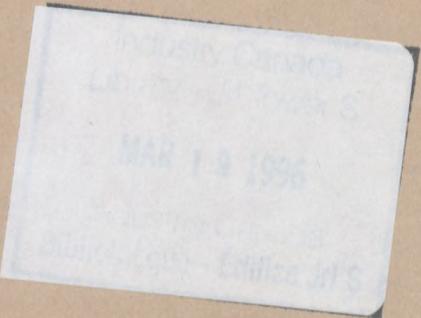


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**AGREEMENT BETWEEN THE GOVERNMENT OF CANADA  
AND THE GOVERNMENT OF THE UNITED STATES OF AMERICA  
RELATING TO THE TV BROADCASTING SERVICE  
AND THE ASSOCIATED WORKING ARRANGEMENT**

**NOVEMBER 1993**



**RADIOCOMMUNICATIONS AND BROADCASTING REGULATORY BRANCH**

Canada

Canadian Embassy



Ambassade du Canada

Washington, November 3, 1993

Note No. 192

Dear Secretary Christopher,

I have the honour to refer to the Agreement between Canada and the United States of America effected by the Exchange of Notes dated April 23 and June 23, 1952, -- in force on June 23, 1952, as amended by the Exchange of Notes dated February 26 and April 7, 1982 on the allocation of channels for television broadcasting (the 1952 Agreement); and to the recent discussions between representatives of both governments concerning the use of the 54 to 72 MHz, 76 to 88 MHz, 174 to 216 MHz and 470 to 806 MHz frequency bands for television broadcasting. Furthermore, I have the honour to propose that the above-mentioned Agreement be replaced by the following.

The Honourable Warren M. Christopher  
Secretary of State  
Department of State  
Washington, D.C.

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In order to prevent undue interference between stations in the respective countries, the allotment and assignment of channels in areas adjacent to the border of Canada and the United States of America shall be in accordance with the conditions set forth herein and in the attached Working Arrangement.

For the purpose of this Agreement, the expression "Administrations" refers to the Department of Communications for Canada and the Federal Communications Commission for the United States of America. The Administrations shall exchange information and co-operate with each other for the purpose of minimizing interference and obtaining maximum efficiency in the use of television broadcast channels. To this end, the Administrations have accepted the attached Working Arrangement, including its Annexes. Tables A and B of Annex VI of the Working Arrangement may be revised by direct correspondence between the Administrations. The Administrations shall, as necessary, review the Working Arrangement and its implementation in the light of domestic and international developments. Amendments to the Working Arrangement, other than revisions to Tables A and B of Annex VI, shall be accomplished by Exchange of Notes between the two Governments.

Notification of proposed revisions to Tables A and B shall be made to the other Administration in accordance with the provisions of the Working Arrangement. Assignments made within 400 kilometres of the border shall be in accordance with these Tables, as revised, and shall be notified in accordance with the provisions of the Working Arrangement.

Assignments made at points which are more than 400 kilometres from the nearest point on the border of Canada and the United States of America will normally have no international significance and need not be notified except in cases of unusual operating parameters where the possibility exists that interference could be caused to stations of the other Administration.

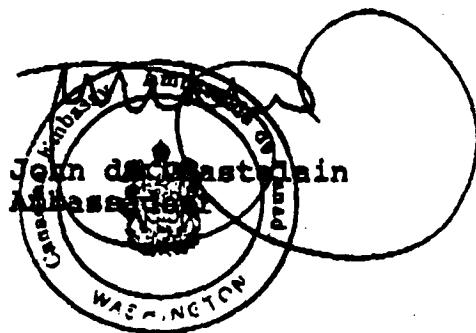
This Agreement may be amended through Exchange of Notes between the two Governments.

Either Government may terminate this Agreement at any time by giving written notice to this effect at least one year prior to the date contemplated for such termination.

Upon entry into force the present Agreement shall supersede the 1952 Agreement as amended.

If the foregoing proposals are acceptable to the Government of the United States of America, I have the honour to propose that this Note and the Attached Working Arrangement, which are authentic in English and French, and your Note in reply shall constitute an Agreement between the Government of Canada and the Government of the United States of America, which shall enter into force on the date of your reply.

Accept, Mr. Secretary, the renewed assurances of my highest consideration.



