Defining New Locational Deliverability Areas

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Planning Committee

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Background

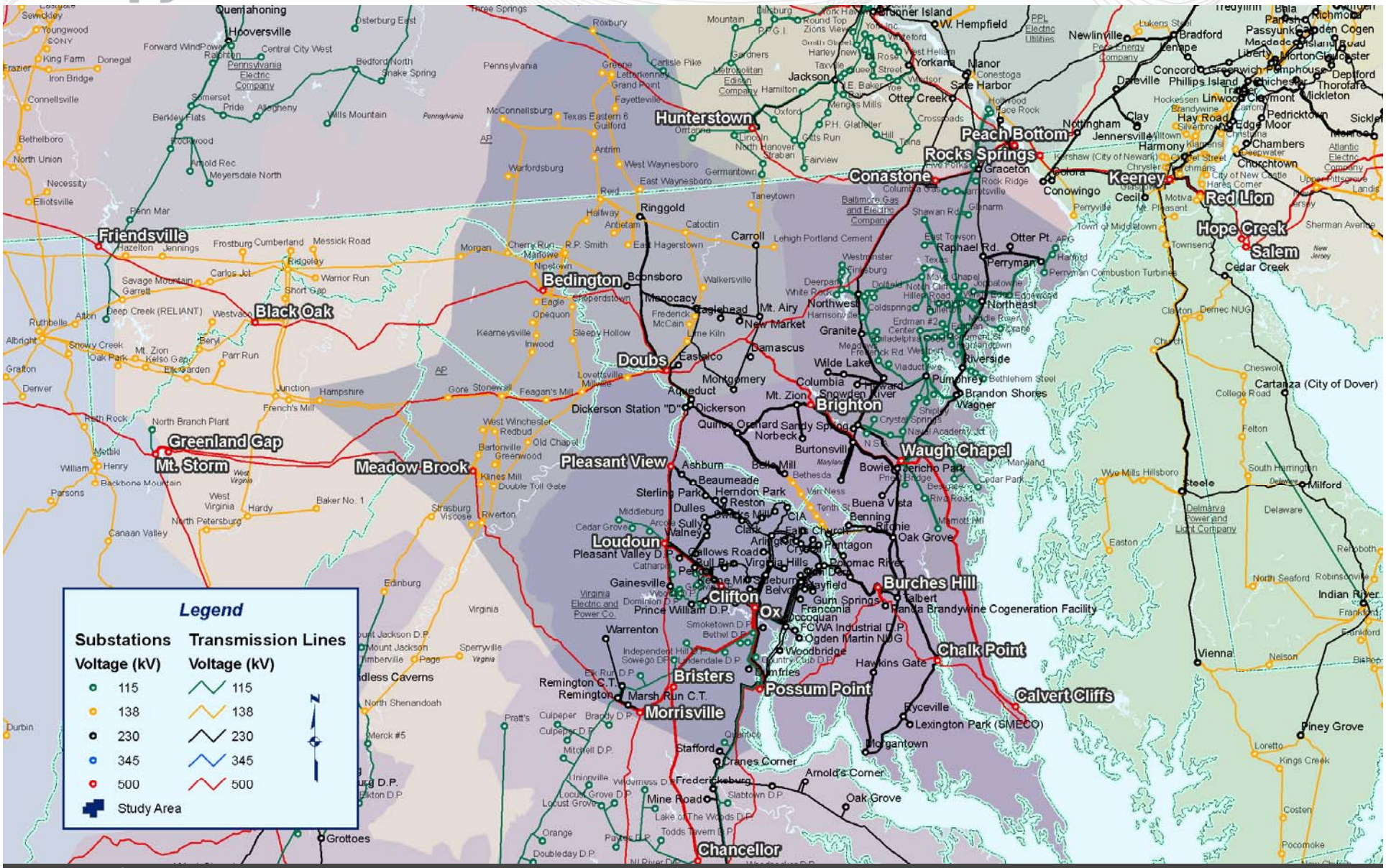
- Previous efforts to define new locational deliverability areas have focused on developing analytic methods.

