April 06, 2017 Docket: 52-048

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 Response to Request for Additional Information Letter No. 10 for the Review of NuScale Topical Report, TR-0915-17772, "Methodology for Establishing the Technical Basis for Plume Exposure Emergency Planning Zones at NuScale Small Modular Reactor Plant Sites," Revision 0 (NRC Docket No. 52-048).

REFERENCES:

1. Letter from NuScale Power, LLC to U.S. Nuclear Regulatory Commission, "NuScale Power, LLC Submittal of Topical Report TR-0915-17772, "Methodology for Establishing the Technical Basis for Plume Exposure Emergency Planning Zones at NuScale Small Modular Reactor Plant Sites," Revision 0 (NRC Project No. 0769)," dated December 22, 2015 (ML15356A842)

2. Letter from U.S. Nuclear Regulatory Commission to NuScale Power, LLC, "Request for Additional Information Letter No. 10 for the Review of NuScale Topical Report, TR-0915-17772, "Methodology for Establishing the Technical Basis for Plume Exposure Emergency Planning Zones at NuScale Small Modular Reactor Plant Sites," Revision 0 (CAC No. RQ6006)," dated December 6, 2016 (ML16341B236)

In a letter dated December 22, 2015 (Reference 1), NuScale Power, LLC (NuScale) submitted the topical report entitled "Methodology for Establishing the Technical Basis for Plume Exposure Emergency Planning Zones at NuScale Small Modular Reactor Plant Sites," Revision 0. In a letter dated December 6, 2016 (Reference 2), the NRC Staff provided a Request for Additional Information (RAI) regarding the subject of the topical report.

The purpose of this letter is to provide the NuScale response to the NRC RAI.

Enclosure 1 is the proprietary version of the NuScale response to RAI Letter No. 10. NuScale requests that the proprietary version be withheld from public disclosure in accordance with the requirements of 10 CFR § 2.390. The enclosed affidavit (Enclosure 3) supports this request. Enclosure 2 is the nonproprietary version of the NuScale response to RAI Letter No. 10.

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

Please feel free to contact Steve Mirsky at 301-770-0472 or at smirsky@nuscalepower.com if you have any questions.

Sincerely,

Thomas A. Bergman
Vice President, Regulatory Affairs
NuScale Power, LLC

Distribution: Frank Akstulewicz, NRC, TWFN-6C20
Greg Cranston, NRC, TWFN-6E55
Omid Tabatabai, NRC, TWFN- 6E55
Samuel Lee, NRC, TWFN-6C20
Rani Franovich, NRC, TWFN-6E55

Enclosure 1: NuScale Response to NRC Request for Additional Information Letter No. 10 for TR-0915-17772, "Methodology for Establishing the Technical Basis for Plume Exposure Emergency Planning Zones at NuScale Small Modular Reactor Plant Sites," Revision 0, proprietary version
Enclosure 2: NuScale Response to NRC Request for Additional Information Letter No. 10 for TR-0915-17772, "Methodology for Establishing the Technical Basis for Plume Exposure Emergency Planning Zones at NuScale Small Modular Reactor Plant Sites," Revision 0, nonproprietary version
Enclosure 3: Affidavit of Thomas A. Bergman, AF-0317-53305

Enclosure 1:

NuScale Response to NRC Request for Additional Information Letter No. 10 for TR-0915-17772, "Methodology for Establishing the Technical Basis for Plume Exposure Emergency Planning Zones at NuScale Small Modular Reactor Plant Sites," Revision 0, proprietary version

Enclosure 2:

NuScale Response to NRC Request for Additional Information Letter No. 10 for TR-0915-17772, “Methodology for Establishing the Technical Basis for Plume Exposure Emergency Planning Zones at NuScale Small Modular Reactor Plant Sites,” Revision 0, nonproprietary version

NRC RAI Number: 10 NRC RAI Date: December 6, 2016

NRC Review of: Methodology for Establishing the Technical Basis for Plume Exposure Emergency Planning Zones at NuScale Small Modular Reactor Plant Sites, TR-0915-17772, Revision 0.

