



Transmission Services

Calculation Assumptions for the Cost of System Expansion

Assumptions That Went into the Calculation of the \$27.48/MWh for the Cost of System Expansion

Background Assumptions:

The costs are for 2 new 500 KV lines from Slatt to Captain Jack with the required station expansions and new series cap stations. The capacity would be increased by 1600 MW. The costs below include a 20% contingency to cover variations in costs (land, metal, etc).

Description	Description	Cost \$M	OH @ 30%
Two each Slatt-Grizzly 500 kV lines	Two 500 kV lines from Slatt to Grizzly. Estimated 107 miles. Used 2010 NOS estimates for Garrison-Ashe @ \$2,425k per mile, per line.	\$519	\$156
Two each Grizzly-Captain Jack 500 kV lines	Two 500 kV lines from Grizzly to Captain Jack. Estimated 175 miles. Used 2010 NOS estimates for Garrison-Ashe @ \$2,425k per mile, per line.	\$849	\$255
Slatt Additions	Expand Slatt yard 2 bays, add 4 new 500 kV PCB's. This was based on typical estimates for a 500 kV, 3-PCB end terminal expansion.	\$11	\$3
Buckley Additions	Build New Buckley Substation. Used Diamond Butte Phase 2 estimates.	\$36	\$11
Grizzly Additions	Expand Grizzly yard 2 bays, add 4 new 500 kV PCB's. This was based on typical estimates for a 500 kV, 3-PCB end terminal expansion.	\$11	\$3
Captin Jack Additions	Expand Captain Jack yard 2 bays, add 4 new 500 kV PCB's. This was based on typical estimates for a 500 kV, 3-PCB end terminal expansion.	\$11	\$3
Slatt-Grizzly Series Caps	Series Cap Group. Used 2010 NOS Series Cap costs from Garrison-Ashe @ \$13M per station	\$13	\$4
Sand Springs, Fort Rock, Sycan, Series Caps	Series Cap Groups. Used 2010 NOS Series Cap costs from Garrison-Ashe @ \$13M per station	\$39	\$12
Communications, Control and RAS	Communications. Used communications estimates from 2010 NOS Garrison-Ashe	\$4	\$1
Subtotal		\$1,493	\$448
Contingency (@25%)		\$373	\$112
Total		\$1,866	\$560
Grand Total		\$2,426	

