From:	Carolyn Lauron
To:	Justin Hawkins
Cc:	Greg Cranston; Michael Dudek; Jordan Glisan
Subject:	NRC Staff Response to Follow-up Questions re: Water Source for Fire Protection
Date:	Thursday, February 2, 2023 3:29:00 PM

Hi Justin –

Please find the NRC staff response to the subject question below.
The NRC staff is available to discuss the SMR-160 design related to the questions during a public meeting on February 15 from 130pm – 330pm.
We request that any additional questions or details for the public meeting be provided by February 10, if possible, for the NRC staff to review and prepare for the meeting.

Please let me know if you have questions or need additional information.

Thanks,
Carolyn

Additional Questions:

1. Is designing to withstand the maximum potential earthquake stresses different than designing as Seismic Category – I (SC-I)?

2. Is there a documented NRC evaluation of the 2/15/18 NuScale response to eRAI 9226 (Accession Number: ML18046B429)?

Context: The NRC response to our question notes that designing the fire water tanks, diesel fire pumps, and fire mains to various standards (e.g., AWWA D100-205, NFPA 22, ASME B31.1) alone are not sufficient to satisfy the requirements of RG 1.189. The NuScale response to eRAI 9226 is listed as “Resolved – Closed”, but this response seems to only discuss meeting these industry standards. The RAI response is not referenced in the FSER, and the FSER only discusses that the piping system that connects the fire water storage tanks to the diesel fire pumps and the standpipes is designed to ASME B31.1 (see below). Therefore, we are not clear on what additional information or analysis is needed to satisfy RG 1.189 3.2.1(j).

NRC Staff Response:

1. With respect fire protection structures, its design to the maximum potential earthquake stresses is equivalent to designing for Seismic Category 1.

   If an applicant chooses the alternate method in RG 1.189 to supply water to the two standpipe and hose connections through a cross connection with another plant system that is not classified as Seismic Category 1, then the applicant needs to demonstrate by analysis that the plant system can withstand the maximum potential

earthquake stresses for the particular region where the plant is sited.

2. The NRC staff encourages the applicant to engage in further discussion of its design to provide feedback on the applicability of the RG 1.189 and consideration of the potential alternate methods to meet RG 1.189.