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TSO-DSO Interactions: The EMS-DMS Data Exchange

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Abstract:

The proliferation of distributed energy resources and loads that can provide demand response is making it impossible to operate and control the transmission system and distribution system separately. As real time measurements and model data for the transmission system reside in the EMS and for the distribution system in the DMS, what data needs to be shared between the two? To answer this question one has to first understand how the distribution system affects the transmission system and vice versa. Then it is necessary to determine whether these effects are needed to be monitored and/or controlled for secure operation of the total grid. This will define what data from the DMS needs to be available to the TSO and what data from the EMS is needed by the DSO for the sake of monitoring. How this data will be displayed to the operators, used by the applications, and how the control signals will be sent out will all influence the EMS-DMS data exchange. Finally, the models required by some applications may require both transmission and distribution models which in turn may significantly increase the computation requirements beyond what the EMS or DMS can individually handle today. This presentation will try to summarize the many issues that will need to be resolved in designing the EMS and DMS of the future to accommodate the TSO-DSO interactions

Please send the Abstract to dsobajic@gridengineering.com by April 12