

UAE cascade utilization energy storage power station





Overview

Can pumped storage power stations be built among Cascade reservoirs?

The construction of pumped storage power stations among cascade reservoirs is a feasible way to expand the flexible resources of the multi-energy complementary clean energy base. However, this way makes the hydraulic and electrical connections of the upper and lower reservoirs more complicated, which brings more uncertainty to the power generation.

How pumped storage power stations can improve Ur and LR?

The construction of pumped storage power stations among cascade reservoirs can improve the flexible adjustment ability of the clean energy base, which also changes the water transfer and electrical connection of UR and LR at the same time.

Can pumped storage power stations support a high-quality power supply?

Hence, to support the high-quality power supply, this research explores the complementary characteristics of the clean energy base building different types of pumped storage power stations, and recognizes the efficient operation intervals of the giant cascade reservoir.

Why is multi-year regulation important in a Cascade Reservoir?

Further, the key reservoir with multi-year regulation ability plays a very important role in the comprehensive utilization efficiency of the whole cascade reservoir, and it is vital to determine its reasonable operating water level and comprehensive utilization flow according to different working conditions in different seasons.

Why do we add PSPS between Cascade reservoirs?

For HWPPHS, regardless of the season, more than 20 percent of the electricity in the transmission channel is supplied by hydropower. Hence, adding PSPS between cascade reservoirs can generate more stable and larger power to the



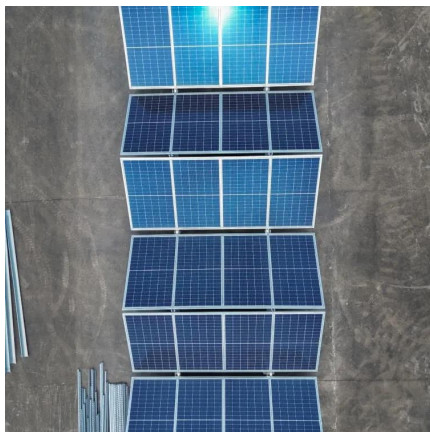
transmission channel. Fig. 22.

How do pumped storage power stations work?

As the most mature and cost-effective energy storage technology available today, pumped storage power stations utilize excess WPP to pump water from a lower reservoir (LR) to an upper reservoir (UR).



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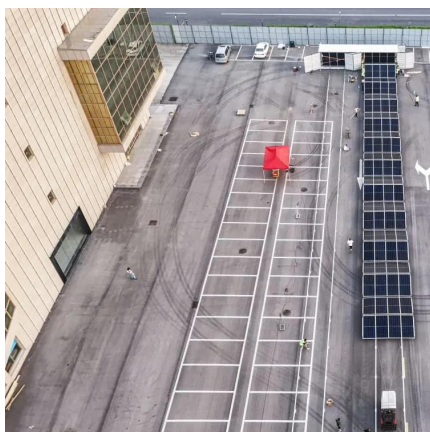


Utilization of cascade energy storage batteries

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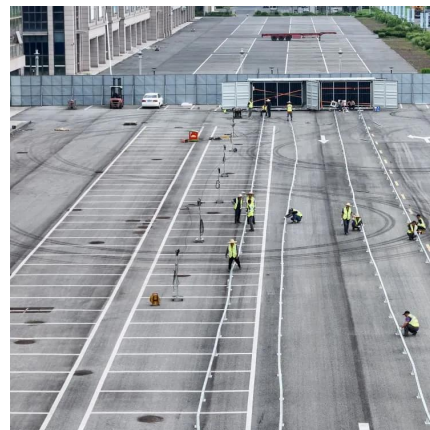
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