



## **MASTER THESIS SUPERVISOR REPORT**

Name of Master Thesis: **Voltage Regulation in The Lighting Nodes of the Electrical Workshop**

Student: **Gennadii Safonov**

Scientific adviser CTU: **Ing. Michaela Makešová**

The discussed master thesis aims to determine the effects of voltage deviation on the performance of lighting sources and to consider existing solutions for eliminating the negative consequences of deviation, considering the technical and economical evaluation of these solutions.

The thesis is divided into 3 main parts. The first part is devoted to the description of the types of luminaries, voltage regulation methods, and lighting systems. The author presents the theoretical part very in detail.

The second part is widely devoted to the technical solution. A detailed model of the lighting system and voltage regulation is presented. There are listed several configurations proposed to solve the problem of voltage deviation. Finally, the selection of electrical equipment is provided and five options for artificial illuminating systems and five options for local voltage stabilizers are presented.

For the economic evaluation, three configurations are evaluated. The third part is devoted to the economic analysis of proposed solutions, with a discussion of all inputs and their possible change in time, also sensitivity analysis is presented.

The student worked regularly, keeping deadlines and very proactively. The citations are used regularly following the citation norms.

I consider the submitted work as above average. It has a logical structure and it is easy to read. There are no weak or illogical parts and the chosen approach is fully corresponding to the scope

of the problem. I have a few comments on the formal part. The thesis is written with a few typographic and syntactic errors.

As a supervisor, I can conclude that the submitted diploma thesis demonstrates good orientation in the topic and that all the aims of the master thesis instructions are fulfilled therefore I recommend the thesis be accepted and to be graded

## **A – Excellent**

Questions regarding the master thesis:

- 1) Can you explain more the value of the discount rate?
- 2) Can you compare the actual situation in the electricity markets between Russia and the Czech Republic?

Prague 9.6.2022  
Ing. Michaela Makešová