

Power station aggregation



Overview

What is a power system aggregator?

This unified entity operates in power system markets, participating in both wholesale and retail transactions, as well as providing services to the operator. Essentially, an aggregator is a company that manages a VPP, which in turn is a collective assembly of DERs .

How can a virtual power plant implement a dynamic aggregation mechanism?

When the acquired frequency control requirements and resource regulation characteristics change due to changes in grid dynamics or user habits, the virtual power plant can implement a dynamic aggregation mechanism based on a threshold. Then, the dynamic aggregation mechanism is divided into two parts: resources selection and coordination.

What is a dynamic aggregation mechanism for VPPs?

A dynamic aggregation mechanism for VPPs is proposed for the first time, which includes dynamic resource selection and coordination processes.

What aggregation techniques are used in smart grids?

Currently, commonly used aggregation techniques include rule-based aggregation, aggregation with static clustering, and market-based aggregation. With the advancement of smart grid technologies, the proposed method in this paper has the potential for broader applications, enhancing the flexibility and regulation capabilities of VPPs.

What aggregation techniques are used in VPPs?

In practice, the choice of aggregation techniques for VPPs depends on resource characteristics, grid requirements, and implementation complexity. Currently, commonly used aggregation techniques include rule-based aggregation, aggregation with static clustering, and market-based aggregation.

Why does aggregation use less than 500 selected flexible resources?

The proposed method ends up using less than 500 selected flexible resources at the time of aggregation due to the fact that it can only select resources according to the clusters, so it is limited by the number of resources.

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