WORKING ARRANGEMENT  
FOR ALLOTMENT AND ASSIGNMENT  
OF VHF AND UHF TELEVISION BROADCASTING CHANNELS  
UNDER THE AGREEMENT BETWEEN THE  
GOVERNMENT OF THE UNITED STATES OF AMERICA  
AND THE GOVERNMENT OF CANADA RELATING  
TO THE TV BROADCASTING SERVICE

EFFECTIVE DATE: March 1, 1989

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## ANNEX

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WORKING ARRANGEMENT  
FOR ALLOTMENT AND ASSIGNMENT  
OF VHF AND UHF TELEVISION BROADCASTING CHANNELS  
UNDER THE AGREEMENT BETWEEN THE  
GOVERNMENT OF THE UNITED STATES OF AMERICA  
AND THE GOVERNMENT OF CANADA RELATING  
TO THE TV BROADCASTING SERVICE

1.

PREAMBLE

Mutual undertakings concerning the allotment and assignment of television broadcast channels by Canada and the United States in the area lying within 400 km of their common border are set out in the Agreement between the Government of the United States of America and the Government of Canada relating to the TV broadcasting service (1989 TV Agreement). The Arrangement set out herein states the basis upon which the Canadian and U.S.A. Administrations shall consider responses to border area television channel allotments and assignments proposed by the other Administration pursuant to the Agreement.

2.

DEFINITIONS

2.1

Channel Designation

TV broadcast channels are 6 MHz wide and are allotted in the frequency bands 54 to 72 MHz, 76 to 88 MHz, 174 to 216 MHz and 470 to 806 MHz. Refer to Annex I for channel designations. Frequency band 608 to 614 MHz, Channel 37, is allocated to the Radio Astronomy Service, and is therefore not available for broadcast use.

2.2

Primary Assignment

A primary assignment is a protected station assignment authorized or operating on an allotted channel.

2.3

Secondary Assignment

A secondary assignment is an unprotected station assignment authorized or operating on a channel in accordance with Section 2.14.

2.4

Unlimited Allotment

An unlimited allotment is one on which a station may operate with standard parameters.

2.5      Limited Allotment

A limited allotment is one on which a station for any reason is required to operate with less than the standard parameters.

2.6      Effective Height Above Average Terrain (EHAAT)

Effective height above average terrain is the height of the centre of radiation of the antenna above average elevation of the terrain between 3 and 16 km from the antenna for 8 radials spaced evenly each 45 degrees of azimuth starting with true north.

2.7      Effective Radiated Power (ERP)

Effective radiated power is the product of the antenna input power and the power gain of the antenna relative to a half-wave dipole.

2.8      Standard Parameters

Standard parameters are an EHAAT of 300 metres and a maximum ERP, in any horizontal or vertical direction, of 100 kW for Channels 2-6, 325 kW in Canada and 316 kW in the United States<sup>1</sup> for Channels 7-13, and 1,000 kW for Channels 14-69.

2.9      Maximum Parameters

For limited allotments, the maximum parameters are the maximum values of EHAAT and ERP determined from the distance between allotments and assignments in accordance with protection requirements of Section 3. For unlimited allotments, the maximum ERP for channels 2-13 shall not exceed the values in Section 2.8 and for channels 14-69 shall not exceed 5000 kW.

2.10     Operating Parameters

Operating parameters are the EHAAT and ERP actually used.

2.11     Directional Antennas

Directional antennas are those which are designed or altered to produce a non-circular radiation pattern in the horizontal plane.

- 
1. The reason for this power difference is that, in the United States, the maximum power is specified as 25 dBk (dBk is decibels above 1 kW), which equals 316 kW, while in Canada the maximum power is specified as 325 kW, which equals 25.1 dBk.

2.12 Zones

For co-channel allotment purposes and optimum use of channels, both Canadian and the United States of America border areas are divided into two zones as described in Annex II.

2.13 Protected Contour

The protected contour is the Grade B contour, i.e. 47 dBu (dB above 1 uV/m) for channels 2-6, 56 dBu for channels 7-13 and 64 dBu for channels 14-69, but not exceeding distances as specified in Section 3.1.

2.14 Low Power Television Broadcasting Stations

Low power television broadcasting stations are secondary assignments which operate with a transmitter peak envelope power not exceeding 50 watts VHF and 500 watts UHF in Canada, and 100 watts VHF and 1,000 watts UHF in the United States. These stations operate on a non-interference non-protected basis with respect to existing or future primary assignments; however, they are assigned on a protected basis with respect to each other according to their date of notification. Refer to Section 5.4.

