

NERC ID	Flowgate Description	Owner	CA1	CA2
1101	Ansonville-Akborough 230 (flo) Newport-Richmond 500	CPL	CPL	DUK
1106	Asheville 115/230 xfmr ckt98 (flo) Asheville 115/230 xfmr ckt99	CPL	CPLW	CPLW
1107	Asheville-Mills River 115 (flo) Asheville 115/230 xfmr ckt99	CPL	CPLW	DUK
1105	Kingstree-Sumter 115 (flo) Florence-Kings North 230	CPL	CPL	CPL
1704	Person-Halifax 230	CPL	CPL	VAP
310	Person-Halifax 230 (flo) Wake-Carson 500	CPL	CPL	VAP
1707	Wake-Carson 500	CPL	CPL	VAP
1205	Oconee-S. Hall 500 (flo) Conasauga-Bowen 500	DUK	DUK	SOCO
1649	Avon 345/138 xfmr	EKPC	EKPC	EKPC
1650	Avon 345/138 xfmr (flo) Baker-Broadford 765	EKPC	EKPC	EKPC
7101	Buchanan Longwood Input (Interface flowgate - IMO)	IMO	IMO	IMO
7106	FRONTIER - IMO (Interface flowgate)	IMO	NYIS	IMO
9160	IMO - NYIS (CA-CA tie lines flowgate)	IMO	IMO	NYIS
7104	Negative Buchanan Longwood Input (Interface flowgate - IMO)	IMO	IMO	IMO
7102	Queenston Flow West (QFW) (Interface flowgate - IMO)	IMO	IMO	IMO
6009	Cooper-St Joe 345 + Cooper-Fairpoint 345 + Cuba-Monmouth 138	MAPP	NPPD	MPS
6086	Montezuma-Bondurant 345	MAPP	MEC	MEC
6081	Quad Cities West	MAPP	CE	MEC
6136	Quad Cities-Sub 91 345 (flo) Quad Cities-Rock Creek 345	MAPP	CE	MEC
	1526E Tap-Tilden 138 (flo) Baldwin-Cahokia 345 + Cahokia 345/138 xfmr	MISO	IP	IP
3412	1526E Tap-Tilden 138 (flo) Baldwin-Mt Vernon 345 + Mt Vernon 345/138 xfmr	MISO	IP	IP
	1526E Tap-Tilden 138 (flo) St Francois-Lutesville 345 + St Francois 345/138 xfmr	MISO	IP	IP
	1526E Tap-Tilden 138 (flo) W Mt Vernon-E W Frankfort 345	MISO	IP	IP
2077	A. B. Brown-Henderson 138	MISO	SIGE	BREC
2295	A. B. Brown-Henderson 138 (flo) Culley-Grandview 138	MISO	SIGE	BREC
2273	A. B. Brown-Northwest 138 (flo) A. B. Brown-Henderson 138	MISO	SIGE	SIGE
	Adams 345/161 xfmr (flo) Hazleton-Adams 345	MISO	ALTW	ALTW
3522	Albers-Paris 138 (flo) Wempletown-Paddock 345	MISO	WEC	WEC
3116	Albion 345/138 xfmr	MISO	AMRN	AMRN
3118	Albion 345/138 xfmr (flo) Breed-Casey 345	MISO	AMRN	AMRN
3122	Albion 345/138 xfmr (flo) Dumont-Wilton Center 345	MISO	AMRN	AMRN
3121	Albion 345/138 xfmr (flo) Gibson-Petersburg 345	MISO	AMRN	AMRN
3135	Albion-Crossville 138 (flo) Newton-Xenia 345	MISO	AMRN	AMRN
3189	Albion-Crossville 138 (flo) W Mt Vernon-E W Frankfort 345	MISO	AMRN	AMRN
2316	Allen 345/138 xfmr (flo) Monroe-Bay Shore 345	MISO	FE	FE
2236	Allen-Lulu 345 (flo) Bay Shore-Monroe 345	MISO	FE	MECS
3545	Amberg-Plains 138 (flo) Amberg-Now Tap 138	MISO	WEC	WEC
3542	Amberg-Plains 138 (flo) Morgan-Plains 345	MISO	WEC	WEC
3568	Amberg-Stiles 138 (flo) Plains-Morgan 345	MISO	WEC	WEC
530	Arcadian-Zion 345	MISO	WEC	CE
531	Arcadian-Zion 345 (flo) Pleasant Prairie-Zion 345	MISO	WEC	CE
	Arch Tap-Steeleville 138 (flo) Marion 138/161 xfmr	MISO	IP	IP
	Arch Tap-Steeleville 138 (flo) Pinckneyville-Cahokia 230	MISO	IP	IP
	Arch Tap-Steeleville 138 (flo) Rush Is.-St Francois 345 + St Francois 345/138 xfmr_2	MISO	IP	IP
	Arch Tap-Steeleville 138 (flo) W. Frankfort-Pinckneyville 230	MISO	IP	IP
	Arch Tap-Steeleville 138 (flo) W. Mt. Vernon-E. W. Frankfort 345	MISO	IP	IP
2509	Argenta-Battle Creek 345	MISO	MECS	MECS
2863	Argenta-Battle Creek 345 (flo) Argenta-Tompkins 345	MISO	MECS	MECS
2864	Argenta-Morrow 138 (flo) Argenta-Battle Creek 345	MISO	MECS	MECS
3706	Arnold-Hazleton 345	MISO	ALTW	ALTW
3705	Arnold-Hazleton 345 (flo) Wempletown-Paddock 345	MISO	ALTW	ALTW
3724	Arnold-Vinton 161 (flo) Arnold-Hazleton 345	MISO	ALTW	ALTW
3047	Arpin 345/138 xfmr (flo) Eau Claire-Arpin 345 + Op Guide	MISO	ALTE	ALTE
3601	Arpin-Rocky Run 345	MISO	ALTE	WPS
2470	Ashtabula-Erie W 345 (flo) Sammis-Wylie Ridge 345	MISO	FE	PJM
2865	Atlanta Jct.-Atlanta 138 (flo) Thetford-Jewell 345	MISO	MECS	MECS
2278	Avon-Beaver 345_1 (flo) Avon-Beaver 345_2	MISO	FE	FE
2471	Avon-Beaver 345_2 (flo) Avon-Beaver 345_1	MISO	FE	FE
2483	Avon-Loudon 138	MISO	EKPC	LGEE
2277	Avon-Loudon 138 (flo) Ghent-West Lexington-Brown 345	MISO	EKPC	LGEE
3632	Badger-Caroline 115 (flo) N. Appleton-Rocky Run 345	MISO	WPS	WPS
3597	Bain-Kenosha 138 (flo) Zion-Pleasant Prairie 345	MISO	WEC	WEC
	Baldwin-Cahokia 345	MISO	IP	AMRN
3426	Baldwin-Cahokia 345 (flo) Baldwin-Stallings 345 + Stallings 345/138 xfmr	MISO	IP	AMRN
3402	Baldwin-Cahokia 345 (flo) Coffeen-Roxford 345	MISO	IP	AMRN
3406	Baldwin-Cahokia 345 (flo) Stallings-Roxford 345	MISO	IP	AMRN
5073	Bartlesville SE-N. Bartlesville 138 (flo) Northeastern-Delaware 345	MISO	CSWS	CSWS
2317	Bay Shore 345/138 xfmr	MISO	FE	FE
2242	Bay Shore 345/138 xfmr (flo) Monroe-Majestic-Allen (Lulu) 345	MISO	FE	FE
2280	Bay Shore-Fostoria 345 (flo) Lemoyne-Fostoria 345	MISO	FE	AEP
2982	Bay Shore-Monroe 345	MISO	MECS	FE
2859	Bay Shore-Monroe 345 (flo) Allen-Monroe-Majestic (Lulu) 345	MISO	FE	MECS
2246	Bay Shore-Monroe 345 (flo) Davis Besse-Lemoyne 345	MISO	FE	MECS
2184	Bay Shore-Monroe 345 (flo) Lemoyne-Majestic 345	MISO	FE	MECS
2237	Bay Shore-Toussaint 138 (flo) Davis Besse-Beaver 345	MISO	FE	FE
2289	Beaver Valley-Hanna 345 (flo) Mansfield-Chamberlin 345	MISO	DLCO	FE
2507	Beaver Valley-Sammis 345	MISO	DLCO	FE
2290	Beaver Valley-Sammis 345 (flo) Beaver Valley-Hanna 345	MISO	DLCO	FE

2247	Beaver-Brookside 138 (flo) Beaver-Davis Besse 345	MISO	FE	FE
2983	Beaver-Davis Besse 345	MISO	FE	FE
2282	Beaver-Davis Besse 345 (flo) Galion-Fostoria 345	MISO	FE	FE
