



Market Efficiency Update

Nick Dumitriu

Sr. Lead Engineer, Market Simulation

Transmission Expansion Advisory Committee

December 12, 2019

2018/19 Market Efficiency Window

- Four drivers identified:
 - Hunterstown – Lincoln 115 kV
 - HL_622, baseline b3145, rebuild the Hunterstown-Lincoln 115 kV line, was approved by the PJM Board of Managers for inclusion in the RTEP
 - Marblehead N 161/138kV Transformer
 - No proposed project met B/C criteria in either region
 - Monroe – Wayne 345kV
 - No proposed project effectively resolved congestion
 - Bosserman – Trail Creek 138kV
 - BT_481, baseline b3142, rebuilding Michigan City to Trail Creek to Bosserman 138kV lines, received provisional approval by the PJM Board of Managers, pending approval by the MISO Board as well
- Analysis is completed, concluding the 2018/19 Market Efficiency Cycle



Congestion Relief in South-Central Pennsylvania and Northern Maryland

- Following the November TEAC, PJM performed additional RTEP analyses
- RTEP analyses included:
 - Project 9A + Project 5E + and Project H-L
 - Alternative Project 9A + Project 5E + Project H-L
- PJM's RTEP analyses have determined that in the combinations described:
 - projects exceed the benefit/cost ratio of 1.25
 - significantly reduce congestion; and
 - solve reliability criteria violations identified in study year 2023

- **2014/2015 Long-Term Window:** PJM Board approved baseline project b2743/2752 in Aug 2016
 - Transource Independence Energy Connection (IEC) Project (Project 9A)
 - Pending CPCN proceedings in Maryland and Pennsylvania
 - Proposed settlement: if approved by states, western part of Project 9A stays the same, but there would be an alternative configuration to a portion of the eastern part of Project 9A (the Alternative IEC East Portion)
- **2016/2017 RTEP Long-Term Window:** PJM Board approved baseline project b2992 in Apr 2018
 - Conastone/Graceton/Bagley/Raphael upgrades in BGE (Project 5E)
- **2018/2019 RTEP Long-Term Window:** PJM Board approved baseline project b3145 in Dec 2019
 - Rebuild Hunterstown-Lincoln 115 kV line (Project H-L)



Summary of Recent RTEP Analyses

RTEP Analyses	Date Presented	Benefit to Cost Ratio
Alternative Project 9A	5/8/2019	1.39 - 1.52
Re-evaluation of Project 9A	10/17/2019	2.10
Re-evaluation of Project 5E	11/14/2019	1.11
Project H-L	11/14/2019	76.41
Alternative Project 9A	11/14/2019	1.60
Re-evaluation of Project 5E (including Project H-L)	11/14/2019	1.80
Project 9A + Project 5E + Project H-L	12/12/2019	2.87
Alternative Project 9A + Project 5E + Project H-L	12/12/2019	2.25 - 2.33

New Analysis
Performed after
November TEAC



- Baseline project b3145 (Project H-L) included in the RTEP
 - rebuild Hunterstown-Lincoln 115 kV line
 - Board approved in December 2019
- Baseline project b2992 (Project 5E) remains in the RTEP
 - Conastone/Graceton/Bagley/Raphael 230 kV upgrades
 - Board approved in April 2018
- Transource Project 9A (b2743.2-8, b2752.1-9)
 - Project 9A – exceeds 1.25 B/C ratio and remain in RTEP
 - Alternative Project 9A - exceeds 1.25 B/C ratio
 - PJM Board of Managers approved Alternative Project 9A subject to the Maryland Public Service Commission's and the Pennsylvania Public Utility Commission's approval of the Alternative Project 9A through their respective Certificate of Public Convenience and Necessity proceedings

Questions?



- V1 – 12/09/2019 – Original slides posted