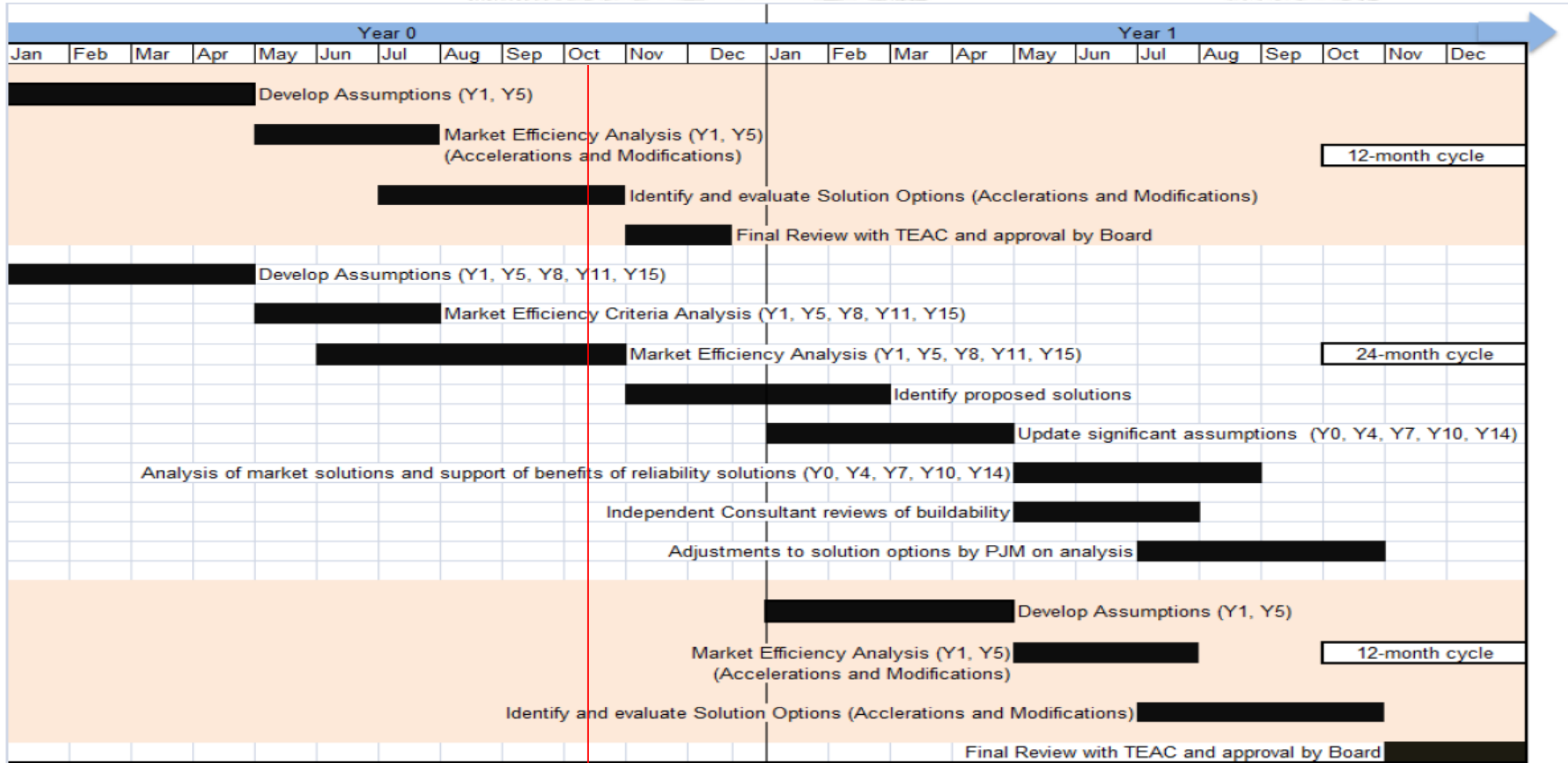




Market Efficiency Update

Transmission Expansion Advisory Committee
October 11, 2018

- Market Efficiency Training scheduled for October 16th 2018.
- Half-day training course designed to educate participants on the Market Efficiency aspects of PJM's RTEP process.
- Combo session (simultaneous in-person and virtual sessions).
- Cost: There is no charge to PJM Members. Non-Members are charged a nominal fee.
- Offers PDH and CEU
- <https://www.pjm.com/Calendar-Events/PJM-Calendars/Training-Events/2018/October/16/ip-mkt-efficiency.aspx>





2018/19 RTEP Long Term Window

- Posted updated 2023 Base Case (XML files PROMOD 11.1.13 format)
 - Includes MISO feedback received by Oct 4th
 - Includes PJM stakeholders feedback received by Oct 4th
 - Posted model includes all years: 2019, 2023, 2026, 2029
 - Also posted separate PROMOD XML file to remove FSA units

<http://www.pjm.com/planning/rtep-development/market-efficiency.aspx>
- Posted Additional Files
 - Updated event file
 - 15-years Monte Carlo outage library
 - Current Congestion Output Report (simulated years 2023 and 2026)
- Final Base Case to be posted before the start of Long-Term Window

