

**Review of the Project Group:****Group Code:** NuScale 13**Full title:** How to calculate pressure and temperature changes and DNBR and CHF in NuScale using its core parameters

Intended learning outcome (ILO)	Grade (0-3)	Explanation for the grading of the evidences of achieving respective ILO. Suggestions for improvements and other comments
1. <i>Collect information on</i> General design specification of the nuclear power plant with selected reactor type (Task 1, ILO1, ILO2)	3	Very well-written introduction to the reactor design. The specific interesting characteristics seems to be the compact design and refueling during operation. A few abbreviations were not explained in the text, like NPM (I assume NuScale Power Module) and RVP. It would be easier to understand if Table 1 with the abbreviations came before the introduction, perhaps after a Table of Contents. Minor nitpicks: Figure 2 is referred to before Figure 1. Table 1 is referred to on page 3 when I think it's supposed to be Table 2 (safety). In Figure 4 the reference is to ?.
2. <i>Describe</i> Operational principles of the power plant. (Task 2, ILO1, ILO2)	3	Continued good descriptions of the power plant and its operating principles. At the end of section 1.3 there is a link that I assume should be in References instead.
3. <i>Explain</i> Safety features of the power plant. (Task 3, ILO1, ILO2)	3	All in all, great descriptions of the plant, no complaints at all about the contents of the text. However, the layout is a bit confusing. The placement of figures and tables seem completely disconnected from the places in the text where they are mentioned. To make it more cohesive, try to add the figures and tables directly after the paragraph in which they are mentioned.
4. <i>Calculate</i> Selected core parameters (Task 4, ILO3)	3	The equations are easy to follow and all variables and constants in them are clearly defined. The conditions for using the equations are also clearly stated. In both Figures 5 and 6 there are discussions of the results that could be better placed in the text than in the figure description. The placement of the figures is a bit strange in this section as well, it would be easier to follow the calculations if the figures of the pressure drop came at the end, after the calculations have been described in their entirety. Very interesting analysis of the results! Is there anything in particular where about the single phase calculations that can have caused the errors you think are there?
5. <i>Calculate</i> CHF margins in a hot channel (Task 5, ILO4a)	3	Equations are similarly easy to follow and clear as in the previous part. Figure 14 is very clear. The analysis is interesting and well-written, though it discusses the fuel and cladding temperature before those calculations are brought up.
6. <i>Calculate</i> Maximum cladding and fuel pellet temperature (Task 6, ILO4b)	3	Clear equations and conditions. Figure 15 particularly helps to understand the different radii. There is no analysis for this part of the calculations, perhaps move the parts about cladding and fuel temperature from the previous analysis to here.  Overall great report!