

*Table PF-1
Projects included in the 2010 10-Year Assessment Model*

System additions	Planning zone
Construct new Hwy 22 345-kV Substation	1
Construct Gardner Park-Hwy 22 345-kV line	1
Rebuild Whitcomb-Caroline 138-kV line J-36	1
Construct Brandon-Fairwater 69-kV line	1
Construct 69-kV line from new Warrens Substation to the Council Creek-Tunnel City 69-kV line	1
Rebuild Arpin-Rocky Run 345-kV line	1
Construct Green Lake wind farm and related projects	1
Relocate Cedar Substation (North Lake)	2
Uprate Cornell-Chandler 69-kV line to 167 degrees	2
Rebuild/convert Conover-Plains 69-kV line to 138 kV	2
Construct 138 kV bus and install a 138/69 kV, 60 MVA transformer at Iron Grove Substation	2
Construct 138 kV bus and install a 138/69 kV, 60 MVA transformer at Aspen Substation	2
Install 2-16.33 MVAR capacitor bank at Perkins 138-kV Substation	2
Relocate Iron River Substation (Iron Grove)	2
Install 1-8.2 MVAR capacitor bank at Hiawatha 138-kV Substation	2
Install 1-4.08 MVAR capacitor bank at L'Anse 69 kV	2
Install 1-4.08 MVAR capacitor banks at Osceola 69 kV	2
Construct ring bus at the Pine River 69-kV Substation and replace 1-5.4 MVAR capacitor bank with 2-4.08 MVAR banks	2
Install 1-16.33 MVAR capacitor bank at Indian Lake 138-kV Substation	2
Install 1-8.16 MVAR capacitor banks at the M38 138-kV Substation	2
Construct Butler Ridge 138-kV Substation	3
Upgrade Sheepskin capacitor bank from 10.8 MVAR to 16.2 MVAR	3
Uprate Y-41 Walworth- North Lake Geneva 69-kV to achieve a 69 MVA summer emergency rating	3
Construct new Oak Ridge-Verona 138-kV line and install a 138/69-kV transformer at Verona with a 100 MVA summer normal rating	3
Construct second Paddock-Rockdale 345-kV line and replace 345/138-kV transformer T22 at Rockdale Substation	3
Uprate the Royster Substation terminals	3
Install 2-16.33 MVAR 69-kV capacitor banks at Spring Green Substation	3
Uprate 6632 Rockdale to Jefferson 138-kV line	3
Install 2-24.5 MVAR 138 kV capacitor banks at Artesian Substation	3
Convert Rock River to Bristol to Elkhorn 138-kV operation; rebuild Bristol with a new 138 kV bus	3
Construct a new 138-kV line from North Madison to Huiskamp	3
Construct a new 138/69-kV substation near Huiskamp and install a 138/69-kV transformer with a 187 MVA summer emergency rating	3
Uprate 58751 Boxelder to Stony Brook 138-kV line	3
Uprate Y-152 North Lake Geneva-Lake Geneva 69-kV line to achieve a 115 MVA summer emergency rating	3
Rebuild Stoughton Substation bus	3
Uprate X-8 Rockdale to Boxelder 138-kV line	3
Install one temporary 12.24 MVAR 69-kV mobile capacitor bank at Spring Green Substation	3

Table PF-1 (continued)
Projects included in the 2010 10-Year Assessment Model

System additions	Planning zone
Expand the existing 69-kV capacitor bank from 5.4 to 8.1 MVAR at Richland Center Olson Substation and install 1-7.8 MVAR 12.4-kV capacitor bank at Brewer Substation	3
Install 3-16.33 MVAR 138-kV capacitor banks at North Beaver Dam Substation	3
Rebuild the Y-119 Verona to Oregon 69-kV line	3
Construct Stony Brook wind farm and related projects	3
Install 2-24.5 MVAR Kilbourn capacitor banks	3
Construct Lafayette wind farm and related projects	3
Construct Bowers Road wind farm and related projects	3
Construct Randolph wind farm and related projects	3
Construct Whistling Wind wind farm and related projects	3
Construct Lake Breeze wind farm and related projects	4
Install 2-32 MVAR capacitor banks at Summit 138-kV Substation	5
Install 138/69-kV transformer at the expanded Menominee Substation	4
Expand the Menominee 69-kV Substation and install 138 kV terminals. Loop the West Marinette-Bay De Noc 138-kV line into the Substation	4
Rebuild Crivitz-High Falls 69-kV double circuit line	4
Rebuild Badger-West Shawano 138-kV line	4
Construct Morgan-Werner West 345-kV line	4
String a new 138-kV line from Clintonville-Werner West primarily on Morgan-Werner West 345-kV line structures	4
Rebuild White Clay-East Shawano 138-kV line	4
Construct Twin Creeks wind farm and related projects	4
Rebuild 2.37 miles of 69 kV from Sunset Point to Pearl Ave with 477 ACSR	4
Rebuild Badger-Clintonville 138-kV line	4
Uprate Oak Creek-Nicholson 138-kV line	5
Uprate Oak Creek-Root River 138-kV line	5
Construct a 138-kV bus at Pleasant Valley Substation to permit second distribution transformer interconnection	5
Expand 345-kV switchyard at Oak Creek to interconnect one new generator (Oak Creek Phase 1)	5
Expand Oak Creek 345-kV switchyard to interconnect one new generator (Oak Creek Phase 2)	5
Replace relaying on 230-kV circuits at Oak Creek	5
Replace two 345-kV circuit breakers at Pleasant Prairie Substation on the Racine and Zion lines with IPO breakers and upgrade relaying	5
Reconductor Oak Creek-Allerton 138-kV line	5
Install second 500 MVA 345/138-kV transformer at Oak Creek Substation	5
Replace CTs at Racine 345-kV Substation	5
Reconductor Oak Creek-Ramsey 138-kV line	5
Loop Ramsey5-Harbor 138-kV line into Norwich and Kansas to form a new line from Ramsey-Norwich and Harbor-Kansas 138-kV lines	5