

Table PR-17
Zone 4 Transmission System Additions

System Additions	System Need Year	Projected In-Service Year	Planning Zone	Need Category	Planned, Proposed or Provisional
Expand the Menominee 69-kV Substation and install 138 kV terminals. Loop the West Marinette-Bay De Noc 138-kV line into the Substation	2008	2008	4	reliability	Planned
Install 138/69-kV transformer at the expanded Menominee Substation	2008	2008	4	reliability	Planned
String a new 138-kV line from Clintonville-Werner West primarily on Morgan-Werner West 345-kV line structures	2004	2009	4	reliability, service limitation	Planned
Construct Morgan-Werner West 345-kV line	2004	2009	4	reliability, service limitation	Planned
Relocate Mishicot 138-kV Substation	2009	2009	4	new generation	Planned
Rebuild Crivitz-High Falls 69-kV double circuit line	2009	2009	4	reliability	Planned
Install a second 138-kV reserve auxiliary transformer (RAT) at Kewaunee and remove tertiary auxiliary transformer (TAT)	2009	2009	4	reliability	Proposed
Rebuild 2.37 miles of 69 kV from Sunset Point to Pearl Ave with 477 ACSR	2009	2009	4	reliability	Planned
Reconfigure Kewaunee 345/138-kV switchyard and install a second 500 MVA 345/138-kV transformer	2011	2011	4	reliability, condition	Proposed
Construct Canal-Dunn Road 138-kV line	2012	2012	4	reliability	Proposed
Install 60 MVA 138/69-kV transformer at Dunn Road	2012	2012	4	reliability	Proposed
Replace two existing 138/69-kV transformers at Glenview Substation with 100 MVA transformers	2014	2014	4	reliability	Provisional
Install 2-16.3 MVAR capacitor bank at Mears Corners 138-kV Substation	2015	2015	4	reliability	Provisional
Install 2-16.3 MVAR capacitor bank at Rosiere 138-kV Substation	2015	2015	4	reliability	Provisional
Install 138/69-kV transformer at Custer Substation	2016	2016	4	reliability, economics	Provisional
Construct Shoto to Custer 138-kV line	2016	2016	4	reliability, economics	Provisional

Table PR-17 (continued)
Zone 4 Transmission System Additions

System Additions	System Need Year	Projected In-Service Year	Planning Zone	Need Category	Planned, Proposed or Provisional
Rebuild/Convert Bayport-Suamico-Sobieski-Pioneer 69-kV line to 138 kV	2016	2016	4	reliability, condition	Provisional
Construct second Dunn Road-Egg Harbor 69-kV line	2016	2016	4	reliability	Proposed
Uprate the Melissa-Tayco to 229 MVA (300F)	2016	2016	4	reliability, economics	Provisional
Install 28.8 MVAR capacitor bank at Butternut 138-kV Substation	2016	2016	4	reliability	Provisional
Replace the 1200 A breaker at Edgewater T22 345/138-kV transformer	2018	2018	4	reliability	Proposed
Replace two existing 138/69-kV transformers at Sunset Point Substation with 100 MVA transformers	2018	2018	4	reliability	Provisional
Install 2-16.3 MVAR capacitor bank at Aviation Substation	2018	2018	4	reliability	Provisional
Uprate 138-kV line from Kewaunee to East Krok	TBD	TBD	4	reliability	Provisional