

PerSeuS

Planning principles for extended stability considerations in the European grid

The project planning principles for extended stability considerations in the European grid - PerSeuS deals with the risk of a voltage collapse in the current and future transmission network based on the current planning principles.

The substitution of conventional power plants with converter-based decentralized production units and the increase in long-range power flows, increase the significance of voltage stability in the future system planning and operation. The verification of existing planning principles is therefore of central importance in order to prevent infrastructural misallocation.

A central problem is the reactive power supply of the grid. The increasing utilization of existing transmission lines as well as large-scale power transitions result in a high-current operation, which requires an increased dynamic reactive power supply. In particular, it is necessary to validate how the voltage stability limits in a grid can be determined and evaluated depending on the load and the generation structure. Which stationary and dynamic reactive power reserves are necessary in order to reliably exceed the increased reactive power demand, as well as in the event of faults such as line, HVDC and generator failures? Based on the results, countermeasures and alternative or extended system operation strategies as well as defense plans are derived.

Project Information



Partners

- Amprion GmbH (associated)
- Institute For High Voltage Technology



Facts

- Acronym: PerSeuS
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GEFÖRDERT VOM



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