3024	Blackhawk-Colley Road 138 (flo) Paddock-Town Line 138	MISO	ALTE	ALTE
3034	Blackhawk-Colley Road 138 (flo) Wempletown-Rockdale 345	MISO	ALTE	ALTE
3102	Bland-Franks 345	MISO	AMRN	AECI
3423	Bland-Franks 345 (flo) Lutesville-Essex 345 + Op Guide	MISO	AMRN	AECI
3117	Bland-Franks 345 (flo) St. Francois-Lutesville 345	MISO	AMRN	AECI
2283	Bloomington-Denois Creek 230 (flo) Bedford-Columbus 345	MISO	CIN	CIN
2284	Blue Lick-Bullitt Co. 161	MISO	LGEE	EKPC
2245	Blue Lick-Bullitt Co. 161 (flo) Baker-Broadford 765	MISO	LGEE	EKPC
2488	Blue Lick-Bullitt Co. 161 (flo) Ghent-West Lexington 345	MISO	LGEE	EKPC
2096	Blue Lick-Bullitt Co. 161 (flo) Trimble Co.-Clifty Creek 345	MISO	LGEE	EKPC
	Breed-Casey 345	MISO	AEP	AMRN
	Breed-W. Casey 345 (flo) Rockport-Jefferson 765	MISO	AEP	AMRN
230	Breed-Wheatland 345 (flo) Jefferson-Rockport 765	MISO	AEP	IPL
	Bristow-Keystone West 138 (flo) Muskogee-Pittsburg 345	MISO	OKGE	OKGE
5002	Bristow-Keystone West 138 (flo) Riverside-Redbud 345	MISO	OKGE	OKGE
5003	Broken Bow-Clayton 138 (flo) Valliant-Pittsburg 345	MISO	SPA	CSWS
2249	Brookside-Howard 138 (flo) Beaver-Davis Besse 345	MISO	FE	AEP
2190	Brown North-Alcalde 345	MISO	LGEE	LGEE
2201	Brown-Fawkes 138	MISO	LGEE	LGEE
2977	Buckner-Middletown 345 (flo) Trimble Co.-Middletown 345	MISO	LGEE	LGEE
2203	Buffington 345/138 xfmr (flo) Pierce-Foster 345	MISO	CIN	CIN
2059	Buffington-Boone 138	MISO	CIN	EKPC
2069	Buffington-Dearborn 345	MISO	CIN	OVEC
2070	Buffington-Pierce 345	MISO	CIN	OVEC
	Bunsonville 345/138 xfmr (flo) Casey-Sidney 345	MISO	IP	IP
2516	Burnham-Munster 345	MISO	CE	NIPS
2287	Burnham-Munster 345 (flo) Dumont-Wilton Center 765 + Op Guide	MISO	CE	NIPS
2286	Burnham-Munster 345_R (flo) Dumont-Wilton Center 765	MISO	CE	NIPS
2515	Burnham-Sheffield 345	MISO	CE	NIPS
2288	Burnham-Sheffield 345 (flo) Dumont-Wilton Center 765	MISO	CE	NIPS
3103	Cahokia 345/138 xfmr_8	MISO	AMRN	AMRN
3104	Cahokia 345/138 xfmr_9	MISO	AMRN	AMRN
3143	Cahokia 345/138 xfmr_9 (flo) Cahokia 345/138 xfmr_8	MISO	AMRN	AMRN
	Cahokia-Dupoferry 138 (flo) Rush Is.-St Francois 345 + St Francois 345/138 xfmr_2	MISO	AMRN	AMRN
	Cahokia-Gratiot 138 (flo) Cahokia-Poplar-Central 138	MISO	AMRN	AMRN
	Cahokia-Lemay Tap 138	MISO	AMRN	AMRN
	Cahokia-Lemay Tap 138 (flo) Cahokia-Lemay Tap-Meramec 138 + Op Guide	MISO	AMRN	AMRN
3427	Campbell Hill Tap-Campbell Hill 138	MISO	IP	SIPC
3351	Campbell Hill-Campbell Hill Tap 138	MISO	SIPC	IP
	Campbell-Maline 138_1 (flo) Campbell-Maline 138_2	MISO	AMRN	AMRN
3105	Cape Girardeau-Joppa 161	MISO	AMRN	EEI
	Cape Girardeau-Joppa 161 (bypass open)	MISO	AMRN	EEI
3124	Cape Girardeau-Joppa 161 (bypass open) (flo) Shawnee-Joppa 345	MISO	AMRN	EEI
3064	Cassville-Nelson Dewey 161	MISO	DPC	ALTE
3017	Cassville-Nelson Dewey 161 (flo) Wempletown-Paddock 345	MISO	DPC	ALTE
5005	Catoosa 161/138 xfmr_3 (flo) Catoosa 161/138 xfmr_4	MISO	CSWS	GRDA
2457	Cayuga 345/230 xfmr_9 (flo) Cayuga 345/230 xfmr_10	MISO	CIN	CIN
2997	Cayuga-Nucor 345	MISO	CIN	CIN
2959	Cayuga-Nucor 345 (flo) Wheatland-Amo 345	MISO	CIN	CIN
2459	Cayuga-Nucor Steel 345 (flo) Cayuga-Eugene 345	MISO	CIN	CIN
2460	Cayuga-Veedersburg 230 (flo) Cayuga-Frankfort 230	MISO	CIN	CIN
3546	Cedar-National 138 (flo) Cedar-Tilden 138	MISO	WEC	UPPC
3575	Center-Fiebrantz 138 (flo) Arcadian-Granville 345 + Op Guide	MISO	WEC	WEC
3576	Center-Fiebrantz 138 (flo) Wempletown-Paddock 345 + Op Guide	MISO	WEC	WEC
	Central-CEE Tap 138	MISO	AMRN	AMRN
2984	Chamberlin-Harding 345	MISO	FE	FE
2292	Chamberlin-Harding 345 (flo) Star-Juniper 345	MISO	FE	FE
3031	Christiana-Kegonsa 138 (flo) Christiana-Fitchburg 138	MISO	ALTE	ALTE
3022	Christiana-Kegonsa 138 (flo) Columbia-N. Madison 345	MISO	ALTE	ALTE
3153	Clark 138/161 xfmr (flo) Bland-Franks 345	MISO	AMRN	AMRN
	Clayton Jct.-Quincy E. 138 (flo) Meredosia-Quincy E. 138	MISO	AMRN	AMRN
2294	Clifty Creek-Carrollton 138 (flo) Baker-Broadford 765	MISO	OVEC	LGEE
2484	Clifty Creek-Northside 138 (flo) Clifty Creek-Trimble Co. 345	MISO	OVEC	LGEE
2089	Clifty Creek-Trimble Co. 345	MISO	OVEC	LGEE
3115	Coffeen-Pana 345	MISO	AMRN	AMRN
3123	Coffeen-Pana 345 (flo) Dumont-Wilton Center 765	MISO	AMRN	AMRN
3416	Coffeen-Roxford 345	MISO	IP	AMRN
3414	Coffeen-Roxford 345 (flo) Coffeen N-Coffeen 345	MISO	IP	AMRN
3413	Coffeen-Roxford 345 (flo) Newton-Xenia 345	MISO	IP	AMRN
3420	Coffeen-Roxford 345 (flo) Rockport-Jefferson 765	MISO	IP	AMRN
3049	Columbia 345/138 xfmr_1 (flo) Columbia 345/138 xfmr_2	MISO	ALTE	ALTE
3041	Columbia-N. Madison 138 (flo) Columbia-N. Madison 345	MISO	MGE	ALTE
3035	Columbia-Portage 138_1 (flo) Columbia-Portage 138_2	MISO	ALTE	ALTE
	Cook-Palisades 345	MISO	AEP	MECS
2337	Cook-Palisades 345 (flo) Benton Harbor-Palisades 345	MISO	AEP	MECS
2866	Cook-Palisades 345 (flo) Cook-Benton Harbor 345	MISO	AEP	MECS

2338	Cook-Palisades 345 (flo) Twin Branch-Argenta 345	MISO	AEP	MECS
5007	Cornville-Cornville Tap 138 (flo) Southwestern-Anadarko 138	MISO	CSWS	WFEC
1319	Couch-Lewisville 115 (flo) Arkansas Nuclear One-Fort Smith 500	MISO	EES	OKGE
2853	Coventry 345/120 xfmr (flo) Majestic-Madrid 345 + Madrid 345/120 xfmr	MISO	MECS	MECS
2854	Coventry 345/120 xfmr (flo) Monroe-Brownstown N 345	MISO	MECS	MECS
5008	Craig Jct.-Ashdown West 138 (flo) Valliant-Lydia 345	MISO	CSWS	CSWS
5077	Creswell-Newkirk 138 (flo) Wichita-Woodring 345	MISO	WR	OKGE
