



Market Efficiency Update

Transmission Expansion Advisory Committee

August 8, 2019

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2018/19 Market Efficiency Window

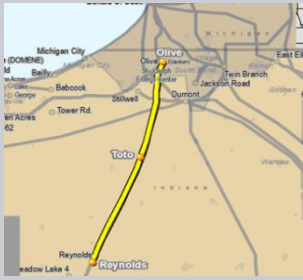




- Rating correction for LNG-Maple 138kV (NIPS) line
 - » MISO Project ID 15384 (BaseRel)
 - » Already included in MTEP18
- Small bus mapping/weights corrections for the PROMOD definition of several ARR hubs
- Updated posting on the Market Efficiency secure page as zip file
 - 201819ME PJM Base Case Update v2019-07-26.zip
 - <https://www.pjm.com/planning/rtep-development/market-efficiency/economic-planning-process.aspx>
- Zip file includes one .xml and two .eve files:
 - PROMOD XML file (to be added to the current base case scenario)
 - Updated event files (Base Case and FSA Sensitivity)

- Data validation for all projects ✓
- N-1 contingency analysis for all proposals ✓
- PROMOD modeling of all proposals ✓
- Base Case and FSA Sensitivity simulations ✓
 - Base Case updated with the Maple-LNG rating increase ✓
- Updated Interregional PJM B/C ratios ✓
 - Bosserman -Trail Creek and Marblehead proposals
 - B/C ratios computed using the submitted in-service cost of components (full cost)
 - MISO benefits not included in B/C ratios
- Completed Reliability Analysis for Interregional proposals ✓
 - No reliability issues found

Updated Preliminary Results for Interregional Proposals



Bosserman-Trail Creek Proposals Preliminary Results


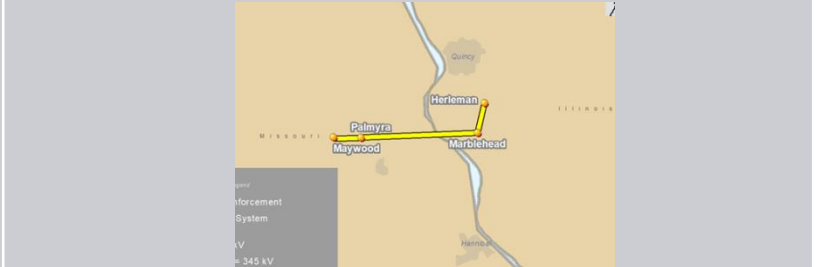
Proposal ID	BT_436	BT_481*	BT_129	BT_249	BT_398
Proposal Description	New Toto 345kV station	Rebuild Michigan City-Trail Creek-Bosserman 138 kV (10.7mi)	New Kuchar station and new Kutchar-Luchtman 138kV line (10.5mi)	50 MW 4-hour battery at Trail Creek 138 kV station	New Meadow Lake-Pike Creek 345kV line (63.4mi)
Project Type	Greenfield	Upgrade	Greenfield	Greenfield	Greenfield
B/C Ratio Metric	Lower Voltage	Lower Voltage	Lower Voltage	Lower Voltage	Lower Voltage
In-Service Cost (\$MM)**	\$19.31	\$20.99	\$27.62	\$45.40	\$266.44
Cost Containment	Yes	No	Yes	Yes	No
In-Service Year	2023	2023	2023	2023	2023
% Cong Driver Mitigated	38%	100%	95%	93%	52%
2023 Shifted Cong (\$MM)	-	\$0.04	-	\$2.89	-
Base Case B/C Ratio*	2.34	3.10	2.04	0.66	0.36
FSA Sens. B/C Ratio*	4.67	6.04	4.70	1.14	0.53
Map					

*Base Case updated with the Maple-LNG rating increase. This update eliminated the need for upgrading Maple-LNG 138 kV as part of proposal.

**Costs under review by PJM



Marblehead Transformer Proposals Preliminary Results*

Proposal ID	MH_322	MH_506
Proposal Description	Rebuild Palmyra-Marblehead 161 kV and Marblehead-Herleman 138 kV lines (12mi). New 345 kV ring bus at the Palmyra substation.	Rebuild Palmyra-Marblehead 161 kV and Marblehead-Herleman 138 kV lines. New Maywood-Palmyra 345 kV line (15mi).
Project Type	Upgrade	Greenfield
B/C Ratio Metric	Lower Voltage	Lower Voltage
In-Service Cost (\$M)**	\$35.95	\$36.02
Cost Containment	No	No
In-Service Year	2023	2023
% Cong Driver Mitigated	100%	100%
2023 Shifted Cong (\$MM)	\$0.11	\$0.13
Base Case B/C Ratio*	0.36	0.68
FSA Sens. B/C Ratio*	0.18	0.16
Map		

**Base Case updated with the Maple-LNG rating increase*

***Costs under review by PJM*

- **Bosserman – Trail Creek 138 kV**
 - Rating correction for LNG-Maple 138kV (NIPSCO) line removed the congestion shifted to this line and eliminated the need for upgrading Maple-LNG 138 kV as part of proposal BT_481.
 - Two lower cost proposals, BT_481 and BT_129, substantially relieves congestion on the driver without shifting congestion.
- **Marblehead Transformer**
 - None of the proposals pass the B/C Ratio threshold of 1.25 in the latest base case.
- **Monroe – Wayne 345 kV**
 - None of the proposals significantly decrease the total congestion around the Monroe bus. All three proposals shift congestion to parallel Monroe - Brownstone 345 kV line.
 - Analysis presented at June 2019 TEAC (slide 11)
<https://www.pjm.com/-/media/committees-groups/committees/teac/20190613/20190613-market-efficiency-update.ashx>

- Interregional Proposals
 - Coordination with MISO on interregional proposal B/C ratios
- Continue Market Efficiency Analysis Hunterstown – Lincoln Proposals
 - Focus on candidates that fully address congestion
 - Analysis of shifted congestion
- Complete Reliability Analysis for Hunterstown – Lincoln proposals
- Complete RPM benefit analysis
- Complete Cost/Constructability Analysis for all proposals



Revision History

08/05/2019 – V1 – Original version posted to pjm.com