

## 2016 TYA Preliminary Network Continuing Needs

	A	B	C	D	E	F	G	H
1	Continuing System Need Solutions	2014 TYA Network Need Year	2015 TYA Network Need Year	2016 TYA Network Need Year	Planning Zone	Need Category	MISO MTEP 16 Appendix Status	MTEP PRJID
2	Birchwood substation: Install a bus tie breaker		2017***	2019***	3b	T-D interconnection	targeted A	9921
3	Williams Bay substation: Loop X44 in and out		2016***	2019***	3b	T-D interconnection	A	4421
4	West Middleton - Stagecoach 69 kV line rebuild 6927		2018**	2020**	3a	reliability (P1.2, P1.3)	targeted A	3127
5	Port Washington - Saukville 138-kV line uprate 742	2016**	2016**	2021	5	reliability (P1.2)	A	3890
6	Port Washington - Saukville 138-kV line uprate 762	2016**	2016**	2021	5	reliability (P1.2)	A	3891
7	Winona - Atlantic 69-kV line rebuild Winona69	2022	2022	2026	2	reliability (various TPL categories)	--	4727
8	City Limits 138-kV bus reconductor		2020	2026	4	reliability (P3.2)	B, targeted A	8640
9	Spring Green substation: Install a second 138/69-kV transformer	2025	2022	2026	3a	reliability (69 P1.3)	B	1946
10	Arcadian-Waukesha 138-kV lines KK9942/KK9962 rebuild	>2029	2029	2027	5	reliability (P3.2, P1.2)	A	1270
11	Portage - Columbia 138-kV line rebuild X-13	2028	2030	2027	3b	reliability (P1.2)	--	4730
12	Portage - Columbia 138-kV line rebuild X-20	2028	2030	2027	3b	reliability (P1.2)	--	4730
13	Forest Junction 138kV Substation: Install 25 Mvar inductor	2015	>2030	>2031	4	system intact (P0)	B	7581
14	Werner West 138kV Substation: Install 25 Mvar inductor	2015	>2030	>2031	4	system intact (P0)	B	7580
15	Wesmark Substation: Install 2-8 Mvar 69-kV capacitor banks	2020	>2030	>2031	4	reliability (69P2.1)	targeted B	9935
16	Aviation - North Fond du Lac 138-kV rebuild G-111		2025	>2031	4	reliability (P3.2)	--	--
17	Construct Shoto to Custer 138-kV line	>2029	>2030	>2031	4	reliability (69P1.2, 69P1.3)	B	1719
18	Custer Substation: Install 138/69-kV transformer	>2029	>2030	>2031	4	reliability (69P1.2, 69P1.3)	B	1718
19	Construct Cardinal-Blount 138-kV line	>2029	>2030	>2031	3a	reliability (P6)	--	1730
20	Colley Road substation: Install 2nd 100 MVA 138/69kV transformer	2023	2023	>2031	3b	reliability (69P1.2, 69P2.1 ,69P1.3)	B	7585
21	Bay Lake: Holmes - Old Mead Road 138-kV project	ASAP***	ASAP***	ASAP***	2	reliability (various TPL categories)	A	3679
22	Bay Lake: Benson Lake Substation -- Construct new 138-kV substation and install 150 Mvar SVC (near Amberg Substation)	ASAP***	ASAP***	ASAP***	2	reliability (various TPL categories)	A	3679
23	Bay Lake: Morgan - Stiles 138-kV circuit de-bifurcate to form 2 separate 138-kV lines	ASAP***	ASAP***	ASAP***	4	reliability (various TPL categories)	A	3679
24	Bay Lake: Morgan Substation -- reconfigure and expand 345-kV and 138-kV switchyards	ASAP***	ASAP***	ASAP***	4	reliability (various TPL categories)	A	3679
25	Bay Lake: North Appleton - Morgan 138 kV line construction	ASAP***	ASAP***	ASAP***	4	reliability (various TPL categories)	A	3952
26	Bay Lake: North Appleton - Morgan 345 kV line construction	ASAP***	ASAP***	ASAP***	4	reliability (various TPL categories)	A	3679
27	Bay Lake: North Appleton Substation -- Construct new 345-kV switchyard and reconfigure 138-kV switchyard	ASAP***	ASAP***	ASAP***	4	reliability (various TPL categories)	A	3679
28	Zone 2 switching initiative		ASAP***	ASAP***	2	Operating flexibility	--	--
29	Oak Creek - Hayes 138-kV line 811 upgrade and reconfiguration		ASAP***	ASAP***	5	reliability (P7)	targeted A	9934
30	Southeastern Wisconsin Northeastern Illinois Reinforcement Project		ASAP***	ASAP***	5	reliability(P7)	A	8065
31	West Marinette substation: Install 138-kV circuit switchers on 138/69-kV transformers		2014***	2014***	4	reliability (various TPL categories)	A	8076
32	Y-121: re-rate 1.2 miles of 69 kV line between Council Creek and Tomah Industrial Park		2015	2015	1	reliability (P1), operating flexibility	targeted B	9928
33	Blaney Park 69-kV Substation: Reconfiguration	2015	2015	2015	2	condition, reliability (69P1.2)	A	7978
