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单位名称: 大连汇能科技股份有限公司

地址: 大连市软件园路80号大连理工大学科技园大厦B座301室

联系人: 徐昶斗

邮编: 116023

电话: 0411-84890011 84890033

传真: 0411-84890022

http://www.dl-hn.com

E-mail: xcd8489@163.com

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责编:董媛媛

编辑:高峰 佟昕 赵博

助理编辑:苏蔚

电话/传真:(024)23933125(编辑部)

(024)23940370(广告部)

电子信箱:jieneng1981@vip.sina.com

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Evaluation method of energy-saving special investment project of oil and gas field
LAI Xian-lin, GE Yong-guang

(Xinjiang oilfield company engineering consulting center, karamay 834000, China)

Abstract: According to problem of difficulties in determining the evaluation boundary, evaluating the energy conservation and comparing the evaluation index in the energy saving investment project post-evaluation work, we put forward a viewpoint that, to determine the project boundaries by the funds, to calculate the energy by the method of test report combined with production statistics, and to make the coincidence rate of the million Yuan investment and energy saving standard coal quantity as the main evaluation indicators. It can effectively solve the difficulty of recent work in the post-evaluation energy saving investment project.

Key words: oil and gas field; energy-saving ; investment; post-evaluation

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Development process on the voluntary carbon standard project
WANG Ji-chang

(Guangzhou CEPREI Certification Body Services Limited, Climate and Energy Department, Guangzhou 510610, China)

Abstract: With the Durban climate conference ended, Canada will formally withdraw from the Kyoto Protocol, which became the first withdrawal country after signing the agreement, so that we can't help to think of the Clean Development Mechanism projects (CDM) what how long will it go far? In recent years, rapid development of voluntary carbon emissions trading, the problem come to be attendant, due to lack of supervision of market, The buyer how to confirm that they spend money to buy carbon emission reductions will actually bring benefits for the environment. In this case, the Climate Group joined International Emissions Trading Association with the World Economic Forum in 2005, to develop the Voluntary Carbon Standard to meet the needs of low-carbon market development, the paper describes the development process and specific examples of the Voluntary Carbon Standard.

Key words: voluntary carbon standard; energy saving; low-carbon energy

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Characteristic analysis and application status of biodiesel

JIA Chao-chao, ZHOU Hui, GAO Tian-zhu
(School of Automobile, Chang'an University, Xi'an 710064, China)

Abstract: The raw materials and the main features of biodiesel are

described. The current development of domestic biodiesel and prospects for the development of domestic biodiesel are discussed. Biodiesel as a renewable environmentally friendly alternative fuel, low sulfur content and the amount of lead, which can effectively reduce environmental pollution and harm to human body, while biodiesel can extend the life of diesel engines. Increasing the development and production of biodiesel can effectively alleviate the country's energy crisis.

Key words: biodiesel; renewable; alternative fuels

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The experimental research of influencing factor of the measurement accuracy of the measuring method of the open circuit voltage-ampere hour integral

DENG Kun, WANG Fu-zhong, WANG Zhao-sheng, et al
(Shenyang Architectural University, Shenyang 110168, China)

Abstract: To solve the problem of measurement accuracy of the measuring method of the open circuit voltage-ampere hour integral, many experiment have done in the article about the changes of open circuit voltage, the condition of charge and discharge and self-discharge which is related to the measuring method of the open circuit voltage-ampere hour integral. Through these experiments, main obstacle to improving its performance be discovered, and find the way of improving the measurement accuracy of the measuring method of the open circuit voltage - ampere hour integral.

Key words: pen-circuit voltage; ampere-hours; charge and discharge; self-discharge

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Project research based on the theoretical calculation of lateral heat pipe radiator was used in oil-immersed transformer

XIAO Jun, YANG Jun-bao
(Shanghai University of Electric Power, Shanghai 200090, China)

Abstract: For the traditional transformer with heat pipe, the heat pipes are arranged by vertical, according to the temperature distribution characteristics of the transformer, this paper put forward that using the heat pipe with wick to arrange transversely, insert to the top temperature of oil and overheat problem of internal oil temperature of transformer is solved directly. Proving its feasibility through the calculation. At the same time providing the new mentality for tube combined arrangement and improving heat efficiency.

Key words: transformer with heat pipe; reservoir temperature distribution; horizontal layout; the average temperature; calculation

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A green and economical air conditioning form of relevance to rural settings

LOU Zai-qiang, YANG Dong, ZHANG Yun-ting, et al
(School of Thermal Energy Engineering, Shandong Jianzhu University, Jinan 250101, China)

Abstract: Air conditioning has become an important part of people's lives. The article describes an air-conditioning system form which uses the geothermal energy and solar energy for cooling and heating, introduces its composition, working principle and characteristics. The air conditioning system is simple and practical, especially in the rural areas. We prove its feasibility through the simple computation analysis and we find cooling and heating effect can be achieved. The structure of the air conditioning form is simple. It is green and economical, has many advantages and can improve living conditions of rural areas. It has a certain application prospect worthy of promotion

Key words: geothermal energy; solar energy; green and economical; air conditioning

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Analysis on the theoretical feasibility of bio-gas and radiant heating mode in rural residence

JIN Jun-jie, TANG Zhong-hua, SI Guo-ying, et al
(School of Civil Engineering and Architecture,
Southwest University of Science and Technology,
Mianyang 621010, China)

Abstract: The feasibility of adopting bio-gas and radiant floor heating was proposed. Taking a typical rural residence in Zhengzhou City for example, the study through theoretical analysis and calculation showed that compared to the household air condition heating, such a heating mode is an economic way and efficient in energy conservation and environment protection, and elaborated the theoretical feasibility of putting into use such a heat supply mode in the future.

