



Joint and Common Market

MISO/PJM QUEUE COORDINATION PROGRESS UPDATE



OUTLINE

- **Schedule review**
- **Summary of Coordinated Projects to Date**
 - **Coordinated MISO Projects**
 - DPP August 2012
 - DPP February 2013
 - DPP August 2013
 - DPP February 2014
 - **Coordinated PJM Project**
 - Signed Facility Study Agreement November 2012
 - Signed Facility Study Agreement May 2013
 - Signed Facility Study Agreement November 2013
 - Signed Facility Study Agreement May 2014
- **Next Steps**



Schedule for study completion

PJM study of MISO queue projects impacts on PJM

MISO provide modeling information to PJM	PJM provide report of impacts to MISO
January 7 th	March 31 st
July 1 st	September 29 th

MISO study of PJM queue projects impacts on MISO

PJM provide modeling information to MISO	MISO provide report of impacts to PJM
May 15 th	August 1 st
November 15 th	February 1 st



NEXT STEPS IN QUEUE COORDINATION

- **Approve manual language for interim deliverability study procedures**
 - **Describes need for interim deliverability studies in PJM and quarterly operating limit studies in MISO**
 - **Studies will provide the limits on injection of MWs for new queue requests based on system conditions prior to the completion of any required network upgrades**
- **Coordinate Projects for upcoming study cycles**
- **Continue to monitor the existing coordination efforts**
- **Discuss future enhancements, as required, to the existing queue coordination process**
- **Provide frequent updates at the JCM on ongoing queue coordination efforts**



NEXT STEPS IN QUEUE COORDINATION

- **Review timing associated with completion of studies**
 - **Very recent improvements being made under new coordination efforts however some studies taking up to or over a year to complete remain a concern**
 - **PJM considering recommendation to revise coordination such that PJM's customers projects are provided to MISO when the Impact Study Agreement is executed (currently coordination occurs when facilities Study Agreement is executed by PJM customers)**



Questions



Queue Study Contact
PJM: Aaron Berner (aaron.berner@pjm.com)
MISO: Vikram Godbole (vgodbole@misoenergy.org)





Appendix: Study coordination list



COORDINATED MISO PROJECTS – DPP AUGUST 2012

MISO Project	Point of Interconnection	Max Summer Output	Fuel Type	Status	Impacts
G681	Walters - Albert Lea 69 kV	44	Wind	Completed	No
G735	Lime Creek Substation	200	Wind	Completed	Yes
G798	ITC Midwest Fernald 115kV Substation	150	Wind	Completed	Yes
G826	Xcel Lakefield Generation SW - Lakefield Junction 345kV	200	Wind	Completed	Yes
G830	GRE McHenry substation	99	Wind	Completed	No
G870	Hayward - Winnebago 161 kV	201	Wind	Completed	Yes
G947	ITCM Whispering Wilows 161kV Substation	99	Wind	Completed	Yes
H008	ITC Midwest Richfield 69 kV Substation	36	Wind	Completed	No
H009	ITC Midwest Traer - Marshalltown 161 kV	150	Wind	Completed	Yes



COORDINATED MISO PROJECTS – DPP AUGUST 2012

MISO Project	Point of Interconnection	Max Summer Output	Fuel Type	Status	Impacts
H021	Wellsburg 115kV Substation	138.6	Wind	Completed	Yes
H048	Xcel Paynesville 69 kV Substation	50	Wind	Completed	No
H058	Xcel Paynesville 69kV Substation	45	Wind	Completed	No
H081	Brookings County - Lyon County 345kV	201	Wind	Completed	Yes
H096	Grand Junction - Perry 161 kV	50	Wind	Completed	No
J026	Adams 161 kV Substation	50	Wind	Completed	No
J091	ITCM Lime Creek 161 kV Substation	66	Wind	Completed	No
J092	Scranton substation	20	Wind	Completed	No
J097	ITC Midwest Denmark - Newport 161kV	200	Wind	Completed	Yes
J112	DPC Utica - Lewiston 69 kV	4.95	Wind	Completed	No

COORDINATED MISO PROJECTS – DPP AUGUST 2012

MISO Project	Point of Interconnection	Max Summer Output	Fuel Type	Status	Impacts
J182	Pleasant Valley Substation	150	Wind	Completed	Yes
J183	Split Rock Substation	200	Wind	Completed	Yes
J191	Rolling Hills 345 kV Substation	101.2	Wind	Completed	Yes
J196	Vermillion 138 kV Substation	50	Wind	Completed	No
J200	RM Heskett Station 115 kV & 41.6 kV	75	Gas	Completed	No
J215	Stillwell 345kV Substation	670	Gas	Completed	No
J232	Baldwin Station	35	Coal	Completed	No
J238	Pritchard 138kV Substation	725	Gas	Completed	Yes
R42	Lehigh 345 kV Substation	250	Wind	Completed	Yes
R49	Pomeroy Generating station	12	Wind	Completed	No
R65	R34 Expansion	92	Wind	Completed	No