3. BASIC PRINCIPLES

3.1 Calculation of Protected Contour

3.1.1 For channels 2-6, 7-13 and 14-69, the distances to the protected contours shall be based on maximum allowable parameters and are calculated using the F(50,50) propagation curves in Figures 1, 3 and 5 of Annex V respectively, but shall not be considered to extend beyond 89 km for channels 2-6, 82 km for channels 7-13, or 70 km for channels 14-69. However, these limitations shall not apply when calculating interference from secondary assignments.

3.1.2 When the field strength corresponding to the protected contour extends beyond the boundary of the country in which the station is located, protection shall terminate at the border. That portion of the boundary lying within the protected contour shall be considered as the location of the said contour for purposes of protection.

3.1.3 For protection purposes, the boundary of a country shall be deemed to encompass only its land area including islands.

3.2 Co-channel Protection

3.2.1 VHF and UHF co-channel protection criteria are specified in Table I of Annex IV.

- 3.2.2 If a proposed or existing allotment under consideration is located within either the Canadian or the United States Zone I, the Zone I minimum separations and maximum F(50,10) field strength values in Table I shall be used. If said allotments are in Zone II, the Zone II minimum separations and maximum F(50,10) field strength values shall be used.
- 3.2.3 Objectionable interference shall be considered to exist if the F(50,10) field strength value at the protected contour exceeds the appropriate maximum F(50,10) field strength value given in Table I.
- 3.2.4 Although there is no limit on the maximum value for EHAAT, in cases where the EHAAT exceeds 600 m, the ERP for an unlimited allotment must be reduced so that the distance to the F(50,10) interfering contour is equivalent to that resulting from the maximum permitted ERP for the channel proposed and an EHAAT of 600 m. The F(50,10) interfering contour shall be determined using the appropriate maximum F(50,10) field strength value from Table I.

3.3 Other Channel Protections<sup>1</sup>

3.3.1 For VHF first adjacent channels, the minimum distance separation between Canadian and United States allotments shall be 95 km.

3.3.2 For UHF channels having restricted relationships known as the "taboos", the minimum distance separations between Canadian and United States allotments are as follows:

- First Adjacent ( $n \pm 1$ )	90 km
- Intermodulation ( $n \pm 2,3,4,5$ )	30 km
- Local Oscillator Radiation ( $n \pm 7$ )	95 km
- Intermediate Frequency Beat ( $n \pm 8$ )	30 km
- Sound Image ( $n \pm 14$ )	95 km
- Picture Image ( $n \pm 15$ )	120 km

Where "n" is the number of the reference channel.

3.3.3 The use of operating parameters greater than standard parameters shall be allowed for channels 14-69, provided the ERP does not exceed 5000 kW and the protection criteria in Table II of Annex IV are met.

- 
1. Due to the frequency spacing which exists between Channels 4 and 5, between Channels 6 and 7, and between Channels 13 and 14, the minimum distance separations between first adjacent channels shall not be applicable to these pairs of channels.

3.4

Computation of Distance and Azimuth

Where transmitting antenna sites have been established the distance and azimuth shall be determined using the coordinates of the transmitter sites. If a transmitter site has not been established the community's reference coordinates (the post office or if not existant, the coordinates of the centre of the city) shall be used. Refer to Annex III for the method of calculating distance and azimuth.

3.5

Directional Antennas

Directional antennas may be used by stations on limited allotments to render protection to other stations or by stations on unlimited allotments to provide better service. The radiation from a directional antenna must not exceed the notified radiation pattern value in any direction where protection is being provided. In all other directions, the radiation may not exceed the notified pattern value by more than 2 dB. Moreover, the ratio of maximum to minimum fields of a directional antenna shall not be greater than 20 dB except where terrain will present a reception problem due to signal reflections. Where beam tilt is used, the effective radiated power shall be that calculated using the maximum radiation from the antenna in the plane of maximum radiation. Use of a directional antenna on an unlimited allotment shall not change the location of the protected contour (as defined in Section 3.1.1), which remains based on operation with an omnidirectional antenna.

3.6

Circular or Elliptical Polarization

All TV stations shall normally use horizontally polarized antennas; however, circular or elliptical polarization may be employed. The maximum ERP in any plane of polarization shall not exceed the maximum permissible ERP.

