

Basin - New Build - Neset to Northshore (1.25" ice)	Line Length (miles): 30;		Voltage (kV): 230	
	ACSR/TW	TS Economic	TS Option	TS Alloy Economic
	645 - BITTERN	304 - TS 1270	767 - TS Bittern BC150 9.5 (33.6)	315 - TS 1270 Alloy
Diameter (in.):	1.35	0.86	1.32	0.86
Aluminum Area (kcmil):	1272	600.3	1512.9	621.1
Rated Strength (lbf):	34100	39320	53990	29900
DC Resistance at 20°C (ohms/kft):	0.0135	0.0278	0.0111	0.0276
Ampacity (A) at Temperature (°C):	Total Peak Operating Amps: 1270; Load Factor: 0.5			
Ampacity (A) at Maximum Temp (°C):	1215 (90 C)	1271 (200 C)	2255 (200 C)	1305 (200 C)
Wind / Ice or Cold Temperature Sag/Tension	Temperature (°C): -20; Windspeed (mph): 40; Radial Ice Thickness (in.): 1.25; Ruling Span (ft): 800/800/800/800			
Maximum Thermal Sag (ft):	23.7 (90 C)	7.01 (200 C)	14.85 (200 C)	12.9 (200 C)
Maximum Ice or Wind Vertical Sag (ft):	23.96	23.65	23.95	23.80
Total Tower Tension (lbf):	19777	14763	19793	14687
% RTS:	58%	38%	37%	49%
Line Losses (30 miles, 1270 Peak Amps)	Load Factor: 0.5; Cost of Energy Generation (USD\$/MWh): 60			
First Year Line Losses (MWh):	35057	93982	28360	87197
Line Loss Savings of Conductor (USD\$/ft/Year):			\$0.85	
Reduces 30 year line loss by (USD\$):			\$12,054,089.70	
Reduces 30 year CO ₂ generation by (MT):			102,064	
Cost & Benefit Analysis For 1 Mile Circuit (Annualized Unless Specified)				
Conductor Budget Price (\$/ft)	\$2.50	\$2.75	\$5.00	\$2.50
Conductor Cost (\$/mile)	\$39,600	\$43,560	\$79,200	\$39,600