



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

August 6, 2021

MEMORANDUM TO: Christopher Regan, Deputy Director  
Division of Fuel Management  
Office of Nuclear Material Safety  
and Safeguards

THRU: Francis Paul Peduzzi, Chief *Earl Love*  
Inspection and Oversight Branch  
Division of Fuel Management  
Office of Nuclear Material Safety  
and Safeguards

FROM: Tomeka Terry, Project Manager *Tomeka Terry*  
Inspection and Oversight Branch  
Division of Fuel Management  
Office of Nuclear Material Safety  
and Safeguards

SUBJECT: SUMMARY OF THE JULY 7, 2021, PUBLIC MEETING  
WEBINAR RELATED TO EXTREME ENVIRONMENTAL  
PHENOMENA DURING SHORT TERM OPERATIONS WITHIN  
10 CFR PART 72 JURISDICTION

On July 7, 2021, the staff of the U.S. Nuclear Regulation Commission (NRC) conducted a virtual public meeting webinar with representatives from Holtec International (Holtec), the nuclear industry, and members of the public. The purpose of this meeting was to discuss in greater context a letter Holtec submitted to the NRC on May 12, 2021. The Holtec letter requested the NRC to provide clarification on the consideration of extreme environmental phenomena (EEP) related to tornado missile protection, during short-term operations and transient loading operations during a dry cask storage loading campaign. The Holtec letter, public meeting notice and agenda topics are available in the Agencywide Documents Access and Management System (ADAMS) under Accession Nos. ML21132A298 and ML21188A203, respectively. The enclosure to this document contains the webinar attendance list. Additionally, there were no regulatory decisions or commitments made by the NRC staff during the meeting.

During the public meeting webinar, Holtec presented an overview of their position regarding the treatment of a EEP for transient or transitional evolutions that occur during short-term operations. The NRC staff followed with a presentation on the existing regulations and guidance documents regarding EEP specific to tornado missile protection. Both presentations are available in ADAMS under Accession Nos. ML21188A044 and ML21188A047, respectively.

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## Discussion

The webinar promoted an open dialogue with representatives from Holtec, the nuclear industry, and members of the public. There were over 100 participants including the NRC staff. As discussed and presented in the Holtec presentation, Holtec wanted to use a probabilistic assessment or risk-informed approach to meet their design basis and wanted to consider the probability of tornado wind, pressure, and missile accidents during short term operations to be non-credible. Additionally, Holtec wanted to utilize administrative controls such as checking the weather and historical meteorological data to manage and reduce the risk of these events prior to conducting these short term operations to avoid environmental phenomena impacts without the need to explicitly analyze the transitional evolutions as designated in the regulations. The NRC staff asked clarifying questions, provided its perspective, and indicated that the staff will continue to review and discuss internally to determine a path forward.

During the NRC's staff presentation, the staff presented the existing regulatory requirements and guidance documents such as the General Design Criteria captured in Title 10 of the *Code of Federal Regulations* (CFR) 72.122(b), "Protection against environmental conditions and natural phenomena," and the NUREG 2215, "Standard Review Plan for Spent Fuel Dry Storage Systems and Facilities", which provides the requirements and guidance for licensees and certificate of compliance holders. The NRC noted that the information provided in those documents establish that important-to-safety components shall and should always be protected and does not distinguish between what is considered a short-term operation.

Holtec is seeking alignment from the NRC on the need for guidelines on transient configurations. The NRC staff acknowledged the request from Holtec and industry representatives. The NRC also asked if industry would be proactive in recommending a solution and establishing a clear problem statement and overall expectations. The Holtec Users Group committed to initiating a follow-up discussion with Holtec and to provide a response to clarify what the industry is asking.

The NRC Senior Level Advisor for Risk Assessment apprised Holtec that design basis analysis is used to bound consequences of an event. In the case of tornado missiles being generated, industry must recognize at lower magnitudes tornadoes, there's a higher frequency in generating tornado missiles that needs to be considered. As such, the consequence versus frequency needs to be bounded.

The NRC doesn't consider current industry practice as a means for holding up a loading campaign because of a lack of clarity on this issue. The current regulatory framework is sufficient to allow for a loading campaign to move forward.

## Action Items/Next Steps

The NRC staff recognizes that the existing regulatory requirements and guidance within 10 CFR Part 72 do not account for the treatment of an EEP during transient or transitional evolution that occur in course of short-term operations. The use of a probabilistic risk or risk-informed approach as a standalone basis combined with administrative controls without a licensing action could result in uncertainty for meeting regulatory requirements. The NRC staff will assess the industry's concerns to determine a path forward.

The meeting also provided members of the public the opportunity to ask questions and provide comments to the NRC staff. The NRC staff received two comments from the public and responded to the comments for noticing the public meeting.

Enclosure:

List of Attendees

SUBJECT: SUMMARY OF THE JULY 7, 2021, PUBLIC MEETING WEBINAR  
RELATED TO EXTREME ENVIRONMENTAL PHENOMENA DURING  
SHORT TERM OPERATIONS WITHIN 10 CFR PART 72  
JURISDICTION

DATE: August 6, 2021

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**ADAMS Accession No.: ML21218A073**

**\* via email**

<b>OFFICE</b>	DFM	DFM	DFM	DFM
<b>NAME</b>	TTerry*	WWheatley*	ELove*	Earl Love for/ PPeduzzi*
<b>DATE</b>	08/05/2021	08/05/2021	08/06/2021	08/06/2021

**OFFICIAL RECORD COPY**

LIST OF ATTENDEES

JULY 7, 2021, PUBLIC MEETING  
REGARDING EXTREME ENVIRONMENTAL PHENOMENA DURING SHORT TERM  
OPERATIONS WITHIN 10 CFR PART 72 JURISDICTION

<b>Name</b>	<b>Affiliation</b>
Shana Helton	Nuclear Regulation Commission (NRC)
Chris Regan	NRC
Yaira Diaz Sanabria	NRC
Earl Love	NRC
Marlone Davis	NRC
Matt Learn	NRC
Tom Boyce	NRC
John McKirgan	NRC
Tomeka Terry	NRC
Donnie Harrison	NRC
Ray Kellar	NRC
Pravin Patel	NRC
Ricardo Rodriguez	NRC
Stefan Anton	Holtec International (Holtec)
Kim Manzione	Holtec
Chuck Bullard	Holtec
Matt Block	Holtec
Debu Mitra-Majumdar	Holtec
Brian DiPaolo	Holtec
Venkat Prabhala	Holtec
Rob Tindal	Holtec
Brian Gutherman	Gutherman Technical Service, LLC
Don Shaw	Orano TN
Zachary Kitts	Tennessee Valley Authority
Mark Oswald	STP Nuclear Operating Company
Richard Hagler	Pacific Gas & Electric Company
Doug Yate	
Abhijit Honrao	Exelon Nuclear
Abbas Abady	Exelon Nuclear
Benjamin Day	Exelon Nuclear
George Budock	Exelon Nuclear
Michael Cazzolli	Exelon Nuclear
Glenn Stewart	Exelon Nuclear
anonymous callers*	

\*Not all meeting attendees were identified by name, in some cases the only identifying information available was a phone number.