

Table PR-14  
Transmission System Additions for Zone 2

System additions	System need year	Projected in-service year	Planning zone	Need category	Planned, Proposed or Provisional
Uprate Victoria-Ontonagon 69-kV line clearance to 135 degrees F	2006	2006	2	new generation	Planned
Uprate Victoria-Mass 69-kV line clearance to 135 degrees F	2006	2006	2	new generation	Planned
Uprate Mass-Winona 69-kV line clearance to 135 degrees F	2006	2006	2	new generation	Planned
Uprate Winona-Atlantic 69-kV line clearance to 135 degrees F	2006	2006	2	new generation	Planned
Rebuild Stiles-Amberg double circuit 138-kV line	1996	2006	2 & 4	reliability, service limitation, condition	Planned
Install 1-5.4 MVAR capacitor bank at the Sawyer 69-kV Substation	2007	TBD	2	reliability	Provisional
Install 1-8.16 MVAR capacitor bank at the Lincoln 69-kV Substation	2007	2007	2	reliability	Planned
Relocate Brule Substation (Aspen)	2007	2007	2	reliability, condition	Planned
Uprate White Pine-Victoria 69-kV line clearance to 200 degrees F	2007	2007	2	new generation	Planned
Uprate Victoria-Ontonagon 69-kV line clearance to 185 degrees F	2007	2007	2	new generation	Planned
Uprate Victoria-Mass 69-kV line clearance to 185 degrees F	2007	2007	2	new generation	Planned
Install 2-8.16 MVAR capacitor banks at Ontonagon 138-kV Substation	2007	2007	2	reliability	Proposed
Construct 138 kV bus and install 138/115-kV 150 MVA and 138/69-kV 60 MVA transformers at Conover Substation	2008	2008	2	reliability, transfer capability	Planned
Install 1-5.4 MVAR capacitor bank at Munising 69-kV Substation	2008	2008	2	reliability	Proposed
Relocate Cedar Substation (North Lake)	2005	2008	2	reliability, condition	Proposed
Install 1-5.4 MVAR capacitor bank at the Roberts 69-kV Substation	2007	2008	2	reliability	Proposed
Install second 345/138-kV transformer at Plains Substation	2008	2008	2	reliability, transfer capability	Proposed
Rebuild Atlantic-Osceola 69-kV line (Laurium #1)	2006	2008	2	reliability, condition	Planned

**Table PR-14  
Transmission System Additions for Zone 2 (continued)**

<b>System additions</b>	<b>System need year</b>	<b>Projected in-service year</b>	<b>Planning zone</b>	<b>Need category</b>	<b>Planned, Proposed or Provisional</b>
Uprate Mass-Winona 69-kV line clearance to 185 degrees F	2008	2008	2	generation	Planned
Uprate Winona-Atlantic 69-kV line clearance to 185 degrees F	2008	2008	2	generation	Planned
Increase ground clearance of Atlantic-Osceola (Laurium #2) 69-kV line from 120 to 167 degrees F	2008	2008	2	reliability	Proposed
Install 1-5.4 MVAR capacitor bank at L'Anse 69-kV Substation	2007	2008	2	reliability	Provisional
Install 2-5.4 MVAR capacitor banks at Osceola 69-kV Substation	TBD	TBD	2	reliability	Provisional
Increase ground clearance of M38-Atlantic 69-kV line from 120 to 167 degrees F	2008	TBD	2	reliability	Provisional
Rebuild Hiawatha-Pine River 69-kV line ESE_6908	2009	2009	2	maintenance	Proposed
Rebuild/convert Conover-Plains 69-kV line to 138 kV	2009	2009	2	reliability, transfer capability	Planned
Construct 138 kV bus and install a 138/69 kV, 60 MVA transformer at Iron Grove Substation	2009	2009	2	reliability, transfer capability	Planned
Construct 138 kV bus and install a 138/69 kV, 60 MVA transformer at Aspen Substation	2009	2009	2	reliability	Planned
Relocate Iron River Substation (Iron Grove)	2009	2009	2	reliability	Planned
Convert Indian Lake-Hiawatha 69-kV line to double-circuit 138-kV operation, construct new Hiawatha 138-kV Substation	2010	TBD	2	reliability	Provisional
Construct new Mackinac 138/69-kV Substation	2010	TBD	2	reliability	Provisional
Uprate overhead portions of Straits-McGulpin 138-kV circuits #1 & #3 to 230 F degree summer emergency ratings	2010	TBD	2	reliability	Provisional
Uprate Empire-Forsyth 138-kV line terminal equipment	2010	TBD	2	reliability	Provisional
Uprate Chandler-Cornell 69-kV line clearance from 120 to 167 deg F	2010	TBD	2	reliability	Provisional
Rebuild Blaney Park-Munising 69 kV to 138 kV	2012	2012	2	reliability, condition	Provisional
Uprate M38 138/69-kV transformer	TBD	TBD	2	reliability	Provisional

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Transmission System Additions for Zone 2 (continued)**

<b>System additions</b>	<b>System need year</b>	<b>Projected in-service year</b>	<b>Planning zone</b>	<b>Need category</b>	<b>Planned, Proposed or Provisional</b>
Install 2-8.16 MVAR capacitor banks at M38 69-kV Substation	TBD	TBD	2	reliability	Provisional
Install 1-5.4 MVAR capacitor bank at MTU or Henry Street 69-kV Substation	TBD	TBD	2	reliability	Provisional
Rebuild/convert Holmes-Chandler 69 kV to 138-kV operation	2013	2013	2 & 4	reliability, condition	Provisional