2975	Crete-St. Johns Tap 345 (flo) Dumont-Wilton Center 765	MISO	NIPS	CE
2083	Culley-Grandview 138	MISO	SIGE	SIGE
3725	Davenport-E. Calamus 161 (flo) Quad Cities-Rock Creek 345	MISO	ALTW	ALTW
2985	Davis Besse-Bay Shore 345	MISO	FE	FE
2314	Davis Besse-Bay Shore 345 (flo) Davis Besse-Lemoyne 345	MISO	FE	FE
2986	Davis Besse-Beaver 345	MISO	FE	FE
2248	Davis Besse-Beaver 345 (flo) Kammer-South Canton 765	MISO	FE	FE
2315	Davis Besse-Lemoyne 345 (flo) Davis Besse-Bay Shore 345	MISO	FE	FE
2867	Delhi-Tompkins 138 (flo) Argenta-Tompkins 345	MISO	MECS	MECS
2031	Dequine-Westwood 345 (flo) Cayuga-Veegersburg 230	MISO	AEP	CIN
	Detroit Industrial-Waterman 230	MISO	MECS	MECS
2868	Detroit Industrial-Waterman 230 (flo) Detroit Industrial-Navare 230	MISO	MECS	MECS
3112	Duck Creek-Ipava 345	MISO	CILC	AMRN
	Duff 345/138 xfmr (flo) Gibson-Duff 345	MISO	SIGE	SIGE
	Dumont-Stillwell 345	MISO	AEP	NIPS
2299	Dumont-Stillwell 345 (flo) Dumont-Wilton Center 765	MISO	AEP	NIPS
2223	Dumont-Stillwell 345 (flo) Olive-Green Acres 345	MISO	AEP	NIPS
	Dundee-Hazleton 161 (flo) Dysart-Washburn 161	MISO	ALTW	ALTW
2520	Dune Acres-Michigan City 138 _1 (flo) Dumont-Wilton 765	MISO	NIPS	NIPS
2974	Dune Acres-Michigan City 138 _1 (flo) Dune Acres-Michigan City 138 _2	MISO	NIPS	NIPS
2523	Dune Acres-Michigan City 138 _1 (flo) Olive 345/138 xfmr	MISO	NIPS	NIPS
2522	Dune Acres-Michigan City 138 _2 (flo) Dune Acres-Michigan City 138 _1	MISO	NIPS	NIPS
2524	Dune Acres-Michigan City 138 _2 (flo) Olive 345/138 xfmr	MISO	NIPS	NIPS
2521	Dune Acres-Michigan City 138 _2 (flo) Wilton Center-Dumont 765	MISO	NIPS	NIPS
2980	Dune Acres-Michigan City 138 1&2 (flo) Wilton Center-Dumont 765	MISO	NIPS	NIPS
	Dyess-E. Rogers 161 (flo) Flint Creek-Gentry 161	MISO	CSWS	CSWS
3728	Dysart-Washburn 161 (flo) Arnold-Hazleton 345	MISO	ALTW	ALTW
3128	E. Quincy-S. Quincy 138 (flo) Quincy E.-Quincy S. 138	MISO	AMRN	AMRN
2474	East Lake 345/138 xfmr 61 (flo) Perry-Inland 345	MISO	FE	FE
2230	East Winamac-Burr Oak 138 (flo) Olive-Green Acres 345	MISO	NIPS	NIPS
2229	East Winamac-Burr Oak 138 (flo) Reynolds 345/138 xfmr	MISO	NIPS	NIPS
2869	Eastlake-Juniper 345 (flo) Perry-Harding 345	MISO	FE	FE
3006	Eau Claire-Arpin 345 (ATC)	MISO	WEC	NSP
3018	Eau Claire-Arpin 345 (flo) Prairie Island-Byron 345	MISO	WEC	NSP
3009	Eau Claire-Arpin 345 (flo) Wemplestown-Paddock 345	MISO	WEC	NSP
	Eau Claire-Arpin 345 (XCEL)	MISO	WEC	NSP
3037	Edgewater-S. Sheboygan Falls 138 (flo) Edgewater-S. Fond du Lac 345	MISO	ALTE	ALTE
5015	El Paso-Farber 138 (flo) Wichita-Woodring 345	MISO	WR	WR
5014	Elk City 230/138 xfmr (flo) Tuco-Oklunion 345	MISO	CSWS	CSWS
3532	Ellington-Hintz 138 (flo) N. Appleton-Rocky Run 345	MISO	WEC	WEC
3405	Eugene-Bunsonville 345 (flo) Breed-W. Casey 345	MISO	AEP	IP
6129	Forbes-Chisago Co. 500	MISO	NSP	NSP
5017	Fort Smith 500/161 xfmr (flo) Fort Smith 500/345 xfmr	MISO	OKGE	OKGE
	Fort Smith-Arkansas Nuclear One 500	MISO	OKGE	OKGE
	Foster-Sugar Creek 345 + Golf-Niles 138 (flo) Stuart-Clinton 345	MISO	CIN	DPL
2995	Fostoria-Lemoyne 345	MISO	AEP	FE
2872	Frankfort East-Tyrone 138 (flo) Ghent-West Lexington 345	MISO	LGEE	LGEE
2464	Frankfort-New London 230 (flo) Cayuga-Veegersburg 230	MISO	CIN	CIN
2875	Galion-Fostoria 345 (flo) Beaver-Davis Besse 345	MISO	FE	AEP
2987	Galion-South Berwick 345	MISO	FE	AEP
	Gallagher-Paddys W 138 + Hanover-Tollway 138 (flo) Speed-Northside 138	MISO	LGEE	CIN
2998	Gallagher-Paddys West 138	MISO	CIN	LGEE
2485	Gallagher-Paddys West 138 (flo) Clifty Creek-Trimble Co. 345	MISO	CIN	LGEE
2053	Gallagher-Paddys West 138 (flo) Rockport-Jefferson 765	MISO	CIN	LGEE
2293	Gallagher-Paddys West 138 (flo) Speed-Northside 138	MISO	LGEE	CIN
2049	Ghent-Batesville 345	MISO	LGEE	CIN
2272	Ghent-Batesville 345 (flo) Ghent-W. Lexington 345	MISO	LGEE	CIN
2925	Ghent-Fairview 138 (flo) Ghent-Batesville 345	MISO	LGEE	CIN
2878	Ghent-Owen County Tap 138 (flo) Ghent-West Lexington 345	MISO	LGEE	LGEE
2879	Ghent-West Lexington 345	MISO	LGEE	LGEE
2199	Ghent-West Lexington 345 (flo) Baker-Broadford 765	MISO	LGEE	LGEE
2456	Gibson 345/138 xfmr (flo) Gibson-Petersburg 345	MISO	CIN	CIN
2022	Gibson-Merom 345	MISO	CIN	HE
2999	Gibson-Petersburg 345	MISO	CIN	IPL
2047	Gibson-Petersburg 345 (flo) Gibson-Bedford 345	MISO	CIN	IPL
3171	Gillespie Tap-Laclede Tap 138 (flo) Coffeen-Roxford 345	MISO	IP	IP
2877	Goddard-Rodburn 138 (flo) Spurlock-Avon 345	MISO	LGEE	LGEE
2880	GPC-Ratts 161	MISO	HE	HE
	Gratiot-Central 138 (flo) Cahokia-Poplar-Central 138	MISO	AMRN	AMRN
3030	Green Lake-Roeder 138 (flo) N. Appleton-Rocky Run 345	MISO	ALTE	ALTE
2883	Green River-River Queen Tap 161	MISO	LGEE	LGEE
2238	Greenfield-Lakeview 138 (flo) Beaver-Davis Besse 345	MISO	FE	FE

2034	Greentown 765/230/138 xfmr (flo) Greentown-Dumont 765	MISO	AEP	CIN
3138	Guthrie-Montgomery 161 (flo) Montgomery-McCredie 345	MISO	AMRN	AMRN
	Hampton-Pontiac 345	MISO	MECS	MECS
2888	Hampton-Pontiac 345 (flo) Thetford-Jewell 345	MISO	MECS	MECS
2504	Hanna-Juniper 345 (flo) Mansfield-Chamberlin 345	MISO	FE	FE
	Harrington-Nichols 230_1 (flo) Harrington-Nichols 230_2	MISO	SPS	SPS
	Havana-Ipava 138 (flo) Havana-Danvers-Powerton 138	MISO	IP	AMRN
3172	Havana-Ipava 138 (flo) Havana-Monmouth 138	MISO	IP	AMRN
2886	Hemphill-Hunters Creek 120 (flo) Hampton-Pontiac 345	MISO	MECS	MECS
