



Master thesis opponent's review

Master thesis: Electricity quality issues when connecting renewable sources to a distribution network

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Thesis opponent: Ing. Martin Čerňan

Rating (1 – 5)
(1 = best; 5 = worst):

1. Fulfillment of assignment requirements:	<input type="text" value="3"/>
2. Systematic solutions of individual tasks:	<input type="text" value="2"/>
3. Ability to apply knowledge and to use literature:	<input type="text" value="3"/>
4. Thesis formal and language level:	<input type="text" value="2"/>
5. Thesis readability and structuring:	<input type="text" value="2"/>
6. Thesis professional level:	<input type="text" value="4"/>
7. Conclusions and their formulation:	<input type="text" value="4"/>
8. Final mark evaluation (A, B, C, D, E, F):	<input type="text" value="D"/>

verbal:

satisfactory

Brief summary evaluation of the thesis (compulsory):

The thesis is focused on the influence of wind power plant connection to the distribution system. The introductory part of the thesis is elaborated in depth. In the following part is no reference to the relevant technical standards for the part focusing on the connection rules of RES to the grid and the power quality in distribution systems. Chapter 4 deserves more attention. The case study at the end of the thesis shows a simplified view of the effect of the connected wind power plant on the distribution system. The study's conclusions show the effect of a wind power plant on the voltage profile for different wind power factor ratings. When calculating the voltage profile, I recommend using percentage units with significant limitations (for example, allowed voltage change). It would be useful to carry out the analysis, including the implementation of daily load diagrams at each node and the estimated production of the wind farm in individual hours and days (for example, historical meteorological data).

Structuring work, formal and linguistic levels of work is good.

Questions:

1. What would be the effect of the short-circuit power change in the 110 kV system?
2. Can a voltage profile be unsatisfactory in the case of producing a full-power wind power plant and a low grid load (night)?

Date:

Signature:



Notes:

- 1) The total thesis evaluation needn't be determined by the partial evaluations average.
- 2) The total evaluation (item 8) should be from the following scale:

excellent	very good	good	satisfactory	sufficient	insufficient
A	B	C	D	E	F