

4545-2

December 9, 1994

Mr. Bruce França  
Deputy Chief Engineer  
Office of Engineering and Technology  
Federal Communications Commission  
2025 M Street N.W.  
Washington, D.C.  
20554 U.S.A.

Dear Mr. França:

During the Federal Communications Commission/Industry Canada Radio Technical Liaison Committee meeting of August 31-September 1, 1994, it was recognized that subsection 3.3 and section 4 of the *Interim Arrangement Concerning the Use of the Bands 821 to 824 MHz and 866-869 MHz* and of the *Interim Arrangement Concerning the Use of the Bands 896 to 901 and 935-940 MHz* could lead to different interpretations, and that a clarification was required. The attached text which was finalized in follow up exchanges provides for such clarification. If you agree, the amendment will be applied until such a time as the arrangements are reviewed.

Further, as an interim measure, the attached text shall be deemed to apply to the 806-821/851-866 MHz band covered by the *Arrangement Between the Department of Communications of Canada and the Federal Communications Commission of the United States Concerning the Use of the Band 806 to 960 MHz along the Canada-United States Border*. The attached text will be included as a new provision when the arrangement is formally reviewed.

Please confirm your acceptance of the above as an understanding between our two Agencies by signing below.

Yours truly,

Robert W. McCaughern  
Deputy Director General  
Spectrum Engineering

Att.

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Mr. Bruce A. França  
December 10, 1994

## ANNEX A

### Use of Frequencies Allotted to One Agency by the Other Agency

Frequencies primarily allotted for unrestricted use of one Agency may be assigned by the other Agency for use in its country under the following conditions:

- (a) The predicted maximum power flux density (PFD) of the signal at the border, calculated using free-space propagation (taking into account any antenna discrimination in the direction of the border), does not exceed the limits specified in Annex B, Tables C1 and C2.
- (b) In Sharing Zone II, in recognition of special topographical conditions, the use of a modified Longley-Rice point-to-point propagation model, with time and location variabilities of 10%<sup>1</sup> and standard 3 arc-second digitized terrain data<sup>2</sup>, is permitted; in which case the limit for the predicted maximum PFD shall be -107 dBW/m<sup>2</sup>, at or beyond the border.
- (c) Authorizations for stations using these frequencies will include a clause on the authorization documents issued by each Agency stating that any such authorization is subject to the condition that in the event the actual signals exceed the value of -107 dBW/m<sup>2</sup> at or beyond the border, the Agency granting the authorization will take immediate action to eliminate any interference. This action could include revocation of the authorization.

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<sup>1</sup> G.A. Hufford, A.G. Longley, and W.A. Kissick. *A Guide to the Use of the ITS Irregular Terrain Model in the Area Prediction Mode*. NTIA Report 82-100. [Available from U.S. Department of Commerce, National Technical and Information Service (NTIS), Springfield, VA 22161, Accession number PB 82-217977.]

A.G. Longley and P.L. Rice. *Prediction of Tropospheric Radio Transmission Loss Over Irregular Terrain - A Computer Method 1968*, ESSA Technical Report ERL 79-ITS 67. [Available from NTIS, Accession number AD-676-874.]

P.L. Rice, A.G. Longley, K.A. Norton, and A.P. Barsis. *Transmission Loss Predictions for Tropospheric Communication Circuits*, National Bureau of Standards Technical Note 101, Volumes I and II, [Available from NTIS, Accession numbers AD-687-820 and AD-687-821.]

<sup>2</sup> For data covering the United States: *Level I - Digital Terrain Elevation Data*, United States Defense Mapping Agency. These data are available from the: United States Geological Survey, 507 National Center, Reston, VA 22093; USA, as *Digital Elevation Model Data* in 1° x 1° units. Two of these units are required to cover each 1° x 2° map (1:250,000-scale quadrangle) from which the data were produced.

For data covering Canada: *Level I - Digital Terrain Elevation Data*. These data are available from: Department of Energy, Mines and Resources, Canada Center for Mapping, Topographical Mapping Division, 615 Booth Street, Ottawa, Ontario K1A 0E9, Canada.

(d) Such authorizations will not be entitled to protection from stations in the country that has the primary use of the authorized frequency.

## ANNEX B

### Table C1

Effective Antenna Height (EAH)		PFD dBW/m <sup>2</sup> (Maximum)
Meters	Feet	
0 - 152	0 - 500	-84
153 - 305	501 - 1000	-90
306 - 457	1001 - 1500	-95
458 - 609	1501 - 2000	-98
610 - 762	2001 - 2500	-101
763 - 914	2501 - 3000	-101
915 - 1066	3001 - 3500	-103
1067 - 1219	3501 - 4000	-104
Above 1219	Above 4000	-104

Limits of Power Flux Density (PFD) Corresponding to Effective Antenna Heights of Base Stations in Sharing Zones I and III.

### Table C2

Antenna Height Above Mean Sea Level		PFD dBW/m <sup>2</sup> (Maximum)
Meters	Feet	
0 - 503	0 - 1650	-87
504 - 609	1651 - 2000	-88.5
610 - 762	2001 - 2500	-91
763 - 914	2501 - 3000	-92.5
915 - 1066	3001 - 3500	-94
1067 - 1219	3501 - 4000	-95
1220 - 1371	4001 - 4500	-95.5
1372 - 1523	4501 - 5000	-96
Above 1523	Above 5000	-107

Limits of Power Flux Density (PFD) Corresponding to Antenna Heights Above Mean Sea Level of Base Stations in Sharing Zone II.