

August 02, 2017

Docket No. 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 Response to NRC Request for Additional Information No. 84 (eRAI No. 8896) on the NuScale Design Certification Application

REFERENCE: U.S. Nuclear Regulatory Commission, "Request for Additional Information No. 84 (eRAI No. 8896)," dated July 07, 2017

The purpose of this letter is to provide the NuScale Power, LLC (NuScale) response to the referenced NRC Request for Additional Information (RAI).

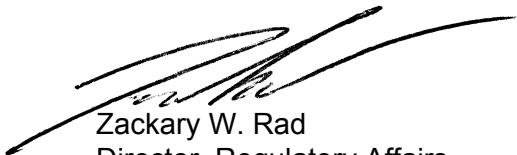
The Enclosure to this letter contains NuScale's response to the following RAI Question from NRC eRAI No. 8896:

- 09.03.06-1

This letter and the enclosed response make no new regulatory commitments and no revisions to any existing regulatory commitments.

If you have any questions on this response, please contact Marty Bryan at 541-452-7172 or at mbryan@nuscalepower.com.

Sincerely,



Zackary W. Rad
Director, Regulatory Affairs
NuScale Power, LLC

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Enclosure 1: NuScale Response to NRC Request for Additional Information eRAI No. 8896



Enclosure 1:

NuScale Response to NRC Request for Additional Information eRAI No. 8896

Response to Request for Additional Information

eRAI No.: 8896

Date of RAI Issue: 07/07/2017

NRC Question No.: 09.03.06-1

NuScale design certification application Part 07, Exemptions,” provides Exemption No. 13, “10 CFR 50.34(f)(2)(xiv)(E) Containment Evacuation System Isolation. However, NuScale DCD Tier 2 Section 9.3.6, “Containment Evacuation System and Containment Flooding and Drain System,” does not identify or provide reference to this exemption.

The applicant should update NuScale DCD Tier 2 Section 9.3.6 to identify and provide reference to Exemption No. 13.

NuScale Response:

FSAR Section 9.3.6 has been revised to include a reference to Exemption 13 in DCA Part 7.

Impact on DCA:

FSAR Section 9.3.6 has been revised as described in the response above and as shown in the markup provided with this response.

Consistent with GDC 5, structures, systems, and components shall not be shared among nuclear power units unless it can be shown that such sharing will not significantly impair their ability to perform their safety functions, including, in the event of an accident in one unit, an orderly shutdown and cooldown of the remaining units.

Consistent with GDC 30, components that are part of the reactor coolant pressure boundary shall be designed, fabricated, erected, and tested to the highest quality standards practical. Means shall be provided for detecting and, to the extent practical, identifying the location of the source of reactor coolant leakage. General Design Criterion 30 was considered in the design of the CES and the CFDS. The CES provides three methods to detect and quantify leakage into the CNV. See Section 9.3.6 for a description of the three leakage detection methods.

Consistent with GDC 60, the nuclear power unit design shall include means to control suitably the release of radioactive materials in gaseous and liquid effluents and to handle radioactive solid wastes produced during normal reactor operation, including anticipated operational occurrences. General Design Criterion 60 was considered in the design of the CES and the CFDS. Liquid effluents are returned to the reactor pool or, as necessary, routed to the RWDS. Gaseous effluents are filtered and routed to the Reactor Building HVAC system (RBVS) or, when specified limits are exceeded, to the GRWS, where they are contained, monitored, and processed for release to the environment.

Consistent with GDC 64, means shall be provided for monitoring the reactor containment atmosphere, spaces containing components for recirculation of loss-of-coolant accident fluids, effluent discharge paths, and the plant environs for radioactivity that may be released from normal operations, including anticipated operational occurrences, and from postulated accidents. General Design Criterion 64 was considered in the design of the CES and the CFDS. Liquid effluents are returned to the reactor pool or, as necessary, routed to the RWDS. Gaseous effluents are filtered and routed to the Reactor Building HVAC system (RBVS) or, when specified limits are exceeded, to the GRWS, where they are contained, monitored, and processed for release to the environment.

Consistent with 10 CFR 20.1101(b), the CES and the CFDS have provisions for draining and flushing piping and major components to the RWDS prior to maintenance or inspection activities to reduce dose to onsite personnel to as low as reasonably achievable (ALARA). Consistent with 10 CFR 20.1406, the CES and the CFDS have provisions for draining and flushing piping and major components to the RWDS prior to maintenance or inspection activities to reduce generation of radioactive waste and minimize contamination of the facility and the environment.

The NuScale design supports exemption from 10 CFR 50.34(f)(2)(xiv)(E) as applied to the CES. The CES will have radioactivity monitors on the discharge path of the system; however, they will not trigger a safety-related containment isolation signal in the event of a high radioactivity signal. Rather, upon a high radioactive effluent signal on the gaseous discharge path, the system automatically diverts the gaseous effluent from the RBVS to the GRWS using nonsafety-related signals and equipment. Refer to Part 7, Chapter 13 for further details.