THESIS REVIEWER'S REPORT

I. IDENTIFICATION DATA

Thesis title:	**Feasibility Study For Power Generation Off-Grid Hybrid System In Rural Area of Ethiopia**
Author's name:	**Mathewos Erabo Basore**
Type of thesis :	**master**
Faculty/Institute:	**Faculty of Electrical Engineering (FEE)**
Department:	**Katedra ekonomiky, manažerství a humanitních věd FEL ČVUT/CTU – K13116**
Thesis reviewer:	**Vít Klein, Ph.D.**
Reviewer's department:	**Katedra elektroenergetiky FEL ČVUT/CTU – K13115**

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment **easy**

How demanding was the assigned project?

The assignment is relatively simple.

Fulfilment of assignment **fulfilled with minor objections**

How well does the thesis fulfil the assigned task? Have the primary goals been achieved? Which assigned tasks have been incompletely covered, and which parts of the thesis are overextended? Justify your answer.

The individual points of the work were fulfilled in the large part, but the mathematical apparatus is more of a secondary school level, the work is absent integral and differential forms of equations, and some values are also documented.

Methodology **partially applicable**

Comment on the correctness of the approach and/or the solution methods.

The author used by the calculation methodology is rather a description of the work of the author in the processing of individual points of assignment. We cannot fully talk about the methodology in the true sense of the word.

Technical level **E - sufficient.**

Is the thesis technically sound? How well did the student employ expertise in the field of his/her field of study? Does the student explain clearly what he/she has done?

From a technical point of view, the work is quite simple, among other things, the work of electrical appliances is not solved. Dimensioning of production equipment is not sufficiently technically justified and the level of analysis of the design of electrical equipment does not correspond to the difficulty of the diploma thesis. There is no explicit and reviewable proof of calculation of electricity production from a photovoltaic source.

Formal and language level, scope of thesis **F - failed.**

Are formalisms and notations used properly? Is the thesis organized in a logical way? Is the thesis sufficiently extensive? Is the thesis well-presented? Is the language clear and understandable? Is the English satisfactory?

The scope of work in terms of the number of pages of work corresponds to the requirements. Much of the work is of a research character, which should not be the thesis. It is not clear why economic calculations go to the past (until 2023) when the work is handed over in 2024 and the date of its issue is not mentioned. In the IRR calculation in Annex C on page 55, no result is given, in the cell there is an error report. I consider this a big mistake, the IRR is not mentioned in the work of the work. The text of the statement of adherence to ethical policies (followed by the work on the unnumbered side) refers to the already invalid methodological instruction of the CTU. Since 19.02.2024, a new methodical instruction with designation is effective: CTU_MP_2024_02_V01. Legally, the student did not make a statement to comply with ethical principles in the preparation of higher education.

Selection of sources, citation correctness	**E - sufficient.**
Does the thesis make adequate reference to earlier work on the topic? Was the selection of sources adequate? Is the student's original work clearly distinguished from earlier work in the field? Do the bibliographic citations meet the standards?	
The selection of resources was sufficient, some internet links (eg literature 45) do not refer to a specific page where the text is clearly described from which it was drawn for writing diploma thesis. Literature 57 does not have the internet reference. The list of used literature shows shortcomings and often does not allow to find the actual text affected by the title.	

Additional commentary and evaluation (optional)
Comment on the overall quality of the thesis, its novelty and its impact on the field, its strengths and weaknesses, the utility of the solution that is presented, the theoretical/formal level, the student's skillfulness, etc.
The diploma thesis does not fully fulfill the requirements for the professional and citation level of CTU in Prague, the mathematical apparatus used is quite simple and does not meet the requirements of engineering studies. Since it is currently a revised original work that was not defended, I expected higher quality of work.

III. OVERALL EVALUATION, QUESTIONS FOR THE PRESENTATION AND DEFENSE OF THE THESIS, SUGGESTED GRADE

Summarize your opinion on the thesis and explain your final grading. Pose questions that should be answered during the presentation and defense of the student's work.

The assessed diploma thesis is relatively simple in terms of difficulty, a large part of the work is of a research character and in terms of technical, the work is of less quality. In the part of the economic I miss a more concise commentary on getting up data and discussion of results, the explanation of the IRR calculation is completely absent.

I have the following questions on the diploma:

1) Define the description of the term "contemporary", write down how to calculate contemporary and how contemporary is calculated in dimensioning of electrical energy distribution.

2) Explain the IRR calculation in the thesis and provide theoretical assumptions and definitions of IRR, advantages, advantages and disadvantages of this criterion of assessing the economic efficiency of investment.

3) Define the NPV criterion and clarify the calculation of the NPV in the thesis, clarify the amount of input values you used in the NPV calculation.

4) Why should the investor implement the investment project you have designed when it is economically irreversible?

The grade that I award for the thesis is **E - sufficient.**

Date: **03.06.2024** Signature: **Vít Klein, Ph.D.**