

Growing the Grid with GETs

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Meet the GETs!



Dynamic Line Ratings

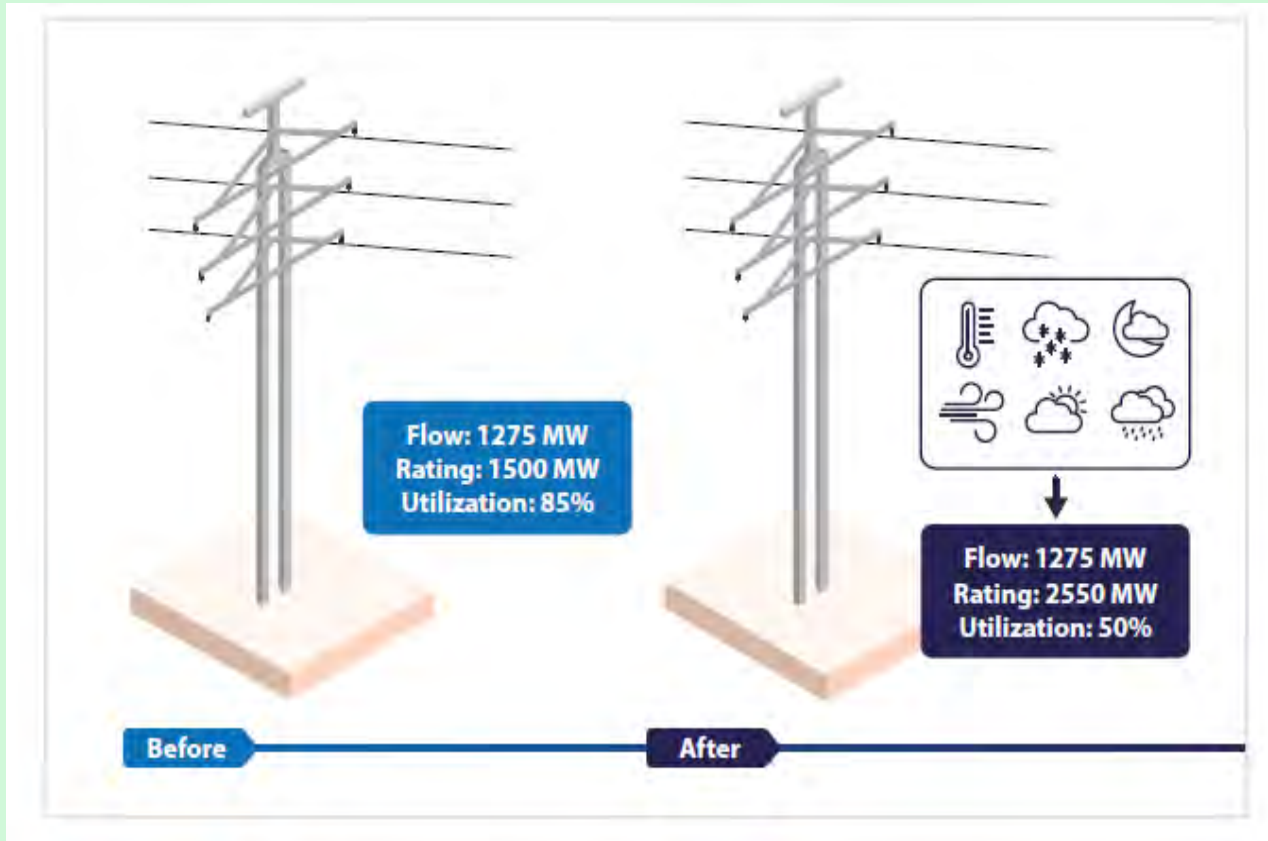


Advanced Power Flow Control



Topology Optimization

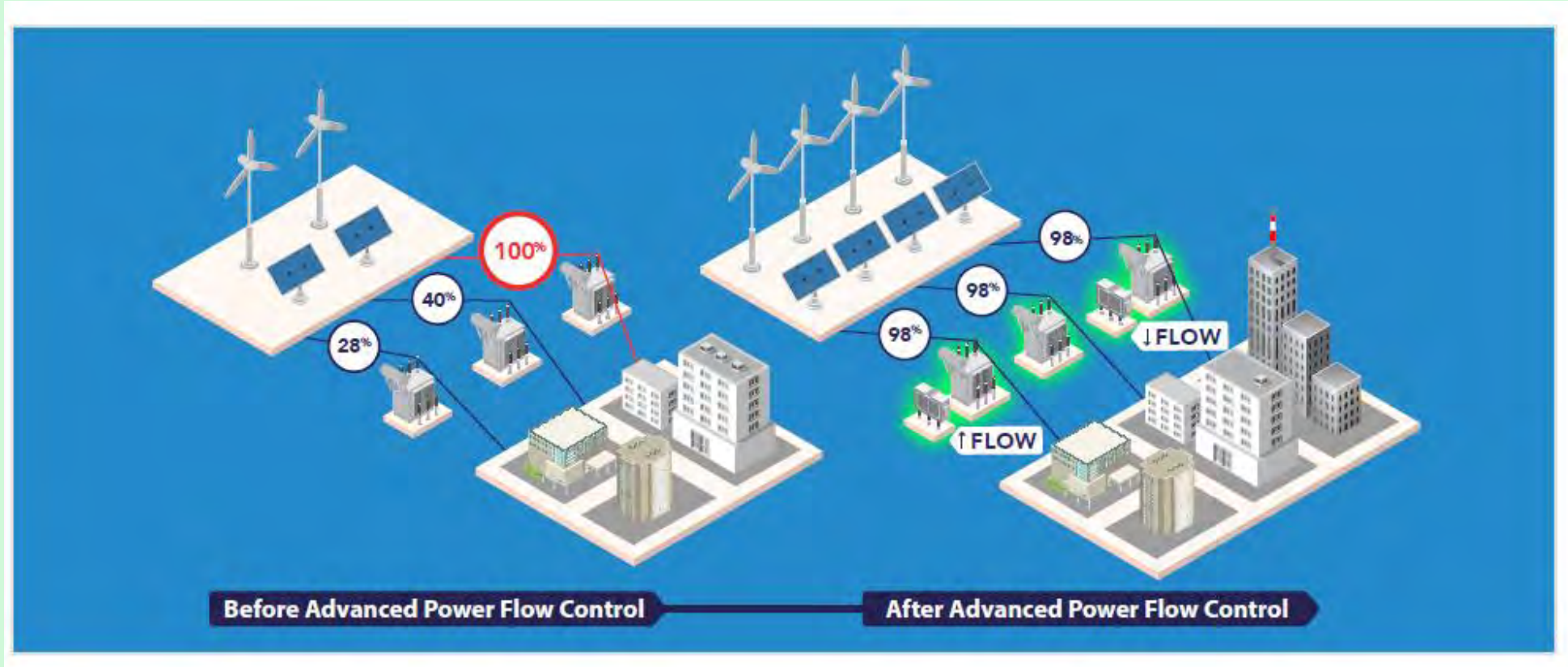
Dynamic Line Ratings



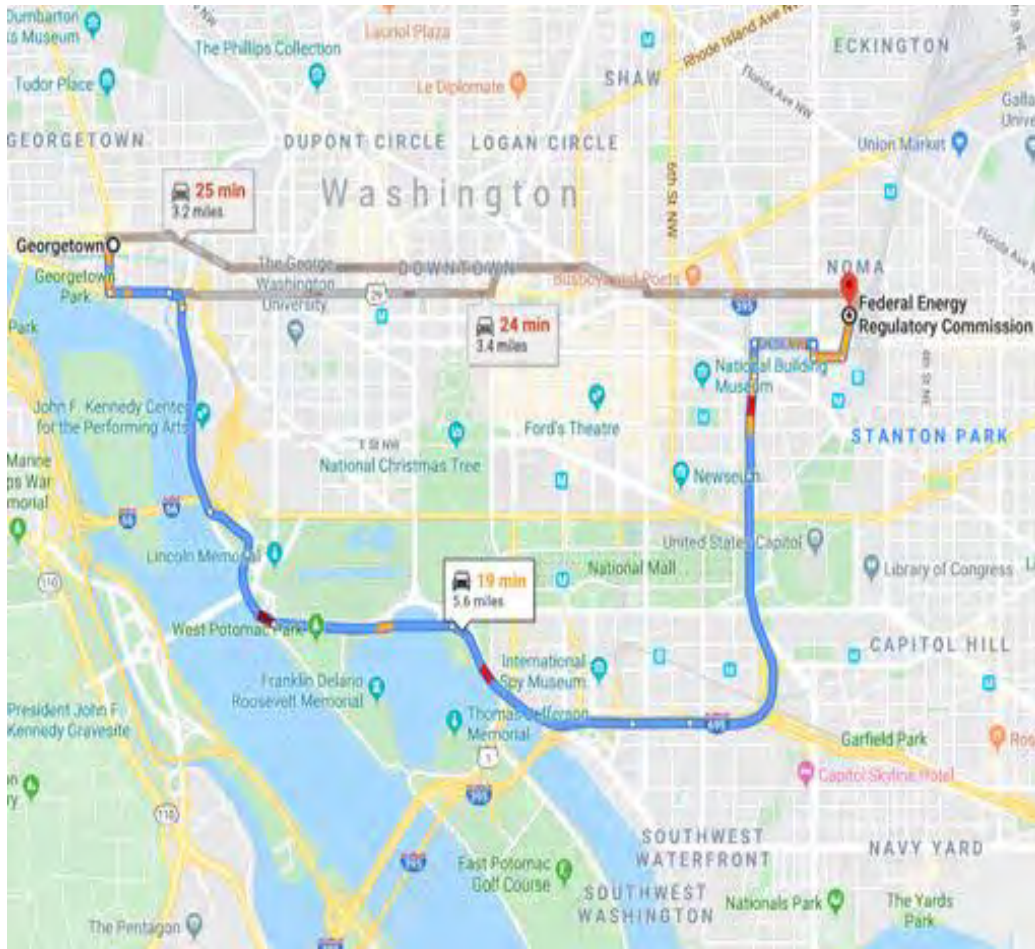
- Fixed transmission line ratings can underestimate transmission capacity.
- DLR calculates the true carrying capacity at a point in time by accounting for solar heat, wind, cloud cover, and other factors.
- Can prevent overloading.

Advanced Power Flow Control

- Devices at substations adjust the power line impedance to redirect flows in real-time to underutilized lines.
- Improves grid stability by controlling voltage.



Topology Optimization