- Posted Market Efficiency Assumptions Whitepaper
 - <https://www.pjm.com/-/media/committees-groups/committees/teac/20181011/20181011-2018-market-efficiency-analysis-assumptions.ashx>
 - Recently announced First Energy retirements not included (network upgrades not finalized at this time)
- Financial parameters, Discount Rate and Carrying Charge, NSPL based on the Transmission Cost Information Center spreadsheet
 - <http://www.pjm.com/planning/rtep-upgrades-status/cost-allocation-view.aspx>
 - Discount Rate: 7.37%
 - Carrying Charge: 12.84%

Sensitivity	Range
Load Sensitivity	Plus or Minus 2%
Gas Sensitivity	Plus or Minus 20% Henry Hub
No FSA Sensitivity	Remove all units with FSA or suspended ISA status

- PJM reserves right to add sensitivities as necessary.

- Live WebEx TEAC session scheduled for Oct 24th, 2:00 – 4:00 pm EPT
 - Overview of the 2018/2019 Market Efficiency Base Case
 - Review of PROMOD congestion outputs
 - Overview of RTEP Window process
- Final Market Efficiency 2018/19 base case, problem statement, congestion drivers, and required documentation to be posted before November 1st 2018
- PROMOD modeling sensitivity cases will be posted
- Long-Term Market Efficiency Window opens November 1st 2018

Step	Timeline
Live WebEx TEAC session	Oct 24 th
Post Final Base Case, Target Congestion Drivers and Sensitivities	End of October 2018
Long Term Proposal Window	November 2018 - February 2019
2018 Reevaluation Analysis	October – November 2018
2018 Acceleration Analysis	November – December 2018
Analysis of Proposed Solutions	March - November 2019
Final TEAC Review and Board Approval	November - December 2019

- Register for the 2018/19 RTEP Market Efficiency Window at
 - <http://www.pjm.com/planning/competitive-planning-process.aspx>
- In the CEII Request form write “Access to the 2018-19 Long Term RTEP Window” as the description of the information requested.
- Everyone must register to access the data regardless of prior participation in the PJM Competitive Process.

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[Services & Requests](#) | [Home](#) > [Planning](#) > [Competitive Planning Process](#)

[RTEP Upgrades & Status](#) | **Competitive Planning Process**

The PJM competitive planning process implements FERC Order 1000. The process affords non-incumbent transmission developers an opportunity to participate in the regional planning and expansion of the PJM bulk electric system. By publishing a set of criteria violations and soliciting solutions from competing transmission developers, PJM and the FERC hope to encourage innovative, cost effective and timely solutions to the challenges of building and maintaining a highly reliable electric system.

PJM will announce in the [Transmission Expansion Advisory Committee \(TEAC\)](#) its intention to solicit competitive solutions to identified planning needs. The “windows” for submitting such solutions fit into three categories and follow the 18-month and 24-month planning cycles as described in Manual 14F: [Clean](#) [WEB](#) | [Clean](#) [PDF](#).

Planning Cycles	Standard Window Length	Required In-Service Date (Years)
Long Term - considers reliability criteria violations, economic constraints, system conditions and public policy requirements	120 days	> 5
Short Term - considers reliability criteria violations	60 days	3-5
Immediate-Need Reliability - considers reliability criteria violations	Shortened	< 3

While PJM endeavors to adhere to the standard length of the proposal windows, unique situations do arise. When adhering to the standard window length would be unnecessarily burdensome on the transmission developers, PJM may elect to modify the length of a proposal window. Any such changes will be made clear when the proposal window is announced.

Current Windows

2018/19 Long Term RTEP Window 1

OPEN 11.1.2018 CLOSED 2.28.2018

2018/19 Long Term Window 1

[Market Efficiency Economic Models](#) - requires additional level of CEII specifically for market efficiency data and active license with Ventyx for PROMOD and nodal data

2018 Window 1

Problem Statement

With Analytical Files - V6 [EXE](#) (26.0 MB) - requires CEII

Planning ?
 Community

[Training Video](#) | [User Guide](#) [PDF](#)
Register for community

Window Registration

To gain access to a RTEP planning cycle window & analytical data:

- Submit the [Critical Energy Infrastructure Information request](#).
Ask for access to "yyyy RTEP Proposal Window."
Specify the RTEP cycle ("yyyy") of interest.
- Complete the [Non-Disclosure Agreement](#).