4.

TABLES AND FIGURES

4.1

Allotment Tables

Tables A and B of Annex VI contain all Canadian and U.S. allotments, respectively, on Channels 2 through 69 made to communities within 400 km of the common border.

4.2

Table I

Table I specifies the minimum separations and the maximum interfering  $F(50,10)$  field strength value permitted at the protected contour for VHF and UHF co-channel allotments and assignments, based on channel offset and non-offset operation.

4.3      Use of Table I

4.3.1    The minimum separations for each zone must be satisfied.

4.3.2    Determine the azimuth and distance to the most restrictive point(s) on the protected contour.

4.3.3    Using the EHAAT, and maximum ERP at the pertinent azimuth, the maximum co-channel field strength must not exceed the value in Table I, using appropriate F(50,10) curves.

4.4      Table II

Table II specifies the protection criteria for UHF assignments whose parameters exceed 1000 kW ERP and/or 300 metres EHAAT.

4.5      Use of Table II

4.5.1    The minimum separations specified in Section 3.3.2 must be satisfied.

4.5.2    If the separation is less than the value shown in the Table II column entitled "Maximum Separation Requiring Study", proceed to the following, more detailed calculations.<sup>1</sup>

4.5.3    The values in the "Reference Distance"<sup>2</sup> column in Table II indicate the point nearest to the protected station at which the field strength value specified in the column in Table II labeled "Maximum Field Strength At Reference Distance" may occur. Where the reference distance from the Table extends beyond the boundary of the country in which the station is located, the applicable field strength value may occur on that portion of the boundary lying within the reference distance. For this procedure, the boundary of a country is considered to encompass only its land area, including islands. Objectionable interference is considered to exist if these criteria are exceeded.

4.5.4    The field strength of the proposed station at the reference distance is determined, based on the maximum ERP at the pertinent azimuth and EHAAT, using the F(50,10) curves in Figure 6 if the study is co-channel, and using the F(50,50) curves in Figure 5 if the study is not co-channel.

- 
1.    The separations in this column were calculated based on maximum parameters of 5,000 kW ERP and 600 metres EHAAT for the proposal.
  2.    The reference distances are based on standard parameters of 1,000 kW ERP and 300 metres EHAAT.

**4.6      Use of Figures 1 to 6**

- 4.6.1** Figures 1 to 6 are based on an effective power of 1 kW radiated from a half-wave dipole in free space which produces an unattenuated field strength at one kilometre of about 107 dB above 1 uV/m (221.8 mV/m). For an ERP other than 1 kW, the ordinate scale (field strength in dB above 1 uV/m for 1 kW ERP) should be changed by the appropriate dB value.
- 4.6.2** The F(50,50) curves in Figures 1, 3 and 5 give the estimated field strength in dB above 1 uV/m exceeded at 50% of the locations for at least 50% of the time for channels 2-6, 7-13 and 14-69, respectively.
- 4.6.3** The F(50,10) curves in Figures 2, 4 and 6 serve the same purpose as Figures 1, 3 and 5 except that they give the estimated field strength exceeded at 50% of the locations for at least 10% of the time for channels 2-6, 7-13 and 14-69, respectively.

**5.      PROCEDURES FOR NOTIFICATION**

**5.1      General**

- 5.1.1** Proposed assignments, allotments and changes thereto, shall be notified by an exchange of correspondence between the Federal Communications Commission and the Department of Communications; such proposals may be presumed to be acceptable if they conform to the technical criteria set out in this Arrangement. Each Administration shall have forty-five (45) days, from the date of receipt of the notification, to reply thereto. If an objection is raised in this period, the letter shall state, with as much particularity as the circumstances permit, the basis for the objection. The proposing Administration may then have an opportunity to meet the stated objection by suitable amendments to its proposal. If no reply is sent within the 45 day period prescribed, a notified proposal shall be considered approved. In all cases, notification procedures shall be completed prior to domestic grant of authorization.
- 5.1.2** Each calendar quarter, the Administrations shall forward to each other a recapitulation of all notifications made during that three month period. Each year both Administrations shall exchange, verify and reconcile the complete database.

**5.2      Notification of Changes to Allotments**

- 5.2.1** Notification of changes to allotments shall contain community name, state or province, reference coordinates and pertinent channel changes.

5.2.2 Proposed allotments which do not conform to the protection criteria set out in the Arrangement may be established upon written acceptance by both Administrations.

