

The background of the slide is a photograph of several high-voltage power transmission towers and their associated power lines. The towers are silhouetted against a bright blue sky filled with scattered white clouds. The perspective is from a low angle, looking up at the towers, which creates a sense of scale and height. The power lines stretch across the frame, converging towards the horizon.

Transmission Expansion Advisory Committee Market Efficiency Update

March 12, 2015



Market Efficiency Long Term Proposal Window Update



2014 RTEP Long Term Proposal Window: Market Efficiency

AREA of Proposal	Number of proposals
APS	6
APSOUTH and/or AEP-DOM Area	44
ATSI	2
BGE/PPL	4
ComEd	15
DEOK	8
DPL	1
DUQ	4
PECO	5
PSEG	3
Grand Total	93



2014 RTEP Long Term Proposal Window: Market Efficiency

PJM in process of evaluating all Market Efficiency submitted proposals.

- Verifying necessary data submitted
- Checking for modeling accuracies

Projected Run times for Market Efficiency Proposals.

- 93 Market Efficiency proposals submitted
- 8 PROMOD Runs/Case
- Run Time: 20 Hours/Case
- Pre Analysis and Post processing: 8 hours/Project
- Approximate Total Time for Base Runs only: >15K hours

2015 Base Sensitivity Analysis

- The following assumptions may be updated for a 2015 base case sensitivity run on proposed projects.
 - Load Forecast
 - Impactful generator updates (Additions and Retirements)
 - Gas prices
 - Impactful RTEP upgrades approved in latest RTEP
 - Additional assumptions PJM thinks may impact a project
- Sensitivity Runs may be used on proposed projects under following criteria.
 - Projects with significant impacts from 2015 assumptions
 - Projects that pass B/C test



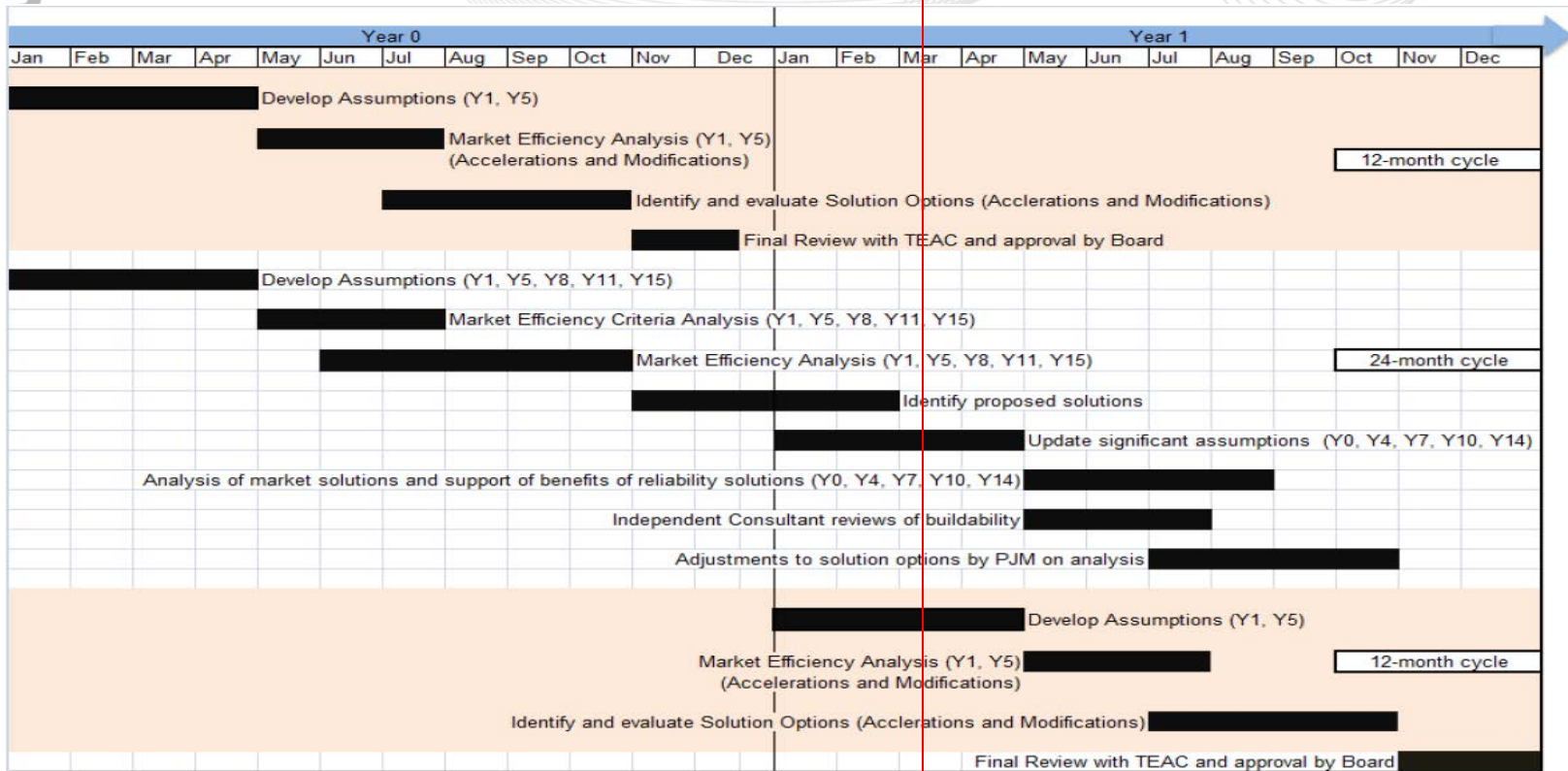
2014/2015 Market Efficiency Cycle: 2029 High Level Congestion Results

