



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

November 21, 2022

Mr. David P. Rhoades  
Senior Vice President  
Constellation Energy Generation, LLC  
President and Chief Nuclear Officer  
Constellation Nuclear  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: LIMERICK GENERATION STATION, UNITS 1 AND 2 - SUPPLEMENTAL  
INFORMATION NEEDED FOR ACCEPTANCE OF DIGITAL  
INSTRUMENTATION AND CONTROLS LICENSE AMENDMENT REQUESTS  
(EPID L-2022-LLA-0140)

Dear Mr. Rhoades:

By letter dated September 26, 2022 (Agencywide Documents Access and Management System (ADAMS) No. ML22269A569), as supplemented by letter dated August 12, 2022 (ML22224A149), Constellation Energy Generation, LLC (Constellation) submitted license amendment requests for Limerick Generation Station, Units 1 and 2 (Limerick). The proposed amendment requests would change both the design and technical specifications to permit the use of a new single digital instrumentation and controls system to replace analog instrumentation of reactor protection system, analog nuclear steam supply shutoff system, emergency core cooling system, reactor core isolation cooling system, and end-of-cycle recirculation pump trip at Limerick. In addition, the proposed amendments would:

- change the classification of the redundant reactivity control system from safety-related to non-safety-related
- eliminate the automatic redundant reactivity control system feedwater runback function
- eliminate the automatic isolation function for the turbine enclosure main steam line tunnel temperature high indication
- eliminate several surveillance requirements
- allow the use of automated operator aids (or automated controls) from main control room

The purpose of this letter is to provide the results of the U.S. Nuclear Regulatory Commission (NRC) staff's acceptance review of these amendment requests. The acceptance review was performed to determine if there is sufficient technical information in scope and depth to allow the NRC staff to complete its detailed technical review. The acceptance review is also intended to

identify whether the application has any readily apparent information insufficiencies in its characterization of the regulatory requirements or the licensing basis of the plant. Consistent with Section 50.90 of Title 10 of the *Code of Federal Regulations* (10 CFR), an application for an amendment to a license (including the technical specifications) must fully describe the changes requested, and following as far as applicable, the form prescribed for original applications. Section 50.34 10 CFR addresses the content of technical information required. This section stipulates that the submittal address the design and operating characteristics, unusual or novel design features, and principal safety considerations.

The NRC staff has reviewed your application and concluded that the information delineated in the enclosure to this letter is necessary to enable the staff to make an independent assessment regarding the acceptability of the proposed amendment in terms of regulatory requirements for the protection of public health and safety and the environment.

To make the application complete, the NRC staff requests that Constellation supplement the application to address the information requested in the enclosure within 13 calendar days of the date of this letter. This will enable the NRC staff to begin its detailed technical review. If the information responsive to the NRC staff's request is not received by the above date, the application will not be accepted for review pursuant to 10 CFR 2.101, and the NRC will cease its activities associated with the application. If the application is subsequently accepted for review, you will be advised of any further information needed to support the staff's detailed technical review by separate correspondence.

If you have any questions, please contact me at (301) 415-2871 or [michael.marshall@nrc.gov](mailto:michael.marshall@nrc.gov) or Mr. Bhagwat "BP" Jain at (301) 415-6303 or [bhagwat.jain@nrc.gov](mailto:bhagwat.jain@nrc.gov).

Sincerely,

/RA/

Michael L. Marshall, Jr, Senior Project Manager  
Plant Licensing Branch I  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-352 and 50-353

Enclosure:  
Supplemental Information Needed

cc: Listserv

SUPPLEMENTAL INFORMATION NEEDED

AMENDMENT REQUEST INVOLVING DIGITAL INSTRUMENTATION AND CONTROLS

CONSTELLATION ENERGY GENERATION, LLC

LIMERICK GENERATION STATION, UNIT NOS 1 AND 2

DOCKET NOS. 50-352 AND 50-353

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In the defense-in-depth and diversity analysis and licensing technical report attached to the supplement dated August 12, 2022, Constellation describes how the component interface module (CIM) is used in the plant protection system planned for Limerick. Descriptions of CIM diversity, priority logic, component control logic, diagnostics, extensive testing, and priority module function are provided. With regards to the CIM internal design (or technical description) references are provided to WCAP-17179-P, Revision 2, "AP1000® Component Interface Module Technical Report," and WCAP-17179-P, Revision 6. On November 10, 2022, a public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) staff and Constellation representatives regarding the status of the NRC staff's acceptance review. During the meeting, Constellation explained the use of the CIM for the priority module function in the proposed plant protection system. Also, Constellation described the difference between the CIM description in the WCAP-17179-P, Revision 2, and WCAP-17179-P, Revision 6.

The NRC staff has reviewed the application and considered the statements made by Constellation at the public meeting. The NRC staff has concluded that information about the CIM design is necessary for the staff to make an independent assessment regarding the acceptability of the license amendment requests. To support the acceptance review, the NRC staff requests that Constellation provide a technical description of the CIM design for the priority functions being used in the proposed plant protection system. Further, the description should address the conformance of the CIM design to the command prioritization positions described in Digital Interim Staff Guidance 04, Revision 1, "Highly-Integrated Control Rooms - Communications Issues (HICRc)," specific to the Limerick proposed plant protection system design.

Enclosure

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(EPID L-2022-LLA-0140) DATED NOVEMBER 21, 2022

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**ADAMS Accession No. ML22320A113**

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