5.2.3 The notifying Administration shall specify whether the notified allotment is unlimited or limited to protect allotments and assignments in the other country and it shall state the applicable limitations.

5.3 Notification of Station Assignments

Notification of station assignments or changes in operating parameters of existing stations shall set out the actual operating parameters which shall be employed (refer to Section 5.5). These may be less than the maximum allowable parameters for the allotment. The use of lesser operating parameters initially shall not preclude the later use of the parameters on which the allotment was accepted.

5.4 Assignment of Low Power Television Stations

5.4.1 Proposed low power television stations within 32 km of the common border which are not on allotted channels in accordance with the Agreement shall be referred to the other Administration for approval (refer to Section 5.5). A co-channel protection ratio of 45 dB shall be provided at the Grade B contour of the protected station using the appropriate F(50,10) curves<sup>1</sup>. Moreover, any proposal which is located more than 32 km from the border but whose F(50,10) interfering contour based on its specific parameters, would fall within the territory of the other country, shall be referred to the other Administration for approval. Proposals for low power stations not on allotted channels, at locations in excess of 32 km from the border, whose interfering F(50,10) contour would not fall within the territory of the other country, may be authorized without referral or notification.

5.4.2 Should any interference be caused by a low power television station to a primary or previously notified low power television assignment, the offending station must immediately change to a suitable channel or cease operation. The use of a channel by a low power television station as defined herein shall not prejudice in any manner the use of this channel for a primary assignment, and shall not constitute a basis for objection to a proposal by the other Administration for a new or modified allotment or primary assignment.

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1. The specification of a channel offset and a co-channel protection ratio of 28 dB may be used upon written acceptance by both Administrations.

5.5

Assignment Data to be Notified

Notification of assignments or proposals needing referral shall contain the following information:

Name of Applicant (optional)

City, State or Province

Transmitter location (Latitude and Longitude)

Call Sign (where available)

Channel Number, including offset (if applicable)

Maximum visual effective radiated power and beam tilt angle (if applicable)

Transmitter Power (for low power television stations)

Antenna: i) effective height above average terrain (EHAAT)

ii) make and type

iii) horizontal pattern, if a directional antenna is proposed

5.6

Technical Coordination

Technical coordinations concerning allotments and assignments shall normally consist of an exchange of letters between the Department of Communications of Canada and the Federal Communications Commission of the United States of America. In the event that the matter cannot be resolved by correspondence, a meeting shall be arranged.

ANNEX I

CHANNEL DESIGNATION

CHANNEL NO.	FREQUENCY BAND (MHz)	CHANNEL NO.	FREQUENCY BAND (MHz)
<u>VHF</u>			
2 .....	54 - 60	36 .....	602 - 608
3 .....	60 - 66	37 .....	608 - 614*
4 .....	66 - 72	38 .....	614 - 620
5 .....	76 - 82	39 .....	620 - 626
6 .....	82 - 88	40 .....	626 - 632
7 .....	174 - 180	41 .....	632 - 638
8 .....	180 - 186	42 .....	638 - 644
9 .....	186 - 192	43 .....	644 - 650
10 .....	192 - 198	44 .....	650 - 656
11 .....	198 - 204	45 .....	656 - 662
12 .....	204 - 210	46 .....	662 - 668
13 .....	210 - 216	47 .....	668 - 674
<u>UHF</u>			
14 .....	470 - 476	48 .....	674 - 680
15 .....	476 - 482	49 .....	680 - 686
16 .....	482 - 488	50 .....	686 - 692
17 .....	488 - 494	51 .....	692 - 698
18 .....	494 - 500	52 .....	698 - 704
19 .....	500 - 506	53 .....	704 - 710
20 .....	506 - 512	54 .....	710 - 716
21 .....	512 - 518	55 .....	716 - 722
22 .....	518 - 524	56 .....	722 - 728
23 .....	524 - 530	57 .....	728 - 734
24 .....	530 - 536	58 .....	734 - 740
25 .....	536 - 542	59 .....	740 - 746
26 .....	542 - 548	60 .....	746 - 752
27 .....	548 - 554	61 .....	752 - 758
28 .....	554 - 560	62 .....	758 - 764
29 .....	560 - 566	63 .....	764 - 770
30 .....	566 - 572	64 .....	770 - 776
31 .....	572 - 578	65 .....	776 - 782
32 .....	578 - 584	66 .....	782 - 788
33 .....	584 - 590	67 .....	788 - 794
34 .....	590 - 596	68 .....	794 - 800
35 .....	596 - 602	69 .....	800 - 806

\* Channel 37 is allocated to the Radio Astronomy Service and is not available for broadcast use.

