CZECH TECHNICAL UNIVERSITY IN PRAGUE
Faculty of electrical engineering
Department of electrical power engineering
Technická 2, 166 27 Prague 6, Czech Republic

Master thesis opponent's review

Master thesis: **Renewable Energy Sources and technical flexibility in using energy**
Author: **Saleh Mohamed**
Thesis supervisor: **doc. Dr. Ing. Jan Kyncl**
Thesis opponent: **Ing. František Kysnar, Ph.D**

	Rating (1 – 5) (1 = best; 5 = worst):
1. Fulfillment of assignment requirements:	3
2. Systematic solutions of individual tasks:	1
3. Ability to apply knowledge and to use literature:	2
4. Thesis formal and language level:	1
5. Thesis readability and structuring:	1
6. Thesis professional level:	2
7. Conclusions and their formulation:	2
8. Final mark evaluation (A, B, C, D, E, F):	**B**

verbal:

Brief summary evaluation of the thesis (compulsory):

Author describes well the existing status of engineering solutions of power generation regarding various renewable resources (RES) technology classes. Current development of power generation from RES in Saudi Arabia is illustrated on specific cases. Author is not focusing on available flexibility measures in this part.
Legislation is partially dealt with by presentation of requirements for connecting the distributed energy resources into distribution systems focusing on specific issues of power quality. Main part of thesis deals with case study, which analyzes large photovoltaic (PV) plants. Author describes in details each functional block of PV plant including available regulation means, illustrating (among others) his high level of knowledge of this particular technology. The impact of such large PV plant is documented by its connection into the modeled medium voltage distribution network. This case study includes the calculation of reactive power regulation (as one of flexibility means) impact on voltage. The work is considered to be successful and it is recommended to discussion.

Questions:

1. What other flexibility means do you know?
2. How important do you expect the flexibility solutions will be in future distribution networks?

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