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**Communication across control centres in emergency and restoration situations**

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**Abstract;**

The daily planned operation of the power system only needs a low amount of communication via telephone between operators of involved control centres. In contrast in restoration scenarios after serious disturbances ad-hoc information exchange is required for making adequate decisions. Therefore the amount of communication via telephone rises extremely. Especially for the TSO control centre operators the coordination of restoration tasks performed by the connected DSO control centre operators and Power Production (PP) control centre operators is vital. As this is not part of the daily business it has to be trained.

The company DUtrain in Duisburg performs trainings with the topic Emergency & Restoration on a full-scale training simulator. Operators of TSO, DSO, and PP control centres from different countries take part in these trainings since more than 20 years. Training courses cover technical aspects as well as communication, coordination and cooperation of the control centre actions. For these trainings a unique telephone system is installed and a communication support tool is developed. We demonstrate how the telephone system in combination with the communication support tool is efficiently used in the training.