

# **Transmission Expansion Advisory Committee Meeting**

## **2010 Market Efficiency Analysis Update**

**February 3, 2011**

# 2010 Market Efficiency Analysis Results Update



# Summary - COMED Area Proposed Upgrades

COMED Area Proposed Projects	Company Proposing Project	Expected ISD*	Expected Costs (\$ millions)	Benefit/Cost Ratio**	Results	Independent Cost review to be acquired	Notes
Byron-Cherry Valley-Pleasant Valley 345 KV	LS Power	6/1/2015	112.5	1.57	Pass	Yes	
Byron-Pleasant Valley 345 KV	LS Power	6/1/2015	105	2.02	Pass	Yes	Optimal configuration pending cost review, eliminates most of congestion in COMED
Cherry Valley - Pleasant Valley 345 KV	LS Power	6/1/2015	67.5	3.04	Pass	Yes	High congestion created on Byron-Cherry Valley 345 KV line
Byron - Charter Grove- Wayne 345 KV, Charter Grove 345/138 KV TX.	COMED	6/1/2015	275	0.71	Fail	Yes	
Byron - Wayne 345 KV	LS Power	6/1/2015	175	1.08	Fail	Yes	
Reconductor Quad Cities - Cordova 345 kV	COMED	6/1/2011	2.1	0.4	Fail	No	
Reconductor Nelson-Electric Junction 345 kV	COMED	5/15/2012	16.3	0.05	Fail	No	
Reconductor Woodstock-Marengo 138 kV	COMED	1/16/2012	8.85	2.56	Pass	No	Reduces congestion only slightly in COMED
Reconductor Glidden- Glidden Tap 138 kV	COMED	3/11/2012	6.1	0.12	Fail	No	
Lasalle Project Single Circuit: Pontiac Midpoint -Reynolds-Dumont 345 KV	LS Power	6/1/2014	265	0.08	Fail	No	
Lasalle Project Double Circuit: Pontiac Midpoint -Reynolds-Dumont 345 KV	LS Power	6/1/2014	335	0.08	Fail	No	
LaFayette Project Single Circuit: Quad Cities-Kewanee-Pontiac Midpoint-Reynolds-Dumont 345 KV, Kewanee 345/138 KV TX	LS Power	6/1/2015	520	0.36	Fail	No	
LaFayette Project Double Circuit: Quad Cities-Kewanee-Pontiac Midpoint-Reynolds-Dumont 345 KV, Kewanee 345/138 KV TX	LS Power	6/1/2015	655	0.33	Fail	No	
Byron - Pleasant Valley 345 KV + Lasalle Project Single Circuit	LS Power	6/1/2015	370	0.66	Fail	No	

\*Expected ISA and Estimated Costs developed by company proposing project.

\*\*Benefit/cost ratio must exceed 1.25 and is calculated as NPV Benefit/NPV Cost for 15 years starting from projected in-service date.



# Summary – METED, PPL, PENELEC Area Proposed Upgrades

METED, PPL, and PENELEC Area Proposed Projects	Company Proposing Project	Expected ISD*	Expected Costs (\$ millions)	Benefit/Cost Ratio**	Results	Independent Cost review to be acquired	Notes
Liberty East Project Single - Hunterstown 500 kV TX, New Single Hunterstown-Conewago 230 kV line, New Conewago 230 kV substation connecting the Jackson – Three Mile Island 230 kV and West Shore - Brunner Island 230 kV transmission lines near their intersection in York County	LS Power	6/1/2015	125	2.28	Pass	Yes	2011 Market Efficiency Analysis needs to be conducted to confirm benefit
Liberty East Project Double - Hunterstown 500 kV TX, New Double Hunterstown-Conewago 230 kV line, New Conewago 230 kV substation connecting the Jackson – Three Mile Island 230 kV and West Shore - Brunner Island 230 kV transmission lines near their intersection in York County	LS Power	6/1/2015	147.5	2.13	Pass	Yes	2011 Market Efficiency Analysis needs to be conducted to confirm benefit
Reconductor Brunner Island - Yorkana 230 kV line	PPL	5/1/2013	2	0	Fail	No	
New 345/138 kV transformer at the Shenango substation, New 345 kV transmission line from Shenango to	LS Power	6/1/2015	100	0.26	Fail	No	
New 230 kV transmission line from Keystone to Shawville	LS Power	6/1/2015	137.5	0.62	Fail	No	

\*Expected ISA and Estimated Costs developed by company proposing project.

\*\*Benefit/cost ratio must exceed 1.25 and is calculated as NPV Benefit/NPV Cost for 15 years starting from projected in-service date.

# Summary –Dominion and AEP Area Proposed Upgrades

Dominion and AEP Area Proposed Projects	Company Proposing Project	Expected ISD*	Expected Costs (\$ millions)	Benefit/Cost Ratio**	Results	Independent Cost review to be acquired	Notes
New Single Kanawa River-Bath County 345 KV line, Bath County 500/345 kV TX	LS Power	6/1/2015	215	3.34	Pass	Yes	2011 Market Efficiency Analysis needs to be conducted to confirm benefit
New Double Kanawa River-Bath County 345 KV line, Bath County 500/345 kV TX	LS Power	6/1/2015	290	3.27	Pass	Yes	2011 Market Efficiency Analysis needs to be conducted to confirm benefit

\*Expected ISA and Estimated Costs developed by company proposing project.

\*\*Benefit/cost ratio must exceed 1.25 and is calculated as NPV Benefit/NPV Cost for 15 years starting from projected in-service date.

# Market Efficiency Upgrade Analysis Summary

- Many proposed Market Efficiency upgrades submitted covering a broad area of the PJM footprint.
- Several projects will need to be independently reviewed to confirm costs.
  - Three Scope of Works are being developed to cover different project areas
    - COMED Area
    - PPL, METED, and PENELEC Areas
    - Dominion and AEP Areas
- Upgrades will need to be re-evaluated using 2011 analysis because of significant changes in input assumptions.
  - Load forecast
  - ApSouth definition change
  - CO2 assumptions
  - Fuel forecasts
  - System Topology updates
  - Mt. Storm-Doubs line rebuild

- Finalize Scopes of Work for Market Efficiency Project Areas for independent cost review
- Perform sensitivity analysis on key input assumptions for Byron-Pleasant Valley 345 KV upgrade
- Run reliability analysis on all upgrades
- Based on cost review, sensitivity analysis, and reliability analysis will determine recommendation to PJM board
- Determination of assignment for recommended projects – outside of scope of TEAC
- Develop 2011 Market Efficiency Input Assumptions