- The Reliability Assurance Agreement (RAA) also provides for stakeholders to propose new LDAs.

- Schedule 10.1 paragraph B of the RAA
  - In addition, any Party may propose, and the Office of the Interconnection shall evaluate, consistent with the same CETO/CETO comparison or other reliability concerns, possible new Locational Deliverability Areas (including aggregate LDAs) for inclusion under the Regional Transmission Expansion Planning Protocol and for purposes of determining locational capacity obligations hereunder.

- It was recently suggested that the Central PJM that had been proposed in 2007 be evaluated.

Central PJM LDA



- D-fax cutoff was established in part based on the the contributions to the flow on constrained facilities of busses within SWMAAC.
- The Central PJM LDA was defined based on load busses that contributed to the flow on the Mt. Storm – Doubs 500 kV line.
- Analysis was done on a 2010 loadflow model without the TrAIL or PATH projects modeled.

- Based on the latest RTEP analyses MAAC is limited by voltage in 2014.
- After the reactive limits MAAC is limited by underlying facilities and not Mt. Storm – Doubs 500 kV.
- Based on these updated analyses, PJM does not plan to pursue the Central PJM LDA at this time.

Background – LDA Triggers

- FERC ordered PJM to review LDA determination methodology.
- At July 13 PC meeting, PJM recommended to continue to use the currently defined 23 LDAs that are used for load deliverability testing in RTEP and RPM processes.
- PJM also recommended development of Super-LDAs to address persistent transmission constraints.
  - A Super-LDA may include an existing LDA or LDAs and portions of other existing LDAs.
  - A method of forecasting load in Super-LDAs that include portions of Transmission Zones needs to be developed.
  - The current RPM clearing process should be checked to assure it works with Super-LDAs that overlap the existing LDAs.

- RTEP Market Efficiency Analysis
  - Utilize existing market efficiency analysis to identify constrained facilities
  - Facility constraints that are not resolved by an existing approved RTEP upgrade would be identified for further consideration
  - PJM will propose a new LDA when annual market efficiency analysis identifies persistent congestion on a 500kV or above facility or interface for multiple years beyond the next BRA

- RTEP Long Term Planning
  - Utilize long-term planning analysis to identify potential future constrained facilities or clusters of facilities
  - Screen for potential facilities using thresholds that are currently used in RTEP studies
  - Analysis would be updated annually based on approved RTEP upgrades
  - 500 kV and above facilities that advance more than three years between RTEP cycles would be identified for further consideration
    - If the driver for a 500 kV facility advancing more than three years is linked to a specific event (e.g. significant generation retirement), further analysis would be required

Method to develop new LDA

- D-fax analysis would be used to determine specific busses included in the proposed LDA
- Model used to determine the load bus d-fax would include all approved RTEP upgrades
- Establish a d-fax cutoff based on one of the existing LDAs
  - Lower DFAX cutoff would expand the LDA
  - Higher DFAX cutoff would shrink the LDA
  - DFAX cutoff would be established based on analysis of specific topology
- Test the LDA to determine if the CETL is less than 115% of the CETO

Endorsement

- Manual 14B language has been drafted that discusses the triggers and method PJM will use to investigate the addition of a new LDA.

- Request the Planning Committee to endorse the proposed manual 14B language.

- PJM staff will investigate developing new LDAs based on combinations of existing LDAs.
- Initial focus of these efforts will be on the eastern half of MAAC.
  - Widespread reactive issues identified in the 2009 RTEP
  - Potential combinations include:
    - JCPL, PS, RECO and AE
    - EMAAC and SWMAAC
    - EMAAC, SWMAAC and ME
- PJM continues to partner with universities to explore network structure clustering methods.