

**ATC 2018 10-Year Assessment (TYA) Preliminary Network Solutions**

Continuing System Need Solutions	2018 TYA Preliminary Network Need Year	2018 TYA Preliminary In-Service Year	Planning Zone	Planned, Proposed or Provisional	Need Category	MISO MTEP Appendix Status	MTEP PRjID	MTEP Cost or Cost Range	Comment
West Mauston SS, DIC, replace transformer	2019***	2019	1	Proposed	T-D Interconnection	targeted A 18	14904	0.05	
Marsh View SS, new DIC	2019***	2019	3	Proposed	T-D Interconnection	targeted A 18	14904	0.32	
Plymouth #2 SS, DIC, replace transformer and sub rebuild	2019***	2019	4	Proposed	T-D Interconnection	targeted A 18	14904	1.17	
Yahara River SS, DIC. add 2nd transformer	2019***	2019	3	Proposed	T-D Interconnection	targeted A 18	14904	0.5	
Albany SS, DIC, add 2nd transformer and sub rebuild	2019***	2019	3	Proposed	T-D Interconnection	targeted A 18	14904	1.65	
Gulliver SS, DIC, subsation rebuild and relocation	2019***	2019	2	Proposed	T-D Interconnection	targeted A 18	14904	0.31	
Dam Heights SS, DIC, add a new radial line	2020***	2020	3	Proposed	T-D Interconnection	targeted A 18	14904	3.23	
Garden Corner SS, DIC, add 1st transformer	2020***	2020	2	Proposed	T-D Interconnection	targeted A 18	14904	0.86	
Mass SS, DIC, distribution sub rebuild and XFMR relocation	2018***	2018	2	Proposed	T-D Interconnection	targeted A 18	14904	0.15	
Tower Dr SS, DIC, replace transformers	2019***	2019	4	Proposed	T-D Interconnection	targeted A 18	14904	0.91	
Hilltop SS, DIC, replace transformer	2019***	2019	1	Proposed	T-D Interconnection	targeted A 18	14904	0.05	
Mishicot SS, DIC, high-side protection replacement	2018***	2018	4	Proposed	T-D Interconnection	targeted A 18	14904	0.05	
Monroe St SS, DIC, replace transformer	2019***	2019	4	Proposed	T-D Interconnection	targeted A 18	14904	0.2	
River Run SS, DIC, replace transformer	2022***	2022	1	Proposed	T-D Interconnection	targeted A 18	14904	0.14	
West Riverside SS, DIC, add reserve aux transformer	2018***	2018	3	Proposed	T-D Interconnection	targeted A 18	14904	0.65	
Blacksmith SS, DIC, replace transformer and sub rebuild	2018***	2018	3	Proposed	T-D Interconnection	targeted A 18	14904	0.18	
Adams SS, DIC, replace transformer	2018***	2018	4	Proposed	T-D Interconnection	targeted A 18	14904	0.05	
Lincoln SS, 138 kV Bus Reconfiguration	2019***	2019	5	Proposed	reliability (prior + P1.2)	targeted A 18	--	<10	
Edgewater - Erdman 69 kV line Y-31 rerate	2020	2020	4	Proposed	reliability (prior + P1.2)	targeted A 18	--	<10	
Bayport area - Pioneer, rebuild as double-circuit 138 kV	2021	2021	4	Proposed	Asset renewal, T-D interconnection	targeted A 18	14706	51.7	
Pioneer - Crivitz (E-83/B-2), retire 69 kV and reconfigure load to 138 kV	2022	2022	4	Proposed	Asset renewal, T-D interconnection	targeted B 18	14926	20.0	
Berryville SS, DIC - Add 2nd Transformer	2018***	2018	5	Proposed	T-D Interconnection	targeted A 18	13734	0.53	was 2017; in Q1 Update
Hillman SS, DIC - Add Transformer	2018***	2018	3	Proposed	T-D Interconnection	targeted A 18	13736	2.32	was 2017; in Q1 Update
Darlington SS, DIC - Replace Transformer and Construct New Control House	2018***	2018	3	Proposed	T-D Interconnection	targeted A 18	13740	1.88	was 2017; in Q1 Update
Verona Substation, breaker installation	2018***	2018	3	Proposed	T-D Interconnection	A	12097	0.44	was 2017

