System Additions	Network Need Year	Projected In- Service Year	Planning Zone	Need Category	Planned, Proposed or Provisional	MTEP Appendix Status	MTEP Project ID
Berryville substation: loop in 3124 (Paris - Albers) into new Berryville substation	2017***	2015	5	T-D interconnection	Planned	Targeted A	4358
Blaney Park 69-kV Substation: Reconfiguration	2015	2015	2	condition, reliability (69P1.2)	Planned	Targeted A	7978
Empire - Presque Isle 138-kV line uprate Goose Lake	2015**	2015	2	reliability (P1.2)	Planned	А	3916
Kenosha - Lakeview 138-kV line uprate 9341	2016**	2015	5	reliability (P1.2)	Planned	А	3811
Lyndon substation: Install 2 line breakers to sectionalize	2015***	2015	4	Operating flexibility	Planned	N/A	N/A
Maes substation: Install 2 line breakers to sectionalize	2015***	2015	4	Operating flexibility	Planned	N/A	N/A
Neenah Creek substation: install new 69-kV bus and 2 line breakers to sectionalize	2015***	2015	1	T-D interconnection	Planned	А	4354
Oak Creek-Bluemound 230-kV line uprate 862	2016**	2015	5	reliability (P1.2)	Planned	А	4337
Presque Isle Substation: Install redundant bus differentials on 138-kV buses	2015***	2015	2	reliability (P5.5)	Planned	Targeted A	7980
Rock Springs - Artesian 138-kV line rebuild X-70	2016**	2015	3	reliability (P1.2)	Planned	А	3899
Rock Springs Tap - Kirkwood 138-kV line uprate X-70	2016**	2015	3	reliability (P1.2)	Planned	А	3899
South Sheboygan Falls: Install two 138 kV 32.66 Mvar capacitor banks	2015***	2015	4	reliability (P1.3 with prior maintenance)	Planned	А	4356
Waunakee - Westport 69-kV line rebuild Y-131	2017**	2015	3	reliability (69 P1.2)	Planned	А	3902
ACEC Dellwood substation: Install line breakers to sectionalize Y- 146	2016***	2016	1	T-D interconnection	Planned	Targeted A	7741
Albers - Kenosha 138-kV line uprate 9352	2016**	2016	5	reliability (P1.2)	Planned	А	3906

System Additions	Network Need Year	Projected In- Service Year	Planning Zone	Need Category	Planned, Proposed or Provisional	MTEP Appendix Status	MTEP Project ID
Bain - Albers 138-kV line uprate 63143	2016**	2016	5	reliability (P1.2)	Planned	А	3900
Bay Lake: Holmes - Old Mead Road 138-kV project	ASAP***	2016	2	reliability (various TPL categories)	Planned	А	3679
Beardsley St. Substation: Install 3 69-kV line breakers to sectionalize 69-kV circuit J-10	2016***	2016	4	operating flexibility	Planned	Targeted A	7981
Bloomington substation: Install SCADA controlled breakers to sectionalize	2016***	2016	3	Operating flexibility	Planned	N/A	N/A
Fitchburg - Nine Springs 69-kV line rebuild 6943	2016**	2016	3	reliability (69 P1.2)	Planned	А	3909
Fitzgerald - Ellinwood 138-kV uprate W-101	2016*	2016	4	operating flexibility, reliability (P1.3 with prior maintenance)	Planned	А	3965
Fitzgerald - Sunset Point 138-kV uprate C-107	2016*	2016	4	operating flexibility, reliability (P1.3 with prior maintenance)	Planned	А	3965
Fitzgerald Substation: Install 2nd 345/138-kV transformer	2016*	2016	4	operating flexibility, reliability (P1.3 with prior maintenance)	Planned	А	3965
Glory Road Substation: Install a new 138/69-kV transformer	2016***	2016	4	T-D interconnection, reliability (69P6)	Planned	А	3841
Guenther substation: loop T-20 in and out	2016***	2016	1	T-D interconnection	Planned	А	4712
Iron Foundry Substation: 138/69-kV Substation construction and Glenview-Iron Foundry 69-kV line extension	2016*	2016	4	T-D Interconnection	Planned	Targeted A	4422
McCue - Lamar 69-kV line rebuild Y-171	2016**	2016	3	reliability (69 P1.2)	Planned	А	3904
Montello substation: Install 2 line breaker on line Y-17 to sectionalize	2016***	2016	1	T-D interconnection	Planned	Targeted A	7601
Morrison Ave - Sherman 115-kV line re-conductor Z-52	2016**	2016	1	reliability (P1.2)	Proposed	А	3889
Nicholson - Barland 138-kV line uprate OACG48	2016**	2016	5	reliability (P1.2)	Planned	А	3812

