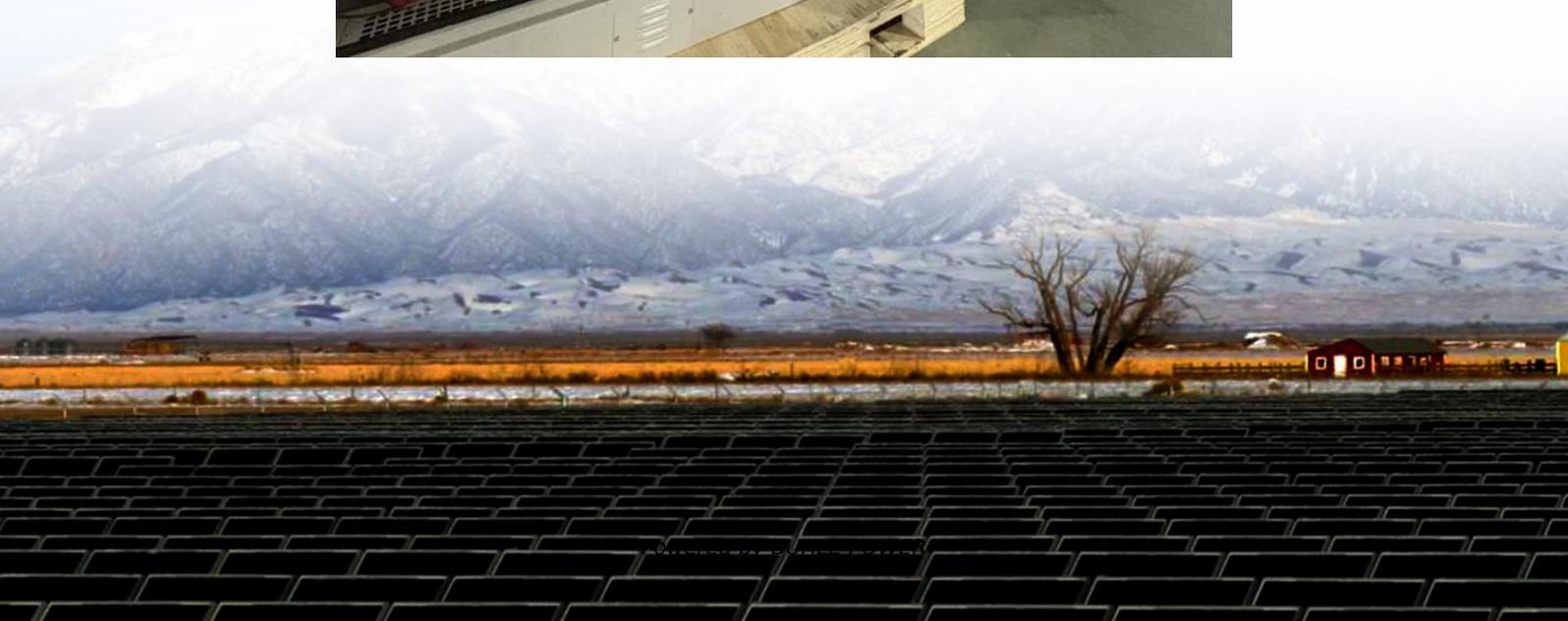


Generator composition of Lavoisier solar power station





Overview

Is a photovoltaic generator a PQ node?

Unlike a conventional generator that is often modeled as a PV node (set the generator's terminal voltage and its active power output constant), a photovoltaic generator is operated as a PQ node (set the photovoltaic generator's active power and reactive power outputs constant).

What are the different types of PV generators?

There are two typical configurations of PV generator in power system applications, namely, single-stage and two-stage as shown in Fig. 1a, Fig. 1b. A single-stage PV generator uses only one converter to complete both the maximum power point tracking (MPPT) and the power grid connection.

Why should PV generators be integrated into the grid?

With the increased integration of PV generators into the grid, the system operators start to require PV generators have capabilities to stay online during the fault, and provide the active power and the reactive power supports when being required to do so.

How is a PV generator modeled in a power system steady state study?

A PV generator is modeled as a constant active power and reactive power source in power system steady state studies. When PV generation changes due to the ambient environment, the power system steady state studies do not investigate the transients of the power system caused by the change in PV generation.



Generator composition of Lavoisier solar power station



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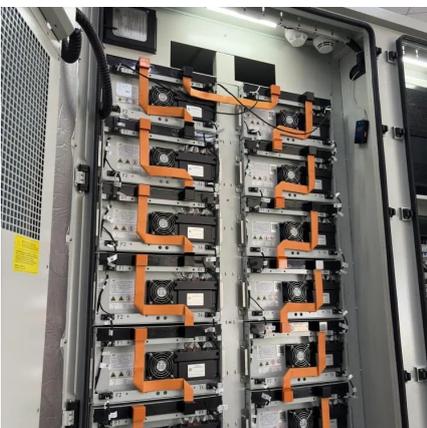
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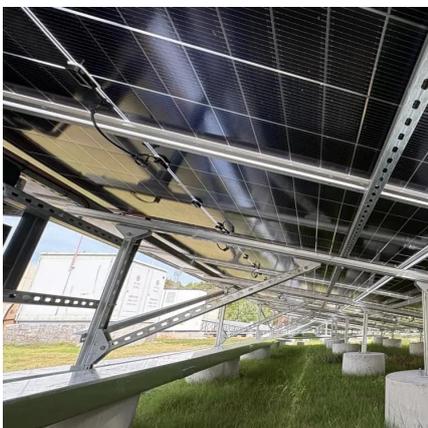


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