August 17, 2023 Docket No. 052-050

U.S. Nuclear Regulatory Commission
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Rockville, MD 20852-2738

SUBJECT: NuScale Power, LLC Submittal of Presentation Materials Entitled "US460 Fuel Storage Rack Topical Report, TR-145417-P," PM-148609 Revision 0 (Open Session)

NuScale Power, LLC (NuScale) has requested a meeting with the NRC technical staff on August 22, 2023, to discuss the US460 Fuel Storage Rack Topical Report.

The purpose of this letter is to provide the presentation material to the NRC in support of the pre-application meeting.

The enclosure to this letter is the nonproprietary presentation for the open session entitled "US460 Fuel Storage Rack Topical Report."

This letter makes no regulatory commitments and no revisions to any existing regulatory commitments.

If you have any questions, please contact Wren Fowler at 541-452-7183 or at sfowler@nuscalepower.com.

Sincerely,

Carrie Fosaaen
Vice President, Regulatory Affairs
NuScale Power, LLC

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Enclosure: "US460 Fuel Storage Rack Topical Report, TR-145417-P," PM-148609 Revision 0 (Open Session)

Enclosure:

"US460 Fuel Storage Rack Topical Report, TR-145417-P," PM-148609 Revision 0 (Open Session)

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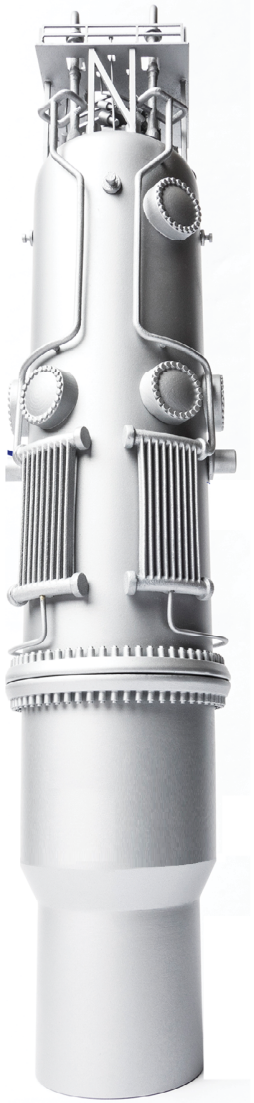

SDAA Pre-Application Presentation

US460 Fuel Storage Rack Topical Report, TR-145417-P

August 2023

Open Session

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Acknowledgement and Disclaimer

This material is based upon work supported by the Department of Energy under Award Number DE-NE0008928.

Agenda

- Open Session
  - Purpose
  - Background
  - Topical Report Layout

Purpose

- Conduct pre-application engagement with NRC on upcoming fuel storage rack topical report
- Pre-application interaction promotes acceptance for review of the topical report by ensuring NRC staff understanding of the design, analysis, desired review schedule, and context of the topical report
- Pre-application engagement gives NRC staff opportunity to provide feedback on content and approach

Background

- Describes the design and analysis of the fuel storage racks (FSRs) for US460 NuScale Power Module (NPM)

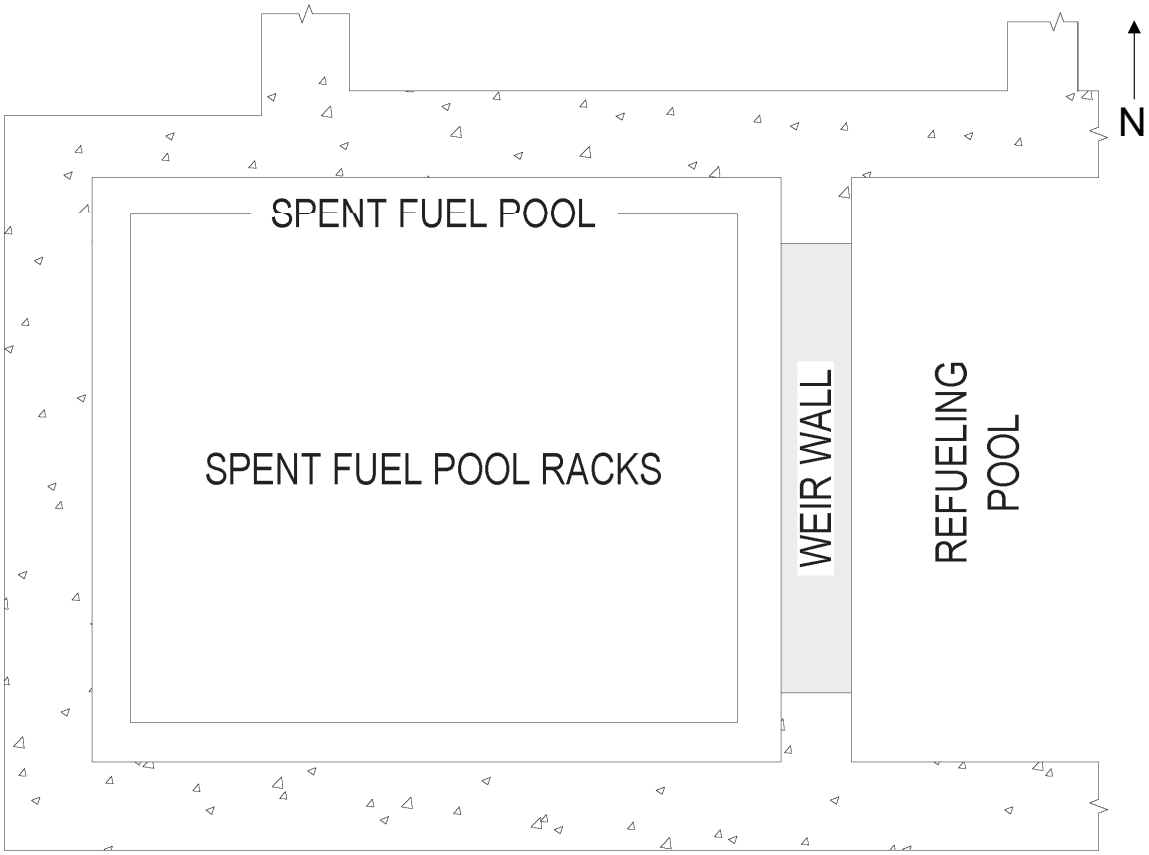
- US460 Standard Design Approval Application (SDAA)
  - Final Safety Analysis Report (FSAR) Section 3.8 references Section 9.1 for FSR
  - Section 9.1.2
    - Provides high-level description of fuel storage
    - COL Item 9.1-2: “An applicant that references the NuScale Power Plant US460 standard design will provide the design of the spent fuel pool storage racks, including the structural dynamic and stress analyses, thermal hydraulic cooling analyses, criticality safety analysis, and material compatibility evaluation.”

- TR-145417-P provides the content to address the requirements of COL Item 9.1-2

- Topical report generically available for reference by COL applicants

Topical Report Layout

- Introduction
- Background
- Design Description
- Structural Analysis
- Thermal Hydraulic Analysis
- Materials Assessment
- Criticality Analysis
- Manufacturing, Operation, and Maintenance
- Summary and Conclusions



Questions?

Acronyms

ASME	American Society of Mechanical Engineers
COLA	Combined Operating License Application
DCA	Design Certification Application
DSRS	design specific review standard
FSAR	Final Safety Analysis Report
FSR	fuel storage rack
NEI	Nuclear Energy Institute
NPM	NuScale Power Module
SDAA	Standard Design Approval Application
SFP	spent fuel pool
SRP	standard review plan
US460	NPM design with 250 MWt per module
US600	NPM design with 160 MWt per module