2887	Hemphill-Hunters Creek 120 (flo) Thetford-Jewell 345	MISO	MECS	MECS
3617	Highway V-Preble 138 (flo) N. Appleton-Lawn Road 138	MISO	WPS	WPS
3618	Highway V-Preble 138 (flo) N. Appleton-Mason 138	MISO	WPS	WPS
3607	Highway-Preble 138	MISO	WPS	WPS
3755	Hills 345/161 xfmr (flo) Duane Arnold Unit	MISO	ALTW	ALTW
3737	Hills 345/161 xfmr (flo) Tiffin-Arnold 345	MISO	ALTW	ALTW
2228	Hiple 345/138 xfmr (flo) Goshen Jct-Hiple 138	MISO	NIPS	NIPS
2250	Hoytdale-Maple 138 (flo) Sammis-Wylie Ridge 345	MISO	FE	FE
2251	Hoytdale-Maple 138 (flo) Wylie Ridge-Cabot 500	MISO	FE	FE
9159	Hydro1-ITC	MISO	IMO	MECS
6104	Iatan-St. Joseph 345	MISO	MPS	MPS
	Ipava-Macomb 138 (flo) Duck Creek-Tazewell 345	MISO	AMRN	AMRN
2889	Island Rd-Canal 138 (flo) Argenta-Tompkins 345	MISO	MECS	MECS
9084	ITC-Hydro1	MISO	MECS	IMO
	Joppa 345/161 xfmr (flo) Shawnee 500/345 xfmr	MISO	EEI	EEI
	Joppa-Cape Girardeau 161 (flo) Joppa 345/161 xfmr	MISO	EEI	AMRN
	Joppa-Cape Girardeau 161 (flo) Joppa-Kelso 345 + Kelso 345/161 xfmr	MISO	EEI	AMRN
6139	Judson Large-Greensburg 115 (flo) Spearville-Mullergren 230	MISO	WPEK	WPEK
	Kansas-Murdock 138 (flo) Sidney 345/138 xfmr	MISO	AMRN	AMRN
	Kansas-Murdock 138 (flo) Sidney-Murdock 138	MISO	AMRN	AMRN
	Kelso 345/161 xfmr (flo) Lutesville-Essex 345 + Essex 345/161 xfmr	MISO	EEI	AMRN
	Kelso-Oran 161 (flo) Lutesville-Essex 345 + Essex 345/161 xfmr	MISO	EEI	AMRN
2275	Kenton-Hillsboro 138	MISO	LGEE	AEP
2267	Kenton-Wedonia 138 (flo) Spurlock-Maysville Junction 138	MISO	LGEE	LGEE
3613	Kewaunee 345/138 xfmr (flo) Kewaunee-N. Appleton 345	MISO	WPS	WPS
3619	Kewaunee 345/138 xfmr (flo) Point Beach-N. Appleton 345	MISO	WPS	WPS
3623	Kewaunee-N. Appleton 345 (flo) Point Beach-N. Appleton 345	MISO	WPS	WEC
3309	Kickapoo-Holland 138	MISO	CILC	CILC
2254	Kirby-Blue Jacket 138	MISO	FE	DPL
2255	Kirby-Blue Jacket 138 (flo) Tangy-Mill Creek-E. Springfield 138	MISO	FE	DPL
2222	Kline-Northeast 138 (flo) Olive-Green Acres 345	MISO	AEP	NIPS
2210	Knob Creek-Pond Creek 138 (flo) Baker-Broadford 765	MISO	LGEE	LGEE
2266	Knob Creek-Pond Creek 138 (flo) Ghent-West Lexington 345	MISO	LGEE	LGEE
3133	Labadie-Mason 345 (flo) Labadie-Wildwood 345	MISO	AMRN	AMRN
	Laclede Tap-Cottage Hills 138 (flo) Wood River-Roxford 138 + Op Guide	MISO	IP	IP
5022	Lacygne-Neosho 345 (flo) Lang-Wichita 345	MISO	KCPL	WR
	Lacygne-Stilwell 345 (flo) Lacygne-W. Gardner 345	MISO	KCPL	KCPL
5200	Lacygne-W. Gardner 345 (flo) Lacygne-Stilwell 345	MISO	KCPL	KCPL
2901	Lake Reba Tap 138/161 xfmr (flo) Baker-Broadford 765	MISO	LGEE	LGEE
3727	Lakefield-Fox Lake 161 (flo) Lakefield-LakefieldXL 345	MISO	ALTW	ALTW
3548	Lakehead-Hiawatha 138	MISO	WEC	WEC
	Lakehead-Jefferson 138 (flo) Columbia-S. Fond du Lac 345	MISO	ALTE	WEC
3023	Lakehead-Jefferson 138 (flo) Eau Claire-Arpin 345 + Op Guide	MISO	ALTE	WEC
3352	Lanesville 345/138 xfmr (flo) Pawnee-Kincaid-Latham T-Pontiac 345	MISO	CWLP	CWLP
	Latham Tap-E. Lanesville 138 (flo) E. Springfield-Eastdale 138	MISO	IP	IP
2896	Latson-Genoa 138 (flo) Thetford-Jewell 345	MISO	MECS	MECS
3550	Lawn Road-White Clay 138 (flo) Pulliam-Stiles 138_1	MISO	WEC	WEC
2185	Lemoyne-Majestic 345 (flo) Bay Shore-Monroe 345	MISO	FE	MECS
2899	Lemoyne-West End 138 (flo) Lemoyne-Fostoria 345	MISO	FE	AEP
3745	Lime Creek-Emery 161 (flo) Adams-Hazleton 345	MISO	ALTW	ALTW
3742	Lime Creek-Emery 161 (flo) Lehigh-Webster 345	MISO	ALTW	ALTW
3743	Lore-Turkey River 161 (flo) Wempletown-Paddock 345 + Op Guide	MISO	ALTW	ALTW
3707	Lore-Turkey River 161kV (flo) Wempletown-Paddock 345	MISO	ALTW	ALTW
2476	Mansfield-Chamberlin 345 (flo) Beaver Valley-Hanna 345	MISO	FE	FE
2256	Mansfield-Highland 345 (flo) Mansfield-Hoytdale 345	MISO	FE	FE
2907	Mansfield-Hoytdale 345 (flo) Mansfield-Highland 345	MISO	FE	FE
5029	Mansfield-Int. Paper 138 (flo) Dolet Hills-SW Shreveport 345	MISO	CSWS	CLEC
3162	Marion-S. Marion 161	MISO	SIPC	SIPC
	Marysville-Tangy 345	MISO	AEP	FE
3129	Mason 345/138 xfmr_3 (flo) Mason 345/138 xfmr_2	MISO	AMRN	AMRN
3147	Mason City-Mt. Pulaski 138 (flo) Duck Creek-Tazewell 345	MISO	IP	AMRN
	Mason City-Mt. Pulaski 138 (flo) Havana-E. Springfield 138	MISO	IP	AMRN
	McBain Tap-Overton 161 (flo) Montgomery-McCredie-Overton 345	MISO	EEI	AMRN
3157	McCredie-Overton 345 (flo) Bland-Franks 345	MISO	AMRN	AMRN
2909	McGulpin-Riggsville 138 (flo) McGulpin-Oden 138	MISO	MECS	MECS
3564	McGulpin-Straits 138_1 (flo) McGulpin-Straits 138_3	MISO	MECS	WEC
	Meramec-Lemay Tap 138 (flo) Cahokia-Lemay Tap-Meramec 138	MISO	EEI	AMRN
	Meredosia-Frederick 138 (flo) Meredosia-Quincy E 138	MISO	AMRN	AMRN
3146	Meredosia-Ind. Park 138 (flo) Duck Creek-Tazewell 345	MISO	IP	AMRN
2021	Merom-Dresser 345	MISO	HE	CIN

2958	Merom-Dresser 345 (flo) Gibson-Petersburg 345	MISO	HE	CIN
6142	MH_IMO_East	MISO	MHEB	MHEB
6134	MH_IMO_West	MISO	MHEB	MHEB
6135	MH_SPC_East	MISO	MHEB	MHEB
6100	MH_SPC_West	MISO	MHEB	SPC
	MHEX_MISO_N	MISO	MHEB	NSP
	MHEX_MISO_S	MISO	MHEB	NSP
6003	MHEX_N	MISO	MHEB	NSP
6002	MHEX_S	MISO	MHEB	NSP
2908	Miami Fort 345/138 xfmr 9 (flo) East Bend-Terminal 345	MISO	CIN	CIN
2969	Miami Fort 345/138 xfmr 9 (flo) Jefferson-Hanging Rock 765	MISO	CIN	CIN
2970	Miami Fort 345/138 xfmr 9 (flo) Rockport-Jefferson 765	MISO	CIN	CIN
2968	Miami Fort 345/138 xfmr 9 (flo) Zimmer unit 1	MISO	CIN	CIN
