



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

September 11, 2023

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

Mallecia Sutton

Signed by Sutton, Mallecia
on 09/11/23

SUBJECT: SUMMARY OF THE APRIL 25, 2023, PARTIALLY CLOSED PRE-APPLICATION MEETING WITH TERRAPOWER, LLC TO DISCUSS THE USE OF THE SAFETY ANALYSIS CODE SYSTEM (EPID NO. L-2021-LRM-0071)

Meeting Information:

Applicant: TerraPower, LLC

Project No.: 99902100

Public Meeting Notice Agencywide Documents Access and Management System (ADAMS)
Accession No.: ML23109A339

Applicant Presentation Slides ADAMS Accession No.: ML23104A079

Meeting Summary:

The U.S. Nuclear Regulatory Commission (NRC) staff conducted the meeting in accordance with NRC Management Directive 3.5, "Attendance at NRC Staff-Sponsored Meetings" (ADAMS Accession No. ML21180A271). Key aspects of the meeting included the following:

- On April 25, 2023, the U.S. Nuclear Regulatory Commission (NRC) staff held a partially closed public meeting with TerraPower, LLC (TerraPower) where TerraPower provided the NRC staff with an overview of the SAS4A/SASSYS-1 safety analysis code system (SAS) as its used in the design of the Sodium sodium-cooled reactor. Participants included representatives from TerraPower, Argonne National Lab, and General Electric Hitachi.
- The NRC staff began the public meeting with an introduction and 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 discussed the background and history of the code, code documentation, structures, models and correlation, software quality assurance, and code benchmarks.

- During the closed portion of the meeting, TerraPower representatives presented on topics including software quality pedigree and commercial grade dedication, code assessment base, and code capabilities and documentation for the Natrium design. TerraPower also discussed the discretization of the Natrium reactor systems and provided sample results for representative transients.
- The NRC staff and TerraPower representatives discussed the next steps for future interactions regarding the Natrium reactor design.

CONTACT: Mallecia Sutton, NRR/DANU
(301) 415-0673

Enclosure:
List of Meeting Attendee

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DATED: SEPTEMBER 11, 2023

DISTRIBUTION:

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RBrusselmans, NRR

CBanks, NRR

MSutton, NRR

WJessup, NRR

ADAMS Accession Number: [ML#####]**NRC-001**

OFFICE	NRR/DANU/UAL1:PM	NRR/DANU/UAL1:PM	NRR/DANU/UAL1:BC	NRR/DANU/UAL1:PM
NAME	CBanks	MSutton	WJessup	MSutton
DATE	8/14/2023	8/14/2023	8/30/2023	9/11/2023

OFFICIAL RECORD COPY

List of Meeting Attendees

Partially Closed Pre-Application Meeting with TerraPower, LLC

To Discuss the Use of the SAS Code

April 25, 2023

Name	Organization
Mallecia Sutton	U.S. Nuclear Regulatory Commission (NRC)
Reed Anzalone	NRC
Alex Siwy	NRC
Michelle Hart	NRC
Andrew Proffitt	NRC
Courtney Banks	NRC
Candance de Messieres	NRC
Hahn Phan	NRC
Jason Schaperow	NRC
Hossein Esmaili	NRC
Ryan Sprengel	TerraPower LLC, (TerraPower)
Mike Montecalvo	TerraPower
Hugh Luo	TerraPower
Michal Pawluczyk	TerraPower
Jong Chang	TerraPower
Matthew Presson	TerraPower
Nick Kellenberger	TerraPower
Nicholas Powell	TerraPower
Brian Johnson	TerraPower
Emily Young	TerraPower
Dan O'Grady	Argonne National Lab (ANL)
Kacie Brunett	ANL
Tyler Sumner	ANL
Acacia Brunett	ANL
Lisa Schichlein	General Electric Hitachi

Enclosure