Review of the Project Group:
Group Code: EPR 44 (Pierre Dareys, Elise Poom)
Full title: "EPR report"

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	A very general, brief introduction to the EPR. More specific information about the reactor core, reactor vessel, primary/secondary loop, balance of plant, is missing (except for what is given in one table). I also miss an emphasis on the features that makes the design unique and interesting. Large figures, little text. NB: Units should <u>not</u> be italicized!
2. *Describe* Operational principles of the power plant. (Task 2, ILO1, ILO2)	1	A very short description of the reactor operation during start-up and shut-down. The text provides no evidence of functioning knowledge. Operation in base load and load-following scenarios is not clear. A description of the operational principles of the auxiliary systems is missing. No emphasis on the features that makes the design unique and interesting.
3. *Explain* Safety features of the power plant. (Task 3, ILO1, ILO2)	1	You briefly list some reactor protection systems. Elaborate and discuss them more in-depth. Why do we need them? Results from the reactor safety analysis are missing. You mention the core damage frequency, but are there other key safety parameters? A more elaborated discussion about the numbers would be in place. Large figures, little text.
4. *Calculate* Selected core parameters (Task 4, ILO3)	2	Very brief description of the models used. Go more into detail. Motivate and discuss the methods and models you have chosen. Be critical and try to analyze how your choices have affected the result. For example, why did you use HEM and not DFM when calculating the void fraction? NB1: Typo in the given number for outlet enthalpy (p. 17). NB2: Unit for second: s (p. 17). NB3: Units should <u>not</u> be italicized!

5. *Calculate* CHF margins in a hot channel (Task 5, ILO4a)	2	You present the models used and comment somewhat on their applicability. However, you should adopt a more critical mind regarding the models. For example, how would the results change if you apply the Reddy and Fighetti correlation instead? Erroneous results prevent you from calculating MDNBR ($q'' > q''[cr]$ for $z > 3.2$). NB1: You mention that you use the Janson and Levy correlation when you in fact use the W-3 correlation (p. 20). NB2: Units should <u>not</u> be italicized!
6. *Calcaulte* Maximum cladding and fuel pellet temperature (Task 6, ILO4b)	2	Very short results and discussion sections. Discuss the accuracy of the models, why certain models were chosen, and the expected effect on the results. To which input parameter is the temperatures most sensitive? Can you estimate the uncertainties of the calculated temperatures? Report the locations of the peak temperatures as mentioned in the introduction. NB1: Unit for degrees Celsius: °C. NB2: Units should <u>not</u> be italicized!