

NuScaleDCRaisPEm Resource

From: Cranston, Gregory
Sent: Saturday, August 05, 2017 1:23 PM
To: RAI@nuscalepower.com
Cc: NuScaleDCRaisPEm Resource; Lee, Samuel; Chowdhury, Prosanta; Hayes, Michelle; Caruso, Mark; Franovich, Rani
Subject: RE: Request for Additional Information No. 146, RAI 9028 (19)
Attachments: Request for Additional Information No. 146 (eRAI No. 9028).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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Request for Additional Information No. 146 (eRAI No. 9028)

Issue Date: 08/05/2017

Application Title: NuScale Standard Design Certification - 52-048

Operating Company: NuScale Power, LLC

Docket No. 52-048

Review Section: 19 - Probabilistic Risk Assessment and Severe Accident Evaluation

Application Section: 19

QUESTIONS

19-24

Regulatory Basis

The information requested is needed to evaluate the applicant's assessment against criterion B for regulatory treatment of non-safety systems in accordance with guidance in Standard Review Plan Section 19.3, "Regulatory Treatment of Non-safety Systems for Passive Advanced Light Water Reactors," and ensure that safety functions are met in the extended period between 72 hours and seven days following an accident.

Background

In Section 19.3.2.2 of the Final Safety Analysis Report (FSAR), and related to regulatory treatment of non-safety-related systems (RTNSS) criterion B for establishing nonsafety-related structures, systems and components (SSCs) requiring regulatory treatment, the applicant states that the safety analyses, probabilistic risk assessment (PRA) insights (including seismic margins analysis), and expert panel considerations (discussed in Chapter 15, Section 19.1 and Section 17.4, respectively) did not reveal any non-safety-related SSCs relied on to perform a backup to passive safety functions (i.e., to ensure long-term safety) in the period of 72 hours to seven days following an accident or credited for seismic margins analysis (SMA). Therefore, no non-safety-related SSCs meet the RTNSS B criteria.

Request

Since no nonsafety-related SSCs were identified as being necessary for achieving safety functions in the period between 72 hours and seven days following an accident, it appears that the functions of core cooling and containment cooling are achieved in this extended period using only passive safety systems. Please explain how passive safety systems perform the safety functions of core cooling and containment cooling in the extended period between 72 hours and seven days following an accident. Please describe the capability of the heat sink(s) credited for the extended period and the extent to which operator action is needed to achieve the safety functions.