Power engineering

The paper investigates the impact of the reliability of electric energy consumption volumes forecasts on the performance of SE "NPC Ukrenergo" in the long-term perspective; it proved that artificially low residential electricity tariffs and cross-subsidisation form institutional conditions for abuse by commercial consumers, who seek to use electric energy as if they were residential consumers in order to reduce their own costs; it validates that such a situation distorts data on the volume of electric energy consumed by different groups of consumers and, therefore, impairs reliability of forecasts build on such data; it proved that it is practical to abandon the practice of cross-subsidisation in the power sector and to switch to market price formation.

Key words: *forecast reliability; electric energy consumption; SE "NPC "Ukregergo"; residential and commercial consumers; electricity tariffs; cross-subsidisation.*

In the article the questions of improving power quality and reduction of losses in electric networks, through the use of adjustable device for longitudinal compensation. Special features of the use of this equipment, the advantages and disadvantages of installations. The analysis of work in different modes. Defined the main problems of power transformers in the network settings longitudinal compancicii, ways of protection of capacitor units.

Keywords: *the loss of electricity, electric networks, power quality, installation of longitudinal compensation capacitor Bank, reactive power compensation.*

Offered and a calculation is confirmed expedience and environmental is power efficiency of the use of inertial store of energy in houses with a zero energy consumption.

Keywords: *inertial store of energy, house of a zero energy consumption.*

The paper considers expected economic benefit due to transfer of a group of residential buildings with obsolete domestic heat water supply boilers to centralized heat water supply accompanied by installation of modern equipment and reconstruction of block network and replacement of heat supply pipes for trenchless heat supply pipes laying in PU foam jacket and laying of Isoproflex hot water supply pipes.

Consider new means of organizing feeding water environments of mass heat exchange equipment of nuclear power plants units on the basis of pumping units with a combined turbine drive. Developed technical solutions allows to improve the system of emergency feeding by integrating turbopump devices in automated control system of power unit, based on the increasing trend of informatization control of energy production facilities.

Keywords: *emergency makeup, combined turbine drive, energetics, informative control power equipment.*

Alternative energy sources

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A METHOD TO INCREASE PERFORMANCE OF THE WIND MOTOR

Modern wind turbines are not able to consistently show maximum performance in any wind. As a result a significant part of wind energy can not be turned into useful work. It is suggested that this problem can be solved by using wind motor varied useful load. This can be implemented in practice, for example, by using the special device developed by the author.

Key words: *wind energy, wind turbine, motor varied useful load, useful load variator.*

Economy, organization and management

The possibility of creation of economic-mathematical model of zoning of the industrial enterprises of regions of Ukraine is considered in the article The technique of formation of innovative and engineering industrial clusters is offered. Influence of such clusters on innovative activity of the enterprises is analysed. The factorial analysis to finding of the key indicators defining placement of an innovative and engineering cluster is applied. The synergetic regional effect of innovative and engineering industrial clusters is gained.

***Key words**: innovative and engineering industrial cluster, synergetic regional effect, clustering factors.*

This article substantiates the relevance of insurance in the fuel and energy complex of Ukraine. Determined that the insurance can serve as a mechanism to ensure effective resource sustainability of the fuel and energy complex. Problems were identified and the general characteristics of insurance in the energy sector were proposed. Concluded about the prospects for the insurance in the energy sector.

***Keywords**: insurance, insurance field, the fuel and energy complex.*

Scitntific and technical progress and efficiency of production

In the article is brought technical ground of formulas on that the parameters of asynchronous engines settle accounts from their tabular data.

***Keywords:** engine asynchronous, parameters.*

The article describes the information processes in biological systems at the cellular level and the main requirements for the external electromagnetic radiation for the treatment of animals. The feature of living organisms as biocybernetical systems is their ability to change tactics and strategy of management for better using of favourable conditions for the development and good adaption to unfavourable habitat.

***Keywords:** electromagnetic radiation, treatment of animals, information processes in cells.*

ANALYTICAL ANALYSIS OF CORRUGATED CONICAL HORN FOR TREATMENT OF ENDOMETRITIS IN ANIMALS

The paper presents a theoretical research to determine geometrical parameters and directions diagram of the corrugated conical horn in millimeter rage of wave lengths for internal treatment of endometritis in cattle.

***Key words:** endometritis, prenatal treatment, corrugated conical horn, electromagnetic radiation.*