

CORRELATION BETWEEN WIND SPEED AND OVERHEAD LINE TEMPERATURE AND ITS APPLICATION TO OVERHEAD SYSTEM DESIGN

One of the major parameters in overhead system design is the allowable lateral displacement of the contact wire. The components which make up this deflection include blow-off, structure deflection under wind, and lateral movement of the registration points due to the swing of cantilevers or registration assemblies as the wire expands or contracts with the change in temperature. It is usual to add these components together when calculating contact wire deflection, however, heating of the conductors by solar radiation and passage of current is at its highest at minimum wind speed, falling sharply with increasing wind speed.

Previous research into weather patterns had shown that maximum wind speeds rarely occur at extreme temperatures. Further study into this statement is the subject of the report. The report describes the data collected and the interpretations made.