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Construct Edgerton T-D 138 KV	2019***	2019	3	Proposed	T-D Interconnection	A	13066	1.70	was 2018; in Q1 Update
Mount Pleasant Tech Interconnection Project	2019***	2019	5	Proposed	T-D Interconnection	targeted A 18	14073	140.0	was 2020
Atlantic Substation: Reconfiguration	2020	2020	2	Provisional	operating flexibility, reliability (69P5)	B	7586	9	was 2019
J711 Silver River SS, Network Upgrades	2020***	2020	2	Provisional	G-T Interconnection	targeted B 18	14204	20.0	was 2019
Presque Isle - Tilden 138 kV line loop into National and uprate National - Tilden 138 kV line	2020	2021	2	Provisional	reliability (prior + P1.2)	--	--	<10	was 2020
Portage-Trienda 138-kV uprate X-67	2022**	2020	3	Planned	reliability (69P1.2)	A	1624	2.0	was 2022
Arnold Substation: 345 kV, 80 MVAR Inductor Bank	2022***	2022	2	Provisional	P0	targeted B 18	14187	5.00	was 2019; in Q1 Update
Highway V - Preble 138 (X-154), rebuild	>2033	2025	4	Provisional	reliability (various TPL categories)	B	8082	6.0	was 2023
Install Sagola 69KV Tap	2018***	2018	2	Proposed	T-D Interconnection	A	12180	0.40	in Q1 Update
Velp SS, DIC - Replace Transformer	2018***	2018	4	Proposed	T-D Interconnection	targeted A 18	13720	0.23	in Q1 Update
Sherman Street SS, DIC - Replace High Side Circuit Switcher	2018***	2018	1	Proposed	T-D Interconnection	targeted A 18	13721	0.07	in Q1 Update
Baraboo SS, Bus Uprate and RTU Replacement	2018***	2018	3	Proposed	T-D Interconnection	targeted A 18	13766	1.8	in Q1 Update
Wittenberg SS, DIC - Replace Transformer	2018***	2018	1	Proposed	T-D Interconnection	targeted A 18	13787	0.12	in Q1 Update
Oak St SS, DIC - Replace Transformer	2018***	2018	4	Proposed	T-D Interconnection	targeted A 18	13790	0.88	in Q1 Update
Mukwonago Substation: Install line breaker on line 671K61	2018***	2018	5	Proposed	operating flexibility	A	9923	0.6	
McMillan - Wildwood 115-kV line N-144, uprate	ASAP***	2018	1	Proposed	Economics	A	13064	0.2	
Plover Substation, Reconfiguration	2018***	2018	1	Proposed	T-D Interconnection	A	13726	1.8	
Springwater Substation, new T-D Interconnection	2018***	2018	1	Proposed	T-D Interconnection	A	10603	3.8	
Arcadian - Waukesha 138 kV lines, Uprate (9942/9962)	2018	2018	5	Proposed	reliability (P3.2, P1.2)	A	12463	0.3	
Spare Reactor Purchase	2020	2018	1, 3	Proposed	P0	--	--	<10	
Tripp Rd Substation, breaker installation	2018***	2018	3	Proposed	T-D Interconnection	A	13068	2.9	
Oakview Substation: loop line 836 in and out and install 138-kV bus tie breaker	2018***	2018	5	Planned	T-D Interconnection	A	10563	3.3	
St Martins Substation: Add new 138 kV bus and bus tie breaker	2018***	2018	5	Proposed	T-D Interconnection	A	10643	4.7	
North Madison - Briggs Road 345 kV line	2018***	2018	1, 3	Planned	reliability, economics and policy benefits	A	3127	1016.1	
Oak Creek - Hayes 138-kV line 811 uprate and reconfiguration	ASAP***	2018	5	Proposed	reliability (P7)	A	9934	18.0	
Plymouth 4 Substation, breaker installation	2018***	2018	4	Proposed	T-D Interconnection	A	13065	1.6	
West Marinette Substation: Add high side protection to 138/69-kV transformers	2014***	2018	4	Proposed	reliability (various TPL categories)	A	9080	4.5	
Forest Junction 138kV Substation: Install 25 Mvar inductor	2018***	2018	4	Proposed	system intact (P0)	A	7581	1.8	
Ogden St. Networking Project: Ogden St. - Bayshore 69-kV line construction	2018***	2018	4	Proposed	T-D interconnection	A	4732	10.4	