NRC RAI Question Number: 01.05–26

NRC RAI Question

NuScale Power, LLC has submitted licensing topical report (LTR) TR-0915-17772-P, Revision 0, proprietary version, "Methodology for Establishing the Technical Basis for Plume Exposure Emergency Planning Zones at NuScale Small Modular Reactor Plant Sites," for review by the NRC staff. Statements in Section 3.5 of the topical report indicate that a core damage frequency threshold (1E-08/year) is the sole criterion used to select accident sequences for consideration in the "less probable, more severe" category. However, the structured decision process depicted in Figure 3-2 of the topical report seems to indicate that a necessary, but not sufficient, criterion for including sequences in scenario groups for the category is that a sequence in the scenario includes either containment failure or containment by-pass (first rectangle in the top row of the figure). A frequency threshold for selecting the containment failure or containment by-pass scenarios is not specified. Please provide a clear and complete explanation of the basis for selecting scenarios in the first step of the structured decision process depicted in Figure 3-2, i.e., "Containment Failure Scenario (…) from the PRA", including the criteria used to select scenarios in the first step and update the LTR accordingly. Specifically, provide a clear and complete explanation of what role does core damage frequency play in the selection process and what role does containment failure/by-pass play in the selection process.

Regulatory basis: Emergency planning requirements are codified in 10 CFR 50.47 and 10 CFR Part 50 Appendix E. Specifically, the plume exposure emergency planning zone (EPZ) for power reactors generally consists of an area about 10 miles in radius, or may be determined on a case-by-case basis for reactors with an authorized power level less than 250 megawatts thermal (MWt). The technical basis for the 10-mile plume exposure EPZ is given in NUREG-0396, which was based upon evaluation of the offsite consequences of accidents (both design basis and severe) and comparison of doses to the Environmental Protection Agency (EPA) guidance on when to take emergency response actions. The EPA emergency response actions include sheltering and evacuation as given in the Protective Action Guides (PAGs), or, for very low-probability and high-consequence accidents, demonstration that the probability of exceeding a deterministic effect dose is low and decreasing at the chosen outer boundary of the plume exposure EPZ. There is no specific NRC guidance on how to justify a plume exposure EPZ of a smaller size than given in the cited regulations, including specific guidance on developing the technical basis. The assumptions and approach used on the dose analysis, including the selection of accident sequences on which source terms are based can affect the distance at which predetermined dose levels can be exceeded.

NuScale RAI Question Response

There are currently two main screening concepts contained within Section 3.5. {{

}}$^{2(a),(c)}$

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}}2(a),(c)

For clarity, the proposed method has been refined. A single method is now submitted for screening all internal events. A replacement section in the report markup accompanying this response is submitted that contains all details of the new method. {{

}}2(a),(c)

Sections 3.4 and 3.5 will be removed in their entirety and replaced with a single section, to be a new Section 3.4, based on the content of this response.

Impact of NRC RAI Question Response on TR-0915-17772:

The following revisions will be made to Methodology for Establishing the Technical Basis for Plume Exposure Emergency Planning Zones at NuScale Small Modular Reactor Plant Sites, TR-0915-17772, Revision 0.

Sections 3.4 and 3.5 will be removed in their entirety and replaced with the following single section, to be a new Section 3.4:

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}}2(a),(c)

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}}2(a),(c)

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}}2(a),(c)

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}}2(a),(c)

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}}2(a),(c)

All linkages in the report to Sections 3.4-3.9 will be updated to reflect new numbering. Reference numbers will also be updated. For length considerations, they are not all explicitly stated here.

Attachments:

None

NRC RAI Question Number: 01.05–27

NRC RAI Question

NuScale Power, LLC has submitted licensing topical report (LTR) TR-0915-17772-P), Revision 0, proprietary version, "Methodology for Establishing the Technical Basis for Plume Exposure Emergency Planning Zones at NuScale Small Modular Reactor Plant Sites," for review by the NRC staff. It is stated in Section 3.5 of the topical report that one of the steps in the process of determining accident sequences in the "less probable, more severe" category is the following:

> "Only actions taken in the emergency operating procedures (EOP) are to be credited."

However, it is stated in Section 4.3.3 of the topical report that:

> "In the case of the less probable, more severe accident source term evaluations, however, the impact on source term of multi-module effects and operationally-focused mitigation (i.e., severe accident management guidelines (SAMGs), extensive damage mitigating guidelines (EDMG), and other EPZ-oriented operator mitigation actions in addition to EOPs) will be considered as discussed in Sections 3.5…"

Statements in Section 4.3.3 of the topical report seem to indicate that operationally-focused mitigation measures beyond EOPs are being credited. Please clarify this apparent inconsistency in the description of the method.

