Brattle Recommendations CETL and Load Forecast

Paul McGlynn
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Issue Charge

- Investigate and provide recommendations regarding the Brattle recommendations to reduce volatility and unpredictability associated with CETL determination limited to the following:
  - Provide CETL forecasts within 5 and 10 year RTEP outlook
  - Provide uncertainty ranges around CETL values
  - Provide CETL model to stakeholders
  - Identify successive limiting elements

- Load Forecast
  - Provide estimates of forecast uncertainty and provide semi-annual forecast updates

- Provide CETL forecasts within 5 and 10 year RTEP outlook

- Response
  - As part of the RTEP 5-year out baseline analysis PJM can calculate the CETL for LDAs similar to what is currently done for the RPM Planning Parameters
  - Analysis would be done at the end of each RTEP cycle after baseline upgrades are added to the case
  - Calculating CETL 10 years out would not provide meaningful information
    - Assumptions about future generation would have a significant impact on results
    - 10 year out CETO and CETL are not currently calculated as part of the RTEP

CETL Recommendations Continued

- Provide “uncertainty ranges” around CETL values

- Response
  - CETL is effected by a number of factors including load, generation, generation performance, transmission topology, EE, and demand response
  - Determining “uncertainty ranges” around CETL is not practical given the number of factors effecting CETL
  - More extensive scenario analyses done as part of the RTEP is currently the subject of stakeholder discussions at the RPPTF
  - These scenario analyses could provide information about limiting facilities for the given scenario

- Provide CETL model to stakeholders

- Response
  - Cases used for the development of the RTEP are currently available, subject to CEII procedures, on the PJM website.
    - http://pjm.com/planning/rtep-development/powerflow-cases.aspx
  - “Mean Dispatch” case for each LDA would be provided

- Identify successive limiting elements

- Response
  - As part of the analysis referred to on slide 3 PJM will determine the limiting element for the LDA
    - Note that CETL for areas with significant CETO/CETL margin (e.g. greater than 150%) will not calculated
  - The next limiting element will also be identified
    - PJM will assume there is no change in the impedance of the network model to calculate the next limiting facility (i.e. the first limiting element will be ignored)

- Provide estimates of forecast uncertainty and provide semi-annual forecast updates

- Response
  - PJM can provide a semi-annual forecast update based on the latest economic projections and provide updated zonal coincident peaks
    - This would provide stakeholders information about how the load forecast is trending
  - PJM currently provides a range of uncertainties based on weather (i.e. 50/50 load and 90/10 load)
  - More extensive scenario analyses done as part of the RTEP is currently the subject of stakeholder discussions at the RPPTF
    - These scenario analyses may include various load growth scenarios