



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

April 11, 2022

MEMORANDUM TO: William B. 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 A. Sutton, Senior Project Manager *Mallecia Sutton* Signed by Sutton, Mallecia
Advanced Reactor Licensing Branch 1 on 04/11/22
Division of Advanced Reactors and Non-Power
Production and Utilization Facilities
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF JANUARY 13, 2022, PRE-APPLICATION PUBLIC
MEETING WITH TERRAPOWER, LLC TO DISCUSS THE SOURCE
TERM METHODOLOGY PLANS FOR THE NATRIUM REACTOR
(EPID NO. L-2021-LRM-0071)

On January 13, 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 radionuclide transport methodology upon release from the fuel of the Natrium Reactor. The public meeting notice, dated December 15, 2021, can be found in the NRC's Agencywide Documents Access and Management System (ADAMS) at Accession No. ML22012A276. The presentation slides can be found in ADAMS at Accession No. ML22011A072. Participants included personnel from the NRC staff, TerraPower, General Electric Hitachi, Bechtel, PacifiCorp, Duke Energy, 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 radionuclide transport methodology upon release from the fuel for the Natrium Reactor. The NRC staff also explained that a portion of the meeting would be closed to the public. During the public portion of the meeting, TerraPower provided an overview of the Natrium Reactor design, the U.S. Department of Energy Advanced Reactor Demonstration Program, the source term development process, Natrium Design and source terms, and development of Natrium source term methods. The Natrium Design and source terms portion of the presentation discussed the Natrium Design safety features, radionuclide retention properties, sodium pool scrubbing phenomena, and aerosol dynamics. At the end of the presentation, the public had an opportunity to ask questions of the NRC staff.

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During the closed portion of the meeting, TerraPower representatives and the NRC staff continued to discuss, in more detail, the source term development process and development of Sodium source term methods, and the next steps for future interactions regarding the Sodium Reactor design.

Project No. 99902100

Enclosure:
As stated

SUBJECT: SUMMARY OF JANUARY 13, 2022, PRE-APPLICATION PUBLIC MEETING WITH TERRAPOWER, LLC TO DISCUSS THE SOURCE TERM METHODOLOGY PLANS FOR THE NATRIUM REACTOR (EPID NO. L-2021-LRM-0071) DATED: APRIL 11, 2022

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DGreene,NRR

CSmith, NRR

ACHereskin, NRR

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CDeMessieres, NRR

MSpencer, OGC

THathaway, RES

ADAMS Accession No.: ML22082A234

NRR-106

OFFICE	NRR/DANU/UAL1/PM	NRR/DANU/UAL1/PM	NRR/DANU/UAL1/LA
NAME	KWagner	MSutton	DGreene
DATE	03/30/2022	03/30/2022	03/31/2022
OFFICE	NRR/DANU/UAL1/BC(A)	NRR/DANU/UAL1/PM	
NAME	WKennedy	MSutton	
DATE	04/6/2022	04/11/2022	

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List of Attendees

Public Meeting with TerraPower, LLC to Discuss the Source Term

Methodology Plans for the Sodium Reactor

Thursday, January 13, 2022

1:00 p.m. – 3:00 p.m.

Name	Organization
Mallecia Sutton	U.S. Nuclear Regulatory Commission (NRC)
William Kennedy	NRC
Candace De Messieres	NRC
Katherine Wagner	NRC
Alexander Chereskin	NRC
Michelle Hart	NRC
Alex Siwy	NRC
Trey Hathaway	NRC
Michael Spencer	NRC
Ryan Sprengel	TerraPower, LLC (TerraPower)
Ian Gifford	TerraPower
Bryan Evers	TerraPower
Mike Montecalvo	TerraPower
Jong Chang	TerraPower
Matthew Mareka	TerraPower
Brian Johnson	TerraPower
Mark Werner	TerraPower
JH Choi	TerraPower
Moonkyu Hwang	TerraPower
Hongbin Zhang	TerraPower
Christopher Forrest	TerraPower
Benoit Dionne	TerraPower
Eric Williams	TerraPower
John Biersdorf	TerraPower
Lisa Schichlein	General Electric Hitachi
Alice Carson	Bechtel
Steven Kline	Bechtel
Chuck Tack	PacifiCorp
Lee Grzeck	Duke Energy
Alex Markivich	Public Citizen
Bill Kohlroser	Public Citizen
Brian Mount	Public Citizen
Ryan Lighty	Public Citizen

Enclosure

Name	Organization
Christopher Salz	Public Citizen
Chet Sigmon	Public Citizen
Sola Talabi	Public Citizen
Steve Vaughn	Public Citizen
Steven Pope	Public Citizen
Edith Williams	Public Citizen
Michael Wilt	Public Citizen
Jana Bergman	Public Citizen
Brandon Hartle	Public Citizen
Charlotte Geiger	Public Citizen
Christopher Courtenay	Public Citizen
Nick Emme	Public Citizen
Ingrid Nordby	Public Citizen
John Pfabe	Public Citizen
Keeshia Goodenough	Public Citizen
Michelle Byman	Public Citizen
Nicole Schlichting	Public Citizen
Raymond Wang	Public Citizen