ANEX II

ZONES I & II

CANADA

- Zone I: consists of that area between Windsor and Quebec which is located within the confines of the USA-Canada border and the following lines: beginning from the west at the intersection of the common border and the North Latitude  $44^{\circ} 10'$ ; thence in a straight line northeast to the point of intersection of  $77^{\circ}$  West Longitude and  $46^{\circ}$  North Latitude; thence following the  $46^{\circ}$  North Latitude until the  $75^{\circ}$  West Longitude; thence in a straight line northeast to the point of intersection of  $72^{\circ}$  West Longitude, and  $47^{\circ}$  North Latitude; thence following the  $47^{\circ}$  North Latitude to the point of intersection with  $71^{\circ}$  West Longitude; thence following the  $71^{\circ}$  West Longitude southwards to the common border.
- Zone II: consists of that portion of Canada within 400 km of the USA- Canada border which is not in Zone I.

THE UNITED STATES

- Zone I: consists of that portion of the United States located within the confines of the following lines drawn on the United States Albers Equal Area Projection Map (based on standard parallels  $29.5^{\circ}$  and  $45.5^{\circ}$ ; North American Datum); beginning at the most easterly point of the State boundary line between North Carolina and Virginia; thence in a straight line to a point on the Virginia, West Virginia boundary line located at North Latitude  $37^{\circ} 49'$  and West Longitude  $80^{\circ} 12' 30''$ ; thence westerly along the southern boundary lines of the States of West Virginia, Ohio, Indiana and Illinois to a point at the junction of the Illinois, Kentucky and Missouri State boundary lines; thence northerly along the western boundary line of the State of Illinois to a point at the junction of the Illinois, Iowa and Wisconsin State boundary lines; thence easterly along the northern State boundary line of Illinois to the 90th meridian; thence north along this meridian to the  $43.5^{\circ}$  parallel; thence east along this parallel to the USA-Canada border; thence southerly and following the international border until it again intersects the  $43.5^{\circ}$  parallel; thence east along this parallel to the 71st meridian; thence in a straight line to the intersection of the 69th meridian and the 45th parallel; thence east along the 45th parallel to the Atlantic Ocean. When any of the above lines pass through a city, the city shall be considered to be located in Zone 1.
- Zone II: consists of that portion of the United States within 400 km of the USA-Canada border which is not in Zone I.

ANNEX III

COMPUTATION OF DISTANCE AND AZIMUTH

1. Computation of Distance

The distance between reference points is considered to be the length of the hypotenuse of a right angle triangle, one side of which is the difference in latitude of the reference points and the other side the difference in longitude of the two reference points, and shall be computed as follows:

- 1.1 Convert latitude and longitude into degrees and decimal parts of a degree. Determine the middle latitude of the two reference points (average the latitudes of the two points).

$$\text{LATM} = \frac{\text{LAT1} + \text{LAT2}}{2}$$

- 1.2 Determine the number of kilometres per degree of latitude difference for the determined middle latitude.

$$\text{LATK} = 111.108 - .566 \cos (2 \text{ LATM})$$

- 1.3 Determine the number of kilometres per degree of longitude difference for the determined middle latitude.

$$\text{LONGK} = 111.391 \cos (\text{LATM}) - .095 \cos (3 \text{ LATM})$$

- 1.4 Determine the North-South distance in kilometres.

$$\text{LAT} = \text{LATK} (\text{LAT1} - \text{LAT2})$$

- 1.5 Determine the East-West distance in kilometres.

$$\text{LONG} = \text{LONGK} (\text{LONG1} - \text{LONG2})$$

- 1.6 Determine the distance between the reference points by the square root of the sum of the squares of the distance obtained.

$$\text{DIST} = (\text{LAT}^2 + \text{LONG}^2)^{1/2}$$

where:

LAT1 & LONG1 = coordinates of one location in decimal degrees  
LAT2 & LONG2 = coordinates of second location in decimal degrees  
LATM = middle latitude between points  
LATK = kilometres per degree of latitude difference  
LONGK = kilometres per degree of longitude difference  
LAT = north-south distance in kilometres  
LONG = east-west distance in kilometres, and  
DIST = distance between two reference points in kilometres

In computing the above, sufficient decimal figures shall be used to determine the distance to the nearest kilometre.