- Acts as a navigation app for the grid by identifying ideal grid configurations and redistributing power flows.
- Reduces congestion costs and improves reliability.

GETs Benefits Summary

- Cost savings through reduced congestion and delivery of lowest-cost energy.
- Support the grid while power lines are under construction or out of service.
- Can avoid investments in new lines.
- Deployment time frames of months compared to years for new transmission.
- Additional reliability benefits through greater system visibility.

Recent FERC Actions

Order No. 2023: GETs must be considered in interconnection studies, including APFC and transmission switching.

Order No. 1920: Transmission providers must evaluate dynamic line ratings, advanced power flow control devices, advanced conductors, and transmission switching when determining transmission solutions.

DLR ANOR: Possible DLR requirements: solar heating on all transmission lines and wind speed and direction on certain lines that exceed wind speed and congestion thresholds.

State Actions

- Transmission jurisdictional issues must be considered.
- Require utilities to consider or explain how GETs are evaluated in utility planning processes, such as Integrated Resource Planning.
- Create utility working groups to study and share lessons learned.
- Require the study of the benefits of GETs, especially to support specific state goals.
- PUCs can prioritize lowest cost and quickest deployment for transmission investments.
- Advocate for greater consideration of GETs and high-performance conductors in Order 1920 and 2023 implementation by the RTOs/ISOs.