Идентификатор выступления: **86**   Тип: **не указан**

CALCULATION OF NODAL PRICES FOR HEAT ENERGY IN HEAT SUPPLY SYSTEMS

The paper is devoted to the calculation of nodal prices for heat energy in heat supply systems. The problem, mathematical model and method of calculating differentiated prices of heat energy for all consumers of the heat supply system are considered, taking into account the different cost of heat production by sources, optimal flow distribution, and placement of consumers in the heat network (distance from the source). As the main computational tool for calculating node prices for heat energy, the Lagrange multiplier method is used in the problem of optimizing the modes of the heat supply system, which allows to explain in detail the formation of the price for heat energy in each node and on each branch. This approach has proven itself well in the calculation of nodal prices in the electric power industry [1-4].
With the help of the proposed computer, practical studies were performed on a real heat supply system.

References

1. Bulatov B.G., Karkunov V.O. Simplified model for determining nodal prices in the electricity market //Vestnik YUzhno-Ural'skogo gosudarstvennogo universiteta, №34, 2009

2. Vas'kovskaya T.A. Questions of formation of equilibrium nodal prices of the wholesale electricity market //Elektricheskie stancii № 1, 2017, S.25-32

3. Davidson, YU. V. Dogadushkina, E. M. Krejnes, N. M. Novikova, A. V. Seleznev, YU. A. Udal'cov, L. V. SHiryaeva M. R. Mathematical model of power system management in a competitive wholesale electricity and capacity market in Russia // IZVESTIYA RAN. TEORIYA I SISTEMY UPRAVLENIYA, 2009, № 2, s. 84–94

4. Singh H., Hao S., Papalexopoulos A. Transmission congestion management in competitive electricity markets // IEEE Trans. on PWRS, 1998. – Vol. 13, No.2. – 3p. 672-680.

Основные авторы: STENNIKOV , Valery (ESI SB RAS); KHAMISOV, Oleg (ESI SB RAS); PENKOVSKY , Andrey (ESI SB RAS); KRAVETS, Angelica (ESI SB RAS)

Докладчик: KRAVETS, Angelica (ESI SB RAS)

Классификация сессий: Session 5. Reliability of fuel and energy supply to the consumer, energy security