



SOME LINES OF ENERGYSAVING IN ELECTRIC POWER INDUSTRY

Kobziev V., Krasowski E.

*Kharkov National University of Radio Electronics
Department of the Polish Academy of Sciences in Lublin*

The importance of continuing and more large-scale work on energy saving and energy efficiency is not in doubt. The main directions of work are grouped administrative (legislative), organizational and technological measures. In recent years, the rapidly evolving work of equipping consumers of energy smart metering devices the quantity and quality of consumed energy. The greatest progress in this direction is observed in the electricity sector, which has the highest number of consumers in any European country.

In Ukraine working system of monitoring and control of power grids, but information on the consumption and network status collection comes with long delays. All the electrical distribution system (from high to medium voltage) are working in a semi-automatic, and more - in manual mode. Energy companies control the work of medium-voltage substations in the semi manual mode, the forced shutdown - are not uncommon. Therefore, the transition to remote management of power grid - one of the tasks of modern information technologies in the industry.

Ukraine has significantly decreased production, which is characterized by a uniform power consumption. The main consumers are the municipal and private sectors, and their schedule of consumption remains extremely uneven - peaks in recent times have become more pronounced. To solve this problem, many Ukrainian energy companies have intentions to network modernization and equipment of consumer smart meters - devices capable to take into account and to transmit data on energy consumption.

In Europe, the strategy for the transition to smart consumption plays an important role in countries with a high penetration of smart meters savings noticeable enough. In accordance with EU directives, by 2020 more than 80% of households in Europe have to move to smart meters. By that time, it will be installed over 240 million smart meters to increase energy efficiency by 20% in the EU. Smart meters are needed, and by the power companies. Known example of Italian firm Enel: setting 30 million meters, the company entered the € 500 million per year savings, and payback period of 4 years.

Accurate accounting of electricity will eliminate its overproduction. In developed countries, forecasting consumption in the network on the next day comes with the accuracy of about 98%. If we can achieve 99%, the cost of electricity will fall by half. And the struggle is for each hundredth of a percent. Therefore, it is urgent is the problem of the development of information technology precise short and medium-term forecasting of electricity consumption volumes.

Intelligent consumption and thin network configuration management will address the following tasks: to limit investment in maintaining redundant infrastructure, to get rid of forced outages, calculate the theft of electricity and remotely disable offenders.