LITHUANIAN ENERGY INSTITUTE

ADMISSION TO PHD STUDIES FOR THE YEAR 2023

DOCTORAL RESEARCH TOPIC:

Investigation of virtual power plants control algorithms

RESEARCH FIELD:

Energetics and Power Engineering (T 006)

BRIEF DESCRIPTION OF RESEARCH TOPIC:

Virtual solutions are being increasingly deployed in power systems to manage efficiently power plants and increase their integration into power systems, ensuring reliable and stable operation of power grids.

Aim: To develop virtual power plant control algorithms with a purpose to increase the efficiency of power plants.

Objectives:

- To analyse/test control algorithms of the current virtual power plants.
- To Develop methodologies/algorithms (possible application of artificial intelligence) to increase the efficiency/manageability of virtual power plants control.
- To carry out a study on the effectiveness of the developed virtual power plants control algorithms in comparison with a few, most common/most frequently used algorithms.
- To Perform test calculations when virtual power plants are operating in the Lithuanian power system.
- To Develop conclusions and recommendations for the application of new/developed virtual power plants control algorithms.

The expected outcome is to develop virtual power plants control algorithms to ensure efficient power plant control and to increase the integration of renewable energy technologies into the electricity system.

SCIENTIFIC SUPERVISOR:

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