2231	Michigan City-Laporte 138 (flo) Stillwell-Dumont 345	MISO	NIPS	AEP
2233	Michigan City-Trail Creek 138 (flo) Dumont-Stillwell 345	MISO	NIPS	NIPS
2232	Michigan City-Trail Creek 138 (flo) Olive-Green Acres 345	MISO	NIPS	NIPS
2910	Middletown 345/138 xfmr_1 (flo) Middletown 345/138 xfmr_3	MISO	LGEE	LGEE
	Middletown-3870 Tap 138	MISO	LGEE	LGEE
	Middletown-3870 Tap 138 (flo) Mill Creek-Paddys West 345	MISO	LGEE	LGEE
	Middletown-Lyndon South 138 (flo) Mill Creek-Paddys West 345	MISO	LGEE	LGEE
3134	Mississippi Tap 1-Roxford 138 (flo) Sioux 1-Mississippi Tap 3-Roxford 138	MISO	AMRN	AMRN
3141	Mississippi Tap 3-Roxford 138 (flo) Sioux 2-Mississippi Tap 1-Roxford 138	MISO	AMRN	AMRN
	Moberly-Overton 161 (flo) Thomas Hill-McCredie-Kingdom City 345	MISO	AMRN	AMRN
2513	Monroe-Bay Shore 345	MISO	MECS	FE
2861	Monroe-Bay Shore 345 (flo) Fostoria-Bay Shore 345	MISO	MECS	FE
2241	Monroe-Bay Shore 345 (flo) Monroe-Majestic-Allen (Lulu) 345	MISO	MECS	FE
2514	Monroe-Brownstown 345	MISO	MECS	MECS
2855	Monroe-Brownstown S 345 (flo) Monroe-Wayne 345	MISO	MECS	MECS
2856	Monroe-Wayne 345 (flo) Monroe-Brownstown S 345	MISO	MECS	MECS
3107	Montgomery-Spencer 345	MISO	AMRN	AMRN
3140	Montgomery-Spencer 345 (flo) Coffeen-Pana-Kincaid 345	MISO	AMRN	AMRN
2234	Monticello-East Winamac 138 (flo) Dumont-Stillwell 345	MISO	NIPS	NIPS
5035	Montrose-Clinton Gravois 161	MISO	KCPL	AECI
	Morrison Tap-Stillwater 138 (flo) Oneok-Northwest 345	MISO	OKGE	OKGE
3268	Munster-Burnham 345 (flo) Dumont-Wilton Center 765	MISO	NIPS	CE
2221	Munster-Burnham 345 (flo) Olive-University Park North 345	MISO	NIPS	CE
2296	Munster-Burnham 345 (flo) University Park North-E. Frankfort 345	MISO	NIPS	CE
	Munster-Burnham 345kV (flo) Dumont-Wilton Center 765 + Op Guide	MISO	NIPS	CE
3132	Murdock-Sidney 138 (flo) Sidney 345/138 xfmr	MISO	AMRN	AMRN
5037	Muskogee-Clarksville 345 (flo) Muskogee-Riverside 345	MISO	CSWS	OKGE
	Muskogee-Pittsburg 345	MISO	CSWS	OKGE
3551	N. Appleton 345/138 xfmr_1 (flo) N. Appleton 345/138 xfmr_2	MISO	WEC	WEC
3553	N. Appleton 345/138 xfmr_2 (flo) N. Appleton 345/138 xfmr_3	MISO	WEC	WEC
3552	N. Appleton 345/138 xfmr_2 (flo) N. Appleton xfmr_1	MISO	WEC	WEC
3554	N. Appleton 345/138 xfmr_3 (flo) N. Appleton 345/138 xfmr_2	MISO	WEC	WEC
3535	N. Appleton-Lost Dauphin 138 (flo) Kewaunee 345/138 xfmr	MISO	WEC	WPS
3549	N. Appleton-Lost Dauphin 138 (flo) Kewaunee-E. Krok 138	MISO	WEC	WPS
3563	N. Appleton-Lost Dauphin 138 (flo) N. Appleton-Mason 138	MISO	WEC	WPS
	N. Coulterville 138/230 xfmr (flo) Baldwin-Mt. Vernon 345 + Mt. Vernon 345/138 xfmr	MISO	IP	AMRN
	N. Coulterville-Cahokia 230 (flo) Baldwin-Cahokia 345 + Cahokia 345/138 xfmr_9	MISO	AMRN	AMRN
	N. Coulterville-Cahokia 230 (flo) Pinckneyville-St. John 230	MISO	AMRN	AMRN
	N. Coulterville-Cahokia 230 (flo) W. Frankfort 230/138 xfmr	MISO	AMRN	AMRN
3629	N. Fond du Lac-Aviation 138 (flo) Fitzgerald 345/138 xfmr	MISO	WPS	WPS
3027	N. Lake Geneva Tap-Sugarcreek 138 (flo) Wempletown-Paddock 345	MISO	ALTE	ALTE
3053	N. Madison 345/138 xfmr_1 (flo) N. Madison 345/138 xfmr_2	MISO	ALTE	ALTE
3628	Neevin-Butte des Morts 138 (flo) Fitzgerald 345/138 xfmr	MISO	WPS	WPS
3016	Nelson Dewey 161/138 xfmr (flo) Eau Claire-Arpin 345 + Op Guide	MISO	ALTE	ALTE
3015	Nelson-Dewey 161/138 xfmr (flo) Wempletown-Paddock 345	MISO	ALTE	ALTE
3002	Nelson-Dewey xfmr 138	MISO	ALTE	ALTE
	Neoga-Mattoon 138 (flo) Sidney 345/138 xfmr	MISO	AMRN	AMRN
2220	New Carlisle-Maple 138 (flo) Dumont-Stillwell 345	MISO	AEP	NIPS
2219	New Carlisle-Maple 138 (flo) Olive-Green Acres 345	MISO	AEP	NIPS
2218	New Carlisle-Trail Creek 138 (flo) Dumont-Stillwell 345	MISO	AEP	NIPS
2216	New Carlisle-Trail Creek 138 (flo) Olive-Green Acres 345	MISO	AEP	NIPS
2217	New Carlisle-Trail Creek 138 (flo) Olive-University Park North 345	MISO	AEP	NIPS
2298	New Carlisle-Trail Creek 138 (flo) University Park North-E. Frankfort 345	MISO	AEP	NIPS
2871	New Hardinsburg-Hardinsburg 138	MISO	BREC	LGEE
2072	New London-Webster 230 (flo) Jefferson-Greentown 765	MISO	CIN	CIN
5021	Newkirk-Creswell 138 (flo) Woodring-Wichita 345	MISO	OKGE	WR
	Newton 345/138 xfmr_1 (flo) Newton-Casey 345	MISO	AMRN	AMRN
	Newton 345/138 xfmr_1 (flo) Xenia-W. Mt. Vernon 345	MISO	AMRN	AMRN
3150	Newton 345/138 xfmr_2 (flo) Newton-Casey 345	MISO	AMRN	AMRN
	Newton 345/138 xfmr_2 (flo) Newton-Xenia 345	MISO	AMRN	AMRN
3113	Newton-Casey 345	MISO	AMRN	AMRN
	Newton-Casey 345 (flo) Xenia-W. Mt. Vernon 345	MISO	AMRN	AMRN
	Newton-Effingham 138 (flo) Newton-Casey 345	MISO	AMRN	AMRN
	Newton-Robinson 138 (flo) Newton-Casey 345	MISO	AMRN	AMRN
2281	Newtonville 138/161 xfmr (flo) Henderson 138/161 xfmr	MISO	SIGE	SIGE
2086	Newtonville 161/138 xfmr	MISO	SIGE	SIGE

2500	Newtonville-Cloverport 138 (flo) Coleman-National Aluminum 161	MISO	SIGE	LGEE
2026	Newtonville-Coleman 161	MISO	SIGE	BREC
2916	Newtonville-Troy 161	MISO	SIGE	HE
3173	Newton-Xenia 345	MISO	AMRN	AMRN
3604	North Fond Du Lac-Aviation 138	MISO	WPS	ALTE
2557	Northeast Kentucky Interface (LGEE)	MISO	LGEE	LGEE
2517	Northeast Ohio Interface	MISO	FE	FE
5063	Northeastern-Oneta 345 (flo) Northeastern-Tulsa North 345	MISO	CSWS	CSWS
3630	Northpoint-Dewey 115 (flo) Rocky Run-Weston 345	MISO	WPS	WPS
2870	Northside-Beargrass 138 (flo) Northside-Jeffersonville Jct. 138	MISO	LGEE	LGEE