COORDINATED MISO PROJECTS – DPP FEBRUARY 2013

MISO Project	Point of Interconnection	Max Summer Output	Fuel Type	Status	Impacts
J118	Drager – Grand Junction 161 kV	50	Wind	Completed	No
G858	Black Oak 69 kV sub	38	Wind	Completed	No
H071	Black Oak 69 kV sub	40	Wind	Completed	No
J262	Jamestown 345/115 kV sub	100	Wind	Completed	No
J263	Jamestown 345/115 kV sub	100	Wind	Completed	No
J054	Kokomo-Noblesville 230kV	197.6	Wind	Completed	No
J239	Meredosia 138kV Sub	200	Coal	Completed	No
J256	Plymouth 69kV Sub	8	Biogas	Completed	No

COORDINATED MISO PROJECTS – DPP AUGUST 2013

MISO Project	Point of Interconnection	Max Summer Output	Fuel Type	Status	Impacts
G261	Mankato Substation	667	CC	Completed	No
J233	Marshalltown 161	635	Wind	Completed	Yes
J274	Winterset. - Creston 161 kV	100	Wind	Completed	No
J278	161 kV bus at the Pleasant Valley Station	200	Wind	Completed	Yes
J279	Raun 345 kV Substation	30	Coal	Completed	No
J288	Atwater-Grove City 69kV	40	Wind	Completed	No
J290	230 kV Rugby to Glenboro	150	Wind	Completed	No

COORDINATED MISO PROJECTS – DPP FEBRUARY 2014

MISO Project	Point of Interconnection	Max Summer Output	Fuel Type	Status	Impacts
J246	Slate	7	Wind	Under Study	Under Study
J293	Fox River	548	CC	Under Study	Under Study
J303	Hadley	20	Solar	Under Study	Under Study
J309	Minnesota Valley – Yellow Medicine	20	Solar	Under Study	Under Study
J276	Sheldon South	150	Wind	Under Study	Under Study
J292	Limestone, Long Spruce and Kettle Generating Stations	3576	Hydro	Under Study	Under Study

COORDINATED PJM PROJECTS – NOV 2012

PJM Queue #	Project Name	Max Summer Output (MW)	Fuel Type	Status	Impacts to MISO
Q39	Kewanee 138kV	105	Wind	Completed	Yes
Q57	Steward-Waterman 138kV	240	Wind	Completed	No
R16	Lena 138kV	126	Wind	Completed	Yes
R30	Pontiac Mid-Point 345kV	500	Wind	Completed	Yes
R33	Nelson 345kV	600	Natural Gas	Completed	No
R35	Robbins 138kV	50	Biomass	Completed	Yes
R79	Tazewell-Kendall 345kV	300	Wind	Completed	Yes
S27	Blue Mound I	198	Wind	Completed	No
S28	Blue Mound II	198	Wind	Completed	No
S36	Kankakee 138kV	175	Wind	Completed	Yes
S37	Kankakee 138kV	175	Wind	Completed	Yes
S55	Zion 345kV	780	Natural Gas	Completed	No
S62	LaSalle-Braidwood 345kV	500	Wind	Completed	Yes
U1-054	Calumet	327	Natural Gas	Completed	No
U3-031	Lincoln Generating Facility	616	Natural Gas	Completed	No
U4-033	University Park North	540	Natural Gas	Completed	No



COORDINATED PJM PROJECTS – MAY 2013

PJM Queue #	Project Name	Max Summer Output (MW)	Fuel Type	Status	Impacts to MISO
S73	Lincoln – North Delphos 138kV	200	Wind	Completed	No
T130	Convoy – East Lima 345kV	300	Wind	Completed	No
T131	Lincoln – Sterling 138kV	150	Wind	Completed	No
T142	Southwest Lima – Marysville 345kV	300	Wind	Completed	No
T143	Hennepin 138kV	250	Wind	Completed	No
T148	Caledonia Wind II 100 MW	100	Wind	Completed	No
T99	Caledonia Wind 100 MW	100	Wind	Completed	No
U1-049	Kankakee #4 138kV	100	Wind	Completed	No
U2-028A_AT1	Ironville 138kV	135	Other	Completed	No
U2-072	East Lima – Marysville 345kV	300	Wind	Completed	No
U3-021	Silver Lake – Cherry Valley 345kV	100	Natural Gas	Completed	No