2. Calculation of Azimuth

In some instances, it is necessary to calculate the angle or azimuth between true north and the connecting radial from one reference point to another.

- 2.1 Convert latitude and longitude into degrees and decimal parts of a degree.
- 2.2 Determine the arc length in degrees between the two reference locations.

$$d = \cos^{-1} [\sin(LAT2) \sin(LAT1) + \cos(LAT2) \cos(LAT1) \cos(LONG1-LONG2)]$$

- 2.3 Calculate the azimuth. (If the second location is west of the initial location, subtract the result from  $360^\circ$ ; i.e.,  $360 - AZM$ ).

$$AZM = \cos^{-1} \left[ \frac{\sin(LAT2) - \sin(LAT1) \cos(d)}{\cos(LAT1) \sin(d)} \right]$$

where:

LAT1 & LONG1 = coordinates of initial location in decimal degrees;  
LAT2 & LONG2 = coordinates of second location in decimal degrees;  
d = arc length between locations in decimal degrees;  
AZM = angle between true north ( $0^\circ$  degrees) and the connecting radial in decimal degrees in a clockwise direction.

In computing the above, sufficient decimal figures shall be used to determine the azimuth to the nearest degree.

ANNEX IV

TABLES I & II

TABLE I  
VHF AND UHF CO-CHANNEL PROTECTION

	ZONE I		ZONE II	
Channel	Minimum Co-channel Separation	Maximum F(50,10) Field Strength at Protected Contour	Minimum Co-channel Separation	Maximum F(50,10) Field Strength at Protected Contour
2-6 offset carriers	275 km	38 dBu	305 km	32 dBu
2-6 non-offset carriers	371 km	21 dBu	411 km <sup>1</sup>	15 dBu
7-13 offset carriers	275 km	41 dBu	305 km	36 dBu
7-13 non-offset carriers	376 km	24 dBu	411 km <sup>1</sup>	19 dBu
14-69 offset carriers	250 km	46 dBu	280 km	41 dBu
14-69 non-offset carriers	353 km	29 dBu	387 km	24 dBu

1. Since the maximum coordination distance under this Arrangement is 400 km from the border, stations beyond that distance need not be coordinated.

TABLE II  
UHF PROTECTION CRITERIA FOR  
ASSIGNMENTS WITH OPERATING PARAMETERS  
GREATER THAN 1000 KW ERP AND/OR  
300 METRES EHAAT

CHANNEL RELATIONSHIP	MAXIMUM SEPARATION REQUIRING STUDY <sup>1</sup>	REFERENCE DISTANCE <sup>2</sup>	MAXIMUM FIELD STRENGTH AT REFERENCE DISTANCE
co-channel (one or both stations in Zone 1, with offset)	320 km	70 km	46 dBu
co-channel (neither station in Zone 1, with offset)	350 km	70 km	41 dBu
±1	108 km	70 km	98 dBu
±2,3,5,8	45 km	15 km	103 dBu
±4	52 km	0 km	90 dBu
±7	121 km	48 km	78 dBu
±14	114 km	70 km	94 dBu
±15	145 km	70 km	77 dBu

1. The separations in this column were calculated based on maximum parameters of 5,000 kW ERP and 600 metres EHAAT for the proposal.
2. The reference distances are based on standard parameters of 1,000 kW ERP and 300 metres EHAAT.

ANNEX V

FIGURES 1 - 6

Figure 1

ESTIMATED FIELD STRENGTH EXCEEDED AT 50 % OF THE POTENTIAL RECEIVER LOCATIONS FOR AT LEAST 50 % OF THE TIME AT A RECEIVING ANTENNA HEIGHT OF 9.1 METRES.

ESTIMATION DE L'INTENSITÉ DE CHAMP DÉPASSÉE À 50 % DES EMPLACEMENTS RÉCEPTEURS POSSIBLES, POUR AU MOINS 50 % DU TEMPS, POUR UNE ANTENNE RÉCEPTRICE DE 9,1 MÈTRES.

