Paris Session 2022

Training Platform for Proof of future Dispatcher Tools (ID: 11098)

C2 - Power System Operation & Control

PS1 - System Control Room Preparedness: Today and in the Future

Q1.2 - The psychological pressure can affect the decision process of an operator, how can these conditions be replicated on a simulator?

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Group Discussion Meeting

DNV
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The psychological pressure can affect the decision process of an operator, how can these conditions be replicated on a simulator? (I)

- First of all, a realistic control room environment should be assured for a “home-feeling” atmosphere for the trainees. This atmosphere is taken seriously by the dispatchers:
  - Trainee places allowing normal shift staffing with dedicated tasks for each dispatcher.
  - Sufficient number of screens and one telephones per trainee.
  - Dispatcher training simulator able to continuously change measurement and state-estimator values (all generic) like in reality.
- In frame of dispatcher training there are different ways to increase the psychological pressure:
  - In preparation: Developing a continuously escalating storyline for the training session: Normal operation → Limit violations → Faults/malfunctions → Multiple faults
  - Before the start of the training: Short introduction with clear role allocation, but without further details on the course of the training session.
  - During the training session: Assuring a pure telephone communications with other control rooms, i.e. no direct communication. Observing the trainees and taken measures via the trainer screens and being prepared for activation of additional faults/malfunctions when the stress level should drop.

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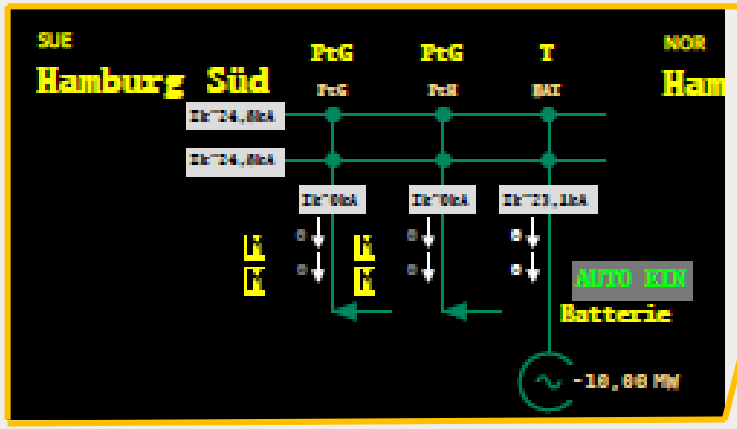
The psychological pressure can affect the decision process of an operator, how can these conditions be replicated on a simulator? (II)

Also causing psychological pressure: Overstrain due to highly complex situations (below example)

- Our paper presents a methodology to extend the features of a dispatcher training simulator (DTS) by a model-based decision support tool to handle in total 315 decentralized flexibility assets like.
- The dispatcher needs to make optimal use of all flexibilities to solve grid congestions in 2030 grid.



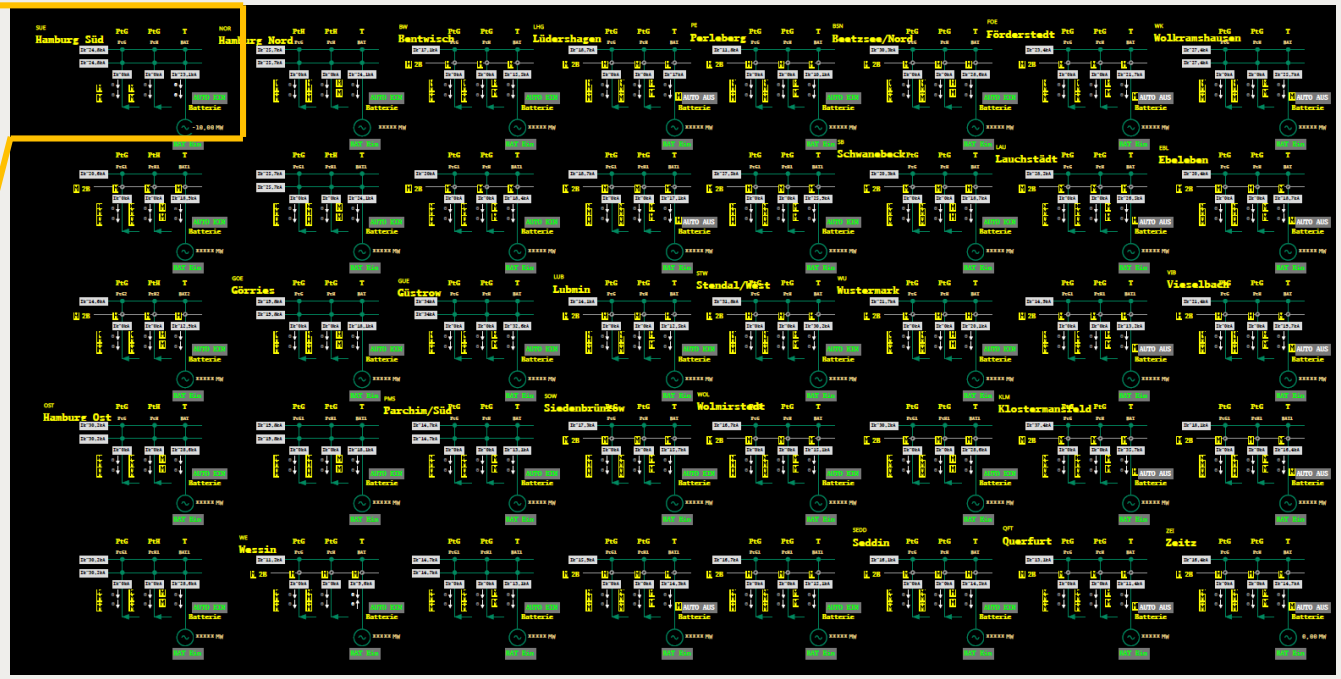


Fig. shows an extract of decentral flexibilities connected via distribution level to the

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