

Table PR-15
Zone 2 Transmission System Additions

System Additions	System Need Year	Projected In-Service Year	Planning Zone	Need Category	Planned, Proposed or Provisional
Install 2-4.08 MVAR capacitor banks at Munising 69-kV Substation	2008	2008	2	reliability	Planned
Relocate Cedar Substation (North Lake)	2005	2009	2	reliability, condition	Planned
Install 1-4.08 MVAR capacitor bank at L'Anse 69 kV	2008	2009	2	reliability	Proposed
Construct ring bus at the Pine River 69-kV Substation and replace 1-5.4 MVAR capacitor bank with 2-4.08 MVAR banks	2008	2009	2	reliability, condition	Proposed
Install 1-8.16 MVAR capacitor banks at the M38 138-kV Substation	2009	2009	2	reliability	Proposed
Uprate Chandler-Cornell 69-kV line clearance from 120 to 167 deg F	2009	2009	2	reliability	Proposed
Install 2-16.33 MVAR capacitor bank at Perkins 138-kV Substation	2009	2009	2	reliability	Proposed
Install 1-16.33 MVAR capacitor bank at Hiawatha 138-kV Substation	2009	2009	2	reliability	Proposed
Install 1-4.08 MVAR capacitor banks at Osceola 69 kV	2009	2009	2	reliability	Proposed
Uprate the Delta-North Bluff 69-kV line summer normal and emergency ratings from 120 deg F to 167 deg F	2009	2009	2	reliability	Provisional
Uprate the North Bluff-Gladstone 69-kV line summer normal and emergency ratings from 120 deg F to 167 deg F	2009	2009	2	reliability	Provisional
Uprate the Masonville-Gladstone 69-kV line summer normal and emergency ratings from 120 deg F to 167 deg F	2009	2009	2	reliability	Provisional
Uprate the Chandler-Masonville 69-kV line summer normal and emergency ratings from 120 deg F to 167 deg F	2009	2009	2	reliability	Provisional
Rebuild/convert Conover-Plains 69-kV line to 138 kV	2010	2010	2	reliability, transfer capability	Planned
Construct 138 kV bus and install a 138/69 kV, 60 MVA transformer at Iron Grove Substation	2010	2010	2	reliability, transfer capability	Planned
Construct 138 kV bus and install a 138/69 kV, 60 MVA transformer at Aspen Substation	2010	2010	2	reliability	Planned

Table PR-15 (continued)
Zone 2 Transmission System Additions

System Additions	System Need Year	Projected In-Service Year	Planning Zone	Need Category	Planned, Proposed or Provisional
Relocate Iron River Substation (Iron Grove)	2010	2010	2	reliability	Planned
Install 1-16.33 MVAR capacitor bank at Indian Lake 138-kV Substation	2010	2010	2	reliability	Proposed
Install 1-4.08 MVAR capacitor bank at North Bluff 69-kV Substation	2010	2010	2	reliability	Provisional
Uprate the Chandler-Delta #1 69-kV line summer emergency rating from 120 deg F to 167 deg F	2009	2010	2	reliability	Provisional
Uprate the Chandler-Delta #2 69-kV line summer emergency rating to from 120 deg F 167 deg F	2009	2010	2	reliability	Provisional
Increase ground clearance of M38-Atlantic 69-kV line from 120 to 167 degrees F	2009	2013	2	reliability	Provisional
Rebuild Blaney Park-Munising 69 kV to 138 kV	2014	2014	2	reliability, condition	Provisional
Uprate the summer emergency rating of the Forsyth 138/69-kV transformer to 57 MVA	2017	2017	2	reliability	Provisional
Convert Indian Lake-Hiawatha 69-kV line to double-circuit 138-kV operation, construct new Hiawatha 138-kV Substation	TBD	TBD	2	reliability	Provisional
Uprate overhead portions of Straits-McGulpin 138-kV circuits #1 & #3 to 230 F degree summer emergency ratings	TBD	TBD	2	reliability	Provisional