Regulatory basis: Emergency planning requirements are codified in 10 CFR 50.47 and 10 CFR Part 50 Appendix E. Specifically, the plume exposure emergency planning zone (EPZ) for power reactors generally consists of an area about 10 miles in radius, or may be determined on a case-by-case basis for reactors with an authorized power level less than 250 megawatts thermal (MWt). The technical basis for the 10-mile plume exposure EPZ is given in NUREG-0396, which was based upon evaluation of the offsite consequences of accidents (both design basis and severe) and comparison of doses to the Environmental Protection Agency (EPA) guidance on when to take emergency response actions. The EPA emergency response actions include sheltering and evacuation as given in the Protective Action Guides (PAGs), or, for very low-probability and high-consequence accidents, demonstration that the probability of exceeding a deterministic effect dose is low and decreasing at the chosen outer boundary of the plume exposure EPZ. There is no specific NRC guidance on how to justify a plume exposure EPZ of a smaller size than given in the cited regulations, including specific guidance on developing the technical basis. The assumptions and approach used on the dose analysis, including the selection of accident sequences on which source terms are based can affect the distance at which predetermined dose levels can be exceeded.

NuScale RAI Question Response

The intent of the two sections is different. {{

}}$^{2(a),(c)}$

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}}[2(a),(c)] The primary cause of the confusion is the reference to Section 3.5 in Section 4.3.3, which will be removed. Section 3.5 has been completely revised as detailed in the response to RAI Question 01.05-26 and the additional information necessary for this response has been incorporated, therefore, no additional revisions beyond the removal of the reference to Section 3.5 in Section 4.3.3 are included in this RAI response.

Impact of NRC RAI Question Response on TR-0915-17772:

The following revisions will be made to Methodology for Establishing the Technical Basis for Plume Exposure Emergency Planning Zones at NuScale Small Modular Reactor Plant Sites, TR-0915-17772, Revision 0.

The third paragraph of Subsection 4.3.3 will be revised to:

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}}2(a),(c)

Attachments:

None

NRC RAI Question Number: 01.05–28

NRC RAI Question

NuScale Power, LLC has submitted licensing topical report (LTR) TR-0915-17772-P), Revision 0, proprietary version, "Methodology for Establishing the Technical Basis for Plume Exposure Emergency Planning Zones at NuScale Small Modular Reactor Plant Sites," for review by the NRC staff. The structured decision process depicted in Figure 3-2 of the topical report includes a qualitative criterion (3RD rectangle in top row of Figure 3-2) and a quantitative criterion (first rectangle in bottom row of Figure), both of which must be met, for screening source terms out of the dose analysis for a given scenario. Please provide a description of the specific criteria for judging adequacy of defense-in-depth and update the LTR accordingly. The example application of the qualitative criterion in Appendix C of the topical report only seems to identify specific design features that apply to the sequence and does not describe how such features, together, provide an adequate level of defense-in-depth. The description of the quantitative criterion in the topical report is not clear. It appears to be a criterion on frequency of scenarios involving core damage plus either containment failure or containment by-pass; but this is speculation on the part of the staff based on the information provided in the topical report. Please provide a clear and complete clarification of the proper interpretation of this criterion and update the LTR accordingly.

Regulatory basis: Emergency planning requirements are codified in 10 CFR 50.47 and 10 CFR Part 50 Appendix E. Specifically, the plume exposure emergency planning zone (EPZ) for power reactors generally consists of an area about 10 miles in radius, or may be determined on a case-by-case basis for reactors with an authorized power level less than 250 megawatts thermal (MWt). The technical basis for the 10-mile plume exposure EPZ is given in NUREG-0396, which was based upon evaluation of the offsite consequences of accidents (both design basis and severe) and comparison of doses to the Environmental Protection Agency (EPA) guidance on when to take emergency response actions. The EPA emergency response actions include sheltering and evacuation as given in the Protective Action Guides (PAGs), or, for very low-probability and high-consequence accidents, demonstration that the probability of exceeding a deterministic effect dose is low and decreasing at the chosen outer boundary of the plume exposure EPZ. There is no specific NRC guidance on how to justify a plume exposure EPZ of a smaller size than given in the cited regulations, including specific guidance on developing the technical basis. The assumptions and approach used on the dose analysis, including the selection of accident sequences on which source terms are based can affect the distance at which predetermined dose levels can be exceeded.