Key words: biogas; household air condition; radiant floor heating; economical efficiency

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Retaining structure determination of wall heat transfer analysis and economic insulating layer thickness

BAO Sheng-chang, QING Shan, JIN Jiang, et al
(Community Management Center of PetroChina
Company Limited Qinghai Branch,
Dunhuang 736200, China)

Abstract: Retaining structure wall heat transfer theory is analysed, the heat transfer differential equation is established, and the palisade structure wall thermal insulation layer thickness of economic calculation method is proposed. On retaining wall structure by thermal insulation engineering after the example analysis and calculation, to prove its energy saving effect is remarkable. The proposed thermal insulation layer thickness of economic calculation method has higher precision, the external wall thermal insulation structure optimization has important reference function.

Key words: retaining wall; heat transfer analysis; economic thickness of the insulation layer; energy saving

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Preliminary analysis of the solar floor heating system

PAN Xue-zhu, ZHAO Lei
(Municipal and environmental engineering institute
of shenyang architecture university,
Shenyang 100168, China)

Abstract: Comparing the solar floor heating with conventional radiator heating, the efficiency of the solar collector is higher under the condition of the lower working medium temperature, and the floor heating system's requirement for water temperature is lower, and the solar floor heating system is designed and its working principle and system form is described. By setting up physical model and mathematical model of two different heating means, we simulate and compare the temperature field distribution in different rooms, and know that the thermal comfort and indoor temperature of solar floor heating system are higher and more stability, and it has the advantage of energy conservation.

Key words: solar energy; floor heating; simulation and calculation

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Solid seal type permanent magnet vacuum circuit breaker application in the field of coal mine

SHAO Ming-jie, ZHANG Wan-ze, YANG Hua-song, et al
(Shenyang Research Institute of Coal Technology
Engineering Group Corp, Fushun 113122, China)

Abstract: At present our country coal mine safety production form better, but with increasing intensity of coal mining, depth, put forward higher requirements on coal mine safety production. Coal mining flame-proof vacuum circuit breaker as the main equipment of power system under mine, its performance is good or not can directly related to the power grid safe operation. Based on coal power system environment, in view of the permanent magnet temperature rise of the enclosed type vacuum circuit breaker structure, characteristics and problem solution are introduced, and the solid sealing type permanent magnet vacuum circuit breaker application prospect in the field of coal mine was discussed.

Key words: permanent magnet mechanism; enclosed type; vacuum circuit breaker; coal mine

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Discussion on the measures for safe operation of gas burner

LIU Hong-xing, WANG Ming-ting, LIU Jing-xin, et al
(Tangshan Institute of Special Equipment Inspection,
Tangshan 063000, China)

Abstract: With the improvement of national requirements for energy saving and environmental protection, gas burners were widely used in industry or related areas. The safe of gas burners operation has become particularly important. This paper based on the gas burner operation and inspection experience, through the simulation analysis of six cases of burner flame, summarizes the safety precautions in the operation process of gas burner, the measures which can provide reference for safety inspection and operation of gas burner.

Key words: gas burner; numerical simulation; safe in operation; safety precautions

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Study on the problem of operating the oil-to-oil heat exchanger and the effect on the energy-saving

SUN Fa-feng, WU Hai-chen, FAN Hua-ping, et al
(Petrochina Oil & Gas Control Center of
Beijing, Beijing 100007, China)

Abstract: Based on the original heat system, the oil-to-oil heat exchangers are added to the first stations of the western crude oil pipeline to save energy and emission reduction. Some problems were met during the process in operation, for instance, whether the condition of starting a pump is satisfied and the rising freezing point of the crude under transporting caused by the higher freezing point crude remained in the oil-to-oil heat exchanger. Solutions were provided at last. We also study on the effects after the oil-to-oil heat exchanger being operated. Such as the effects on the freezing point of the outlet oil caused by the temperature decrease speed after shutting down or the temperature increase speed after starting up and the effect of energy-saving when the heating furnace is being used. The result of using the oil-to-oil heat exchanger indicates lower temperature decrease speed after shutting down, little change of temperature. The effect of energy-saving is significant. It remains more spare heaters. It is more helpful for operating in winter.

Key words: oil-to-oil heat exchanger; kerosene heat exchanger; abnormal operation; solutions; advantage and disadvantage; energy-saving

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