Forest Junction 138-kV Substation: Install redundant bus differential	2019***	2018	4	Proposed	reliability (stability E2.D)	--	--	<10	
Lost Dauphin - Red Maple 138 kV line uprate Q-147	2020***	2018	4	Planned	reliability (various TPL categories)	A	9930	0.04	
Depere - Glory Rd 138-kV overhead line rebuild	2020***	2018	4	Proposed	reliability (various TPL categories)	A	9081	1.6	
Bay Lake: Morgan Substation -- reconfigure and expand 345-kV and 138-kV switchyards	ASAP***	2018	4	Planned	reliability (various TPL categories)	A	3679	305.8	
Bay Lake: North Appleton - Morgan 138 kV line construction	ASAP***	2018	4	Planned	reliability (various TPL categories)	A	3952	64.8	
Bay Lake: North Appleton - Morgan 345 kV line construction	ASAP***	2018	4	Planned	reliability (various TPL categories)	A	3679	305.8	

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Bay Lake: North Appleton Substation -- Construct new 345-kV switchyard and reconfigure 138-kV switchyard	ASAP***	2018	4	Planned	reliability (various TPL categories)	A	3679	305.8	
City Limits 138-kV bus reconductor	2018***	2018	4	Proposed	reliability (P3.2)	A	8640	0.6	
State Line SS, new DIC	2019***	2019	5	Proposed	T-D Interconnection	targeted A 18	14604	8.2	in Q1 Update
Construct Arcadian 138KV D-T	2019***	2019	5	Proposed	T-D Interconnection	A	13067	0.26	in Q1 Update
Hancock SS - DIC, Replace Transformers	2019***	2019	1	Proposed	T-D Interconnection	targeted A 18	13774	4.72	in Q1 Update
Plover SS, DIC - Replace Transformers	2019***	2019	1	Proposed	T-D Interconnection	targeted A 18	13726	1.77	in Q1 Update
Cranberry Substation 115 kV, 10.4 MVAR Inductor Bank	2019***	2019	2	Proposed	P0	targeted B 18	14184	2.00	in Q1 Update
M-38 Station: 138 kV, 8 MVAR Inductor Bank	2019***	2019	2	Proposed	P0	targeted B 18	14185	2.00	in Q1 Update
Iron Grove: 138 kV, 15 MVAR Inductor Bank	2019***	2019	2	Proposed	P0	targeted B 18	14186	2.00	in Q1 Update
Silver River Substation: 138 kV, 8 MVAR Inductor Bank	2019***	2019	2	Proposed	P0	targeted A 18	14185	1.90	
Winona Substation: 138 kV, 8 MVAR Inductor Bank	2019***	2019	2	Proposed	P0	targeted A 18	14805	1.90	
Bain - Spring Valley 138-kV uprate 63141	2019	2019	3 & 5	Planned	T-D interconnection, reliability (69P1.2)	A	3808	70.5	
Construct a new 138/69-kV substation on Spring Valley - North Lake Geneva 138-kV circuit	2019	2019	3 & 5	Planned	T-D interconnection, reliability (69P1.2)	A	3808	70.5	
Construct a new 69-kV circuit from Twin Lakes to the new substation	2019	2019	3 & 5	Planned	T-D interconnection, reliability (69P1.2)	A	3808	70.5	
Construct a new Spring Valley-North Lake Geneva 138-kV circuit	2019	2019	3 & 5	Planned	T-D interconnection, reliability (69P1.2)	A	3808	70.5	
Twin Lakes - Katzenberg 69-kV rebuild Y-102	2019	2019	3 & 5	Planned	T-D interconnection, reliability (69P1.2)	A	3808	70.5	
J395: Darlington - North Monroe 138 kV line X-49, uprate	2017***	2019	3	Proposed	G-T Interconnection	A	12284	18.6	
Somers Substation: loop Racine - Kenosha 138-kV line 1651 in and out	2019***	2018	5	Planned	T-D interconnection	A	8660	8	
Walker Tap Underground Cable Removal	2019***	2019	5	Proposed	no T-D Need	targeted A 18	14039	0.7	
Williams Bay Substation: Loop X-44 in and out	2019***	2019	3	Proposed	T-D interconnection	A	4421	4.4	
J390: Kittyhawk Substation, new G-T interconnection	2019***	2019	3	Proposed	G-T Interconnection	A	13103	49.5	