NuScale RAI Question Response

The NRC RAI contains two requests: (1) provide a description of the specific criteria for judging the adequacy of defense-in-depth (top boxes in Figure 3-2); and (2) provide a clear and complete clarification of the proper interpretation of the quantitative criterion on frequency of scenarios (bottom boxes in Figure 3-2).

In the response to RAI Question 01.05-26 part (2) of the question is addressed, a new method to screen accident scenarios is submitted which constitutes a complete revision of Sections 3.4 and 3.5. The existing Figure 3-2 has been removed and is replaced with a new Figure 3-2 flowchart depicting the entire methodology for internal events. {{

}}2(a),(c)

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}}2(a),(c)

Impact of NRC RAI Question Response on TR-0915-17772:

The following revisions will be made to Methodology for Establishing the Technical Basis for Plume Exposure Emergency Planning Zones at NuScale Small Modular Reactor Plant Sites, TR-0915-17772, Revision 0.

A new section as follows will be added to the topical report, numbered as Section 3.5.

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}}2(a),(c)

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}}2(a),(c)

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}}2(a),(c)

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}}2(a),(c)

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}}2(a),(c)

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}}2(a),(c)

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}}2(a),(c)

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}}2(a),(c)

All linkages in the report to Sections 3.5 will be updated to reflect the revised section. Reference numbers will also be updated. For length considerations, they are not all explicitly stated here.

Attachments:

None

NRC RAI Question Number: 01.05–29

NRC RAI Question

NuScale Power, LLC has submitted licensing topical report (LTR) TR-0915-17772-P), Revision 0, proprietary version, "Methodology for Establishing the Technical Basis for Plume Exposure Emergency Planning Zones at NuScale Small Modular Reactor Plant Sites," for review by the NRC staff. Section 3.7.1 of the topical report focuses on multi-module risks associated with shared systems between modules. The *bounding* event for multi-module risk is identified in Section 3.7.1, but a complete and adequate basis for concluding the event bounds all other multi-module events is not provided. Accordingly:

1. Please, briefly describe accident sequences, including significant human errors, that lead to multiple module core damages and releases of radioactivity and the systematic process used to identify them. Please include a qualitative or quantitative assessment of their likelihood and update the LTR accordingly.
2. Please describe the rationale for concluding that the "bounding" multi-module event identified in Section 3.7.1 of the topical report bounds the other events NuScale has described in response to Part 1 of this request for information and update the LTR accordingly.

Regulatory basis: Emergency planning requirements are codified in 10 CFR 50.47 and 10 CFR Part 50 Appendix E. Specifically, the plume exposure emergency planning zone (EPZ) for power reactors generally consists of an area about 10 miles in radius, or may be determined on a case-by-case basis for reactors with an authorized power level less than 250 megawatts thermal (MWt). The technical basis for the 10-mile plume exposure EPZ is given in NUREG-0396, which was based upon evaluation of the offsite consequences of accidents (both design basis and severe) and comparison of doses to the Environmental Protection Agency (EPA) guidance on when to take emergency response actions. The EPA emergency response actions include sheltering and evacuation as given in the Protective Action Guides (PAGs), or, for very low-probability and high-consequence accidents, demonstration that the probability of exceeding a deterministic effect dose is low and decreasing at the chosen outer boundary of the plume exposure EPZ. There is no specific NRC guidance on how to justify a plume exposure EPZ of a smaller size than given in the cited regulations, including specific guidance on developing the technical basis. The assumptions and approach used on the dose analysis, including the selection of accident sequences on which source terms are based can affect the distance at which predetermined dose levels can be exceeded.

NuScale RAI Question Response

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}}2(a),(c)

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}}2(a),(c)

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}}2(a),(c)

Impact of NRC RAI Question Response on TR-0915-17772:

The following revisions will be made to Methodology for Establishing the Technical Basis for Plume Exposure Emergency Planning Zones at NuScale Small Modular Reactor Plant Sites, TR-0915-17772, Revision 0.

Section 3.7 has been completely replaced with a new section as follows:

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}}2(a),(c)

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}}2(a),(c)

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}}2(a),(c)

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}}2(a),(c)

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}}2(a),(c)

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}}2(a),(c)

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}}2(a),(c)

1 The MIN-MAX method is a process for sorting seismic failures corresponding to a particular ground motion. The minimal value is applied between failures combined with OR logic, whereas the maximum values is used for AND logic (typically failures within a cutset).