System Additions	Network Need Year	Projected In- Service Year	Planning Zone	Need Category	Planned, Proposed or Provisional	MTEP Appendix Status	MTEP Project ID
Norwich - Ramsey - Barland 138-kV line uprate NWHG41	2016**	2016	5	reliability (P1.2)	Planned	А	3887
Oak Creek - Ramsey - Kansas 138-kV line uprate 824	2016**	2016	5	reliability (P1.2)	Planned	А	3895
Oak Creek-Bluemound 230-kV line uprate 873	2016**	2016	5	reliability (P1.2)	Planned	А	3486
Oak Creek-Pennsylvania 138-kV line uprate 837	2016**	2016	5	reliability (P1.2)	Planned	А	2056
Pflaumn - Royster 69-kV line rebuild 6934	2016**	2016	3	reliability (69 P1.2)	Planned	А	3910
Portage-Trienda 138-kV uprate X-67	2018**	2016	3	reliability (69P1.2)	Proposed	А	1624
Pulliam - Glory Road 138-kV line conversion K-115	2016***	2016	4	T-D interconnection, reliability (69P6)	Planned	А	3841
Pulliam Substation: Install a new 138/69-kV transformer	2016***	2016	4	T-D interconnection, reliability (69P6)	Planned	А	3841
Racine - Oak Creek 138-kV line uprate 812	2016**	2016	5	reliability (P1.2)	Planned	А	3894
Red Maple substation: Install a bus tie breaker	2016***	2016	4	Operating flexibility	Planned	N/A	N/A
Rocky Run - Plover 115-kV line uprate S-45	2016**	2016	1	reliability (P1.2)	Proposed	А	3915
Royster to Sycamore 69-kV uprate 6986	2016**	2016	3	reliability (69 P1.3)	Planned	А	1726
Stagecoach - Wick Drive 69-kV line rebuild Y-62	2016**	2016	3	reliability (69 P1.3)	Planned	А	3892
Sun Valley Tap to Oregon 69-kV rebuild Y-119	2016**	2016	3	reliability (69 P1.3), condition	Planned	А	3429
University/Whitewater line reconfiguration	2018**	2016	3	reliability (P1.2)	Planned	А	4728

System Additions	Network Need Year	Projected In- Service Year	Planning Zone	Need Category	Planned, Proposed or Provisional	MTEP Appendix Status	MTEP Project ID
Wautoma - Wild Rose Pumping 69-kV line rebuild Y-19	2016**	2016	1	reliability (69P1.2)	Proposed	А	3903
Williams Bay substation: Loop X44 in and out	2016***	2016	3	T-D interconnection	Proposed	Targeted A	4421
Zone 2 switching initiative	ASAP***	2016	2	Operating flexibility	Proposed	N/A	N/A
Birchwood substation: Install a bus tie breaker	2017***	2017	3	T-D interconnection	Proposed	N/A	N/A
Canal Substation: Install 138-kV breakers on 138/69-kV transformers	2017***	2017	4	operating flexibility, reliability (69P1.3 with prior maintenance)	Proposed	Targeted B	7983
Canal Substation: Install redundant bus differentials on 138-kV buses	2017***	2017	4	reliability (P5.5)	Proposed	Targeted B	7985
Construct Fairwater-Mackford Prairie 69-kV line	2018*	2017	1	reliability (69P1.2)	Planned	А	1708
Creekview Substation: 138 kV line construction to serve T-D interconnection	2017***	2017	4	T-D interconnection	Planned	Targeted A	4353
Mukwonago substation: Install line breaker on line 67K61	2017***	2017	5	Operating flexibility	Proposed	N/A	N/A
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	2018*	2017	1	reliability (69P1.2), condition	Planned	А	1708
West Middleton-Stage Coach 69-kV uprate 6927, short term fix	2018**	2017	3	reliability (P1.2, 69 P1.3, P2.1)	Planned	Targeted A	3159
Badger Coulee: La Crosse area - North Madison - Cardinal 345-kV line construction	2018***	2018	3	reliability, economics and policy benefits	Planned	А	3127
Branch River Substation: Construct new 345-kV switching station	2018*	2018	4	new generation	Planned	А	3206
Colley Road-Brick Church 69-kV rebuild Y-32	2018*	2018	3	reliability (P1.2, 69P1.3, 69P7, P6) condition	Planned	А	2031
Forest Junction 138kV Substation: Install 25 Mvar inductor	>2030	2018	4	system intact (P0)	Provisional	Targeted B	7581

