

Jury Member Report – Doctor of Philosophy thesis.

Name of Candidate: Oleg Khamisov

PhD Program: Engineering systems

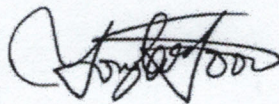
Title of Thesis: Optimization of Frequency Control in Power Systems

Supervisor: Assistant prof. Anatoly Dymarsky

Co-advisor: Prof. Janusz Bialek

Date of Thesis Defense:

Name of the Reviewer:

<p>I confirm the absence of any conflict of interest</p> <p>(Alternatively, Reviewer can formulate a possible conflict)</p>	<p>Signature:</p>  <p>Date: 20-03-2020</p>
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The purpose of this report is to obtain an independent review from the members of PhD defense Jury before the thesis defense. The members of PhD defense Jury are asked to submit signed copy of the report at least 30 days prior the thesis defense. The Reviewers are asked to bring a copy of the completed report to the thesis defense and to discuss the contents of each report with each other before the thesis defense.

If the reviewers have any queries about the thesis which they wish to raise in advance, please contact the Chair of the Jury.

Reviewer's Report

Reviewers report should contain the following items:

- Brief evaluation of the thesis quality and overall structure of the dissertation.
- The relevance of the topic of dissertation work to its actual content
- The relevance of the methods used in the dissertation
- The scientific significance of the results obtained and their compliance with the international level and current state of the art
- The relevance of the obtained results to applications (if applicable)
- The quality of publications

The summary of issues to be addressed before/during the thesis defense

Novelty

- The paper presents an advanced frequency control scheme including congestion management and inter-area flow control.

Significance of Content

- 6. Power System's Structure part doesn't seem to be necessary for the explanation of the main subject.
- Contents in 7. Frequency Control part should rather be supplemented. Frequency reserve is specified into various types and each has its role. More details about the missing ancillary services to support frequency maintenance is required.

Quality of Presentation

- Typos must be corrected. ex) trough (on page 68), several time bigger, than the number of generator buses (on page 68)
- Too many incorrect expressions, using professional editing service is recommended to improve the quality of English. ex) This section is dedicated to presents the problem of keeping the frequency at the nominal value (on page 47)

Scientific Soundness

- Not like generators, it's hard to expect the loads will respond to load control signals. Due to such reason, load control is practically difficult at present. Generally speaking, the assumption that the loads are controllable may not be realistic.

Overall Merit

- Novel research, but edit required on overall details.

Provisional Recommendation

☐ I recommend that the candidate should defend the thesis by means of a formal thesis defense

☒ I recommend that the candidate should defend the thesis by means of a formal thesis defense only after appropriate changes would be introduced in candidate's thesis according to the recommendations of the present report

☐ The thesis is not acceptable and I recommend that the candidate be exempt from the formal thesis defense