2876	Northside-Jeffersonville Jct. 138 (flo) Northside-Beargrass 138	MISO	LGEE	LGEE
2518	Northwest Ohio Interface	MISO	AEP	FE
5042	NW Texarkana-Patterson 138 (flo) Lydia-Valliant 345	MISO	CSWS	CSWS
2071	Oakland City-Toyota 138	MISO	CIN	SIGE
	Oglesby Tap-Oglesby 138	MISO	CE	IP
2917	Ohio Central-Gallon 345 (flo) E. Lima-Fostoria 345	MISO	AEP	FE
2519	Ohio Eastern Interface	MISO	FE	AP
2918	Oneida-Majestic 345	MISO	MECS	MECS
	Oran-Stoddard 161 (flo) Lutesville-Essex 345 + Essex 345/161 xfmr	MISO	AMRN	AMRN
	Osage-Canyon 115 (flo) Bushland-Deafsmit 230	MISO	SPS	SPS
2919	Ottawa-Lakeview 138 (flo) Davis Besse-Beaver 345	MISO	FE	FE
3174	Ottawa-Oglesby 138 (flo) Hennepin-Oglesby 138	MISO	IP	IP
2882	Ottawa-Toussaint 138 (flo) Beaver-Davis Besse 345	MISO	FE	FE
	Overton 345/161 xfmr (flo) Overton-Sibley 345	MISO	AMRN	AMRN
	Overton-California 161 (flo) Bland-Franks 345	MISO	AMRN	AMRN
3108	Overton-Sibley 345	MISO	AMRN	MPS
3012	Paddock 345/138 xfmr (flo) Wempletown-Rockdale 345	MISO	ALTE	ALTE
3011	Paddock 345/138 xfmr_1	MISO	ALTE	ALTE
3021	Paddock-Blackhawk 138 (flo) Paddock-Town Line 138	MISO	ALTE	ALTE
3038	Paddock-Town Line 138 (flo) Paddock-Blackhawk 138	MISO	ALTE	ALTE
3063	Paddock-Townline 138 (flo) Wempletown-Rockdale 345	MISO	ALTE	ALTE
2097	Paddys Run-Summershade 161	MISO	LGEE	TVA
2920	Palisades-Benton Harbor 345 (flo) Twin Branch-Argenta 345	MISO	MECS	AEP
2921	Palisades-Cook 345 (flo) Twin Branch-Argenta 345	MISO	MECS	AEP
3175	Palmyra 345/161 xfmr (flo) Montgomery-Spencer 345	MISO	AMRN	AMRN
1011	Palmyra 345/161 xfmr (flo) Palmyra Tap-Sub T 345	MISO	AMRN	AECI
3145	Pana 345/138 xfmr (flo) Coffeen-Coffeen N 345	MISO	AMRN	AMRN
3408	Pana-Moweaq Tap 138 (flo) Kincaid-Latham 345	MISO	IP	IP
3409	Pana-Moweaq Tap 138 (flo) Pontiac-Latham 345	MISO	IP	IP
3139	Pawnee 138/345 xfmr (flo) Coffeen-Pana-Kincaid 345	MISO	AMRN	AMRN
3131	Pawnee-Auburn 138 (flo) Kincaid-Latham 345	MISO	AMRN	AMRN
2477	Perry-Ashtabula 345 (flo) East Lake 345/138 xfmr 61	MISO	FE	FE
2505	Perry-Ashtabula 345 (flo) Sammis-Wylie Ridge 345	MISO	FE	FE
2270	Perry-Ashtabula 345 (flo) Wylie Ridge-Cabot 500	MISO	FE	FE
2078	Petersburg (SIGE)-Cato Tap 138	MISO	SIGE	SIGE
2550	Petersburg 345/138 xfmr_E	MISO	IPL	IPL
2551	Petersburg 345/138 xfmr_E (flo) Petersburg 345/138 xfmr_W	MISO	IPL	IPL
2044	Petersburg-Ben Jct. 138	MISO	IPL	CIN
2104	Petersburg-Francis Creek 345	MISO	IPL	IPL
2046	Petersburg-Lost River 345 (flo) Gibson-Bedford 345	MISO	IPL	CIN
2291	Petersburg-Oakland City 138 (flo) Gibson 345/138 xfmr	MISO	IPL	CIN
2103	Petersburg-Thompson 345	MISO	IPL	IPL
	Phillips-S. Phillips Jct. 115 (flo) Summit-E. McPherson 230	MISO	WR	WR
2923	Phipps Bend-Pocket North 500	MISO	TVA	LGEE
2559	Pierce-Beckjord 138 (flo) East Bend-Terminal 345	MISO	CIN	CIN
2996	Pierce-Foster 345	MISO	OVEC	CIN
2055	Pierce-Foster 345 (flo) Stuart-Foster 345	MISO	OVEC	CIN
2192	Pineville 345/500 xfmr	MISO	LGEE	LGEE
3555	Plains-Amberg 138 (flo) Now Tap-Amberg 138	MISO	WEC	WEC
3556	Plains-Amberg 138 (flo) Plains-Morgan 345	MISO	WEC	WEC
3569	Plains-Dead River 345 + Nordic-Perch Lake 138 + Arnold-Forsyth 138	MISO	WEC	WEC
2062	Plains-Five Points 138	MISO	CIN	IPL
3583	Pleasant Prairie-Arcadian 345	MISO	WEC	WEC
3557	Pleasant Prairie-Arcadian 345 (flo) Pleasnt Prairie-Racine 345	MISO	WEC	WEC
3558	Pleasant Prairie-Arcadian 345 (flo) Zion-Arcadian 345	MISO	WEC	WEC
3595	Pleasant Prairie-Racine 345 (flo) Pleasant Prairie-Arcadian 345	MISO	WEC	WEC
3527	Pleasant Prairie-Racine 345 (flo) Wempletown-Paddock 345	MISO	WEC	WEC
3584	Pleasant Prairie-Zion 345	MISO	WEC	CE
3570	Pleasant Prairie-Zion 345 (flo) Cherry Valley-Silver Lake 345 _R	MISO	WEC	CE
3571	Pleasant Prairie-Zion 345 (flo) Zion-Arcadian 345	MISO	WEC	CE
3585	Pleasant Priarie-Racine 345	MISO	WEC	WEC
2193	Pocket-Phipps Bend 500	MISO	LGEE	TVA
3046	Portage-Hamilton-N. Randolph 138 (flo) Columbia-S. Fond du Lac 345	MISO	ALTE	ALTE
3304	Powerton-Tazewell 345	MISO	CE	CILC
3310	Powerton-Tazewell 345 (flo) Powerton-Goodings Gr. 345 _B	MISO	CE	CILC
3311	Powerton-Tazewell 345 (flo) Powerton-Goodings Grove 345 _R	MISO	CE	CILC
3704	Poweshiek-Reasnor 161 (flo) Montezuma-Bondurant 345	MISO	ALTW	ALTW
6012	Prairie Island-Byron 345	MISO	SMP	NSP
3538	Pulliam-Stiles 138 ckt 1 (flo) Pulliam-Stiles 138 ckt 2	MISO	WEC	WPS

3763	Quad Cities-Rock Creek 345	MISO	CE	ALTW
3715	Quad Cities-Rock Creek 345 (flo) Cordova-E. Moline 345	MISO	CE	ALTW
	Quad Cities-Rock Creek 345 (flo) Quad Cities-Sub 91 345	MISO	CE	ALTW
3142	Ramsey-Pana 138 (flo) Coffeen-Pana-Kincaid 345	MISO	AMRN	AMRN
3163	Renshaw-Livingston 161	MISO	SIPC	BREC
3164	Renshaw-Livingston 161 (flo) E. W. Frankfort-Shawnee 345	MISO	SIPC	BREC
3350	Renshaw-Livingston 161 (flo) Kelso-Joppa 345	MISO	SIPC	BREC
2224	Reynolds 345/138 xfmr (flo) Dequine-Westwood 345	MISO	AEP	NIPS
2212	Reynolds-Monticello 138 (flo) Dequine-Westwood 345	MISO	NIPS	NIPS
1307	Richard 500/138 xfmr_2 (flo) Richard 500/138 xfmr_1	MISO	EES	CLEC
	Rivermines-Delbridge 138 (flo) Bland-Franks 345	MISO	AMRN	AMRN
	Rivermines-Fredricktown 138 (flo) St Francois-Lutesville 345	MISO	AMRN	AMRN
5046	Riverside-Explorer Glenpool 138 (flo) Sand Springs-Prattville 138	MISO	CSWS	OKGE
5047	Riverside-Tulsa Power Station 138 (flo) Riverside-Jenks 138	MISO	CSWS	CSWS
	Robinson Peak-Argenta 345	MISO	AEP	MECS