34	Maes substation: Install 2 line breakers to sectionalize		2015***	2015***	4	Operating flexibility	targeted A	9911
35	ACEC Dellwood substation: Install line breakers to sectionalize Y-146		2016***	2016***	1	T-D interconnection	A	7741
36	Guenther substation: loop T-20 in and out		2016***	2016***	1	T-D interconnection	A	4712

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37								
38	Montello substation: Install 2 line breaker on line Y-17 to sectionalize		2016***	2016***	1	T-D interconnection	A	7601
39	Rocky Run - Plover 115-kV line uprate S-45	2016**	2016**	2016**	1	reliability (P1.2)	A	3915
40	Beardsley St. Substation: Install 3 69-kV line breakers to sectionalize 69-kV circuit J-10	2016***	2016***	2016***	4	operating flexibility	A	7981
41	Iron Foundry Substation: 138/69-kV Substation construction and Glenview-Iron Foundry 69-kV line extension	2016*	2016*	2016*	4	T-D Interconnection	A	4422
42	Pulliam - Glory Road 138-kV line conversion K-115	2016***	2016***	2016***	4	T-D interconnection, reliability (69P6)	A	3841
43	Pulliam Substation: Install a new 138/69-kV transformer	2016***	2016***	2016***	4	T-D interconnection, reliability (69P6)	A	3841
44	Red Maple substation: Install a bus tie breaker		2016***	2016***	4	Operating flexibility	targeted A	9918
45	Nicholson - Barland 138-kV line uprate OACG48	2016**	2016**	2016**	5	reliability (P1.2)	A	3812
46	Norwich - Ramsey - Barland 138-kV line uprate NWHG41	2016**	2016**	2016**	5	reliability (P1.2)	A	3887
47	Oak Creek - Ramsey - Kansas 138-kV line uprate 824	2016**	2016**	2016**	5	reliability (P1.2)	A	3895
48	Oak Creek-Bluemound 230-kV line uprate 873	2016**	2016**	2016**	5	reliability (P1.2)	A	3486
49	Racine - Oak Creek 138-kV line uprate 812	2016**	2016**	2016**	5	reliability (P1.2)	A	3894
50	Bain - Albers 138-kV line uprate 63143	2016**	2016**	2016**	5	reliability (P1.2)	A	3900
51	Oak Creek-Pennsylvania 138-kV line uprate 837	2016**	2016**	2016**	5	reliability (P1.2)	A	2056
52	Bloomington substation: Install SCADA controlled breakers to sectionalize		2016***	2016**	3a	Operating flexibility	targeted A	9917
53	Fitchburg - Nine Springs 69-kV line rebuild 6943	2016**	2016**	2016**	3a	reliability (69 P1.2)	A	3909
54	McCue - Lamar 69-kV line rebuild Y-171	2016**	2016**	2016**	3a	reliability (69 P1.2)	A	3904
55	Royster to Sycamore 69-kV uprate 6986	2016**	2016**	2016**	3a	reliability (69 P1.3)	A	1726
56	Stagecoach - Wick Drive 69-kV line rebuild Y-62	2016**	2016**	2016**	3a	reliability (69 P1.3)	A	3892
57	Canal Substation: Install 138-kV breakers on 138/69-kV transformers	2017***	2017***	2017***	4	operating flexibility, reliability (69P1.3)	B, targeted A	7983
58	Canal Substation: Install redundant bus differentials on 138-kV buses	2017***	2017***	2017***	4	reliability (P5.5)	B, targeted A	7985
59	Creekview Substation: 138 kV line construction to serve T-D interconnection	2017***	2017***	2017***	4	T-D interconnection	A	4353
60	Mukwonago substation: Install line breaker on line 67K61		2017***	2017***	5	Operating flexibility	targeted A	9923
61	Construct Fairwater-Mackford Prairie 69-kV line	>2029	2018*	2018*	1	reliability (69P1.2)	A	1708
62	Reconfigure the North Randolph-Ripon 69-kV line to form a second Ripon-Metomen 69-kV line and retire the circuit between Metomen and the Mackford Prairie tap	>2029	2018*	2018*	1	reliability (69P1.2), condition	A	1708
63	Pershing Substation: Loop Stone Lake - Gardner Park 345-kV line into new Pershing 345/115-kV Substation		2018***	2018***	1	T-T interconnection	targeted B	9925
64	Branch River Substation: Construct new 345-kV switching station	2018	2018*	2018*	4	new generation	A	3206
65	Highway V Substation: Install 138-kV breakers and 69-kV circuit switchers on 138/69-kV transformers	2017***	2018***	2018***	4	operating flexibility, reliability (69P1.3 with prior maintenance)	targeted A	7986
66	Ogden St. Networking Project: Ogden St. - Bayshore 69-kV line construction	2018*	2018*	2018***	4	T-D interconnection	A	4732