Paddock - NW Beloit 138 kV line X-53, install series reactor	2019***	2019	3	Proposed	reliability (various TPL categories)	A	13004	1.4	
Highway V Substation: Install 138-kV breakers and 69-kV circuit switchers on 138/69-kV transformers	2019***	2019	4	Proposed	operating flexibility, reliability (prior + 69P1.3)	A	7986	9	
Pulliam 138-kV Substation: Install redundant bus differential	2019***	2019	4	Proposed	reliability (stability P5.5)	--	--	<10	
Ellinwood 138-kV Bus Rerate	2019*	2019	4	Proposed	reliability (P6)	A	12103	2.4	
J703 Huron SS, Generator Interconnection Facilities	2019***	2019	2	Proposed	G-T Interconnection	targeted A 18	13784	17.1	
J704 Silver River SS, Generator Interconnection Facilities	2019***	2019	2	Proposed	G-T Interconnection	targeted A 18	13769	19.6	
Plains - Arnold 138-kV uprate	2019***	2019	2	Proposed	NITS Request	A	13572	9.4	
Pershing Substation: Loop Stone Lake - Gardner Park 345-kV line into new Pershing 345/115-kV Substation	2018***	2019	1	Proposed	T-T interconnection	B	9925	15.0	
S Lake Geneva SS T-D Tformer Add	2020***	2020	3	Proposed	T-D Interconnection	targeted B 18	13716	0.30	in Q1 Update
Baker St Substation: Add new 115-kV bus and bus tie breaker	2020***	2020	1	Proposed	T-D Interconnection	A	12115	4.4	
Northern Lights Substation, new T-D interconnection	2020***	2020	3	Proposed	T-D Interconnection	A	12346	26.0	

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Juneautown Substation, new T-D interconnection	2020***	2020	5	Proposed	T-D Interconnection	B, targeted A 18	13104	34.6	
Big Pond Substation, retirement	ASAP***	2020	1	Proposed	no T-D Need	targeted B 18	13831	0.45	in Q1 Update
Dartford SS Alliant T-D	2021***	2021	4	Proposed	T-D Interconnection	targeted B 18	13785	0.05	in Q1 Update
Kincheloe SS DIC	2021***	2021	2	Proposed	T-D Interconnection	targeted B 18	13767	0.36	in Q1 Update
Port Washington - Saukville: Rebuild Line 762 to a double circuit	2021	2021	5	Proposed	reliability (P2.4, P7.1)	A	9986	18.0	
Eaton Substation, new T-D interconnection	2022***	2022	4	Proposed	T-D Interconnection	A	10484	2.5	
Riverside SS, 69 kV Bus Uprate	2022***	2022	4	Proposed	reliability (prior plus P1)	targeted A 18	13832	0.08	in Q1 Update
Arcadian Substation: install redundant bus differentials on 345-kV and 138-kV buses	2023	2023	5	Provisional	reliability (stability E2.D)	--	--	<10	
Granville Substation: install redundant bus differentials on 345-kV and 138-kV buses	2023	2023	5	Provisional	reliability (stability E2.D)	--	--	<10	
West Middleton - Stagecoach 69 kV line rebuild 6927	2023**	2023	3	Provisional	reliability (P1.2, P1.3)	B	12175	3.8	
Cardinal - Hickory Creek 345-kV line construction	2023***	2023	3	Proposed	reliability, economics and policy benefits	A	3127	1016.1	
Portage - Columbia 138-kV line rebuild X-13	2023	2027	3	Provisional	reliability (P1.2)	--	4730	5.9	
Portage - Columbia 138-kV line rebuild X-20	2023	2027	3	Provisional	reliability (P1.2)	--	4730	5.9	
Bayridge Substation, new T-D interconnection	2024***	2024	4	Proposed	T-D Interconnection	A	10485	<10	
Keel Ridge D-T New SS	2025***	2025	2	Proposed	T-D Interconnection	targeted B 18	13792	2.60	in Q1 Update
Gran Grae Substation: Install a second 161/69 kV transformer	2026	2026	3	Provisional	reliability (69P1.3)	--	--	<10	
Construct Cardinal-Blount 138-kV line	>2033	2029	3	Provisional	reliability (P6)	--	1730	60.8	

<b>Legend</b>
* = 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