

June 10, 2022

Docket No. 99902078

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

SUBJECT: NuScale Power, LLC Submittal of Presentation Materials Entitled "US460 Design and SDAA Overview," PM-119782, Revision 0 (Open Session)

NuScale Power, LLC (NuScale) has requested a meeting with the NRC technical staff on June 15, 2022, to discuss US460 Design and SDAA Overview.

The purpose of this submittal is to provide presentation materials to the NRC for use during this meeting.

The enclosure to this letter is the nonproprietary version of the presentation entitled "US460 Design and SDAA Overview."

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

If you have any questions, please contact Mark W. Shaver at 541-360-0630 or at mshaver@nuscalepower.com.

Sincerely,



Mark W. Shaver
Manager, Licensing
NuScale Power, LLC

Distribution: Michael Dudek, NRC
Getachew Tesfaye, NRC
Bruce Baval, NRC

Enclosure: "US460 Design and SDAA Overview," PM-119782, Revision 0 (Open Session)

Enclosure 1:

“US460 Design and SDAA Overview,” PM-119782, Revision 0 (Open Session)

NuScale Nonproprietary



US460 Design and SDA A Overview

NRC Presentation
June 15, 2022

Mark W. Shaver
Licensing Manager - SDA
Kristopher Cummings
Licensing Engineer V

Acknowledgement and Disclaimer

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

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Agenda – Open Portion

- SDAA Content
- SDA Review

PM-119762 Rev. 0
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Why we are here and how did we get here?

- The SDA submittal is an engineering optimization of the NuScale DCA to allow for better customer use and deployment. The SDA maintains the approved technical and licensing basis from the DCA while maintaining the overall safety and risk profile.

