Input Data

TV Latitude: 46 47 21. North
TV Longitude: 92 6 51. West

TV ERP = 100.000 kilowatts
TV HAAT = 302.00 meters

FM NCE Latitude: 47 44 21. North
FM NCE Longitude: 94 41 10. West

FM Channel = 208

Horizontally Polarized FM ERP = 5.000 kilowatts
Vertically Polarized FM ERP = 5.000 kilowatts
FM HAAT = 40.00 meters

Adjustments:

Selection made that all interference will fall **outside** any community with a population of 50,000 or more.

The equivalent FM ERP used to predict the distance to noncommercial educational FM F (50,10) interfering contour is determined by the equation

ERP = ERPH + (ERPV/40) = 5.000 + (5.000/40) = 5.125 kW [factor of 40]

where ERP is the adjusted FM station ERP, ERPH is the horizontally polarized FM ERP, and ERPV is the vertically polarized FM ERP.

Distance from TV to FM = 221.460 kilometers
TV to FM azimuth = 299.499 degrees (referenced to True North)
FM to TV azimuth = 117.610 degrees (referenced to True North)

This analysis does not consider the effects of terrain on the FM or TV stations' signals. Directional FM or TV patterns are also not considered.

No interference within the TV Channel 6 Grade B contour !

Distance to the TV Grade B contour = 103.73 km

FM F(50,10) interfering contour = 72.30 dBu

Distance to the FM interfering contour = 8.59 km