

23.4.1 Transmission Line Reliability

Capacity Under Extreme Wind, Ice and Wind, and Extreme Ice Conditions:

The proposed transmission line is designed in accordance with the following National Electric Safety Code (NESC) loading criteria with regard to extreme wind, ice and wind, and extreme ice. For extreme wind, the design capacity is 92 mph with no ice and overload capacity of 1.1 for steel/1.33 for wood. For ice and wind, the design capacity is 0.5 inch radial ice on all conductor/structure surfaces with 40 mph winds and overload capacity of 2.5 for steel/4.0 for wood. For extreme ice, the design capacity is 1.5 inch radial ice on all conductor/structure surfaces with 40 mph winds and overload capacity of 1.0 for steel/1.0 for wood.

These design criteria are considered conservative by utility standards and utilize the industry standard assumption that icing conditions are rarely present during conditions of extremely high sustained winds (in excess of 40 mph).

