

**Table PR-21
New Substations, Transformer Additions and Replacements**

Identified need	Potential additions or replacements	Transformer Capacity (MVA)		System need year	Projected In-service year	Planning zone
		Install	Replace			
relieve overloads under contingency (69B3)	Install second 138/69-kV transformer and a 138-kV ring bus at Chandler Substation	60	0	2012	2012	2
relieve overloads under contingency (C3), replace aging facilities	Reconfigure Kewaunee 345/138-kV switchyard and install a second 500 MVA 345/138-kV transformer	500	0	2011	2011	4
relieve overloads under contingency (69A, 69B2, 69B3, 69C3)	Install 100 MVA 138/69-kV transformer at Dunn Road	100	0	2012	2012	4
economics, relieve overloads under contingency (B2, C3)	Install a 161/138-kV transformer at Council Creek Substation	100	0	2013	2013	1
relieve overloads under contingency (69B2)	Install a 138/69-kV transformer at Bass Creek Substation	100	0	2010	2013	3
relieve overloads under contingency (B2, C5)	Construct a 345-kV bus and install a 345/138 kV 500 MVA transformer at West Middleton Substation	500	0	2013	2013	3
relieve overloads under contingency (69B3)	Construct 18th Road 138/69-kV Substation and install two 138/69-kV transformers	120	0	2014	2014	2
relieve overloads under contingency (B2)	Install 138/69-kV 150 MVA transformer at Nine Mile	150	0	2014	2014	2
relieve overloads under contingency (B2)	Install 138/69-kV 150 MVA transformer at Pine River	150	0	2014	2014	2
relieve overloads under contingency (A, 69B2)	Replace Petenwell 138/69-kV transformer	60	33.0	2015	2015	1
relieve overloads under contingency (B1)	Construct a new Arnold 345-kV Substation and install a 345/138-kV transformer	500	0	2015	2015	2
relieve overloads under contingency (B3)	Replace two existing 345/138-kV transformers at Arcadian Substation with 1-500 MVA transformer	500	672	2010	2015	5
relieve overloads under contingency (A)	Replace existing 56 MVA Harrison 138/69-kV transformer with a 100 MVA transformer	100	56	2016	2016	1
relieve overloads under contingency (69B2)	Construct new 138-kV bus and install a 138/69-kV 100 MVA transformer at South Lake Geneva Substation	100	0	2016	2016	35
relieve overloads under contingency (A, 69B3)	Replace 138/69-kV transformer at Metomen Substation	100	47	2017	2017	1
relieve overloads under contingency (A, 69B2)	Install a second 138/69-kV transformer at Wautoma Substation	100	0	2018	2017	1
relieve overloads under contingency (69B3)	Replace existing Caroline 115/69-kV transformer	60	33	2018	2018	1

**Table PR-21
New Substations, Transformer Additions and Replacements**

Identified need	Potential additions or replacements	Transformer Capacity (MVA)		System need year	Projected In-service year	Planning zone
		Install	Replace			
relieve overloads under contingency (69B2, 69B3)	Convert Necedah distribution substation from 69 kV to 138 kV	N/A	N/A	2018	2018	1
relieve overloads under contingency (69B2, 69B3)	Install a second 100 MVA 138/69 kV transformer at Hillman Substation	100	0	2018	2018	3
relieve overloads under contingency (69B3)	Install a second 138/69-kV transformer at Spring Green with a 100 MVA summer normal rating	100	0	2018	2018	3
relieve overloads under contingency (69B3)	Replace two existing 138/69-kV transformers at Glenview Substation with 100 MVA transformers	200	116	2020	2020	4
relieve overloads under contingency (69B2, 69B3)	Install 138/69-kV transformer at Custer Substation	100	0	2022	2022	4
relieve overloads under contingency (69B3)	Replace two existing 138/69-kV transformers at Sunset Point Substation with 100 MVA transformers	200	142	2024	2024	4
relieve overloads under contingency (B2)	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	500	0	2025	2025	31
relieve overloads under contingency (B3)	Uprate Columbia 345/138-kV transformer T-22 to 527 MVA	527	400	TBD	TBD	31