



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

January 3, 2024

MEMORANDUM TO: William T. Jessup, Chief
Advanced Reactor Licensing Branch 1
Division of Advanced Reactors and Non-power
Production and Utilization Facilities
Office of Nuclear Reactor Regulation

FROM: Roel A. Brusselmans, Project Manager /RA/
Advanced Reactor Licensing Branch 1
Division of Advanced Reactors and Non-power
Production and Utilization Facilities
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF THE JUNE 6, 2023, PARTIALLY CLOSED
MEETING WITH TERRAPOWDER, LLC TO DISCUSS CORE
THERMAL HYDRAULIC METHODS (EPID NO. L-2021-LRM-
0071)

Meeting Information:

Applicant: TerraPower, LLC (TerraPower)

Project No.: 99902100

Public Meeting Notice Agencywide Documents Access and Management System (ADAMS)
Accession No.: ML23142A293

Applicant Presentation Slides ADAMS Accession No.: ML23146A113

Meeting Attendees: See the enclosure for a list of meeting attendees.

CONTACT: Roel Brusselmans, NRR/DANU
(301) 415-0829

Meeting Summary:

On June 6, 2023, the U.S. Nuclear Regulatory Commission (NRC) staff held a partially closed public meeting with TerraPower to provide the NRC staff with an overview of the core thermal hydraulic methods for the Natrium sodium fast reactor design. This meeting was held in conjunction with the NRC staff's review of a TerraPower white paper covering the same subject matter (ML23080A013). Participants included representatives from TerraPower, General Electric Hitachi, Bechtel, and members of the general public. The NRC staff conducted the meeting in accordance with NRC Management Directive 3.5, "Attendance at NRC Staff-Sponsored Meetings" (ML21180A271).

The NRC staff began the public meeting with introductions and explained that a portion of the meeting was closed due to proprietary information. During the public portion, TerraPower representatives provided an overview of the Natrium design, introduced the Core Thermal Hydraulics Group, presented the codes selected and developed to date, and shared the validation plans for the codes and methods.

During the closed portion of the meeting, TerraPower discussed the Natrium core thermal hydraulic design summary, core cooling hydraulics methodology, computational fluid dynamics assembly methodology, core thermal analysis methodology, and core thermal hydraulic testing plan.

The NRC staff and TerraPower representatives discussed the next steps for future interactions regarding the Natrium reactor design.

No regulatory decisions were made as a result of this meeting.

Enclosure: List of Meeting Attendees

cc: TerraPower Natrium via GovDelivery

SUBJECT: SUMMARY OF JUNE 6, 2023, PARTIALLY CLOSED PRE-APPLICATION MEETING WITH TERRAPOWER, LLC TO DISCUSS CORE THERMAL HYDRAULIC METHODS (EPID NO. L-2021-LRM-0071) DATED: JANUARY 3, 2024

DISTRIBUTION:

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ADAMS Accession Number: [ML24009A191]

NRR-001

OFFICE	NRR/DANU/UAL1:PM	NRR/DANU/UAL1:PM	NRR/DANU/UAL1:LA	NRR/DANU/UAL1:BC
NAME	RBrusselmans	MSutton	DGreene	WJessup
DATE	10/27/2023	11/1/2023	11/2/2023	12/22/2023
OFFICE	NRR/DANU/UAL1:PM			
NAME	RBrusselmans			
DATE	1/3/2024			

OFFICIAL RECORD COPY

List of Meeting Attendees
SUMMARY OF JUNE 6, 2023, PARTIALLY CLOSED PRE-APPLICATION MEETING
WITH TERRAPOWER, LLC TO DISCUSS CORE THERMAL HYDRAULIC METHODS
(EPID NO. L-2021-LRM-0071)

June 6, 2023

Name	Organization
Mallecia Sutton	U.S. Nuclear Regulatory Commission (NRC)
Courtney Banks	NRC
Tarek Zaki	NRC
Raymond Skarda	NRC
Kenneth Armstrong	NRC
Jason Thompson	NRC
Andrew Bielen	NRC
Andrew Proffitt	NRC
Reed Anzalone	NRC
Roel Brusselmans	NRC
Marc Hotchkiss	TerraPower, LLC (TerraPower)
Francesco Deleo	TerraPower
Hugh Luo	TerraPower
Ian Gifford	TerraPower
Jacob Hader	TerraPower
Joshua Chen	TerraPower
Matthew Presson	TerraPower
Mike Johnson	TerraPower
Mike Montecalvo	TerraPower
Nick Kellenberger	TerraPower
Raymond Skarda	TerraPower
Ryan Sprengel	TerraPower
Steven Kline	Bechtel
Timothy Enfinger	General Electric Hitachi