System Additions	Network Need Year	Projected In- Service Year	Planning Zone	Need Category	Planned, Proposed or Provisional
Reconfigure 138-kV bus and replace 138/69-kV transformer at Petenwell	2015*	2014	1	reliability (69B2)	Planned
Install power flow control near Straits 138-kV Substation	2010	2014	2	reliability (B1 with prior maintenance, C3)	Planned
Rebuild Straits-Pine River lines 6904/5 for 138 kV and operate at 69 kV	2014	2014	2	reliability (B2)	Planned
96th St Substation: Construct a 138-kV 8-position ring bus	2015*	2014	5	road relocation	Planned
Granville - Tamarack 138-kV line uprate 3444	2016**	2014	5	reliability (B2)	Planned
Lakeview - Zion 138-kV line uprate 28201	2016**	2014	5	reliability (B2)	Planned
Saukville Substation: Install redundant bus differentials on 138-kV buses	2014***	2014	5	reliability (C9)	Planned
Branch - Kansas 138-kV line uprate 42152	2014**	2014	5	reliability (B2)	Planned
Katzenberg Substation: Install two circuit breakers	2014	2014	3	operating flexibility	Planned
Presque Isle Substation: Install redundant bus differentials on 138-kV buses	2015***	2015	2	reliability (C9)	Planned
Construct Monroe County-Council Creek 161-kV line and Timberwolf 69-kV switching station	2013	2015	1	economics, reliability (B2, C3)	Planned
Install a 161/138-kV transformer at Council Creek Substation	2013	2015	1	economics, reliability (B2, C3)	Planned
Uprate Council Creek-Petenwell 138-kV line	2013	2015	1	economics, reliability (B2, C3)	Planned

System Additions	Network Need Year	Projected In- Service Year	Planning Zone	Need Category	Planned, Proposed or Provisional
Blaney Park 69-kV Substation: Reconfiguration	2015	2015	2	condition, reliability (69B2)	Proposed
Construct a new Arnold 345-kV Substation and install a 345/138-kV transformer	2015	2015	2	reliability (B1 with prior maintenance, C3)	Planned
Crystal Falls - Aspen 69-kV line re-conductor ASPY51	2016**	2015	2	reliability (B2)	Proposed
Empire - Presque Isle 138-kV line uprate Goose Lake	2015**	2015	2	reliability (B2)	Planned
Uprate the 6986 Royster to Sycamore 69-kV line	2016**	2015	3	reliability (69B3)	Proposed
Uprate Y87 North Monroe-South Monroe 69-kV line	2018**	2015	3	reliability (69B2)	Planned
South Sheboygan Falls: Install two 138 kV 32.66 Mvar capacitor banks	2015***	2015	4	reliability (B3 with prior maintenance)	Proposed
Oak Creek - Ramsey - Kansas 138-kV line uprate 824	2016**	2015	5	reliability (B2)	Planned
Albers - Kenosha 138-kV line uprate 9352	2016**	2015	5	reliability (B2)	Planned
Bain - Albers 138-kV line uprate 63143	2016**	2015	5	reliability (B2)	Planned
Butler - Granville 138-kV line uprate 35453	2015*	2015	5	Economics	Proposed
Construct 138-kV lines to serve Milwaukee County T-D interconnection	2015	2015	5	T-D interconnection	Planned

System Additions	Network Need Year	Projected In- Service Year	Planning Zone	Need Category	Planned, Proposed or Provisional
Kenosha - Lakeview 138-kV line uprate 9341	2016**	2015	5	reliability (B2)	Planned
Norwich - Ramsey - Barland 138-kV line uprate NWHG41	2016**	2015	5	reliability (B2)	Planned
Oak Creek - St. Rita 138-kV line uprate 885	2016**	2015	5	reliability (B2)	Planned
Oak Creek-Pennsylvania 138-kV line uprate 837	2016**	2015	5	reliability (B2)	Planned
Pleasant Prairie - Racine 345-kV line uprate PLPL101	2015*	2015	5	Economics	Proposed
Racine - Oak Creek 138-kV line uprate 812	2016**	2015	5	reliability (B2)	Planned
Fitchburg - Nine Springs 69-kV line rebuild 6943	2016**	2015	3	reliability (69B2)	Planned
Pflaum - Royster 69-kV line rebuild 6934	2016**	2015	3	reliability (69B2)	Planned
Rock Springs - Artesian 138-kV line rebuild X-70	2016**	2015	3	reliability (B2)	Proposed
Rock Springs Tap - Kirkwood 138-kV line uprate X-70	2016**	2015	3	reliability (B2)	Proposed
Port Washington - Saukville 138-kV line uprate 742	2016**	2016	5	reliability (B2)	Provisional
Port Washington - Saukville 138-kV line uprate 762	2016**	2016	5	reliability (B2)	Provisional

