

*Table AR-1
Transmission System Additions – Asset Renewal Line Work*

System Additions	Projected In-Service Year	Planning Zone	Need Category
Partial rebuild Deer Trail - Whitcomb 69-kV line Y-86	2011	1	Improve condition and increase reliability performance of existing line
Partial rebuild Wautoma - Berlin 69-kV line Y-95	2011	1	Improve condition and increase reliability performance of existing line
Re-insulate Winneconne - Berlin 69-kV line Y-80	2012	1	Improve condition and increase reliability performance of existing line
Rebuild North Point - Rocky Run 115-kV line T-20	2016	1	Improve condition and increase reliability performance of existing line.
Rebuild Wautoma - Montello 69-kV line Y17	2017	1	Improve condition and increase reliability performance of existing line
Rebuild Whiting Avenue-Plover 115-kV line B-106	2019	1	Improve condition and increase reliability performance of existing line
Partial rebuild Coyne - Saratoga 115-kV line T-72	2020	1	Improve condition and increase reliability performance of existing line
Partial rebuild Petenwell - Saratoga 138-kV line X-43	2020	1	Improve condition and increase reliability performance of existing line
Partial rebuild Coyne - Plover 115-kV line J-114	2020	1	Improve condition and increase reliability performance of existing line
Re-insulate top phase and add additional arresters on Chandler - Forsyth 69-kV line (Chandler line)	2012	2	Improve condition and increase reliability performance of existing line
Partial rebuild Roberts - 9 Mile 69-kV line 6952	2012	2	Improve condition and increase reliability performance of existing line
Re-insulate Munising - Forsyth 138-kV line (Munising 138 line)	2012	2	Improve condition and increase reliability performance of existing line
Re-insulate Munising - Gwinn 69-kV line (Autrain line) – Double circuited portion with Munising 138	2012	2	Improve condition and increase reliability performance of existing line
Partial rebuild Munising-Gwinn 69-kV line (Autrain line) – Single circuit portion	2013	2	Improve condition and increase reliability performance of existing line

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System Additions	Projected In-Service Year	Planning Zone	Need Category
Rebuild Atlantic - M38 69-kV line (Atlantic 69 line)	2013	2	Improve condition and increase reliability performance of existing line
Partial rebuild Blaney Park-Munising 69-kV line (Inland line)	2014	2	Improve condition and increase reliability performance of existing line
Re-insulate Portage - 9 Mile 69-kV lines 6901/6902	2014	2	Improve condition and increase reliability performance of existing line
Re-insulate Sawyer-Gwinn 69-kV line (Sawyer line)	2014	2	Improve condition and increase reliability performance of existing line
Partial rebuild Rexton-Hiawatha 69-kV line ESE_6908	2015	2	Improve condition and increase reliability performance of existing line
Underground cable replacement Magazine-Nine Mile/Three Mile 69-kV line ESE_6903	2015	2	Improve condition and increase reliability performance of existing line
Partial rebuild Conover-Mass 69-kV line 6530	2018	2	Improve condition and increase reliability performance of existing line
Partial rebuild Powers-Chalk Hill 69-kV line 6910	2018	2	Improve condition and increase reliability performance of existing line
Underwater cable replacement McGulpin-Straits 138-kV line 9901	2020	2	Improve condition and increase reliability performance of existing line
Underwater cable replacement McGulpin-Straits 138-kV line 9903	2020	2	Improve condition and increase reliability performance of existing line
Partial rebuild Stage Coach - Spring Green 69-kV line Y-62	2011	3	Improve condition and increase reliability performance of existing line
Install anti-galloping and grounding improvements on Columbia-South Fond Du Lac 345-kV line W5	2011	3	Improve condition and increase reliability performance of existing line

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System Additions	Projected In-Service Year	Planning Zone	Need Category
Partial rebuild Pardeeville Tap - North Randolph/Rio 69-kV line Y-64	2011	3	Improve condition and increase reliability performance of existing line
Partial rebuild Dane - Dam Heights 69-kV line Y-8	2012	3	Improve condition and increase reliability performance of existing line
Underground cable replacement East Towne - Sycamore 69-kV line 6987	2012	3	Improve condition and increase reliability performance of existing line.
Underground cable replacement East Towne to Sycamore 69-kV line 6988	2012	3	Improve condition and increase reliability performance of existing line.
Replace underground with overhead cable on Pheasant Branch - West Middleton 69-kV line 6963	2012	3	Improve condition and increase reliability performance of existing line
Partial rebuild Kirkwood - Trienda 138-kV line X-52	2012	3	Improve condition and increase reliability performance of existing line
Rebuild Doylestown - Rio Pumping station 69-kV line Y20	2013	3	Improve condition and increase reliability performance of existing line
Rebuild Rubicon - Concord 138-kV line 9061	2016	3	Improve condition and increase reliability performance of existing line
Rebuild Rubicon - Butler Ridge 138-kV line RUBG11	2016	3	Improve condition and increase reliability performance of existing line
Rebuild Butler Ridge - Hartford 138-kV line HTFG51	2016	3	Improve condition and increase reliability performance of existing line
Rebuild Darlington - Hillman 138-kV X-14	2016	3	Improve condition and increase reliability performance of existing line
Rebuild Portage - Dam Heights 69-kV line Y16	2016	3	Improve condition and increase reliability performance of existing line
Rebuild Eden - Hillman 69-kV line Y105	2018	3	Improve condition and increase reliability performance of existing line
Rebuild Boscobel - Lone Rock 69-kV line Y-124	2018	3	Improve condition and increase reliability performance of existing line
Underground cable replacement Stagecoach - West Middleton 69-kV line 6927	2019	3	Improve condition and increase reliability performance of existing line

