

Response to NuScale Technical Report Audit Question

Question Number: A-5.PTLR-8

Receipt Date: 10/20/2023

Question:

Table 4.1 of the P-T Limits methodology appears to have several confusing entries. All of the “Vessel Pressure” entries are noted to be in percent of pre-service system hydrostatic test pressure, but the values are all identical and are lacking comparators (e.g. \leq , $>$, etc.)

Please clarify whether Table 4.1 is accurate and if not, supplement the SDAA where appropriate.

Response:

There is a column missing from Table 4-1 of TR-130877-P under “Vessel Pressure,” and there were errors in the pressure values. Condition Report (CR) 153636 in the NuScale Corrective Action Program documents the error. The attached markup to TR-130877-P shows the additional column of information and corrects the errors in the pressure values.

Markups of the affected changes, as described in the response, are provided below:

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Table 4-1 Pressure-Temperature Limits for NuScale Power Module Reactor Pressure Vessel per 10 CFR 50, Appendix G

Operating Condition	Vessel Pressure ⁽¹⁾		Requirements for Pressure-Temperature Limits	Minimum Temperature Requirements
Hydrostatic Pressure and Leak Tests (core is not critical)				
Fuel in the Vessel	<u>≤ 20 percent</u>	535.3 psig	ASME BPVC § XI App. G Limits	0 degrees F
Fuel in the Vessel	<u>>20 percent</u>	535. 3 5 psig	ASME BPVC § XI App. G Limits	90 degrees F
No Fuel in the Vessel (preservice hydrostatic test)	<u>ALL</u>	535. 3 5 psig	Not Applicable	60 degrees F
Normal Operation (including heatup and cooldown), Including Anticipated Operational Occurrences				
Core Not Critical	<u>≤ 20 percent</u>	535. 3 5 psig	ASME BPVC § XI App. G Limits	0 degrees F
Core Not Critical	<u>> 20 percent</u>	535. 3 5 psig	ASME BPVC § XI App. G Limits	120 degrees F
Core Critical	<u>≤ 20 percent</u>	535. 3 5 psig	ASME BPVC § XI App. G Limits + 40degrees F	90 degrees F
Core Critical	<u>> 20 percent</u>	535. 3 5 psig	ASME BPVC § XI App. G Limits + 40degrees F	160 degrees F

Notes:

1. Percent of the preservice system hydrostatic test pressure.