COORDINATED PJM PROJECTS – MAY 2013

PJM Queue #	Project Name	Max Summer Output (MW)	Fuel Type	Status	Impacts to MISO
U4-027	Normandy-Kewanee 138kV	100	Natural Gas	Completed	No
V1-011	Haviland 138kV	100	Wind	Completed	No
V1-012	Haviland 138kV	150	Wind	Completed	No
V2-006	East Leipsic 138kV	150	Wind	Completed	No
V2-042A_AT2	Galion 138kV	200	Wind	Completed	No
V3-007	Desoto-Tanners Creek #1 345kV	200	Wind	Completed	No
V3-008	Desoto-Tanners Creek #1 345kV	200	Wind	Completed	No
V3-009	Desoto-Tanners Creek #1 345kV	200	Wind	Completed	No
V3-053	Desoto 138kV	150	Wind	Completed	No
V4-010	Tiffin Center 138kV	200	Wind	Completed	No
V4-015	Fostoria Central 138kV	66.6	Wind	Completed	No
V4-016	Valley 138kV	200	Wind	Completed	No
W1-070A_AT4	Ashtabula 138kV	50	Wind	Completed	No
W1-072A_AT5	Lemoyne 345kV	40	Natural Gas	Completed	No
W2-001	Fostoria Central 138kV	66.6	Wind	Completed	No
W3-059A_At6	Avery – Greenfield 138kV	99	Wind	Completed	No



COORDINATED PJM PROJECTS – MAY 2013

PJM Queue #	Project Name	Max Summer Output (MW)	Fuel Type	Status	Impacts to MISO
W3-088	South West Lima 345kV	200	Wind	Completed	No
W3-128	Sporn – Waterford 345kV	652	Natural Gas	Completed	No
W3-170	Buckskin 69kV	12	solar	Completed	No
X1-027A_AT12	Davis Besse – Beaver 345kV	500	Wind	Completed	No
Y1-006	Jubal Early – Austinville 138kV	72	Wind	Completed	No
Y2-067	Clinch River	12	Coal	Completed	No



COORDINATED PJM PROJECTS – NOV 2013

PJM Queue #	Project Name	Max Summer Output (MW)	Fuel Type	Status	Impacts to MISO
V1-024	LaSalle 1	20	nuclear	Finalizing results	Yes
V1-025	LaSalle 2	20	nuclear	Finalizing results	Yes
V4-046	Byron 1	20	nuclear	Finalizing results	Yes
V4-047	Byron 2	20	nuclear	Finalizing results	Yes
V4-048	Braidwood 1	20	nuclear	Finalizing results	Yes
V4-049	Braidwood 2	20	nuclear	Finalizing results	Yes
W2-048	Pontiac MidPoint-Lanesville 345kV	62.5	wind	Finalizing results	Yes
W3-046	Powerton 345kV	207.5	wind	Finalizing results	Yes
W4-005	Pontiac Midpoint-Latham 345kV	351	wind	Finalizing results	Yes
X1-096	Loretto-Kings Creek 138kV	150	wind	Finalizing results	No
X2-022	Pontiac Midpoint-Lanesville II	189	wind	Finalizing results	Yes
X2-031	Krayn 115kV	50	wind	Finalizing results	No
X2-052	Dumont-Olive 345kV	675	natural gas	Finalizing results	No
X3-051	Flatlick 765kV	610	natural gas	Finalizing results	No
X4-020	Peach Bottom-TMI #1 500kV I	800	natural gas	Finalizing results	No



COORDINATED PJM PROJECTS – NOV 2013

Fuel Type	Project Name	Max Summer Output (MW)	Fuel Type	Status	Impacts to MISO
X4-021	Peach Bottom-TMI #2 500kV II	320	natural gas	Finalizing results	No
X4-025	Millbrook Park 138kV	320	natural gas	Finalizing results	No
Y1-015	Shenango-Hoytdale 345kV	80	coal	Finalizing results	No
Y1-030	Forest 69kV	1000	natural gas	Finalizing results	No
Y1-035	Eastlake 138kV	100	wind	Finalizing results	No
Y1-036	Eastlake 345kV	462	natural gas	Finalizing results	No
Y1-065	Rock Spring 500kV	462	natural gas	Finalizing results	No



COORDINATED PJM PROJECTS – MAY 2014

PJM Queue #	Project Name	Max Summer Output (MW)	Fuel Type	Status	Impacts to MISO
X1-087	Stillman Valley	19	methane	Under Study	Under Study
X3-023	S. Greenwich – Willard 69kV	60	wind	Under Study	Under Study
Y2-050	Tidd – Canton Central	742	natural gas	Under Study	Under Study
Y3-088	Kendall I	20	natural gas	Under Study	Under Study
Y3-089	Kendall II	20	natural gas	Under Study	Under Study
Y3-090	Kendall III	20	natural gas	Under Study	Under Study
Y3-091	Kendall IV	20	natural gas	Under Study	Under Study
Y3-103	Valley – Raccoon 138kV	205	natural gas	Under Study	Under Study
Z1-072	Crescent Ridge	10	wind	Under Study	Under Study
Z1-073	Mendota Hills	6	wind	Under Study	Under Study
Y2-053	Lemoyne	35	Gas	Under Study	Under Study

