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Energy storage transmission system





Overview

How can a battery energy storage system improve transmission lines?

To bring more operational flexibility to transmission lines and comply with the electrical sector's digitalization trends, we propose implementing battery energy storage systems at transmission lines with the system's communication protocols and data modelling based on the IEC 61850 standard.

Why are transmission systems important?

Transmission systems are indispensable to electrical power systems and transmit energy from large generation blocks to power distribution systems. The transmission lines of these systems are subject to operational restrictions due to limitations of the line capacity regarding the transmitted power.

Why is energy storage important?

This feature facilitates communication between devices, which is crucial considering the ongoing digitalization trend of power systems. The intermittency generation profile of solar and wind energy brings new operational challenges, and energy storage allows flexibility in its use.

How can a transmission line maintain its operational limits?

Transmission lines under normal operational conditions. With the line load increasing, leading to overload scenarios, the energy utility must take action to preserve its line operational limits. A traditional approach is to perform curtailment actions to maintain stability.



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