System Additions	Network Need Year	Projected In- Service Year	Planning Zone	Need Category	Planned, Proposed or Provisional	MTEP Appendix Status	MTEP Project ID
Forest Junction 138-kV Substation: Install redundant bus differential	2019***	2018	4	reliability (stability E2.5)	Proposed	Targeted B	8101
Highway V Substation: Install 138-kV and 69-kV breakers on 138/69-kV transformers	2018***	2018	4	operating flexibility, reliability (69P1.3 with prior maintenance)	Provisional	Targeted B	7986
Ogden St. Networking Project: Ogden St Bayshore 69-kV line construction	2018*	2018	4	T-D interconnection	Proposed	Targeted A	4732
Pershing Substation: Loop Stone Lake - Gardener Park 345-kV line into new Pershing 345-kV Substation	2018***	2018	1	T-T interconnection	Proposed	TBD	TBD
Point Beach Substation: Install new series 345-kV breaker for circuit Q-303	2018*	2018	4	new generation	Planned	А	3206
Saukville substation: Install parallel breaker on line 8222	2020	2018	5	reliability (P2.1)	Provisional	TBD	TBD
Werner West 138kV Substation: Install 25 Mvar inductor	>2030	2018	4	system intact (P0)	Provisional	Targeted B	7580
West Marinette substation: Install 138-kV circuit switchers on 138/69-kV transformers	2020***	2018	4	reliability (various TPL categories)	Proposed	Targeted A	8076
Atlantic Substation: Reconfiguration	2019	2019	2	operating flexibility, reliability (69P5)	Provisional	Targeted B	7586
Bain - Spring Valley 138-kV uprate 63141	2019	2019	3 & 5	T-D interconnection, reliability (69P1.2)	Proposed	А	3808
Bay Lake: Benson Lake Substation Construct new 138-kV substation and install 150 Mvar SVC (near Amberg Substation)	ASAP***	2019	2	reliability (various TPL categories)	Planned	А	3679
Bay Lake: Morgan - Stiles 138-kV circuit de-bifurcate to form 2 separate 138-kV lines	ASAP***	2019	4	reliability (various TPL categories)	Planned	А	3679
Bay Lake: Morgan Substation reconfigure and expand 345-kV and 138-kV switchyards	ASAP***	2019	4	reliability (various TPL categories)	Planned	А	3679
Bay Lake: North Appleton - Morgan 138 kV line construction	ASAP***	2019	4	reliability (various TPL categories)	Planned	А	3952
Bay Lake: North Appleton - Morgan 345 kV line construction	ASAP***	2019	4	reliability (various TPL categories)	Planned	А	3679

System Additions	Network Need Year	Projected In- Service Year	Planning Zone	Need Category	Planned, Proposed or Provisional	MTEP Appendix Status	MTEP Project ID
Bay Lake: North Appleton Substation Construct new 345-kV switchyard and reconfigure 138-kV switchyard	ASAP***	2019	4	reliability (various TPL categories)	Planned	А	3679
City Limits 138-kV bus reconductor	2020	2019	4	reliability (P3.2)	Proposed	Targeted B	8640
Construct a new 138/69-kV substation on Spring Valley - North Lake Geneva 138-kV circuit	2019	2019	3 & 5	T-D interconnection, reliability (69P1.2)	Proposed	А	3808
Construct a new 69-kV circuit from Twin Lakes to the new substation	2019	2019	3 & 5	T-D interconnection, reliability (69P1.2)	Proposed	А	3808
Construct a new Spring Valley-North Lake Geneva 138-kV circuit	2019	2019	3 & 5	T-D interconnection, reliability (69P1.2)	Proposed	А	3808
M13-Reinforcement-Bunker Hill-Blackbrook	2019**	2019	1	reliability (P1.2)	Proposed	Targeted A	7602/7603
Presque Isle - Tilden 138 kV line loop into National and uprate National - Tilden 138 kV line	2019	2019	2	reliability (P1.2, P6)	Provisional	В	3838
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	Planned	Targeted A	8660
Twin Lakes - Katzenberg 69-kV rebuild Y-102	2019	2019	3 & 5	T-D interconnection, reliability (69P1.2)	Proposed	А	3808
Y-121: re-rate 1.2 miles of 69 kV line between Council Creek and Tomah Industrial Park	2015	2019	1	reliability (P1), operating flexibility	Provisional	TBD	TBD
Cardinal - Hickory Creek 345-kV line construction	2020***	2020	3	reliability, economics and policy benefits	Proposed	А	3127
Depere - Glory Rd 138-kV overhead line rebuild	2020***	2020	4	reliability (various TPL categories)	Provisional	Targeted A	8082
Highway V - Preble 138-kV line uprate	2020***	2020	4	reliability (various TPL categories)	Provisional	Targeted B	8082
Morgan - Plains 345-kV loop into new Thunder 345-kV substation.	2020***	2020	4	reliability (various TPL categories)	Provisional	Targeted B	8076
Morgan - Thunder 138-kV project	2020***	2020	4	reliability (various TPL categories)	Provisional	Targeted B	8076