67	Point Beach Substation: Install new series 345-kV breaker for circuit Q-303	2018	2018*	2018*	4	new generation	A	3206
68	North Madison - Briggs Road 345 kV line			2018***	1, 3	reliability, economics and policy benefits	A	3127
69	West Middleton-Stage Coach 69-kV uprate 6927, short term fix	2018**	2018**	2018**	3a	reliability (P1.2, 69 P1.3, P2.1)	A	3159

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70				2018***	3a	reliability, economics and policy benefits	A	3127
71	Cardinal - North Madison 345 kV line			2018***	3a	reliability, economics and policy benefits	A	3127
72	University/Whitewater line reconfiguration	2018**	2018**	2018**	3b	reliability (P1.2)	A	4728
73	Portage-Trienda 138-kV uprate X-67	2018**	2018**	2018**	3b	reliability (69P1.2)	A	1624
74	Colley Road-Brick Church 69-kV rebuild Y-32	2018*	2018*	2018*	3b	reliability (P1.2, 69P1.3, 69P7, P6) condition	A	2031
75	M13 Reinforcement Bunker Hill-Blackbrook 115-kV	2019**	2019**	2019**	1	reliability (P1.2)	A	7602/7603
76	Atlantic Substation: Reconfiguration	2019	2019	2019	2	operating flexibility, reliability (69P5)	B	7586
77	Presque Isle - Tilden 138 kV line loop into National and uprate National - Tilden 138 kV line	2019	2019	2019	2	reliability (P1.2, P6)	B	3838
78	Forest Junction 138-kV Substation: Install redundant bus differential		2019***	2019***	4	reliability (stability E2.5)	B, targeted A	8101
79	Somers substation: Close the N.O. Somers - Albers 138-kV line and install N.O. bus tie breaker at Somers		2019***	2019***	5	T-D interconnection	A	8660
80	Bain - Spring Valley 138-kV uprate 63141	2019	2019	2019	3b & 5	T-D interconnection, reliability (69P1.2)	A	3808
81	Construct a new 138/69-kV substation on Spring Valley - North Lake Geneva 138-kV circuit	2019	2019	2019	3b & 5	T-D interconnection, reliability (69P1.2)	A	3808
82	Construct a new 69-kV circuit from Twin Lakes to the new substation	2019	2019	2019	3b & 5	T-D interconnection, reliability (69P1.2)	A	3808
83	Construct a new Spring Valley-North Lake Geneva 138-kV circuit	2019	2019	2019	3b & 5	T-D interconnection, reliability (69P1.2)	A	3808
84	Twin Lakes - Katzenberg 69-kV rebuild Y-102	2019	2019	2019	3b & 5	T-D interconnection, reliability (69P1.2)	A	3808
85	Plains - Arnold 138-kV uprate		2020***	2020***	2	reliability (various TPL categories)	B	8073
86	Plains - National 138-kV project		2020***	2020***	2	reliability (various TPL categories)	A	8071
87	Plains 345/138-kV project (2-500 MVA replace existing)		2020***	2020***	2	reliability (various TPL categories)	B	8073
88	Depere - Glory Rd 138-kV overhead line rebuild		2020***	2020***	4	reliability (various TPL categories)	A	9081
89	Highway V - Preble 138-kV line uprate		2020***	2020***	4	reliability (various TPL categories)	B	8082
90	Morgan - Plains 345-kV loop into new Thunder 345-kV substation.		2020***	2020***	4	reliability (various TPL categories)	B	8076
91	Morgan - Thunder 138-kV project		2020***	2020***	4	reliability (various TPL categories)	B	8076
92	Thunder substation: install 345/138-kV and 138/69-kV transformers, convert 1 ckt of Thunder to Crivitz to 138-kV		2020***	2020***	4	reliability (various TPL categories)	B	8076
93	Saukville substation: Install parallel breaker on line 8222		2020	2020	5	reliability (P2.1)	--	--
94	Cardinal - Hickory Creek 345-kV line construction	2020***	2020***	2020***	3a	reliability, economics and policy benefits	A	3127
95	Arcadian substation: install redundant bus differentials on 345-kV and 138-kV buses		2023	2023	5	reliability (stability E2.5)	--	--
96	Granville substation: install redundant bus differentials on 345-kV and 138-kV buses		2023	2023	5	reliability (stability E2.5)	--	--
97	Boscobel 69 kV Substation: Install 1-8.16 Mvar capacitor bank		2023	2023	3a	reliability (69 P2.1)	B	8641
98								
99	<b>Legend</b>							
100	* = dates based on approved project scope ISDs							
101	** = SBRM Study Need Year							
102	*** = Other Major Project Study need year							
103	No Shading = No change to project since previous Assessment							
104	Green Shading = need year change							