System Additions	Network Need Year	Projected In- Service Year	Planning Zone	Need Category	Planned, Proposed or Provisional
Rocky Run - Plover 115-kV line uprate S-45	2016**	2016	1	reliability (B2)	Proposed
Morrison Ave - Sherman 115-kV line re-conductor Z-52	2016**	2016	1	reliability (B2)	Proposed
Wautoma - Wild Rose Pumping 69-kV line rebuild Y-19	2016**	2016	1	reliability (69B2)	Proposed
Bay Lake: Holmes - Old Mead Road 138-kV project	ASAP***	2016	2	reliability (various TPL categories)	Planned
Rebuild the Y-119 Sun Valley Tap to Oregon 69-kV line	2016**	2016	3	reliability (69B3, 69C3), condition	Provisional
Beardsley St. Substation: Install 3 69-kV line breakers to sectionalize 69-kV circuit J-10	2016***	2016	4	operating flexibility	Proposed
Brillion Iron Works: 138/69-kV Substation construction and Glenview-Brillion Iron Works 69-kV line extension	2016*	2016	4	T-D Interconnection	Proposed
Danz Ave - University 69-kV line uprate O-15	2016**	2016	4	reliability (69B3)	Planned
Fitzgerald - Ellinwood 138-kV uprate W-101	2016*	2016	4	operating flexibility, reliability (B3 with prior maintenance)	Planned
Fitzgerald - Sunset Point 138-kV uprate C-107	2016*	2016	4	operating flexibility, reliability (B3 with prior maintenance)	Planned
Fitzgerald Substation: Install 2nd 345/138-kV transformer	2016*	2016	4	operating flexibility, reliability (B3 with prior maintenance)	Planned
Glory Road Substation: Install a new 138/69-kV transformer	2016***	2016	4	T-D interconnection, reliability (69C3)	Planned

System Additions	Network Need Year	Projected In- Service Year	Planning Zone	Need Category	Planned, Proposed or Provisional
Pulliam - Glory Road 138-kV line conversion K-115	2016***	2016	4	T-D interconnection, reliability (69C3)	Planned
Pulliam Substation: Install a new 138/69-kV transformer	2016***	2016	4	T-D interconnection, reliability (69C3)	Planned
Nicholson - Barland 138-kV line uprate OACG48	2016**	2016	5	reliability (B2)	Planned
Oak Creek-Bluemound 230-kV line uprate 873	2016**	2016	5	reliability (B2)	Planned
McCue - Lamar 69-kV line rebuild Y-171	2016**	2016	3	reliability (69B2)	Proposed
Stagecoach - Wick Drive 69-kV line rebuild Y-62	2016**	2016	3	reliability (69B3)	Proposed
Portage - Columbia 69-kV line uprate Y-99	2016*	2016	3	generation retirement, reliability (C5)	Proposed
Canal Substation: Install 138-kV and 69-kV breakers on 138/69-kV transformers	2017***	2017	4	operating flexibility, reliability (69B3 with prior maintenance)	Provisional
Canal Substation: Install redundant bus differentials on 138-kV buses	2017***	2017	4	reliability (C9)	Proposed
Creekview Substation: 138 kV line construction to serve T-D interconnection	2017***	2017	4	T-D interconnection	Proposed
Highway V Substation: Install 138-kV and 69-kV breakers on 138/69-kV transformers	2017***	2017	4	operating flexibility, reliability (69B3 with prior maintenance)	Provisional
Oak Creek-Bluemound 230-kV line uprate 862	2016**	2017	5	reliability (B2)	Planned

System Additions	Network Need Year	Projected In- Service Year	Planning Zone	Need Category	Planned, Proposed or Provisional
Waunakee - Westport 69-kV line rebuild Y-131	2017**	2017	3	reliability (69B2)	Proposed
Construct Fairwater-Mackford Prairie 69-kV line	ASAP***	2018	1	reliability (69B2)	Proposed
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	ASAP***	2018	1	reliability (69B2), condition	Proposed
Badger Coulee: La Crosse area - North Madison - Cardinal 345-kV line construction	2018***	2018	3	reliability, economics and policy benefits	Proposed
Uprate 6927 West Middleton-Stage Coach 69-kV line	2018**	2018	3	reliability (69B2, 69B3)	Provisional
Branch River Substation: Construct new 345-kV switching station	2018	2018	4	new generation	Proposed
Forest Junction 138kV Substation: Install 25 Mvar inductor	2015	2018	4	system intact	Provisional
Ogden St. Networking Project: Ogden St Bayshore 69-kV line construction	2018*	2018	4	T-D interconnection	Proposed
Point Beach Substation: Install new series 345-kV breaker for circuit Q-303	2018	2018	4	new generation	Proposed
Werner West 138kV Substation: Install 25 Mvar inductor	2015	2018	4	system intact	Provisional
Rebuild Y-32 Colley Road-Brick Church 69-kV line	2018*	2018	3	reliability (B2, 69B3, 69C5, C3) condition	Planned
University/Whitewater line reconfiguration	2018**	2018	3	reliability (B2)	Proposed

