

April 2000

## SURGE IMPEDANCE LOADING

	<b>Voltage</b>	<b>MW</b>	<b>New Estimate</b>
		1,000	\$1,200/mi
		500	\$1,000/mi
\$900/mi	345 kV	298	\$900/mi
\$700/mi	230 kV	132	\$700/mi
\$500/mi	115 kV	33	\$500/mi
\$300/mi	69 kV	12	\$250/mi
\$300/mi	57 kV	8	\$250/mi
\$125/mi	41.6 kV	4	\$125/mi

The Square Butte DC line, operated by Minnesota Power, is rated at +/-250 kV DC and has a nominal power transfer capability of 500 MW. The CU DC line, operated by United Power Association, is rated +/-500 kV DC and has a nominal power transfer capability of 1,000 MW with a continuous overload rating of 1,100 MW. These two DC facilities are limited by the inverter and converter equipment located at each end of the DC lines.