

Table PR-16  
Zone 3 Transmission System Additions

<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 Y-61 McCue-Lamar 69-kV line to achieve 300 deg F line ratings and install 2-12.45 MVAR 69-kV capacitor banks at Lamar Substation	2008	2010	3	reliability (69B2)	Planned
Uprate the Royster Substation terminals	2010	2010	3	reliability (B2)	Planned
Uprate Y-61 Sheepskin-Dana 69-kV line to 95 MVA	2017	2010	3	reliability (69B2)	Planned
Uprate Y-40 Gran Grae-Boscobel 69-kV line to achieve a 99 MVA summer emergency rating*	2017	2010	3	reliability (B2, 69B2)	Planned
Replace two overhead Blount-Ruskin 69-kV lines with one underground 69-kV line	2010	2011	3	Completion of earlier project per agreement with the City of Madison	Planned
Install 2-16.33 MVAR 69-kV capacitor banks at Spring Green Substation	2011	2011	3	reliability (A, 69B3)	Planned
Install 1-32.66 MVAR 138-kV capacitor bank at Femrite Substation	2011	2011	3	reliability (A, C5)	Planned
Install 1-32.66 MVAR 138-kV capacitor bank at Kegonsa Substation	2011	2011	3	reliability (A, C5)	Planned
Rebuild Y-33 Brodhead to South Monroe 69-kV line	2011	2011	3	reliability (B2, 69B2, 69B3)	Planned
Uprate terminal limitations at McCue for the Y-79 McCue-Milton Lawns 69-kV line	2011	2011	3	reliability (69B2)	Proposed
Rebuild part of the Y-8 Dane-Dam Heights 69-kV line*	2015	2012	3	reliability, asset renewal, potential T-D interconnection	Planned

Table PR-16 (continued)  
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System Additions	System Need Year	Projected In-Service Year	Planning Zone	Need Category	Planned, Proposed or Provisional
Install 2-16.33 MVAR 69-kV capacitor banks at Nine Springs Substation	2006	2013	3	reliability (69B2)	Proposed
Uprate Fitchburg-Nine Springs 69-kV and Royster-Pflaum 69-kV lines and move AGA load to the Royster-Femrite 69-kV line	2006	2013	3	reliability (69B2)	Proposed
Install a 138/69-kV transformer at Bass Creek Substation	2010	2013	3	reliability (69B2)	Planned
Uprate X-12 Town Line Road-Bass Creek 138-kV line to 300 deg F	2010	2013	3	reliability (69B2)	Planned
Construct 345-kV line from Rockdale to West Middleton	2013	2013	3	reliability (B2, C5)	Planned
Construct a 345-kV bus and install a 345/138 kV 500 MVA transformer at West Middleton Substation	2013	2013	3	reliability (B2, C5)	Planned
Rebuild the Y-119 Verona to Oregon 69-kV line	2008	2014	3	reliability, condition (69B3, 69C3)	Proposed
Uprate 6927 West Middleton-Stage Coach 69-kV line to 106 MVA SE	2015	2015	3	reliability (69B2, 69B3)	Provisional

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Construct new 138-kV bus and install a 138/69-kV 100 MVA transformer at South Lake Geneva Substation	2016	2016	3	reliability (69B2)	Proposed
Construct new 138-kV line from North Lake Geneva to South Lake Geneva Substation	2016	2016	3	reliability (69B2), T-D interconnection	Proposed
Construct 69-kV double-circuit line between McCue and Lamar substations	2017	2017	3	reliability (A, 69B2), economics	Provisional
Install 2-24.5 MVAR 138-kV capacitor bank and 1-18 MVAR 69-kV capacitor bank at Brick Church substation	2017	2017	3	reliability (69B2)	Provisional
Rebuild Y-32 Colley Road-Brick Church 69-kV line	2013	2018	3	reliability (B2, 69B3, 69C5, C3) condition	Provisional
Install a second 100 MVA 138/69 kV transformer at Hillman Substation	2018	2018	3	reliability (69B2, 69B3)	Provisional
Install a second 138/69-kV transformer at Spring Green with a 100 MVA summer normal rating	2018	2018	3	reliability (69B3)	Provisional
Uprate Y87 North Monroe-South Monroe 69-kV line to 115 MVA SE	2018	2018	3	reliability (69B2)	Provisional
Install 1-16.33 MVAR 69-kV capacitor bank at Verona Substation	2018	2018	3	reliability (A, B2, B3)	Provisional
Install 2-16.33 MVAR 69-kV capacitor banks at North Monroe	2018	2018	3	reliability (B2)	Provisional
Construct Spring Valley-Twin Lakes-South Lake Geneva 138-kV line	2018	2018	3 & 5	T-D interconnection, reliability (69B2)	Provisional

Table PR-16 (continued)  
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Install 1-8.16 MVAR capacitor bank at Boscobel 69-kV Substation and upgrade existing 5.4 MVAR bank with an 8.16 MVAR bank	2019	2019	3	reliability (69B2)	Provisional
Uprate the 6986 Royster to Sycamore 69-kV line to 115 MVA	2019	2019	3	reliability (69B3)	Provisional
Install 2-16.33 MVAR 69-kV capacitor banks at Eden Substation	2019	2019	3	reliability (A, B2)	Provisional
Install 4-49 MVAR 138-kV capacitor banks at Concord Substation	2021	2019	3	reliability (B2)	Provisional
Uprate Y159 Brick Church-Walworth 69-kV line to 115 MVA	2021	2019	3	reliability (69B2)	Provisional
Install 2-16.33 MVAR 69-kV capacitor banks at Dam Heights	2021	2019	3	reliability (69B2), asset renewal, potential T-D interconnection	Provisional
Construct Cardinal-Blount 138-kV line	2020	2020	3	reliability (C5)	Provisional
Install 2-16.33 MVAR 69-kV capacitor banks at Sun Prairie	2020	2020	3	reliability (69B2, 69B3)	Provisional
Install 2-12.25 MVAR 69-kV capacitor banks at Mazomanie Substation	2020	2020	3	reliability (69B2)	Provisional
Construct a Lake Delton-Birchwood 138-kV line	2022	2020	3	reliability (B2)	Provisional
Uprate X-67 Portage-Trienda 138-kV line to 373 MVA	2022	2022	3	reliability (69B2)	Provisional

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Construct a Hubbard-East Beaver Dam 138-kV line	2022	2022	3	reliability (B2)	Provisional
Construct a 345-kV bus, install a 345/138-kV 500 MVA transformer at North Randolph and loop the Columbia to South Fond Du Lac 345-kV line into the substation	2025	2025	3	reliability (B2)	Provisional
Uprate Columbia 345/138-kV transformer T-22 to 527 MVA	TBD	TBD	3	reliability (B3)	Provisional