

U.S. NUCLEAR REGULATORY COMMISSION SUMMARY OF THE OCTOBER 18, 2022,
OBSERVATION PREAPPLICATION PUBLIC MEETING
WITH SMR, LLC (A HOLTEC INTERNATIONAL COMPANY)
TO DISCUSS CONTROL ROD DRIVE SYSTEM REACTIVITY CONTROL
TO SUPPORT THE CONSTRUCTION PERMIT APPLICATION OF THE SMR-160 DESIGN

Meeting Summary

The U.S. Nuclear Regulatory Commission (NRC) held a preapplication public meeting on October 18, 2022, with SMR, LLC (SMR), a Holtec International Company, to discuss questions regarding the control rod drive system (CRDS) to support the construction permit application for their SMR-160 design. Specifically, SMR requested the meeting to provide the NRC staff with a high-level overview of the SMR-160 CRDS design and to discuss the associated NRC Standard Review Plan (SRP) Section 3.9.4 testing provisions. SMR also met to discuss acceptable analytical methods that can be used in lieu of prototype testing and industry experience and plant referenced designs that preclude the use of analytical methods.^{1,2} The mechanical aspects of the SMR-160 CRDS were discussed previously during a meeting on September 13, 2022.³

This virtual preapplication meeting had attendees from SMR and the NRC staff. Three members of the public participated in the public portion of the meeting.

The purpose of this meeting was to obtain feedback from the reviewers for aspects of the CRDS in which longer control rod is considered “new and unique.” The NRC staff confirmed that it did not have any additional input from what was provided during the previous meeting.

The NRC staff responsible for the reactivity control aspects of the design noted that standard review plan SRP Section 4.6, “Functional Design of Control Rod Drive System,” discusses functional testing of the CRDS but not an experimental testing program as described in SRP Section 3.9.4, “Control Rod Drive Systems.” For example, the staff will review the surveillance requirements identified in the technical specifications to ensure consistency with the assumptions in the safety analysis. Any preoperational in-plant testing of the CRDS should be conducted consistent with the initial test program as described in SRP Section 14.2, “Initial Plant Test Program - Design Certification and New License Applicants.” The NRC staff noted that some tests can be credited for multiple attributes, that the American Society of Mechanical Engineers code testing could be credited (e.g., pressure testing), and that tests are considered in different areas. The NRC staff also referenced Regulatory Guide 1.68, “Initial Test Programs for Water-Cooled Nuclear Power Plants,” as providing guidance on control rod drive testing.

¹ SMR, LLC, “Preapplication Materials for September 13, 2022 (Project No. 99902049,” dated September 13, 2022. Agencywide Documents and Access Management System (ADAMS) Accession No. ML22256A019.

² U.S. NRC, NUREG-0800, “Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition (NUREG-0800, Formerly issued as NUREG-75/087),” Chapter 3, “Design of Structures, Components, Equipment, and Systems,” Section 3.9.4, “Control Rod Drive Systems,” ADAMS Accession No. ML16133A472.

³ U.S. NRC, “9-13-22 Summary of the Observation Public Meeting with SMR, LLC, to discuss Control Rod Drive System,” dated Month Day, 2022, ADAMS Accession No. ML22252A181.

At the end of the meeting the public was given an opportunity to comment. Members of the public had the following comments and questions related to the subject meeting topic:

- A member of the public noted that there was no discussion on the power supply for the system and the response during an interruption of the power supply. The NRC staff responded that the NRC is engaged in preapplication activities with the applicant and that the design is not final. Currently, there is no SMR, LLC application under review.
- A member of the public requested information on the fuel to be used and when the details of the design would be made publicly available. The NRC staff responded that non-proprietary details of the design would be provided once an application is submitted for review.

The meeting was adjourned.