



ADDITIONAL CRITERIA APPLICATION FOR THE POWER SYSTEM PLANNING TOOL

O. Kochukov, A. Mutule

*Institute of Physical Energetics
Aizkraukles str. 21, LV-1006 Riga – Latvia*

ABSTRACT

The main objective of this paper is to show ways of improving of power system long-term planning method by adding new criteria. Static stability is essential criteria of power system operation, especially observing dynamic processes, however its influence on long-term planning is poorly investigated. System functioning calculation methods that are being used in operational state optimization models have significant differences with algorithms and methods in planning models. From system development point of view, it is necessary to deliver sellable energy from power plant to consumer. In this case static stability can be expressed as necessary costs for its maintenance. The paper considers research of cost criteria for maintenance of static stability. In order to realize the influence of new criteria to final power system planning result, there is given a comparative example of different long-term planning approaches. The algorithm is based on earlier versions of LDM-TG software algorithms. Offered algorithm is included in newest development of Laboratory of Power System Mathematical Modelling - PSPLanner software that also is going to be briefly presented.

Keywords: future electric power systems, transmission planning, cost-benefit analysis component