

Goryachevskiy K. S., Smolovik S. V.

Active power losses estimation in high-voltage UPS power grid for 2014–2019.

Based on perspective mathematical model of Russian's Federation UPS, analysis over technical active power losses during the period of 2014–2019 has been made. Electrical operational modes optimization with reactive power and voltage levels criteria and assessment of power losses reduction measures efficiency in high-voltage grid has been done. It is shown that losses reduction boundaries are tight and does not exceed 1,0–1,3 % of maximum losses level.

Key words: electrical grid, steady-state mode, electrical energy losses, power losses, compensating devices, reactive power sources, mathematical model, UPS.

Goryachevskiy Konstantin Sergeevich, Scientific and Technical Center of Unified Power System (STC UPS), St. Petersburg.

E-mail: goryachevskiy_k@ntcees.ru

Smolovik Sergey Vladimirovich, Dr. Sc., Professor, Scientific and Technical Center of Unified Power System (STC UPS), St. Petersburg.

E-mail: smolovik@ntcees.ru