- Market Efficiency Web Page located at
 - <http://www.pjm.com/planning/rtep-development/market-efficiency.aspx>
- Data will be posted before November 1st 2018
 - Market Efficiency Base Case files for all study years (XML format)
 - Access requires CEII confirmation (PJM and MISO)
 - Access requires PROMOD vendor (ABB) confirmation
 - PROMOD input files: .lib, .eve
 - Benchmark test case and results
- Auxiliary Files
 - Input Assumptions Summary
 - Updated Modeling Document which will provide details of setup and modeling methods
 - Benefit/Cost Evaluation Tool
 - ARR Data



2018 Reevaluation Approved Market Efficiency Projects

- Completed Reevaluations
 - Project 2014/15_1-9A, AP-South, (b2743.1-8, b2752.1-7)
 - 9A Reevaluation presentation posted at September 2018 TEAC meeting
 - Project 2016/17_1-5E, BGE, (b2992.1-4)
 - See next slide
- Currently prioritizing the reevaluation work with the opening of the RTEP Window
- Projects already in-service or with a near in-service date will not be reevaluated
- As projects complete reevaluation, results will be presented at the next TEAC meetings

Project ID: 201617_1-5E

Proposed by: BGE

Proposed Solution:
 Reconductor the Conastone to Graceton 230kV lines.
 Upgrade substation equipment at Conastone. Add bundled conductors to the Graceton-Bagley-Raphael Road 230kV double circuit lines. Reconductor the Raphael Road to Northeast 230 kV double circuit lines. Upgrade substation equipment at Windy Edge substation.

kV Level: 115/230 kV

In-Service Cost (\$M): \$25.40

PJM Cost Estimate (\$M): \$39.65

In-Service Date: 2021

Target Zone: BGE

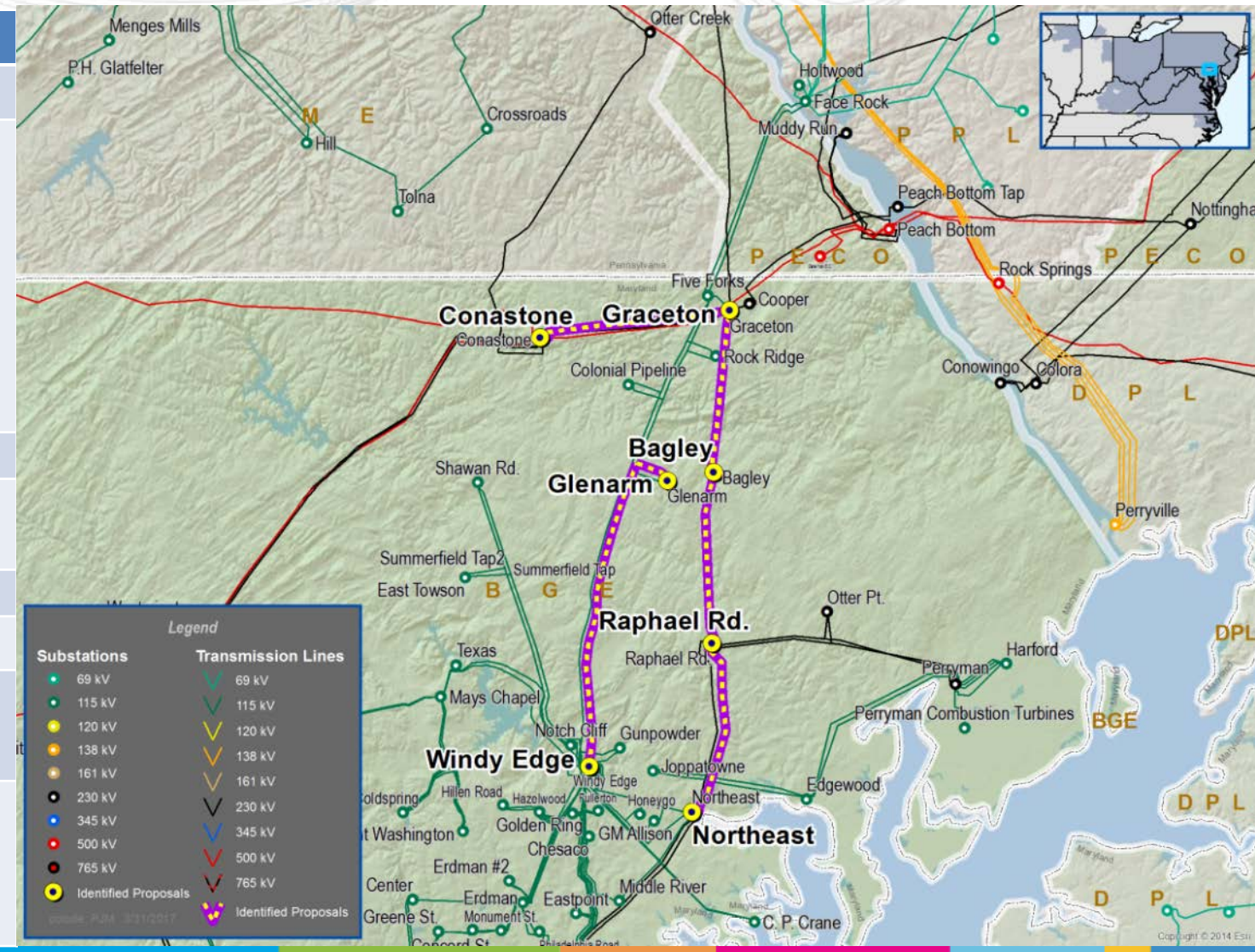
ME Constraints:

CONASTONE - GRACETON - BAGLEY 230 kV

Notes:

B/C = 9.18 > 1.25 threshold (PASS)

Reevaluation completed Oct 2018



- Revision History
 - V1 – 10/9/2018 – Original Version Posted to PJM.com