



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

February 10, 2022

MEMORANDUM TO: Michael I. Dudek, Chief
New Reactor Licensing Branch
Division of New and Renewed Licenses
Office of Nuclear Reactor Regulation

FROM: Gregory V. Cranston, Project Manager */RA/*
New Reactor Licensing Branch
Division of New and Renewed Licenses
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF THE NOVEMBER 23, 2021, PUBLIC MEETING TO
DISCUSS THE HOLTEC SMALL MODULAR REACTOR, SMR-160,
TOPICAL REPORT: "ELIMINATION OF LARGE BREAK LOCA AND
ESTABLISHMENT OF LOCA ACCEPTANCE CRITERIA"

On November 23, 2021, an Observation Public Meeting was held between the U.S. Nuclear Regulatory Commission (NRC) staff and SMR, LLC, a Holtec International Company (Holtec), regarding the NRC staff's request for additional information regarding licensing topical report (LTR), "Elimination of Large Break Loss-of-Coolant Accident (LOCA) and Establishment of LOCA Acceptance Criteria," Revision 2 (Agencywide Documents Access and Management Systems (ADAMS) Accession No. ML21068A255). The meeting summary is provided in Enclosure 3. The public meeting notice can be found in ADAMS under Accession No. ML21314A137 and was also posted on the NRC's public Web site.

This meeting discussed items related to the audit of the LTR and is a follow-up to previous public meetings on June 16, 2021 (ADAMS Accession No. ML21180A465) and July 13, 2021 (ADAMS Accession No. ML21180A466), to continue discussions on a path forward for the LTR review. Enclosed are the meeting agenda (Enclosure 1), list of attendees (Enclosure 2), and the meeting summary (Enclosure 3).

Docket No. 99902049

Enclosures:

1. Meeting Agenda
2. List of Attendees
3. Meeting Summary

CONTACT: Gregory Cranston, NRR/DNRL
301-415-0546

SUBJECT: SUMMARY OF THE NOVEMBER 23, 2021, PUBLIC MEETING TO
DISCUSS THE HOLTEC SMALL MODULAR REACTOR, SMR-160, TOPICAL
REPORT: "ELIMINATION OF LARGE BREAK LOCA AND ESTABLISHMENT
OF LOCA ACCEPTANCE CRITERIA"
DATED: FEBRUARY 10, 2022

DISTRIBUTION:

PUBLIC
NRLB R/F
BSmith, NRR
BThomson, NRR
MDudek, NRR
GCranston, NRR
ASchiller, NRR
SGreen, NRR
ABuford, NRR
ITseng, NRR
RPatton, NRR
SCumblidge, NRR
CBrown, ACRS
RidsNrrDnrl
RidsNrrDnrlNrlb
RidsOgcMailCenter
RidsACRSMailCtr

ADAMS Accession Nos:**PKG: ML22028A027****LTR: ML22028A024****MEETING NOTICE: ML22028A023***** via e-concurrence****NRR-106**

OFFICE	NRR/DNLR/NRLB: PM	NRR/DNRL/NRLB: LA	NRR/DNRL/NRLB: BC
NAME	GCranston*	SGreen	MDudek*
DATE	01/27/22	02/02/22	02/03/22
OFFICE	NRR/DNLR/NVIB: BC	NRR/DNRL/NPHP:(a) BC	NRR/DSS/SNRB: BC
NAME	ABuford*	SCumblidge*	RPatton* w/edits from ABarrett
DATE	02/04/22	02/07/22	02/09/22
OFFICE	NRR/DEX/EMIB:(a) BC	NRR/DNRL/NRLB: BC	NRR/DNLR/NRLB: PM
NAME	ITseng* w/edits	MDudek*	GCranston*
DATE	02/07/22	02/10/22	02/10/22

OFFICIAL RECORD COPY

**SUMMARY OF THE NOVEMBER 23, 2021, PUBLIC MEETING TO
DISCUSS THE HOLTEC SMALL MODULAR REACTOR, SMR-160, TOPICAL REPORT:
“ELIMINATION OF LARGE BREAK LOCA AND ESTABLISHMENT OF LOCA
ACCEPTANCE CRITERIA”**

November 23, 2021

Meeting Agenda

<u>Time</u>	<u>Topic</u>	<u>Organization</u>
1:00 p.m. – 1:10 p.m.	Introductions and Opening Remarks	NRC and Holtec
1:10 p.m. – 2:30 p.m.	SMR-160 Licensing Topical Report Discussion – Open Session	NRC and Holtec
2:30 p.m.	Adjourn	

**SUMMARY OF THE NOVEMBER 23, 2021, PUBLIC MEETING TO
DISCUSS THE HOLTEC SMALL MODULAR REACTOR, SMR-160, TOPICAL REPORT:
“ELIMINATION OF LARGE BREAK LOCA AND ESTABLISHMENT OF LOCA
ACCEPTANCE CRITERIA”**

