

investments in new equipment to yield surplus electrical energy are economically feasible in comparison to conventional forms of electricity generation.

Keywords: cane mills, minimum market price.

TRB0842 - PERFORMANCE DIAGNOSIS OF NORTHERN DIESEL ELECTRIC POWER PLANTS

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Abstract: Abstract. The electric generation in northern Brazil autonomous grid (NBP) is characterized as fully dependent of Diesel generating sets (DGS). The NBP depends on logistics, fuel and lubricants surplus, adequate maintenance programs and reliable tariffs as to reflect the actual costs imposed by a roll of natural difficulties among this continental region. Specific fuel consumption is the adequate parameter to evaluate all these influences on plant performance. This work presents a preliminary discussion over the actual general problems of the systems, mainly by the point of view of the influence of specific fuel consumption on the performance, under the basement of data researchers in name of Universidade do Amazonas collected from ten power plants in NBP, under contract to Agência Nacional de Energia Elétrica - ANEEL. The work criticizes the political criteria the northern states of Brazil use to employ for the selection the units

Keywords: diesel generating, power consumption.

TRB0883 - NEW PERSPECTIVES OF THE ABSORPTION REFRIGERATION SYSTEM

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Abstract: This work presents both the basis for absorption refrigeration systems operations and its applications, aiming at their implementation within the modern context of cold generation, which focuses on the optimization of the used energy. Therefore, it is concluded that the absorption systems loom as a feasible alternative to be used in cogeneration systems.

Keywords: cogeneration, fuel cell.

TRB0930 - RESPONSE TIME MEASUREMENT OF TEMPERATURE AND PRESSURE SENSORS OF ANGRA-I NUCLEAR POWER PLANT USING NOISE ANALYSIS TECHNIQUE

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Abstract: The operation conditions and the limits, which the facility is subject to during a transient, are determined in the design period whether it is a nuclear facility or not. To monitor the dynamic variables and keep them under control in order to guarantee that they do not exceed the safe limits, sensors are installed throughout the process. To guarantee that these sensors respond properly,

the response time determination of temperature and pressure sensors from the Reactor Protection System (RPS) is necessary and is a requirement that must be satisfied. Furthermore it is an indicative of its degradation and its remaining working life. In this work we present the results of the response time of RPS sensors using an indirect method called Noise Analysis Technique and compare these results with those from the direct method.

Keywords: aging, pressure.

TRB0952 - EFFECT OF OSCILLATION CONDITIONS IN PULSATING CONFINED FLAMES

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Abstract: The pulsating combustion has won interest in the current researches due to the indications that its application in the energy generation can offers several advantages, such as: fuel economy, reduce pollutants formation, increases the rate of convective heat transfer and reduced investment when compared with the conventional techniques. An experimental study has been conducted with the objective of investigating the effects of combustion driven acoustic oscillations in the emission rates of combustion gases, especially carbon monoxide and nitrogen oxides. The experiments were conducted in a water-jacketed 1-m long by 25-cm internal diameter stainless steel vertical tube. The combustor operated with liquefied petroleum gas (LPG) in both oscillatory and non oscillatory conditions, under the same input conditions. Part of reactant mixture is excited acoustically before the burner exit, through a speaker positioned strategically. The burner was aligned with the chamber longitudinal axis and positioned at its bottom. The experiments was conducted for 0,16 g/s of LPG burning in stoichiometric equivalence ratio. The main conclusions were: a) the pulsating combustion process produces more uniform fuel/air profile than the non pulsating process, b) closed to stoichiometric equivalence ratio the pulsating combustion process generates higher rates of NO_x ; c) the frequency has a strong influence in NO_x emission, but the pressure amplitude has a weak influence; d) the presence of acoustic field may change drastically the combustion gases emissions in diffusion flames, but in pre-mixed flames the influence is not so strong.

Keywords: pulsating combustion, pollutants emissions.

TRB1016 - USE OF INDUSTRIAL WASTES AS ALTERNATIVE SECONDARY FUELS IN CLINKER KILNS

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Abstract: This work presents a overview about the use of waste as alternative fuels in rotary kilns of cement industry concerning to the types of fuels and its characteristics. The cement industry has been using the technology of co-processing of residues as one in the ways of to decrease its production costs and to assist the conservation politics of energy. Besides, this technology provides to the generating industries of hazardous waste to solve their problems of final disposition of this wastes, assisting to the effective environmental legislation. The technology of co-processing of residues in clinker kilns does not restrict only the thermal destruction of the residues, therefore in these kilns, the fuel and the raw materials are founded in the process, turn very important to determine the characteristics of the fuel and its components to have control on the flame characteristics, heat capacity of the fuel and also about the incorporation of ashes to the clinker. To this control it is necessary to analyze the chemical composition of the alternative fuels, as well as the presence of minor components, including heavy metals. The substitution percentage of this alternative fuels in process have also to be analyzed. Thus, will can be controlled and maintained the limits of pollutants emissions in agreement with the effective environmental legislation, avoiding or decreasing operational problems, such as the formation of collages, deterioration of the refractory revetment and unstable operation of the kiln, and also, to evaluate the effects of the presence of such constituent in the quality of the clinker and of the resulting cement. The objective of this work will be to relate the types of residues current used in co-processing, its components and some of the