3757	Rock Creek 345/161 xfmr	MISO	ALTW	ALTW
3716	Rock Creek 345/161 xfmr (flo) Quad Cities-Sub 91 345	MISO	ALTW	ALTW
3014	Rockdale 345/138 xfmr_2 (flo) Paddock 345/138 xfmr	MISO	ALTE	ALTE
3040	Rockdale 345/138 xfmr_2 (flo) Rockdale 345/138 xfmr_3	MISO	ALTE	ALTE
3045	Rockdale 345/138 xfmr_3 (flo) Paddock 345/138 xfmr	MISO	ALTE	ALTE
3609	Rocky Run-Weston 345	MISO	WPS	WPS
3620	Rocky Run-Whiting Ave 115 (flo) Rocky Run-N. Appleton 345	MISO	WPS	WPS
2510	Roosevelt-Campbell 345	MISO	MECS	MECS
2927	Roosevelt-Campbell 345 (flo) Roosevelt-Tallmadge 345	MISO	MECS	MECS
3144	Rush Island-St. Francois 345 (flo) Bland-Franks 345	MISO	AMRN	AMRN
3109	Rush Is-St Francois 345_1 (flo) Rush Is-St Francois 345_2 + Rush Is 138/345 xfmr_2	MISO	AMRN	AMRN
3025	Russell-Rockdale 138 (flo) Wempletown-Rockdale 345	MISO	ALTE	ALTE
5078	S. Coffeyville-Dearing 138 (flo) Delaware-Neosho 345	MISO	CSWS	CSWS
3165	S. Marion-Marion 161	MISO	SIPC	AMRN
3720	Salem 345/161 xfmr (flo) Cordova-E. Moline 345	MISO	ALTW	ALTW
3719	Salem 345/161 xfmr (flo) Quad Cities-Sub 91 345	MISO	ALTW	ALTW
3721	Salem 345/161 xfmr (flo) Quad Cities-Sub 91 345 + Sub 91 345/161 xfmr	MISO	ALTW	ALTW
3736	Salem 345/161 xfmr (flo) Wempletown-Paddock 345	MISO	ALTW	ALTW
3424	Salem-W. Mt. Vernon 138 (flo) Newton-Xenia 345	MISO	IP	IP
2141	Sammis-Beaver Valley 345	MISO	FE	DLCO
2929	Sammis-Beaver Valley 345 (flo) Sammis-Highland 345	MISO	FE	DLCO
2262	Sammis-Highland 345 (flo) Sammis-Beaver Valley 345	MISO	FE	FE
2931	Sammis-S. Canton 345 (flo) Sammis-Star 345	MISO	FE	AEP
2932	Sammis-S. Canton 345 (flo) Sammis-Wylie Ridge 345	MISO	FE	AEP
205	Sammis-S. Canton 345 (flo) Tidd-Canton Central 345	MISO	FE	AEP
2263	Sammis-Star 345 (flo) S. Canton-Star 345	MISO	FE	FE
2937	Seneca-Maple 138 (flo) Mansfield-Hoytdale 345	MISO	FE	FE
2938	Seneca-Maple 138 (flo) Wylie Ridge-Sammis 345	MISO	FE	FE
	Shawnee-Joppa 345	MISO	TVA	AMRN
3269	Sheffield-Burnham 345 (flo) Dumont-Wilton Center 765	MISO	NIPS	CE
3176	Sidney 345/138 xfmr	MISO	IP	IP
3177	Sidney 345/138 xfmr (flo) Brokaw-Bloomington 138	MISO	IP	IP
3401	Sidney 345/138 xfmr (flo) Bunsonville 345/138 xfmr	MISO	IP	IP
3410	Sidney 345/138 xfmr (flo) Dumont-Wilton Center 765	MISO	IP	IP
3411	Sidney-Mira Tap 138 (flo) Sidney-Rantoul 138	MISO	IP	IP
3403	Sidney-Mira Tap 138 (flo) Sidney-Windsor-SW Campus 138	MISO	IP	IP
3126	Sidney-Rantoul 138 (flo) Coffeen-Pana-Kincaid 345	MISO	AMRN	AMRN
	Sidney-Rantoul 138 (flo) Pana-Kincaid 345	MISO	AMRN	AMRN
3125	Sidney-Rantoul 138 (flo) Sidney-Mira Tap 138	MISO	AMRN	AMRN
	Sioux 2-Mississippi Tap 1 138 (flo) Sioux 1-Mississippi Tap 3-Roxford 138	MISO	AMRN	AMRN
2971	Smith 138/345 xfmr (flo) Ghent-West Lexington-Brown N 345	MISO	LGEE	LGEE
2973	Smith 138/345 xfmr (flo) Hardinsburg-Hardin Co. 138	MISO	LGEE	LGEE
2226	South Prairie 138/69 xfmr_2 (flo) Dequine-Westwood 345	MISO	NIPS	NIPS
5054	Southwestern-Anadarko 138 (flo) Southwestern-Ft. Cobb 138	MISO	CSWS	WFEC
2452	Speed 345/138 xfmr (flo) Ghent-West Lexington 345	MISO	CIN	CIN
2940	Speed 345/138 xfmr (flo) Rockport-Jefferson 765	MISO	CIN	CIN
2050	Speed-Ghent 345	MISO	CIN	LGEE
2506	Speed-Northside 138	MISO	CIN	LGEE
2486	Speed-Northside 138 (flo) Clifty Creek-Trimble Co. 345	MISO	CIN	LGEE
2939	Speed-Northside 138 (flo) Rockport-Jefferson 765	MISO	CIN	LGEE
2052	Speed-Northside 138 (flo) Speed-Ghent 345	MISO	CIN	LGEE
2465	Speed-Ramsey 345 (flo) Buckner-Middletown 345	MISO	CIN	HE
	Spencer-Palmyra Tap 345	MISO	AMRN	AMRN
	Spencer-Palmyra Tap 345 (flo) Coffeen-Pana 345	MISO	AMRN	AMRN
3735	Spencer-Triboji 161 (flo) Lakefield-Raun 345	MISO	ALTW	ALTW
	SPP_SPS Ties	MISO	CSWS	SPS
3168	St Francois-Lutesville 345 (flo) Bland-Franks 345	MISO	AMRN	AMRN
	St Joe-Hawth 345 + Lake-Nashua 161 + Iatan-Strangr 345	MISO	MPS	KCPL
2944	St. Clair 345/230 xfmr_T9 (flo) St. Clair-Lambton 345	MISO	MECS	IMO
3130	St. Francois 345/138 xfmr_2	MISO	AMRN	AMRN
3167	St. Francois-Lutesville 345	MISO	AMRN	AMRN
3182	St. Francois-Lutesville 345 (flo) Shawnee-E. W. Frankfort 345	MISO	AMRN	AMRN
6102	St. Joseph-Midway 161	MISO	MPS	MPS
3407	Stallings 345/138 xfmr (flo) Stallings-Roxford 345	MISO	IP	IP

2991	Star-Carlisle 345	MISO	FE	FE
2264	Star-Carlisle 345 (flo) Juniper-Avon 345	MISO	FE	FE
2276	Star-Carlisle 345 (flo) Star-Juniper 345	MISO	FE	FE
2992	Star-Juniper 345	MISO	FE	FE
2265	Star-Juniper 345 (flo) Hanna-Juniper 345	MISO	FE	FE
2943	Star-Juniper 345 (flo) Star-Carlisle 345	MISO	FE	FE
2497	State Line-Wolf Lake 138	MISO	CE	NIPS
3270	State Line-Wolf Lake 138 (flo) Burnham-Sheffield 345	MISO	CE	NIPS
2890	State Line-Wolf Lake 138 (flo) E. Frankfort-University Park North 345	MISO	CE	NIPS
2215	State Line-Wolf Lake 138 (flo) State Line-Washington Park 138	MISO	CE	NIPS
2214	State Line-Wolf Lake 138 (flo) University Park North-Olive 345	MISO	CE	NIPS
3271	State Line-Wolf Lake 138 (flo) Wilton Center-Dumont 765	MISO	CE	NIPS
3525	Stiles-Amberg 138 (flo) Morgan-Plains 345	MISO	WEC	WEC
3544	Stiles-Amberg 138 + Stiles-Crivitz 138 (flo) Morgan-Plains 345	MISO	WEC	WEC
3567	Stiles-Amberg 138 + Stiles-Crivitz 138 + Morgan-Plains 345	MISO	WEC	WEC
3559	Stiles-Crivitz 138 (flo) Morgan-Plains 345	MISO	WEC	WEC
3523	Stiles-Pioneer 138 (flo) N. Appleton-Lawn Road 138	MISO	WEC	WEC
	Stillwell-Dumont 345	MISO	NIPS	AEP
3573	Straits-McGulpin 138 _1 (flo) Straits-McGulpin 138 _3	MISO	WEC	MECS
