PJM Regional Transmission Expansion Plan (RTEP) “Bright Line” Criteria

April 1, 2010
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• Original RTEP protocol was very general
  – RTEP shall conform to applicable reliability criteria
  – RTEP shall consolidate transmission needs… on the bases of maintaining reliability… in an economic and environmentally acceptable manner

• Cost allocation was negotiated among transmission owners with a recommendation provided by PJM
  – A backstop allocation was defined in the event that negotiations were not successful
• “Bright Line” concept was formulated in 1999 as a result of the development of the generation interconnection process

• PJM tests compliance with all NERC and transmission owner criteria
  – When a facility reaches 100% of the applicable limit under test conditions a violation exists – at 99.9% there is no violation
  – All model assumptions are explicitly defined in the PJM Manuals, including PJM load levels, what generators are operating and at what level of output, and transfer levels with neighboring systems
• Generation interconnection process required the ability to allocate costs among interconnecting generators and between generators and existing network load

• The bright line test provided for a clean “baseline” upon which to evaluate generators
  – If there is no violation in the baseline and a violation exists when a generator is added, the upgrade to resolve the violation would not have been needed “but for” the addition of the generator
502 Junction – Loudoun 500 kV Line
MISO to PJM 1000 MW transfer
Northern VA load growth
Potomac River removed from service
TrAIL line re-routed
Hudson 2 returned to service
O66 (660 MW) and Q75 (1200 MW) execute facilities Study Agreements to export to NYC

Parlin, Sewaren, BL England returned to service

Indian River 1 & 2 removed from service

Benning Rd. and Buzzard Pt. removed from service

Catoctin executes Interconnection Service Agreement

PATH Line

MAPP Line

Branchburg - Hudson Line

Bergen 2 removed from service
Catoctin suspends Interconnection Service Agreement

PJM load forecast drops by 1.4%

Bergen 2 returned to service

Q75 (1200 MW) drops out of queue

Potomac River returned to service

Conversion of MAPP line to DC technology

The right-of-way routes shown on this map are for illustrative purposes only and may not depict the actual routes that may eventually be chosen. Substation locations may also be modified if more beneficial connections by PJM.
Mid-Atlantic Demand Response increased by 2500 MW

Kearny removed from service

Eddystone and Cromby removed from service

Indian River 3 removed from service

Northern VA load growth
• PATH line
  – Delay to 2015 or later
  – Consider alternative upgrades
• MAPP line
  – Delay to 2015 or later
  – Consider alternative upgrades
• Branchburg – Roseland – Hudson line
  – Delay to 2014 or later
  – Consider alternative upgrades
• Status Quo
  – Major projects will continue to be “whip-sawed” with respect to in-service date or even removal from RTEP
  – May not be prepared if carbon legislation forces retirement of large amounts of older coal generation
  – May not be prepared to address other categories of at-risk generation related to changing revenue streams
  – Will not facilitate renewable integration
    • Wind projects receiving larger and larger estimates for integration costs
    • States commenting on inability of RTEP to accommodate renewables and requesting integration studies
Board Decisions Based on Sensitivity Analyses and Preponderance of Evidence

- Significant disagreement among stakeholders as to basis for sensitivities
- Elimination of “bright line” would require fundamental changes to interconnection process
- Would likely require fundamental change to RTEP cycle
  - Evaluate backbone system on a two or three year cycle
  - Concept was rejected by FERC in PJM Market Efficiency filing
• Add Specific Planning Criteria Related to Environmental Policy (Renewables and Carbon)
  – Likely disagreement among stakeholders as to basis for new rules regarding environmental policy
    • Once rules are established they would create a new bright line
  – Cost allocation may need to be modified based on nature of new policy rules
  – Would likely require fundamental changes to interconnection process to avoid favoring one type of generation over another