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}}2(a),(c)

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}}2(a),(c)

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}}2(a),(c)

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}}2(a),(c)

2 0.84g is equal to 1.67 times the NuScale safe shutdown earthquake (SSE) of 0.5g, which corresponds to the requirement of NRC regulatory guide 1.200.

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}}2(a),(c)

All linkages in the report to Sections 3.7 will be updated to reflect the new section. Reference numbers will also be updated. For length considerations, they are not all explicitly stated here.

The following new appendix will be added to the report, to be Appendix D.

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}}2(a),(c)

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}}2(a),(c)

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}}2(a),(c)

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}}2(a),(c)

Attachments:

None

NRC RAI Question Number: 01.05–30

NRC RAI Question

NuScale Power, LLC has submitted licensing topical report (LTR) TR-0915-17772-P), Revision 0, proprietary version, “Methodology for Establishing the Technical Basis for Plume Exposure Emergency Planning Zones at NuScale Small Modular Reactor Plant Sites,” for review by the NRC staff. Section 3.8.2 of the topical report addresses selection of accident sequences initiated by high winds (e.g., tornado and hurricane) for the “less probable, more severe” category of events. The discussion in this section indicates that all such sequences will be screened from consideration because all buildings will be designed in accordance with existing requirements for protection against high winds. High winds events that have an associated hazard beyond the design basis are required to be considered in a COL applicant’s PRA in accordance with the current ASME/ANS Standard for PRA (i.e., ASME/ANS RA-Sa-2009, “Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications,” New York, NY, 2009). Please provide a clear and complete explanation as to why does the method for selecting accident sequences not consider results of the PRA for high winds events.

Regulatory basis: Emergency planning requirements are codified in 10 CFR 50.47 and 10 CFR Part 50 Appendix E. Specifically, the plume exposure emergency planning zone (EPZ) for power reactors generally consists of an area about 10 miles in radius, or may be determined on a case-by-case basis for reactors with an authorized power level less than 250 megawatts thermal (MWt). The technical basis for the 10-mile plume exposure EPZ is given in NUREG-0396, which was based upon evaluation of the offsite consequences of accidents (both design basis and severe) and comparison of doses to the Environmental Protection Agency (EPA) guidance on when to take emergency response actions. The EPA emergency response actions include sheltering and evacuation as given in the Protective Action Guides (PAGs), or, for very low-probability and high-consequence accidents, demonstration that the probability of exceeding a deterministic effect dose is low and decreasing at the chosen outer boundary of the plume exposure EPZ. There is no specific NRC guidance on how to justify a plume exposure EPZ of a smaller size than given in the cited regulations, including specific guidance on developing the technical basis. The assumptions and approach used on the dose analysis, including the selection of accident sequences on which source terms are based can affect the distance at which predetermined dose levels can be exceeded.

NuScale RAI Question Response

It was not intended in Section 3.8.2 to imply that a high winds PRA not be performed or scenarios therein not be considered for EPZ accident selection. {{

}}2(a),(c)

Impact of NRC RAI Question Response on TR-0915-17772:

The following revisions will be made to Methodology for Establishing the Technical Basis for Plume Exposure Emergency Planning Zones at NuScale Small Modular Reactor Plant Sites, TR-0915-17772, Revision 0.

Section 3.8.2 will be revised to:

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}}2(a),(c)

Attachments:

None

Enclosure 3:

Affidavit of Thomas A. Bergman, AF-0317-53305

NuScale Power, LLC
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www.nuscalepower.com

NuScale Power, LLC

AFFIDAVIT of Thomas A. Bergman

I, Thomas A. Bergman, state as follows:

(1) I am the Vice President of Regulatory Affairs of NuScale Power, LLC (NuScale), and as such, I have been specifically delegated the function of reviewing the information described in this Affidavit that NuScale seeks to have withheld from public disclosure, and am authorized to apply for its withholding on behalf of NuScale

(2) I am knowledgeable of the criteria and procedures used by NuScale in designating information as a trade secret, privileged, or as confidential commercial or financial information. This request to withhold information from public disclosure is driven by one or more of the following:

(a) The information requested to be withheld reveals distinguishing aspects of a process (or component, structure, tool, method, etc.) whose use by NuScale competitors, without a license from NuScale, would constitute a competitive economic disadvantage to NuScale.

