

Engineering Discussion

WNFR proposes to reduce the ERP from 50 kW directional to 42 kW directional. This reduction is required because the antenna manufacturer is unable to create a pattern that meets FCC rules as specified in construction permit. All domestic protections are easily met in this proposal due to ERP reduction, however a slight increase in ERP is requested with respect to the Paris, ON allocation. This slight increase is allowed under Directional Antenna Section 3.6 of the US – Canadian Working Arrangement of 1947 as amended. Section 3.6 states that:

“In the direction of the limitation, a station using a directional antenna may not exceed the notified pattern values. In all other directions, the radiation pattern may not exceed the notified pattern value by more than 2 dB.”

WNFR is a specially negotiated short-spaced allotment limited to 2.85 kW and 180 meters towards 214B Paris, ON. (AZ 86.2°). In this instant application the ERP on the 86.2° radial will be only 2.4 kW, which is less than limit. All other values fit within 2 dB limits of the treaty. The table below contains the previously notified values, notified values plus the 2 dB limit, and the proposed ERP. Since the original application proposed 50 kW and this instant application is proposing 42 kW it was necessary to convert everything from “field” values to ERP for comparison. By comparing the last two columns of the table below we find this does not exceed limits of the Working Arrangement. According to the treaty it is not necessary to demonstrate contour protection at this stage as long it is inside the 2 dB limit, however we have included a contour map showing that no contour overlap occurs with the Paris, ON allocation (See Map Below).

The actual antenna pattern values obtained from the antenna manufacturer's test data are used between 40° and 120° degrees. The slope of these field values is more than what is normally used for commercial stations under 73.316, however this rule doesn't apply to non-commercial stations. Current staff policy is requiring non-commercial station to protect other domestic stations with the slope requirement over the arc of their protected contour. Neither of those is the case here, as this null is toward Lake Huron where there are no other domestic assignments of concern.

In a recent telephone conversation with James McLuckie and George Gwinn of the FCC, the preparer of this application asked an informal opinion of the proposal contained herein in some detail, and was given a favorable response to its acceptability. In conclusion, we believe it is not necessary for this proposal to be renegotiated with respect to Canada and can be granted immediately. (Please note: a request to expedite processing of this application is forthcoming due to limited time left on permit and upcoming inclement winter weather).

Table Of ERP Toward Paris Ontario Allocation

Degrees	Notified ERP	Notified ERP + 2 dB	Proposed ERP
30.0	19.9	31.5	17.2
40.0	12.6	19.9	12.93
50.0	7.92	12.6	9.71
60.0	4.99	7.92	6.92
70.0	3.15	4.99	4.74
80.0	2.69	4.26	2.60
86.2	2.69	2.85 (Negotiated Limit)	2.40
90.0	2.69	4.26	2.58
100.0	3.15	4.99	4.22
110.0	4.99	7.92	7.16
120.0	7.92	12.6	9.80
130.0	12.6	19.9	11.7
140.0	19.9	31.5	11.4

**Exhibit Demonstrates No Contour Overlap With Paris, ON Allocation Using
Maximum Class “B” Facilities:**