2040	Stuart-Foster 345	MISO	DPL	CIN
2454	Sugarcreek-Cayuga CT 345 (flo) Wheatland-Amo 345	MISO	CIN	CIN
	Sunnyside-Fall Creek 345	MISO	IPL	AEP
2048	Sunnyside-Gwynn 345	MISO	IPL	CIN
3058	T Corners-Wien 115 (flo) Eau Claire-Arpin 345 + Op Guide	MISO	ALTE	ALTE
	Tanners Creek-Hanna 345	MISO	AEP	IPL
2946	Taswell-Bedford 161	MISO	HE	HE
2947	Taswell-Ratts 161	MISO	HE	HE
3127	Taylorville-Pawnee 138 (flo) Coffeen-Pana-Kincaid 345	MISO	AMRN	AMRN
2511	Thetford-Jewell 345	MISO	MECS	MECS
2948	Thetford-Jewell 345 (flo) Hampton-Pontiac 345	MISO	MECS	MECS
6124	Tiffin-Arnold 345	MISO	ALTW	MEC
3723	Tiffin-Arnold 345 (flo) Hills-Montezuma 345	MISO	ALTW	ALTW
	Tilden-Tilden Tap 138 (flo) W. Mt. Vernon-E. W. Frankfort 345	MISO	IP	IP
2949	Tip Top-Cloverport 138 (flo) Baker-Broadford 765	MISO	LGEE	LGEE
	Toledo Bend-Leesville 138 (flo) Carroll-Messick 230	MISO	EES	CLEC
2512	Tompkins-Majestic 345	MISO	MECS	MECS
2950	Tompkins-Majestic 345 (flo) Oneida-Majestic 345	MISO	MECS	MECS
2240	Toussaint-Ottawa 138 (flo) Davis Besse-Beaver 345	MISO	FE	FE
2235	Tower Road 345/138 xfmr (flo) Schahfer 345/138 xfmr	MISO	NIPS	NIPS
3044	Townline-Janesville 138 (flo) Rockdale 345/138 xfmr_3	MISO	ALTE	ALTE
3043	Townline-Janesville 138 (flo) Townline-Tripp-Viking-Russell 138	MISO	ALTE	ALTE
3042	Townline-Janesville 138 (flo) Wempletown-Rockdale 345	MISO	ALTE	ALTE
5059	Tupelo-Tupelo Tap 138 (flo) Valliant-Pittsburg 345	MISO	SPA	WFEC
	Turkey Hill-S. Belleville 138 (flo) Baldwin 345/138 xfmr	MISO	IP	IP
	Turkey River-Cassville 161 (flo) Wempletown-Paddock 345 + Op Guide	MISO	ALTW	DPC
6108	Turkey River-Cassville 161kV (flo) Wempletown-Paddock 345	MISO	ALTW	DPC
2012	Twin Branch-Argenta 345	MISO	AEP	MECS
2951	Twin Branch-Argenta 345 (flo) Cook-Benton Harbor 345	MISO	AEP	MECS
2340	Twin Branch-Argenta 345 (flo) Cook-Palisades 345	MISO	AEP	MECS
2341	Twin Branch-Argenta 345 (flo) Robison Park-Argenta 345	MISO	AEP	MECS
	Venice-Ashley 138 (flo) Venice-Campbell 138	MISO	AMRN	AMRN
3744	Vinton-Dysart 161 (flo) Arnold-Hazleton 345	MISO	ALTW	ALTW
	W Mt Vernon-Ashley 138 (flo) Turkey Hill 345/138 xfmr	MISO	IP	IP
	W Mt Vernon-Ashley 138 (flo) W. Mt. Vernon-E. W. Frankfort 345	MISO	IP	IP
3186	W Mt Vernon-E W Frankfort 345	MISO	IP	AMRN
3180	W Mt Vernon-E W Frankfort 345 (flo) St Francois-Lutesville 345	MISO	IP	AMRN
5068	Weleetka-Fixico Tap 138 (flo) Muskogee-Pittsburg 345	MISO	CSWS	CSWS
3001	Wempletown-Paddock 345	MISO	CE	ALTE
3059	Wempletown-Paddock 345 (flo) Arpin-Rocky Run 345 + Op Guide	MISO	CE	ALTE
3238	Wempletown-Paddock 345 (flo) Cherry Valley-Silver Lake 345 _R	MISO	CE	ALTE
3239	Wempletown-Paddock 345 (flo) Eau Claire-Arpin 345 + Op Guide (ATC)	MISO	CE	ALTE
3060	Wempletown-Paddock 345 (flo) King-Eau Claire-Arpin 345 + Op Guide	MISO	CE	ALTE
3236	Wempletown-Paddock 345 (flo) Zion-Arcadian 345	MISO	CE	ALTE
3237	Wempletown-Paddock 345 (flo) Zion-Pleasant Prairie 345	MISO	CE	ALTE
2188	West Lexington-Brown 345	MISO	LGEE	LGEE
2209	West Lexington-Brown 345 (flo) Baker-Broadford 765	MISO	LGEE	LGEE
3633	Weston 345/115 xfmr	MISO	WPS	WPS
3622	Weston 345/115 xfmr (flo) Rocky Run 345/115 xfmr_3	MISO	WPS	WPS
2462	Wheatland-Amo 345 (flo) Gibson-Petersburg 345	MISO	CIN	CIN
	Wheatland-Breed 345	MISO	IPL	AEP
2271	Wheatland-Breed 345 (flo) Rockport-Sullivan 765	MISO	IPL	AEP
2063	Whitestown-Guion 345 (flo) Whitestown-Hortonville 345	MISO	CIN	IPL
3560	Whitewater-Mukwonago 138 (flo) Cherry Valley-Silver Lake 345 _R	MISO	WEC	WEC
2952	Whiting 138/120 xfmr (flo) Oneida-Majestic 345	MISO	MECS	MECS
2953	Whiting 138/120 xfmr (flo) Tompkins-Majestic 345	MISO	MECS	MECS
3621	Whiting Ave-Hoover 115 (flo) Rocky Run-N. Appleton 345	MISO	WPS	WPS
2955	Worthington-GPC 161	MISO	HE	HE
2043	Worthington-Owen 138	MISO	HE	CIN
3111	Xenia-W Mt Vernon 345	MISO	IP	AMRN

3419	Xenia-W Mt Vernon 345 (flo) Coffeen-Roxford 345	MISO	IP	AMRN
2466	Zimmer-Port Union 345	MISO	CIN	CIN
2957	Zimmer-Silver Grove 345 (flo) Zimmer-Port Union 345	MISO	CIN	CIN
3586	Zion-Arcadian 345	MISO	CE	WEC
3243	Zion-Arcadian 345 (flo) Wempletown-Paddock 345	MISO	CE	WEC
3242	Zion-Arcadian 345 (flo) Zion-Pleasant Prairie 345	MISO	CE	WEC
3587	Zion-Pleasant Prairie 345	MISO	CE	WEC
3241	Zion-Pleasant Prairie 345 (flo) Wempletown-Paddock 345	MISO	CE	WEC
3240	Zion-Pleasant Prairie 345 (flo) Zion-Arcadian 345	MISO	CE	WEC
7009	IMO - FRONTIER (Interface flowgate)	NYIS	IMO	NYIS
9156	NYIS - IMO (CA-CA tie lines flowgate)	NYIS	NYIS	IMO
290	Pierce 345/138 xfmr_A (flo) Pierce-Foster 345	OVEC	OVEC	OVEC
291	Pierce 345/138 xfmr_B (flo) Pierce-Foster 345	OVEC	OVEC	OVEC
1510	Norcross-S. Hall 500	SOCO	SOCO	DUK
1644	Bull Run-Volunteer 500	TVA	TVA	TVA
	Bull Run-Volunteer 500 (flo) Watts Bar-Volunteer 500	TVA	TVA	TVA
1501	Conasauga-Sequoyah 500	TVA	SOCO	TVA
13274	Marion 138/161 xfmr (flo) Brown N-Alcade 345	TVA	LGEE	EKPC
1631	Pineville (TVA)-Pineville (LGEE) 161 (flo) Phipps Bend-Pocket 500	TVA	TVA	LGEE
1632	Pineville (TVA)-Pineville (LGEE) 161 (flo) Volunteer 500/161 xfmr	TVA	TVA	LGEE
1643	Volunteer 500/161 xfmr (flo) Volunteer-Phipps Bend 500	TVA	TVA	TVA
1634	Volunteer-Bull Run 500 (flo) Watts Bar-Volunteer 500	TVA	TVA	TVA
1613	Volunteer-Phipps Bend 500	TVA	TVA	TVA
1641	Volunteer-Phipps Bend 500 (flo) Volunteer 500/161 xfmr	TVA	TVA	TVA