System Additions	Network Need Year	Projected In- Service Year	Planning Zone	Need Category	Planned, Proposed or Provisional
Uprate X-67 Portage-Trienda 138-kV line	2018**	2018	3	reliability (69B2)	Proposed
M13-Reinforcement-Bunker Hill-Blackbrook	2019**	2019	1	reliability (B2)	Proposed
Uprate Winneconne-Sunset Point 69-kV line Y-103	>2029	2019	1	reliability (69B2)	Proposed
Atlantic Substation: Reconfiguration	2019	2019	2	operating flexibility, reliability (69C3)	Provisional
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
Presque Isle - Tilden 138 kV line loop into National and uprate National - Tilden 138 kV line	2019	2019	2	reliability (B2, C3)	Provisional
Victoria-Winona 69 kV line construction	2019	2019	2	reliability (69B2, 69C3)	Provisional
Bay Lake: Morgan - Stiles 138-kV circuit de-bifurcate to form 2 separate 138-kV lines	ASAP***	2019	4	reliability (various TPL categories)	Planned
Bay Lake: Morgan Substation reconfigure and expand 345-kV and 138-kV switchyards	ASAP***	2019	4	reliability (various TPL categories)	Planned
Bay Lake: North Appleton - Morgan 138 kV line construction	ASAP***	2019	4	reliability (various TPL categories)	Proposed
Bay Lake: North Appleton - Morgan 345 kV line construction	ASAP***	2019	4	reliability (various TPL categories)	Proposed
Bay Lake: North Appleton Substation Construct new 345-kV switchyard and reconfigure 138-kV switchyard	ASAP***	2019	4	reliability (various TPL categories)	Planned
Construct a new 138/69-kV substation on Spring Valley - North Lake Geneva 138-kV circuit	2019	2019	3 & 5	T-D interconnection,reliability (69B2)	Proposed

System Additions	Network Need Year	Projected In- Service Year	Planning Zone	Need Category	Planned, Proposed or Provisional
Construct a new 69-kV circuit from Twin Lakes to the new substation	2019	2019	3 & 5	T-D interconnection,reliability (69B2)	Proposed
Construct a new Spring Valley-North Lake Geneva 138-kV circuit	2019	2019	3 & 5	T-D interconnection, reliability (69B2)	Proposed
Uprate the Bain - Spring Valley 138-kV circuit	2019	2019	3 & 5	T-D interconnection,reliability (69B2)	Proposed
Uprate the Twin Lakes - Katzenberg 69-kV circuit	2019	2019	3 & 5	T-D interconnection,reliability (69B2)	Proposed
Pine River-9 Mile 6921/6923 Minimum Asset Renewal and Uprate	***	2020	2	reliability (69B2), condition	Provisional
Cardinal - Hickory Creek 345-kV line construction	2020***	2020	3	reliability, economics and policy benefits	Proposed
Wesmark Substation: Install 2-8 Mvar 69-kV capacitor banks	2020	2020	4	reliability (69B2)	Provisional
Pleasant Prairie - Zion 345-kV line uprate 2221	2020**	2020	5	reliability (B2)	Provisional
Winona - Atlantic 69-kV line rebuild Winona69	2022	2022	2	reliability	Provisional
Construct Shoto to Custer 138-kV line	>2029	2022	4	reliability (69B2, 69B3)	Provisional
Install 138/69-kV transformer at Custer Substation	>2029	2022	4	reliability (69B2, 69B3)	Provisional
Colley Road substation: Install 2nd 100 MVA 138/69kV transformer	2023	2023	3	reliability (69B2)	Provisional

System Additions	Network Need Year	Projected In- Service Year	Planning Zone	Need Category	Planned, Proposed or Provisional
Install a second 138/69-kV transformer at Spring Green with a 100 MVA summer normal rating	2025	2024	3	reliability (69B3)	Provisional
Construct Cardinal-Blount 138-kV line	>2029	2025	3	reliability (C5)	Provisional
Rebuild Arcadian-Waukesha 138-kV lines KK9942/KK9962	>2029	2025	5	reliability (B2)	Proposed
Install 2-24.5 Mvar 138-kV capacitor bank and 1-18 Mvar 69-kV capacitor bank at Brick Church substation	>2029	2025	3	reliability (B2, 69B2)	Provisional
Portage - Columbia 138-kV line rebuild X-13	2028	2025	3	reliability (B2)	Provisional
Portage - Columbia 138-kV line rebuild X-20	2028	2025	3	reliability (B2)	Provisional
Center St - South Beaver Dam 69-kV line uprate Y-59	>2029	2026	3	reliability (B2)	Provisional
Rebuild West Middleton-Pheasant Branch 69-kV line with double circuits to achieve a 240 MVA SE on each circuit	>2029	2028	3	reliability (69B2)	Provisional

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

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