

## NuScaleDCRaisPEm Resource

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**From:** Cranston, Gregory  
**Sent:** Monday, January 08, 2018 8:55 AM  
**To:** RAI@nuscalepower.com  
**Cc:** NuScaleDCRaisPEm Resource; Lee, Samuel; Chowdhury, Prosanta; Burkhart, Lawrence; Williams, Stephen; Markley, Anthony  
**Subject:** Request for Additional Information No. 322 RAI No. 9239 (11.2)  
**Attachments:** Request for Additional Information No. 322 (eRAI No. 9239).pdf

Attached please find NRC staff's request for additional information concerning review of the NuScale Design Certification Application.

Please submit your technically correct and complete response within 60 days of the date of this RAI to the NRC Document Control Desk.

If you have any questions, please contact me.

Thank you.

Gregory Cranston, Senior Project Manager  
Licensing Branch 1 (NuScale)  
Division of New Reactor Licensing  
Office of New Reactors  
U.S. Nuclear Regulatory Commission  
301-415-0546

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**Options**

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## Request for Additional Information No. 322 (eRAI No. 9239)

Issue Date: 01/08/2018

Application Title: NuScale Standard Design Certification - 52-048

Operating Company: NuScale Power, LLC

Docket No. 52-048

Review Section: 11.02 - Liquid Waste Management System

Application Section: 11.2

### QUESTIONS

11.02-2

#### 11.2 RAI - Determining the basis for the dilution flow rates.

Regulatory Basis: 10 CFR Part 20, Appendix B; 10 CFR Part 50, Appendix I

10 CFR Part 20, Appendix B, Table 2 provides concentration limits for airborne and liquid effluents released to the general environment. 10 CFR Part 50, Appendix I provides the numerical guidance for design objectives and limiting conditions for operation.

Key Issue:

There is not sufficient information in the DCD regarding the dilution flows that are needed to determine effluent concentrations released are within regulatory limits

#### Questions

1. In review of DCD section 11.2.3.3, the staff requests additional information for the stated dilution flows referenced by the applicant in DCD Section 11.2.3.3, and DCD Table 11.2-4. The dilution flows are needed to determine the effluent concentrations released by the applicant for compliance with 10 CFR Part 20, Appendix B; and 10 CFR Part 50, Appendix I.

As discussed during the audit, the applicant references 5.56 cfs for the UWS dilution flow, and 740 cfs for the offsite dilution factor. DCD section 11.2.3.3 provides a pointer to DCD section 9.2.9, but the staff is unable to find any stated flow rates that feed into the 5.56 cfs dilution flow value. The staff requests explanation for the basis of the flow rates used for both 10 CFR Part 20 Appendix B Table 2, and 10 CFR Part 50 Appendix I compliance. In the audit it was discussed that the 740 cfs values was based on an assumed river dilution. The staff would need such assumptions to be stated in the DCD for the staff to understand the basis for the developed dilution flows.

2. The staff requests the applicant to provide and list the flow rate inputs used in DCD Section 11.2 to determine the 5.56 cfs flow rate value from the UWS. In addition, the staff requests the applicant to clearly state the assumption for the 740 cfs flow rate value as was discussed during the audit. The staff request the applicant clearly state assumptions in the DCD and provide a markup of the DCD in response to this RAI.