2029 Results

- High Level model Not used in actual B/C test
- Only used to verify trend direction for potentially approved projects
 - Trend Line used on 2015, 2019, 2022, 2025 B/C results to determine results for study years beyond 2025

2029 Input Assumptions with 2019 Topology		
AREA	Frequency (Hours)	Market Congestion (\$ Millions)
AEP	156	\$11.9
AP	1031	\$20.0
ATSI	58	\$8.8
BGE	921	\$9.0
CE	6449	\$44.0
DEO&K	226	\$47.9
DLCO	452	\$9.5
DP&L	155	\$42.7
DVP	1406	\$15.4
M2M	463	\$30.6
ME - PPL	742	\$54.4
PECO	5157	\$13.3
PECO - PSE&G	131	\$1.3
PENELEC	360	\$8.4
PEPCO	4252	\$2.2
PJM - ME	92	\$12.1
PJM - PECO	116	\$16.4
PPL	16	\$5.6
PPL - BGE	98	\$1.5
PSE&G	3579	\$0.1
Reactive Interfaces	2232	\$195.0
Total		\$550.3

Market Efficiency Timeline





2014-2015 24-Month Market Efficiency Cycle Timeline

- Long Term proposal window: November 2014 - February 2015

- Analysis of proposed solutions: March 2015 - November 2015
 - ✓ Determination of major assumptions (i.e. Load forecast, Fuel prices, Generators) that are significantly different in 2015 and can be used in sensitivity analysis for proposed projects: March 2015
 - Independent consultant review of cost and ability to build
 - Review of analysis with TEAC: June 2015-November 2015

- Determination of Final projects: December 2015
 - Final review with TEAC and Board approval
 - Projects may be approved earlier if analysis and review complete



2015 12-Month Market Efficiency Cycle

- 12 month cycle used to complete near-term (year 1 through year 5) analysis to identify approved RTEP projects that can be accelerated or modified based on Market Efficiency criteria.
- PJM only effort and requires no stakeholder effort.
 - Comments are always welcomed

Timeline

- Develop Market Efficiency 2016 and 2020 cases: January 2015-April 2015
 - Update of 2015 and 2019 Long Term Proposal Market Efficiency cases
- Analysis of approve RTEP projects for accelerations and modifications: May 2015-August 2015
- Determination of final candidates: August 2015-November 2015
- Recommendation to PJM Board: December 2015
 - Projects may be approved earlier if analysis and review complete

Questions?

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