System Additions	Network Need Year	Projected In- Service Year	Planning Zone	Need Category	Planned, Proposed or Provisional	MTEP Appendix Status	MTEP Project ID
Oak Creek - Hayes 138-kV line 811 upgrade and reconfiguration	ASAP***	2020	5	reliability (P7)	Proposed	TBD	TBD
Pine River-9 Mile 6921/6923 Minimum Asset Renewal and Uprate	***	2020	2	reliability (69P1.2), condition	Provisional	Targeted B	3678
Plains - Arnold 138-kV uprate	2020***	2020	2	reliability (various TPL categories)	Provisional	Targeted B	8073
Plains - National 138-kV project	2020***	2020	2	reliability (various TPL categories)	Provisional	Targeted A	8071
Plains 345/138-kV project (2-500 MVA replace existing)	2020***	2020	2	reliability (various TPL categories)	Provisional	Targeted B	8073
Southestern Wisconsin Northeastern Illinois Reinforcement Project	ASAP***	2020	5	reliability (P7)	Proposed	Targeted A	8065
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)	Provisional	Targeted B	8076
Wesmark Substation: Install 2-8 Mvar 69-kV capacitor banks	>2030	2020	4	reliability (69P2.1)	Provisional	TBD	4338
West Middleton - Stagecoach 69 kV line rebuild 6927	2018**	2020	3	reliability (P1.2, P1.3)	Provisional	TBD	TBD
Port Washington - Saukville 138-kV line uprate 742	2016**	2021	5	reliability (P1.2)	Provisional	А	3890
Port Washington - Saukville 138-kV line uprate 762	2016**	2021	5	reliability (P1.2)	Provisional	А	3891
Construct Shoto to Custer 138-kV line	>2030	2022	4	reliability (69P1.2, 69P1.3)	Provisional	Targeted B	1719
Custer Substation: Install 138/69-kV transformer	>2030	2022	4	reliability (69P1.2, 69P1.3)	Provisional	Targeted B	1718
Spring Green substation: Install a second 138/69-kV transformer	2022	2022	3	reliability (69 P1.3)	Provisional	Targeted B	3127
Winona - Atlantic 69-kV line rebuild Winona69	2022	2022	2	reliability	Provisional	TBD	4727

System Additions	Network Need Year	Projected In- Service Year	Planning Zone	Need Category	Planned, Proposed or Provisional	MTEP Appendix Status	MTEP Project ID
Arcadian substation: install redundant bus differentials on 345-kV and 138-kV buses	2023	2023	5	reliability (stability E2.5)	Provisional	N/A	N/A
Boscobel 69 kV Substation: Install 1-8.16 Mvar capacitor bank	2023	2023	3	reliability (69 P2.1)	Provisional	Targeted B	8641
Colley Road substation: Install 2nd 100 MVA 138/69kV transformer	2023	2023	3	reliability (69P1.2)	Provisional	Targeted B	7585
Granville substation: install redundant bus differentials on 345-kV and 138-kV buses	2023	2023	5	reliability (stability E2.5)	Provisional	N/A	N/A
Arcadian-Waukesha 138-kV lines KK9942/KK9962 rebuild	2029	2025	5	reliability (P3.2)	Proposed	А	1270
Aviation - North Fond du Lac 138-kV rebuild G-111	2025	2025	4	reliability (P3.2)	Provisional	TBD	TBD
Brick Church substation: Install 2-24.5 Mvar 138-kV capacitor bank and 1-18 Mvar 69-kV capacitor bank	>2030	2025	3	reliability (P1.2, 69P1.2)	Provisional	TBD	2029
Portage - Columbia 138-kV line rebuild X-13	2030	2025	3	reliability (P1.2)	Provisional	TBD	4730
Portage - Columbia 138-kV line rebuild X-20	2030	2025	3	reliability (P1.2)	Provisional	TBD	4730
West Middleton-Pheasant Branch 69-kV line rebuild 6963	>2030	2028	3	reliability (69 P1.2)	Provisional	TBD	3487
Construct Cardinal-Blount 138-kV line	2030	2029	3	reliability (P6)	Provisional	TBD	1730

Legend
* = dates based on approved project scope ISDs
** = SBRM Study Need Year
*** = Other Major Project Study need year
No Shading = No change to project since previous Assessment
Orange Shading = new project, was not in previous Assessment
project list
Gray Shading = some change (e.g. In-service year or scope) since
previous Assessment