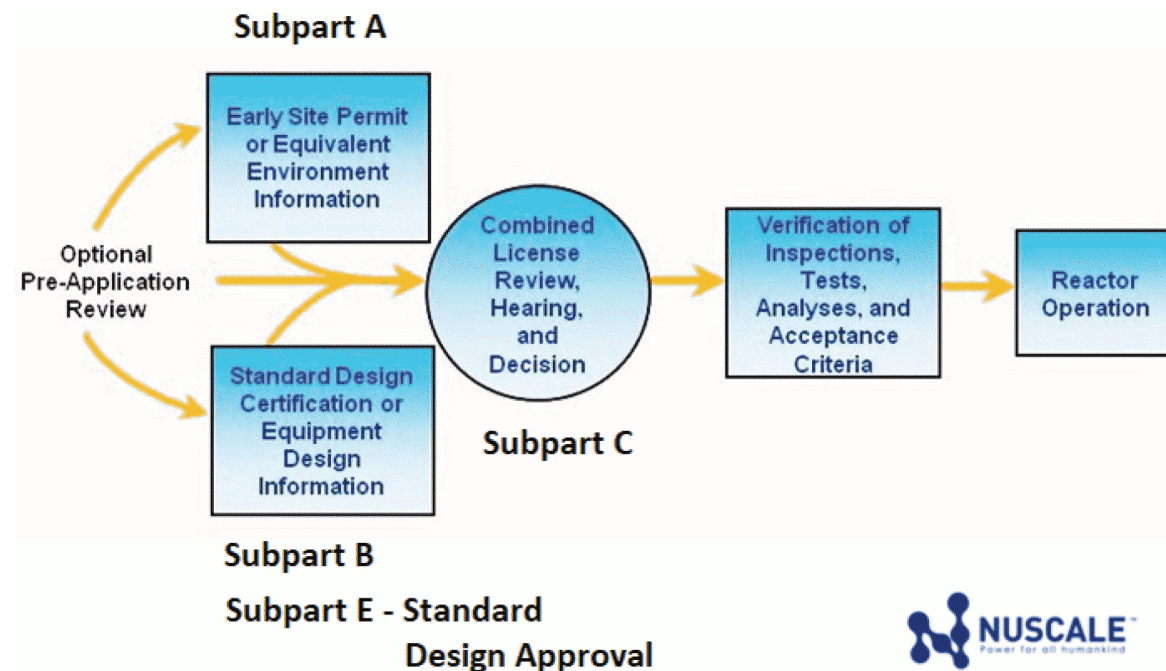
High Level Design Changes

- Redesigned site layout to accommodate a 6 NPM configuration
- NPM optimized for increased power output; ease of maintenance, manufacturing and operation while maintaining safety margins:
 - Steam generator was over designed for 160MWth application (DCA) and allows for increased power output while maintaining design limits
 - Additional testing is being completed to validate performance of NPM engineered safety features at new power level
 - Additional engineered safety features added to eliminate certain events and simplify Chapter 15 analysis
- Current evaluation of SDA design changes does not significantly alter the DCA PRA risk insights.

Standard Design Approval (SDA) Application Content

10 CFR Part 52 Process and SDA Strategy

- For the VOYGR-6 product (US460 design), NuScale has chosen to pursue Part 52 through a complete, stand-alone Standard Design Approval Application (SDAA) followed by a Combined License Application (COLA).
- The SDAA will:
 - Utilize approved DCA Revision 5 Tier 2 FSAR information as foundation
 - Update content for design changes
 - Address DCA carve-outs
 - Optimize content, focusing on safety and risk-significance



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SDA Application Content

APPLICATION PART	DESIGN CERTIFICATION (10 CFR 52 subpart B)	SDAA – Required by Regulation (10 CFR 52 subpart E)	SDAA – Needed to Support COL	Include as Part of SDAA Submittal
Transmittal Letter	Yes	Yes	N/A	Yes
Part 1: General and Financial Information	(financial info. Not required)	(financial info. Not required)	N/A	Yes
Part 2: Safety Analysis Report – Tier 1	Yes	No	No	No
• Ch. 1 – Introduction	Yes	No	No	No
• Ch. 2 – Unit Specific SSCs Design Descriptions and ITAAC	Yes	No	ITAAC Only	ITAAC Only (see Part 08)
• Ch. 3 – Shared SSCs and Non-SSCs Design Descriptions and ITAAC	Yes	No	ITAAC Only	ITAAC Only (see Part 08)
• Ch. 4 – Interface Requirements	Yes	No	No	No
• Ch. 5 – Site Parameters	Yes	No	No	No (in FSAR Ch. 2)
Part 2: Safety Analysis Report – Tier 2	Yes	Yes	Yes	Yes
Part 3: Environmental Report	Yes	No	No	No
Part 4: Technical Specifications	Yes	No	Yes	Yes
Part 5: Emergency Plans	Optional (Limited Scope) Not in NuScale DCA	No	No	No
Part 6: Security Plans	Optional (Limited Scope) Not in NuScale DCA	No	No	No
Part 7: Exemptions, Departures, and Variances	Yes, if Applicable	Yes, if Applicable	N/A	Yes – Exemptions
Part 8: License Conditions; Inspections, Tests, Analyses and Acceptance Criteria	Yes, (ITAAC only) NuScale DCA references Part 2 Tier 1	No	Yes (only ITAAC)	Yes (only ITAAC)
Part 9: Withheld Information	Yes, NuScale DCA provides list of tables and figures	Yes	N/A	Yes
Part 10: Quality Assurance Program Description	Yes, NuScale DCA references separate topical report	Yes	Yes	Yes
Part 11: Supplemental Information (e.g., Limited Work Authorization)	Yes, if applicable None for NuScale DCA	No	No	No

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SDA Application Content (included for COLA)

