



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

July 21, 2022

MEMORANDUM TO: William Kennedy, Acting Chief  
Advanced Reactor Licensing Branch 1  
Division of Advanced Reactors and Non-Power  
Production and Utilization Facilities  
Office of Nuclear Reactor Regulation

FROM: Mallecia Sutton, Senior Project Manager *Mallecia Sutton* Signed by Sutton, Mallecia  
Advanced Reactor Licensing Branch 1 on 07/21/22  
Division of Advanced Reactors and Non-Power  
Production and Utilization Facilities  
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF THE MARCH 24, 2022, PRE-APPLICATION  
PUBLIC MEETING BETWEEN TERRAPOWER, LLC AND THE U.S.  
NUCLEAR REGULATORY COMMISSION STAFF TO DISCUSS  
THE NATRIUM REACTOR FUNCTIONAL CONTAINMENT  
(EPID NO.: L-2021-LRM-0071)

On March 24, 2022, the U.S. Nuclear Regulatory Commission (NRC) staff held an observation public meeting with TerraPower, LLC (TerraPower) to provide the NRC staff with an overview of the Natrium Advanced Reactor Functional Containment Strategy, including the barriers that serve to prevent and mitigate the transport of radionuclides to the environment. The public meeting notice, dated February 17, 2022, can be found in the NRC's Agencywide Documents Access and Management System (ADAMS) under Accession No. ML22082A121. The presentation slides, presented by TerraPower, for the open portion of this meeting are available in ADAMS (ML22165A324). The redacted presentation slides, presented by TerraPower, for the closed portion of this meeting are also available in ADAMS at ML22080A256 (non-public). Participants included personnel from TerraPower, General Electric Hitachi, Bechtel, PacifiCorp, and members of the public. The enclosure to this memorandum provides the list of meeting attendees.

The NRC staff began the public meeting with an introduction and explanation of logistical information. The NRC staff explained that the meeting was an observation meeting and that TerraPower representatives would provide the NRC staff with an overview of the Natrium Advanced Reactor Functional Containment Strategy, including the barriers that serve to prevent and mitigate the transport of radionuclides to the environment. The NRC staff also explained that a portion of the meeting would be closed to the public to discuss proprietary information. During the public portion of the meeting, TerraPower provided an overview of the Natrium Reactor design, the U.S. Department of Energy's Advanced Reactor Demonstration Program, historical background information regarding functional containment and the Natrium Strategy,

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the application of methodology described in SECY-18-0096, "Functional Containment Performance Criteria for Non-Light-Water-Reactors," for the Natrium Design, and the functional containment analysis and source term methodology. At the end of the presentation, the public had an opportunity to ask questions of the NRC staff.

During the closed portion of the meeting, TerraPower representatives and the NRC staff discussed key elements of the Natrium Functional Containment, the scope of functional containment analysis in source term methodology, proposed performance criteria for the Natrium Functional Containment, examples of planned barriers and system boundaries, additional considerations regarding aspects such as the treatment of barriers, and the next steps for future interactions regarding the Natrium Reactor design.

Project No.: 99902100

Enclosure:  
List of Attendees

SUBJECT: SUMMARY OF THE MARCH 24, 2022, PRE-APPLICATION PUBLIC MEETING  
BETWEEN TERRAPOWER, LLC AND THE U.S. NUCLEAR REGULATORY  
COMMISSION STAFF TO DISCUSS THE NATRIUM REACTOR FUNCTIONAL  
CONTAINMENT (EPID NO.: EPID-L-2021-LRM-0071)  
DATED: JULY 21, 2022

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WKennedy, NRR

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<b>OFFICE</b>	NRR/DANU/UAL1:PM	NRR/DANU/UAL1:PM	NRR/DANU/UAL1:LA
<b>NAME</b>	KWagner	MSutton	CSmith
<b>DATE</b>	6/29/2022	7/7/2022	07/20/2022
<b>OFFICE</b>	NRR/DANU/UAL1:BC(A)	NRR/DANU/UAL1:PM	
<b>NAME</b>	WKennedy	MSutton	
<b>DATE</b>	7/20/2022	7/21/2022	

**OFFICIAL RECORD COPY**

## List of Attendees

### Pre-Application Public Meeting between TerraPower and the NRC Staff to Discuss the Sodium Reactor Functional Containment

Thursday, March 24, 2022  
1:00 p.m. – 3:00 p.m.

<u>Name</u>	<u>Organization</u>
Mallecia Sutton	U.S. Nuclear Regulatory Commission (NRC)
William Kennedy	NRC
Katherine Wagner	NRC
Michelle Hart	NRC
Alex Siwy	NRC
William Reckley	NRC
George Wilson	TerraPower, LLC (TerraPower)
Tara Neider	TerraPower
Chris Forrest	TerraPower
Eric Williams	TerraPower
Ian Gifford	TerraPower
Jesse Cheatham	TerraPower
Jong Chang	TerraPower
Nick Kellenberger	TerraPower
Moonkyu Hwang	TerraPower
Mike Montecalvo	TerraPower
Ryan Sprengel	TerraPower
Benoit Dionne	TerraPower
Brian Johnson	TerraPower
Hongbin Zhang	TerraPower
Bryan Evers	TerraPower
Lisa Schichlein	General Electric Hitachi (GEH)
George Honma	GEH
Shane Gardner	GEH
Chris Robinson	GEH
Scott Ingalls	GEH
Steven Kline	Bechtel
Chuck Tack	PacifiCorp
John Pfabe	Public Citizen
Adam Stein	Public Citizen
Jana Bergman	Public Citizen

Enclosure

<u>Name</u>	<u>Organization</u>
Dominik Muszynski	Public Citizen
Don White	Public Citizen
Frank Hope	Public Citizen
Kalene Walker	Public Citizen
Lisa Matis	Public Citizen
Sarah Fields	Public Citizen
Steven Pope	Public Citizen
Steven Wessels	Public Citizen
Esther Wagner	Public Citizen