System Planning Technical Criteria

CA-20 (b)
Attachment C

NEWFOUNDLAND POWER
A FORTIS COMPANY

TABLE 1: CONDUCTOR AMPACITIES AT 0°C AND 0.61 m/s WIND

Conductor	Average Span Length m	Conductor Temperature °C	Ampacity Rating at 0°C and 0.61 m/s wind and max 228 mm (9 in) phase to neutral clearance (A)
477 ASC	≤ 45.7 (150 ft)	75	785
477 ASC	45.7 - 53.3	60	716
4/0 AASC	≤ 53.3 (175 ft)	75	474
1/0 AASC	≤ 53.3	75	303
#2 AASC	≤ 53.3	75	225
#2 ACSR	≤ 53.3	75	224
#2 Cu	≤ 53.3	75	290
#4 Cu	≤ 53.3	75	203

Normal Loading Limits

Under Normal System Conditions, the ambient weather conditions are not monitored, therefore, the ratings are based on ambient conditions of 0°C and 0.61 m/s wind during the winter and 25°C and 0.61 m/s during summer.

Abnormal System Conditions

The Normal Loading limits apply unless the ambient weather conditions are known. The ambient conditions can then be used to allow overloading of the line.

4.3.2 APPLICATION GUIDELINES

When specifying new or upgrading aerial distribution or transmission lines, consideration must be given to voltage class and conductor size.

Selecting Conductor Size:

Generally the selection of the type of conductor to be used on aerial lines is dependant on the following parameters:

- Expected maximum electrical demand expected over the life of the transmission/distribution line.
- Effect of conductor on voltage drop
- Effect of conductor on losses