34 of ML051160013). Recent plant specific adoptions of TSTF-372 have included explicit statements regarding the stipulations in Section 3.2 of the Model SE. The NRC staff has relied on those explicit statements from licensees to conclude that plant specific adoption of TSTF-372 changes are acceptable.

Request: Please provide a discussion of how LCO 3.16.1 will be implemented with respect to the stipulations in Section 3.2 of the model SE for TSTF-372.

RAI 16

Section 5.0 of Calculation No. C-1101-232-E410-056, “Qualification of WDL-F-1A/1B, WDL-K-2A/2B, AND WDL-3A/3B piping SSE”, Revision 0 describes that the pipe stress analysis is performed using Bentley AutoPIPE V8i (SELECT Series 5) Advanced Edition, Version 09.06.01.11. A 10 CFR Part 21 was issued in 2024 associated with the Bentley AutoPIPE software program (three notifications in total). Please confirm that Crane Clean Energy Center has addressed the items discussed in the 10 CFR Part 21 notification as it

pertains to the aforementioned piping analysis. Additionally, please confirm error reports for Bentley AutoPIPE software (critical, high, medium, and low) have been addressed as applicable to the calculation, and that CCEC is receiving new error reports from Bentley for AutoPIPE.