

April 23, 2018

Docket No. 52-048

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

SUBJECT: NuScale Power, LLC Submittal of Changes to Final Safety Analysis Report, Section 9.3.6, Containment Evacuation System and Containment Flooding and Drain System

REFERENCE: Letter from NuScale Power, LLC to Nuclear Regulatory Commission, "NuScale Power, LLC Submittal of the NuScale Standard Plant Design Certification Application, Revision 1," dated March 15, 2018 (ML18086A090)

During a March 15, 2018, teleconference with Mr. Omid Tabatabai and Mr. Hanry Wagage of the NRC staff, NuScale Power, LLC (NuScale) discussed potential updates to Final Safety Analysis Report (FSAR), Section 9.3.6, Containment Evacuation System and Containment Flooding and Drain System. The updates are required in order to address a question identified during the ongoing Containment/Ventilation Audit. As a result of this discussion, NuScale changed FSAR Section 9.3.6.2.3 and FSAR Figure 9.3.6-2. The Enclosure to this letter provides a mark-up of the FSAR pages incorporating revisions to FSAR Section 9.3.6.2.3 in redline/strikeout format. FSAR Figure 9.3.6-2 was revised to show the radiation monitor on the drain separator tank discharge line. Additionally, the location of the discharge line isolation valve was moved to downstream of the filter bank. NuScale will include these changes as part of a future revision to the NuScale Design Certification Application.

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

Please feel free to contact Carrie Fosaaen at 541-452-7126 or at cfosaaen@nuscalepower.com if you have any questions.

Sincerely,



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Enclosure: "Changes to NuScale Final Safety Analysis Report Section 9.3.6, Containment Evacuation System and Containment Flooding and Drain System"

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“Changes to NuScale Final Safety Analysis Report Section 9.3.6, Containment Evacuation System and Containment Flooding and Drain System”

- service air to the CES isolates
- the containment evacuation system to PSS sample line isolates

The charcoal decay beds in the GRWS allow for adsorption and additional decay time for the gaseous radioactive contaminants present in the CES discharge.

The GRWS discharge path is not used if high-radiation levels occur during initial containment evacuation because the quantity of gas flow or air content could exceed GRWS capacity.

High Radiation Levels in Gases Discharged from the Containment Drain Separator Tank

Water removed from the CNV during draining is pumped to the containment drain separator tank that removes entrained gases which then are vented from the tank past radiation monitors. High-radiation levels in the non-condensable gases removed from the CNV actuate an alarm in the MCR. If radiation levels of the non-condensable gases exceed specified limits, then the discharge path is isolated. With the discharge line isolated, the radioactive gases are left in the system to decay until the level is below the limit for release through the RBVS plant exhaust stack.

Equipment Failure Affecting One or Both Containment Evacuation System Vacuum Pumps

An equipment malfunction affecting one vacuum pump (e.g., pump failure or valve control problems) causes automatic shutdown of the affected vacuum pump, closes the suction and discharge valves, and initiates an alarm in the MCR. Operator action is needed to place the standby vacuum pump into operation to maintain vacuum pressure in the CNV.

An equipment malfunction affecting both vacuum pumps (e.g., malfunction of a common CES control valve) or loss of a support system (e.g., RCCWS for the CES condenser) can result in reaching system parameters that result in automatic shutdown of the affected vacuum pumps, closes the suction and discharge valves of both pumps to maintain the vacuum pressure in the CNV, and initiates an alarm in the MCR.

Addition of Coolant Inventory into a Containment Vessel during a Beyond Design Basis Event

The CFDS is not required to operate during or after any design basis accident. As a defense-in-depth measure, the CFDS may be used to inject water from the reactor pool into a NPM containment in a beyond design basis event. This function is not safety-related.

When not in operation, the CFDS pump suction lines are normally maintained filled and vented to facilitate readiness for emergency containment flooding operations. Before initiating emergency containment flooding, CNV pressure must be low

RAI 09.03.02-3, RAI 09.03.02-4, RAI 09.03.02-5, RAI 09.03.02-6, RAI 09.03.02-8

Figure 9.3.6-2: Containment Flooding and Drain System Diagram

