

Energy saving

PACHKOLIN Yuri Eftovich, BONDARENKO Olexandr Olexiyovych, LEVCHENKO Sergiy Andriyovich. **RESEARCH OF ELECTRIC FIELD IN AN ARC FURNACE IN ORDER TO DEFINE CRITERIA OF ENERGY CONSUMPTION IMPROVEMENT.....2**

The given results of theoretical research allow to define the distribution of actual power in arc furnace cavity by means of integral equation system using secondary sources method. The received results are basis for creation of software that supports operation of industrial computers, which have ability to run the arc furnace in order to improve energy consumption.

Key words: arc furnace, actual power, integral equation system, industrial computer.

KANIUK Gennady, MEZERYA Andrey, MELNIKOV Vyacheslav, BABENKO Igor. **PRECISION AUTOMATIC CONTROL SYSTEMS TURBOGENERATORS.....12**

The article is devoted research and working out of scientific and technical and standard methods and means of improvement of indicators of quality developed turbogenerators by installations of power stations and their finishing to level of operating international standards. In work questions of working out and introduction of new effective technical decisions are considered, essentially reduce all kinds of static and dynamic errors and, thereby, raise accuracy of regulation and quality of the made electric power. Methods of structurally-parametrical synthesis of regulators of frequency and capacity concern such methods and decisions turbogenerators installations on the basis of return problems of dynamics, in particular.

Keywords: turbogenerators installations, steam and hydraulic turbines, indicators of quality of the electric power, accuracy of regulation, synthesis of precision regulators, scientific and standard base.

Power engineering

SHUBENKO Olexsandr Leonidovich, HOLOSHCHAPOV Vladimir Nikolaevich, STRELNIKOV I. S., RESHYTKO I. V. **EFFECT OF COARSE PARTICLE MOISTURE ON WORK PROCESS OF THE WET STEAM STAGES OF TURBINES.....28**

A mathematical model of the effect of coarse particle moisture on the output and erosion characteristics of the wet steam stages of turbines for TPP and NPP is reviewed.

The possibility of increasing the efficiency and erosion resistance of rotor blades of the last stages of high-capacity turbines by developing a series of activities based on the results of design research on the proposed model is shown.

Keywords: moisture, stage, mathematical model, rotor blades, characteristics, mechanical losses, erosion.

Economy, organization and management

TELIZHENKO Olexsandr Mykhailovych, VAKULENKO Ihor Anatoliyovych, MYROSHNYCHENKO Iuliia Olexsandrivna. **METHODOLOGICAL APPROACHES TO THE EVALUATION OF THE SOCIAL, ECOLOGICAL AND ECONOMIC EFFICIENCY OF THE INVESTMENT PROJECTS ON ENERGY SAVING.....40**

The article deals with the methodological features of the evaluation of the social, ecological and economic efficiency of the investment projects on energy saving. There is given the algorithm of the project efficiency evaluation at the stage of coordination and harmonization of the list of measures developed as a result of energy audit. There is suggested the improvement of existed evaluation approaches of the project economic efficiency by taking into account the avoided costs and by calculating the boundary value of profit reinvestment into the reconstruction. The analyzed methodological approaches have been approved during list preparing of the investment project in Sumy region and can be suggested to the potential customers. Such methodological approaches allow to prepare the grounded investment requests with taking into account the international experience and common understanding of the parameters of the energy saving projects by customers as well as potential investors. The identified criteria can be used while tenders conducting decisions making on the expediency of the projects implementation funding.

Keywords: social, ecological and economic efficiency, investment project, energy audit, energy efficiency.

Scientific and technical progress and efficiency of production

SHRAM Alexander. THE STUDY OF PLASMA FLOW' PARAMETERS OF THE ELECTROTECHNICAL COMPLEX FOR ION-PLASMA SURFACE MODIFICATION OF GLASS.....52

Change of the glass's surface properties using plasma treatment is a progressive technological method that allows achieves the surface layer with desired physical properties. To choose technological parameters ion-plasma treatment of the surface of the glass at atmospheric pressure, is necessary to examine potential variation of the plasma flow rate and the concentration of positive ions of the implementation. Electrical probe method is one of the most widely used and informative methods of plasma diagnostics which allows to establish its local characteristics.

To investigate the potential distribution, temperature and concentration of positive particles in the section of the plasma flow used single electrical probe, which is a tungsten wire with a diameter of 0.3 mm and a length of 2 mm, placed in an alundum insulators.

As a result of probing the plasma flow were obtained dependences of the ionization degree and the positive ions concentration of the material implantation from the temperature. Found that by using the developed plasmatrons for the process of ion-plasma treatment of the glass surface greatly increases the positive ions concentration of the material implantation and the degree of ionization the plasma flow.

Keywords: ion, low-temperature plasma, an electric probe, current-voltage characteristic, glass.



ООО НАУЧНО-ТЕХНИЧЕСКИЙ ЦЕНТР «ЭНЕРГЕТИЧЕСКИЕ ТЕХНОЛОГИИ»

(ЛИЦЕНЗИЯ НКРЭ АБ № 220781, ЛИЦЕНЗИЯ МИНИСТЕРСТВА
СТРОИТЕЛЬСТВА, АРХИТЕКТУРЫ И ЖИЛИЩНО-
КОММУНАЛЬНОГО ХОЗЯЙСТВА УКРАИНЫ АБ № 313494)

Оказание комплекса услуг в сфере энергетики

- проведение энергетического аудита;
- разработка и сопровождение энергосберегающих программ;
- внедрение энергосберегающих технологий;
- разработка и обоснование удельных норм расхода энергетических ресурсов;
- составление и согласование энергетического паспорта предприятия;
- поставка электрической энергии по нерегулируемому тарифу;
- проектирование и установка «под ключ» автоматизированных систем контроля учета электрической энергии;
- установка счетчиков дифференцированного (почасового) учета потребления электроэнергии;
- внедрение энергоменеджмента на предприятии и обучение специалистов.

ПРИГЛАШАЕМ К СОТРУДНИЧЕСТВУ!

Мы реально сэкономим Ваши деньги!

Наш адрес:

ул. Мироносицкая, 60, Харьков, Украина, 61002,
тел. (057) 703-23-18, тел./факс +38 (057) 7149-451,

E-mail: energotex_2004@mail.ru