(b) The information requested to be withheld consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), and the application of the data secures a competitive economic advantage, as described more fully in paragraph 3 of this Affidavit.

(c) Use by a competitor of the information requested to be withheld would reduce the competitor's expenditure of resources, or improve its competitive position, in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product.

(d) The information requested to be withheld reveals cost or price information, production capabilities, budget levels, or commercial strategies of NuScale.

(e) The information requested to be withheld consists of patentable ideas.

(3) Public disclosure of the information sought to be withheld is likely to cause substantial harm to NuScale's competitive position and foreclose or reduce the availability of profit-making opportunities. The accompanying response reveals distinguishing aspects about the method by which NuScale establishes its technical basis for plume exposure emergency planning zones at NuScale small modular reactor plant sites.

NuScale has performed significant research and evaluation to develop a basis for this method and has invested significant resources, including the expenditure of a considerable sum of money.

The precise financial value of the information is difficult to quantify, but it is a key element of the design basis for a NuScale plant and, therefore, has substantial value to NuScale.

If the information were disclosed to the public, NuScale's competitors would have access to the information without purchasing the right to use it or having been required to undertake a similar expenditure of resources. Such disclosure would constitute a misappropriation of NuScale's intellectual property, and would deprive NuScale of the opportunity to exercise its competitive advantage to seek an adequate return on its investment.

(4) The information sought to be withheld is in the enclosed response entitled NuScale Response to NRC Request for Additional Information Letter No. 10 for TR-0915-17772, "Methodology for Establishing the Technical Basis for Plume Exposure Emergency Planning Zones at NuScale Small Modular Reactor Plant Sites," Revision 0. The enclosure contains the designation "Proprietary" at the top of each page containing proprietary information. The information

considered by NuScale to be proprietary is identified within double braces, "{{ }}" in the document.

(5) The basis for proposing that the information be withheld is that NuScale treats the information as a trade secret, privileged, or as confidential commercial or financial information. NuScale relies upon the exemption from disclosure set forth in the Freedom of Information Act ("FOIA"), 5 USC § 552(b)(4), as well as exemptions applicable to the NRC under 10 CFR §§ 2.390(a)(4) and 9.17(a)(4).

(6) Pursuant to the provisions set forth in 10 CFR § 2.390(b)(4), the following is provided for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld:

(a) The information sought to be withheld is owned and has been held in confidence by NuScale.

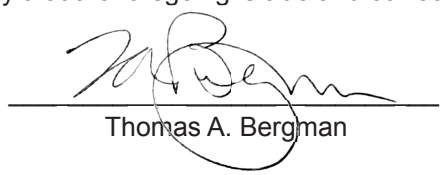
(b) The information is of a sort customarily held in confidence by NuScale and, to the best of my knowledge and belief, consistently has been held in confidence by NuScale. The procedure for approval of external release of such information typically requires review by the staff manager, project manager, chief technology officer or other equivalent authority, or the manager of the cognizant marketing function (or his delegate), for technical content, competitive effect, and determination of the accuracy of the proprietary designation. Disclosures outside NuScale are limited to regulatory bodies, customers and potential customers and their agents, suppliers, licensees, and others with a legitimate need for the information, and then only in accordance with appropriate regulatory provisions or contractual agreements to maintain confidentiality.

(c) The information is being transmitted to and received by the NRC in confidence.

(d) No public disclosure of the information has been made, and it is not available in public sources. All disclosures to third parties, including any required transmittals to NRC, have been made, or must be made, pursuant to regulatory provisions or contractual agreements that provide for maintenance of the information in confidence.

(e) Public disclosure of the information is likely to cause substantial harm to the competitive position of NuScale, taking into account the value of the information to NuScale, the amount of effort and money expended by NuScale in developing the information, and the difficulty others would have in acquiring or duplicating the information. The information sought to be withheld is part of NuScale's technology that provides NuScale with a competitive advantage over other firms in the industry. NuScale has invested significant human and financial capital in developing this technology and NuScale believes it would be difficult for others to duplicate the technology without access to the information sought to be withheld.

I declare under penalty of perjury that the foregoing is true and correct. Executed on April 06, 2017.



Thomas A. Bergman