Review of the Project Group:
Group Code: NuScale 12
Full title: Detailed description of NuScale Power reactor and simplified thermohydraulics calculation of the system

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. *Collect information on* General design specification of the nuclear power plant with selected reactor type (Task 1, ILO1, ILO2)	1	- Better description of the whole loop and BoP is missing - Table 1: slightly confusing that active fuel length is in cm - Different indexes: MW_e vs MW_e - Is it unique in some other way than modularity, such as **natural circulation**? (unclear) - Is load scheme really so crucial to be in general description?
2. *Describe* Operational principles of the power plant. (Task 2, ILO1, ILO2)	2	- Abbreviations for CR and SR are introduced in 2.3 but used already in 2.2 - In 2.4 heat removal during LOCA is described. I believe that should be placed in Task 3 - At least brief list/description of main auxiliary systems is missing
3. *Explain* Safety features of the power plant. (Task 3, ILO1, ILO2)	2	- Abbreviation SMR was already introduced - Are there any active safety systems? - Exact value of CDF should be mentioned
4. *Calculate* Selected core parameters (Task 4, ILO3)	2	- Tab 1, 4th line: misspelled word “the” + are you sure that the “Height of thwe core” and the “Active fuel length” are the same values? Core includes also the upper and bottom head of the fuel assembly. I don’t know the geometry of the fuel but it seems very unlikely to me that fuel active length is equal to the height of the core. It might be maybe call “active height of the core” but then it’s the same info as active fuel length, just described differently - How did you obtain the linear power density? (unclear) - Nowhere is stated what H is - Fig 14 says “linear power distribution” but units on Y-axis is W/m2 + using dot as multiplier when you use decimal dot is slightly confusing (most of the graphs) - D_h vs D_h - In equation 6 is not stated what is *x,* rho_g, rho_f (and how to get them) - In equation 6 is used rho_g, rho_f but in equation 7 these are called rho_v, rho_l
5. *Calculate* CHF margins in a hot channel (Task 5, ILO4a)	2	- In the description of equation 11 the double dash is missing when defining the critical heat flux + q_R ‘' = …) is missing - Fig 21 is before Fig 20 + both are missing double dashes - DNBR is not defined - Description Fig 22 + Fig 23: q_{cr} without double dash + misspelled “influence”

6. *Calcaulte* Maximum cladding and fuel pellet temperature (Task 6, ILO4b)	2	- Table 3: some units are in italic - Description of equation 13: in equation q''', but it text q_v, what is T and lambda? Rho and c_p are not stated in the equation (only in footnote so then explain in the footnote as well (?) and add what is t and tau) - Radial peaking factor was - Nu vs *Nu* - Are you sure you fulfil criteria for all of the Nu correlations? (Since info such as pin pitch are missing I can't check it on myself)… it would be nice to have exact values stated so it's certain you can use all of those correlations - Osmachkin - what is A_{rod}, A_{tot} - The equation of the bulk temperature is not numbered while all the other equations are - Text right before equation 27: units in italic, also in such a narrow gap the material roughness can change the value in not insignificant way! - Fig 32: if you want too use radial temperature distribution, then you should have the correct shape for cladding -> water as well