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Two-way charging using integrated energy storage cabinet at drilling sites

Test certification
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Overview

This paper introduces a novel testing environment that integrates unidirectional and bidirectional charging infrastructures into an existing hybrid energy storage system. 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. Fast DC charging with built-in 208.9 kWh battery, V2G-ready control, and smart O&M—engineered for uptime and ROI. As EV sites scale, the limits of the grid show up first: high demand charges, transformer bottlenecks, and costly upgrades. Photovoltaics, energy storage and charging are connected by a DC bus, the storage and charging efficiency are greatly improved compared with the traditional AC bus. The system adopts a distributed design and, as the increasing scale and complexity of drilling operations have significantly raised power requirements.

Two-way charging using integrated energy storage cabinet at drilling



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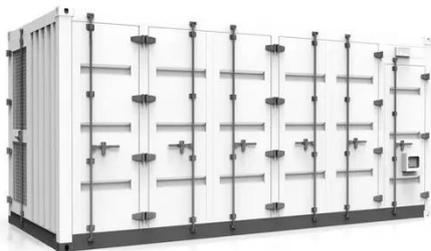
Energy Storage Systems For Drilling Rigs: Evgeniy Chupin

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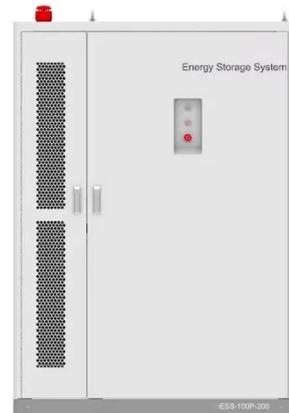
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PV-Storage-Charging

Integrated System

The system adopts a distributed design and consists of a power cabinet, a battery cabinet and a charging terminal, which facilitates flexible deployment of charging power and energy storage ...

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