November 23, 2021

List of Participants

Name	Affiliation
David Lewis	Holtec
Hickey, Kevin	Holtec
Lietwiler, Clay	Holtec
Marcille, Thomas	Holtec
McCloskey, Sean	Holtec
Morin, Tammy	Holtec
Rajkumar, Joseph	Holtec
Trotta, Rick	Holtec
Vehec, Jodine	Holtec
Daigle, David	Public
Ring, Mark	Numark Assoc
Seewald, Tom	Public
Brown, Christopher	NRC
Buford, Angie	NRC
Cranston, Greg	NRC
Dudek, Michael	NRC
Halnon, Gregory	NRC
Honcharik, John	NRC
Li, Yueh-Li	NRC
Manoly, Kamal	NRC
Mitchell, Matthew	NRC
Moyer, Carol	NRC
Nolan, Ryan	NRC
Patton, Rebecca	NRC
Scarborough, Thomas	NRC
Tsao, John	NRC
Tseng, Ian	NRC
Barrett, Antonio	NRC

**SUMMARY OF THE NOVEMBER 23, 2021, PUBLIC MEETING TO
DISCUSS THE HOLTEC SMALL MODULAR REACTOR, SMR-160, TOPICAL
REPORT: "ELIMINATION OF LARGE BREAK LOCA AND ESTABLISHMENT OF
LOCA ACCEPTANCE CRITERIA"**

November 23, 2021

Meeting Summary

On November 23, 2021, an Observation Public Meeting was held between the U.S. Nuclear Regulatory Commission (NRC) staff and SMR, LLC, a Holtec International Company (Holtec), regarding the NRC staff's request for additional information regarding licensing topical report (LTR) "Elimination of Large Break Loss-of-Coolant Accident (LOCA) and Establishment of LOCA Acceptance Criteria," Revision 2 (Agencywide Documents Access and Management Systems (ADAMS) Accession No. ML21068A255). The public meeting notice can be found in ADAMS under Accession No. ML21314A137 and was also posted on the NRC's public Web site.

The public meeting commenced with opening remarks and an introduction of participants. There were members of the public attending but there were no public comments.

The meeting discussed items related to the audit of the LTR and is a follow-up to previous public meetings conducted on June 16, 2021 (ADAMS Accession No. ML21180A465) and July 13, 2021 (ADAMS Accession No. ML21202A235), to continue discussing a path forward for the LTR review.

The NRC staff continued to emphasize that the LTR should provide criteria that, if met after the design is finalized, would allow the NRC staff to make a determination that there is reasonable assurance of adequate protection, and identify that an exemption from 10 CFR 50.46 is needed.

Holtec expressed concern that putting additional criteria in the LTR could bind a future applicant to meeting criteria that the applicant may not want. Holtec stated that criteria and how the criteria will be met would be determined later by Holtec or by a future applicant.

The NRC staff stated that the reactor system staff's analytical questions have focused on obtaining an understanding of the capability of the preliminary design to mitigate consequences for various break sizes, as well as defense-in-depth considerations.

The staff stated that information is needed regarding the secondary side of the steam generator in conjunction with a potential primary to secondary reactor coolant leak.

The staff also stated that it would be difficult at this time to agree that the Holtec design is just like a typical reactor pressure vessel. The Holtec design is unique in shape and configuration and there is no operating experience associated with such a configuration. The staff continued to seek clarity during the meeting as to what is different with that Holtec SMR-160 design that could potentially affect what the potential likelihood of failures may be and what would be the extent of that failure (break size).

As such, the staff stated that there may need to be a set of limitations and conditions to cover the key aspects of the Holtec design and associated welds, such as limitations and conditions on inspectability, welding, fatigue, and water chemistry. The NRC staff stated that Holtec should decide what would be the appropriate set of potential criteria that, if met once the design is finalized, would provide sufficient information for the NRC to make its safety finding. If the Holtec specified design criteria are not sufficient to allow NRC to make its safety finding, then the staff stated that they would consider the viability of providing limitations and conditions to be incorporated into the LTR to supplement existing criteria. The criteria to be met must be sufficiently comprehensive, such that if the criteria are later determined to be met, there is reasonable assurance that the plant will operate safely with no undue risk to the public health and safety.

Although the audit and discussions during this meeting repeated and confirmed that additional information is necessary in the LTR, Holtec reiterated they would be reluctant to provide any additional information and requested that the NRC staff proceed with developing limitations and conditions instead.

Regarding next steps, the NRC staff stated that it would be continuing with the audit. Additionally, the NRC staff would consider the viability of working on developing a set of potential limitations and conditions that could be discussed with Holtec to provide better insight on what should be added to the LTR to facilitate completing the review of the LTR and preparing an SER. The possible development of the limitations and conditions will be coordinated between the NRC reactor systems, mechanical engineering, and materials groups; and will be discussed with NRC management before being presented to Holtec. Discussions between the NRC staff and Holtec regarding the next steps are ongoing.

The meeting was adjourned.