

Energy storage bottle of drilling platform lifting system

Can electric energy storage be used for drilling based on electric-chemical generators?

The article outlines development of an electric energy storage system for drilling based on electric-chemical generators. Description and generalization are given for the main objectives for this system when used on drilling rigs isolated within a single pad, whether these are fed from diesel gensets, gas piston power plants, or 6-10 kV HV lines.

Can electric energy storage systems be used for drilling rigs?

The work to develop electric energy storage systems for drilling rigs has been underway worldwide for the last 5 years, however, mainly targeting isolated offshore rigs.

Which rigs have energy storage systems for onshore drilling?

The energy storage system developed for onshore drilling is among the world's first ones. As a foreign analog, only the project of the German rig manufacturer Bentec implemented in Oman can be highlighted. In 2017, the container-type 0.9 MW Bentec ESS with a storage capacity of 0.3 MW was put into trial operation on the KCA Deuteg T-94 rig.

Which rigs use lithium-ion energy storage?

The solution has been installed on various marine vessels worldwide, including the West Mira ultra-deep semi-submersible, the world's first low-emissions drilling rig to use lithium-ion energy storage.

Which Jack-up drilling rigs have a hybrid power plant?

Siemens Energy signed an agreement with Maersk Drilling to upgrade two ultra-harsh environment CJ70 jack-up drilling rigs in the North Sea with hybrid power plants using lithium-ion energy storage. The rigs - the Maersk Intrepid and Maersk Integrator - were retrofitted with BlueVault(TM) batteries from Siemens Energy.

How to reduce energy consumption of drilling rigs?

(DPS), or gas piston or gas turbine units (Pavkovič et al. 2016). As for the rigs, this energy consumption mode is POOH). introducing energy storage systems (Fig. 1). 1. Capital costs of powering drilling rigs are reduced with tings check once per shift. Also, the ESS does not need 2. The diesel fuel consumption will be reduced by up to 3.

This paper describes a study to evaluate the feasibility of adopting technology to reduce the size of the power generating equipment on drilling rigs and to provide "peak shaving" energy through the new energy generating and energy storage ...

The American Bureau of Shipping (ABS) is a leading classification society in the oil and gas industry. They provide services such as safety, environmental protection, quality assurance, risk management, research, and

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development ...

The primary focus lies on drilling rigs isolated within individual pads, which may be powered by diverse sources such as diesel gensets, gas piston power plants, or 6-10 kV HV lines. Analyzing the power operating modes of these rigs, the ...

For drilling, a top tensioned riser is used as a conduit for the drill pipe and as a return for the drilling fluids. In this case, a blowout preventer (BOP) is placed at the top of the drilling riser, ...

Offshore platform hydraulic lifting system design should meet the following functions: to ensure that the system has enough power to overcome the soil, sand and other resistance and the ...

Owing to the depletion of oil reserves and the low efficiency of traditional deep-water semi-submersible drilling platforms, the application of photovoltaic generation and ...

In this article, the aim is to develop a model for efficient energy management using hybrid energy to power a drilling rig. This involves utilizing wind turbines and emergency ...

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Supporting drilling contractors and operators" ESG goals and objectives for a carbon-neutral future, Caterpillar has created targeted solutions. Among these is the Cat Energy Storage ...

Digital twin characteristics of gear rack drilling rig lifting systems. Digital twin technology for oil and gas drilling and completion entails creating a digital representation of ...

The oil rig is an important part of the oil production equipment. In the production, the mutation load which oil rig bears will increase the energy consumption of the power unit, even damage its ...

the Well Control System (Blowout Prevention System) These systems are shown in Figure 9.01 . In addition, Figure 9.02 shows a more detailed schematic diagram of a rotary table, land rig.

The schematic layout of the land-based oil drilling rig alternating-current (AC) microgrid is illustrated in Fig. 1 is typically powered by a diesel generator-based power-plant ...



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