From:	Cranston, Greg
Sent:	Thursday, May 20, 2021 6:18 PM
To:	Tammy Morin
Cc:	Schiller, Alina; Dudek, Michael; Buford, Angie; Scarbrough, Thomas; Holtec-SMR-160RAIsPEm Resource; Chowdhury, Prosanta
Subject:	Holtec Request for Additional Information No. 9843 eRAI No. 9843
Attachments:	RAI_9843 Holtec Final RAI.pdf

Attached please find NRC staff's request for additional information (RAI) concerning review of the Holtec Topical Report on Elimination of the Large Break Loss of Coolant Accident (LOCA) and Establishment of LOCA Acceptance Criteria, Rev 2

Please submit your technically correct and complete RAI response to the NRC Document Control Desk by June 18, 2021.

If you have any questions, please contact me.

Thank you.

Greg Cranston

Hearing Identifier: Holtec_SMR160_RAI_Public
Email Number: 5

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Request for Additional Information 9843 (eRAI 9843)

Issue Date: 05/20/2021
Application Title: Holtec Licensing Topical Reports
Operating Company: Holtec International
Docket No. 99902049
Review Section: 03.09.06 - Functional Design Qualification and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints
Application Section: 3.9.6

QUESTIONS

03.09.06-1

Appendix A, "General Design Criteria for Nuclear Power Plants," in 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," contains several general design criteria related to the functional qualification of active mechanical equipment important to safety, including valves, in nuclear power plants. Holtec Topical Report HI-2201064 (Revision 2, dated March 4, 2021) describes a wide range of valves and their safety functions that are part of the SMR-160 reactor design.

Section 7.0, "Regulatory Evaluation as Pertains to Elimination of Large Break LOCA and Establishment of LOCA Acceptance Criteria," of the Holtec Topical Report includes provisions for the implementation of specific sections of the NRC Standard Review Plan (SRP) NUREG-0800 for certain structures, systems, and components in the SMR-160 reactor. However, Section 7.0 of the Holtec Topical Report does not describe the implementation of SRP Section 3.9.6, "Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints," and SRP Section 5.2.2, "Overpressure Protection," for valves to be used in the SMR-160 reactor. Specifically, as outlined in SRP Section 3.9.6, acceptance criteria for the qualification of Holtec's proposed pumps and valves should be described in accordance with the guidance in the American Society of Mechanical Engineers (ASME) Standard QME-1, "Qualification of Active Mechanical Equipment Used in Nuclear Facilities," as accepted in NRC Regulatory Guide 1.100, "Seismic Qualification of Electrical and Active Mechanical Equipment and Functional Qualification of Active Mechanical Equipment for Nuclear Power Plants." Additionally, as outlined in SRP Section 5.2.2, acceptance criteria for the specifications for the overpressure protection of Holtec's proposed valves should also be described in accordance with the guidance.

As such, the NRC staff requests that Holtec clarify the acceptance criteria and methods in the topical report for meeting Appendix A, "General Design Criteria for Nuclear Power Plants," in 10 CFR Part 50, for Holtec's proposed pumps and valves (i.e., in accordance with NRC guidance (SRP Sections 3.9.6 and 5.2.2)); or provide equivalent methodologies and/or justifications that would meet the intent of 10 CFR Part 50, Appendix A.