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System Additions	Projected In-Service Year	Planning Zone	Need Category
Rebuild Colley Road – Brick Church 69-kV line Y-32	2022	3	Improve condition and increase reliability performance of existing line
Partial rebuild Glenview - New Holstein 69-kV line J-140	2011	4	Improve condition and increase reliability performance of existing line
Shield wire replacement Stiles - Pulliam 138-kV lines KK64441-64451	2013	4	Improve condition and increase reliability performance of existing line
Underwater cable replacement First Avenue - Redwood 69-kV line T-46	2015	4	Improve condition and increase reliability performance of existing line
Rebuild Neevin - Butte Des Morts 138-kV line 43021	2015	4	Improve condition and increase reliability performance of existing line
Rebuild Custer - New Holstein 69-kV line P-68	2015	4	Improve condition and increase reliability performance of existing line
Rebuild Sawyer - Dykesville 69-kV line DYKY21	2016	4	Improve condition and increase reliability performance of existing line
Rebuild Sunset Point-Mears-Woodenshoe-Neevin 138-kV lines A-79, MCRG21 and 80952	2016	4	Improve condition and increase reliability performance of existing line
Rebuild Highway V - Oak Street 69-kV line Z-26	2016	4	Improve condition and increase reliability performance of existing line
Rebuild Manrap - Wesmark 69-kV line R-44	2016	4	Improve condition and increase reliability performance of existing line
Rebuild Danz - Finger Road 69-kV line L-64	2016	4	Improve condition and increase reliability performance of existing line
Rebuild Finger Road - Highway V 69-kV line U-47	2016	4	Improve condition and increase reliability performance of existing line
Underground cable replacement University - Danz Avenue 69-kV line O-15	2017	4	Improve condition and increase reliability performance of existing line
Rebuild Butte des Morts - North Appleton 138-kV line 6853	2017	4	Improve condition and increase reliability performance of existing line
Rebuild Pioneer - Sobieski 69-kV line E-83 Tap	2018	4	Improve condition and increase reliability performance of existing line

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System Additions	Projected In-Service Year	Planning Zone	Need Category
Rebuild Sobieski - Bayport 69-kV line T-98	2018	4	Improve condition and increase reliability performance of existing line
Rebuild Goodman - Caldron Falls 69-kV line J-88	2019	4	Improve condition and increase reliability performance of existing line
Partial rebuild Howard - Pulliam 138-kV line D-82	2019	4	Improve condition and increase reliability performance of existing line
Underground cable replacement Erdman - Lodestar 138-kV line X-48	2019	4	Improve condition and increase reliability performance of existing line
Rebuild Finger Road – Canal 69-kV line J-10	2020	4	Improve condition and increase reliability performance of existing line
Underground cable replacement Edgewater - Erdman 69-kV line Y-31	2021	4	Improve condition and increase reliability performance of existing line
Shield wire replacement Tosa - Butler 138-kV line 5061	2013	5	Improve condition and increase reliability performance of existing line
Shield wire replacement Tosa - Bluemound 138-kV line 5041	2013	5	Improve condition and increase reliability performance of existing line
Shield wire replacement Butler - Tower#4291 138kV line 3443	2013	5	Improve condition and increase reliability performance of existing line
Rebuild Hartford - St. Lawrence 138-kV line 8031	2014	5	Improve condition and increase reliability performance of existing line
Rebuild Cooney - Concord 138-kV line 9042	2015	5	Improve condition and increase reliability performance of existing line
Partial rebuild Merrill Hills - Waukesha 138-kV line 7021	2015	5	Improve condition and increase reliability performance of existing line
Rebuild Albers - Paris 138-kV line 3124	2016	5	Improve condition and increase reliability performance of existing line
Rebuild St. Martins - Edgewood 138-kV line 3013	2017	5	Improve condition and increase reliability performance of existing line
Rebuild and add breaker on Edgewood - Mukwonago 138-kV line 671K61	2017	5	Improve condition and increase reliability performance of existing line

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System Additions	Projected In-Service Year	Planning Zone	Need Category
Partial rebuild Summit - Merrill Hills 138-kV line 3551	2017	5	Improve condition and increase reliability performance of existing line
Rebuild Oak Creek SW YD – Hayes 138-kV line 811	2019	5	Improve condition and increase reliability performance of existing line