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• Ch. 4 – Interface Requirements	Yes	No	No	No
• Ch. 5 – Site Parameters	Yes	No	No	No (in FSAR Ch. 2)
Part 2: Safety Analysis Report – Tier 2	Yes	Yes	Yes	Yes
Part 3: Environmental Report	Yes	No	No	No
Part 4: Technical Specifications	Yes	No	Yes	Yes
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Part 6: Security Plans	Optional (Limited Scope) Not in NuScale DCA	No	No	No
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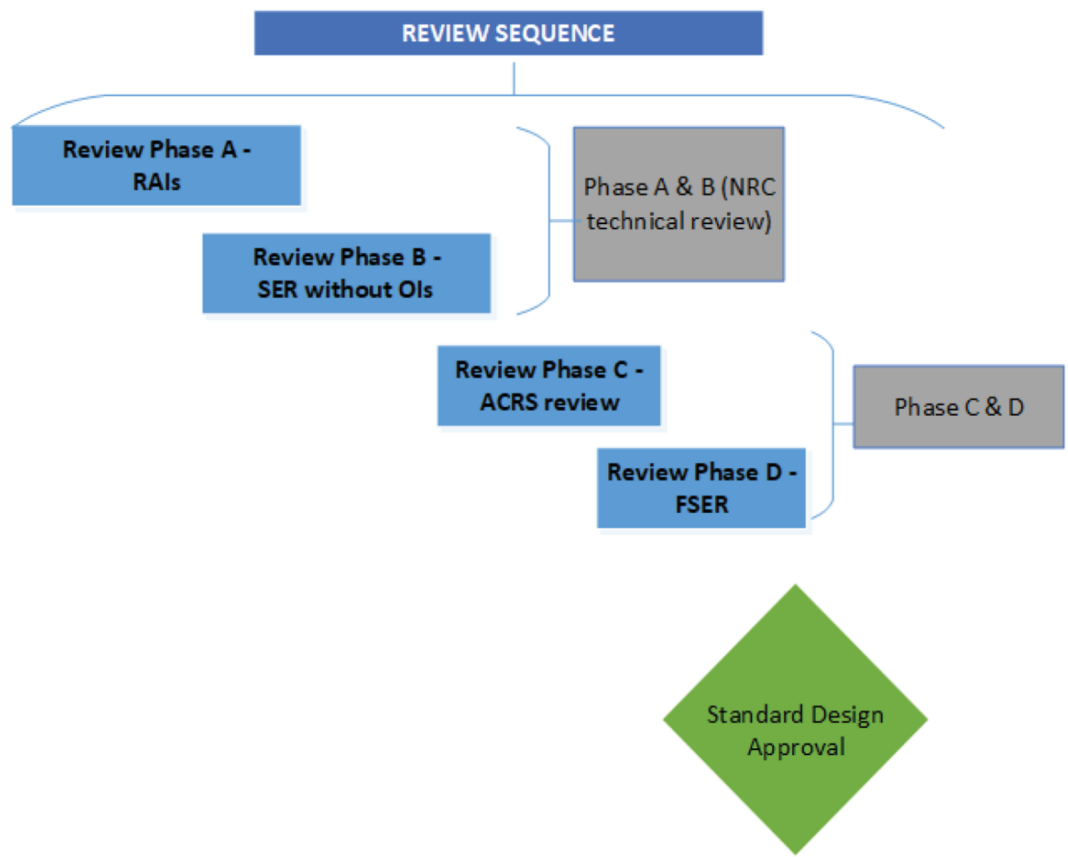
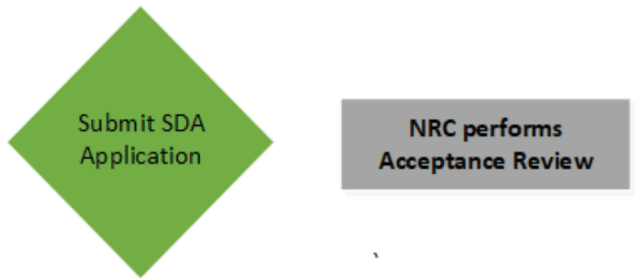
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SDA Application Content (differences from DCA)

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Part 11: Supplemental Information (e.g., Limited Work Authorization)	Yes, if applicable None for NuScale DCA	No	No	No

SDA Review

SDA Review Path



Source: LO-100168 on 4/22/2021