

**U.S. NUCLEAR REGULATORY COMMISSION SUMMARY OF THE JULY 12, 2023,  
OBSERVATION PREAPPLICATION PUBLIC MEETING WITH SMR, LLC (A HOLTEC  
INTERNATIONAL COMPANY) TO DISCUSS SMR-160 EMERGENCY  
PREPAREDNESS**

**Meeting Summary**

The U.S. Nuclear Regulatory Commission (NRC) held an observation public meeting on July 12, 2023, with SMR, LLC (SMR), a Holtec International Company (Holtec), to discuss preapplication information related to the SMR-160 design. Specifically, SMR (Holtec) requested the meeting to provide a high-level overview of the SMR-160 emergency preparedness (EP) and emergency planning zone (EPZ) programs and to obtain feedback from NRC regarding the EP/EPZ programs.<sup>1</sup>

SMR provided the presentation slides to discuss at this public meeting.<sup>2</sup> This meeting satisfies the SMR (Holtec) request for review and feedback on its preapplication meeting materials.

This virtual observation preapplication meeting had attendees from SMR (Holtec), NRC staff, and members of the public. The NRC staff and SMR (Holtec) discussed proprietary information during the closed session.

Preapplication engagements, including this meeting, provide an opportunity for the NRC staff to engage in early discussions with a prospective applicant to identify potential licensing issues early in the licensing process and to obtain feedback from the NRC staff on the high-level overview and specific topics that the NRC would like to discuss further in future meetings. No decisions or commitments were made during the preapplication meeting.

The following summarizes the discussion during the open session of the meeting:

SMR (Holtec) identified and briefly discussed the applicable regulations and guidance documents related to emergency planning as presented in their slides.<sup>2</sup>

- SMR (Holtec) asked if the Emergency Action Levels (EAL) would be required to be included in the construction permit application (CPA). Staff responded that the EALs are required for the operating license application but should be discussed at a high-level in the CPA.
- SMR (Holtec) requested information on the status of the update of Regulatory Guide (RG) 4.7, "General Site Suitability Criteria for Nuclear Power Stations," dated March 2014. NRC staff stated that RG 4.7, which implements the Commission policy provided in 10 CFR 100.21(h) regarding siting reactors away from very densely populated

---

1 Letter from J. Hawkins, "SMR, LLC Preapplication Meeting Materials for July 12, 2023," dated June 28, 2023, Agencywide Documents and Access Management System (ADAMS) Accession No. ML23180A002, part of ML23180A001.

2 SMR, LLC/Holtec International, NRC Meeting: "Emergency Preparedness," presentation materials for July 12, 2023, meeting dated May 12, 2023, ML23180A003 (public) and dated July 12, 2023, ML23180A003 (proprietary), part of ML23180A001.

centers, is being updated to support both (1) the draft proposed rulemaking package in SECY-22-0052, "Proposed Rule: Alignment of Licensing Processes and Lessons Learned from New Reactor Licensing (RIN 3150 A166) and (2) the Commission's Staff Requirements Memorandum on SECY-20-0045, "Population Related Siting Considerations for Advanced Reactors."

- Regarding SECY-20-0045, the schedule date to issue the draft guide for public comment is the end of September 2023 with the final guide issued by the end of February 2024. Also, regarding slide 18 on EP Boundary Definitions, the staff pointed out that it is important to treat population density (10 CFR 100.21(h)) separately from population center distance (10 CFR 100.3 and 100.11(a)(3)). Staff also suggested reviewing, "Criteria for Development of Evacuation Time Estimate Studies (NUREG/CR-7002)," (ML21013A504).

SMR (Holtec) stated that one of the guidance documents, Nuclear Energy Institute (NEI) 99-01, "Development of Emergency Action Levels for Non-Passive Reactors," is not for small modular reactors (SMR). NEI 07-01, "Methodology for Development of Emergency Action Levels Advanced Passive Light Water Reactors (2009)," is not specifically for SMRs and SMR (Holtec) asked if there is guidance that can be used to develop SMR-160 EALs. Staff referred SMR (Holtec) to Appendix E to Part 50, "Emergency Planning and Preparedness for Production and Utilization Facilities," <https://www.nrc.gov/reading-rm/doc-collections/cfr/part050/part050-appe.html>. SMR (Holtec) summarized their preliminary plans regarding what would be included in the construction permit application and the preliminary safety evaluation report (PSAR) regarding EP content and compliance with 10 CFR 50, Appendix E. The PSAR will address NUREG 0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," Standard Review Plan 13.3, "Conduct of Operations," as well as (1) 10 CFR 50.34(a)(10), "Contents of applications; technical information," requiring a discussion of the applicant's preliminary plans for coping with emergencies and requiring that Appendix E sets forth items which shall be included in these plans, and (2) 10 CFR 50.47(b), "Emergency plans," which identifies what standards must be met for onsite and offsite emergency response plans.

SMR (Holtec) asked for clarification on the term "consequence-and risk-oriented justification" discussed in Interim Staff Guidance ISG-2022-01, "Review of Risk-Informed, Technology-Inclusive Advanced Reactor Applications-Roadmap-May 2023." NRC staff responded that it is not only risk information that is needed to be able to make decisions about EP and EPZ sizing, but that the potential consequences for which to plan (e.g., to inform which measures to prepare) also matter. Additionally, RG 1.242, Revision 0, "Performance-Based Emergency Preparedness for Small Modular Reactors, Non-Light-Water Reactors, and Non-Power Production or Utilization Facilities," July 2021 (ML21238A072), is being revised and will provide clarification in this area. It is expected to be updated prior to SMR (Holtec) submitting a construction permit. NRC staff also pointed out that NUREG-0396, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants," (ML051390356) is applicable to both large light-water reactors and small modular reactors.

SMR (Holtec) asked how release points were set for multiple containments to determine boundaries. NRC responded that release points are established for each reactor and an enveloping boundary is determined to apply to the site.

The NRC staff indicated that they believe SMR (Holtec) has an acceptable path forward and that projected timelines regarding submittal of a CP with the EP content described is reasonable.

At the end of the open session, there was one comment from a member of the public who stated:

"The Emergency Preparedness Requirements for Small Modular Reactors and Other New Technologies," rulemaking (NRC-2015-0225) has been pending with the Commission for more than 18 months. This has already caused significant regulatory uncertainty for multiple developers that are preparing licensing applications. The delay is slowing national efforts to reduce impacts on human health and the environment. Finalizing the rule expeditiously is strongly in the public interest."

The open session ended and was followed by a closed session to briefly discuss propriety topics. During the closed session SMR (Holtec) discussed a potential site for SMR-160, the number of units, setting of EPZ and low population zone sizes if there is already an existing operating plant at the site, plant specific and corporate level EP descriptions, and how to address multiple units.

Following the closed session, the meeting was adjourned.