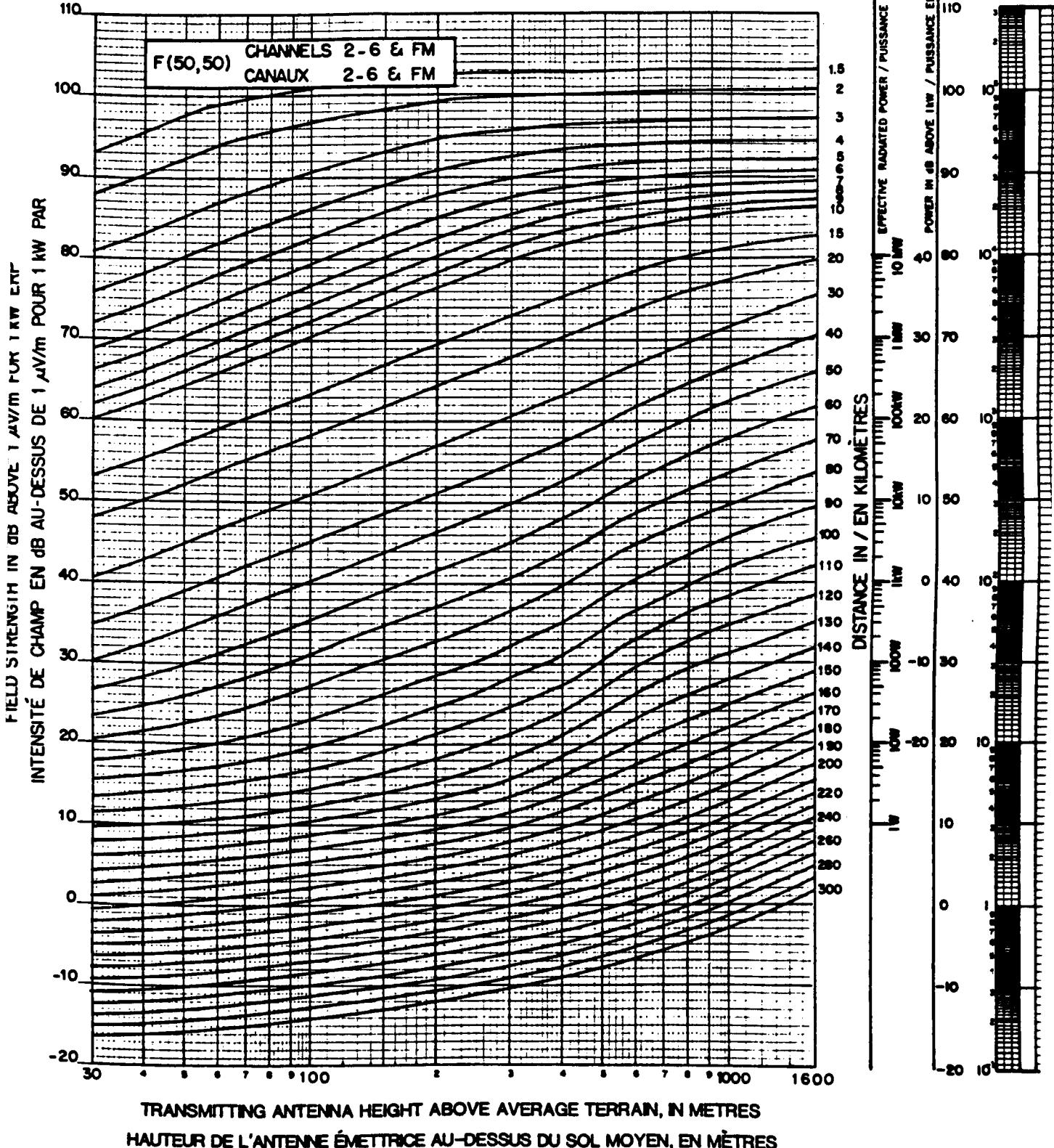


Figure 2

ESTIMATED FIELD STRENGTH EXCEEDED AT 50 % OF THE POTENTIAL RECEIVER LOCATIONS FOR AT LEAST 10 % OF THE TIME AT A RECEIVING ANTENNA HEIGHT OF 9.1 METRES.

ESTIMATION DE L'INTENSITÉ DE CHAMP DÉPASSÉE À 50 % DES EMPLACEMENTS RÉCEPTEURS POSSIBLES, POUR AU MOINS 10 % DU TEMPS, POUR UNE ANTENNE RÉCEPTEUR DE 9,1 MÈTRES

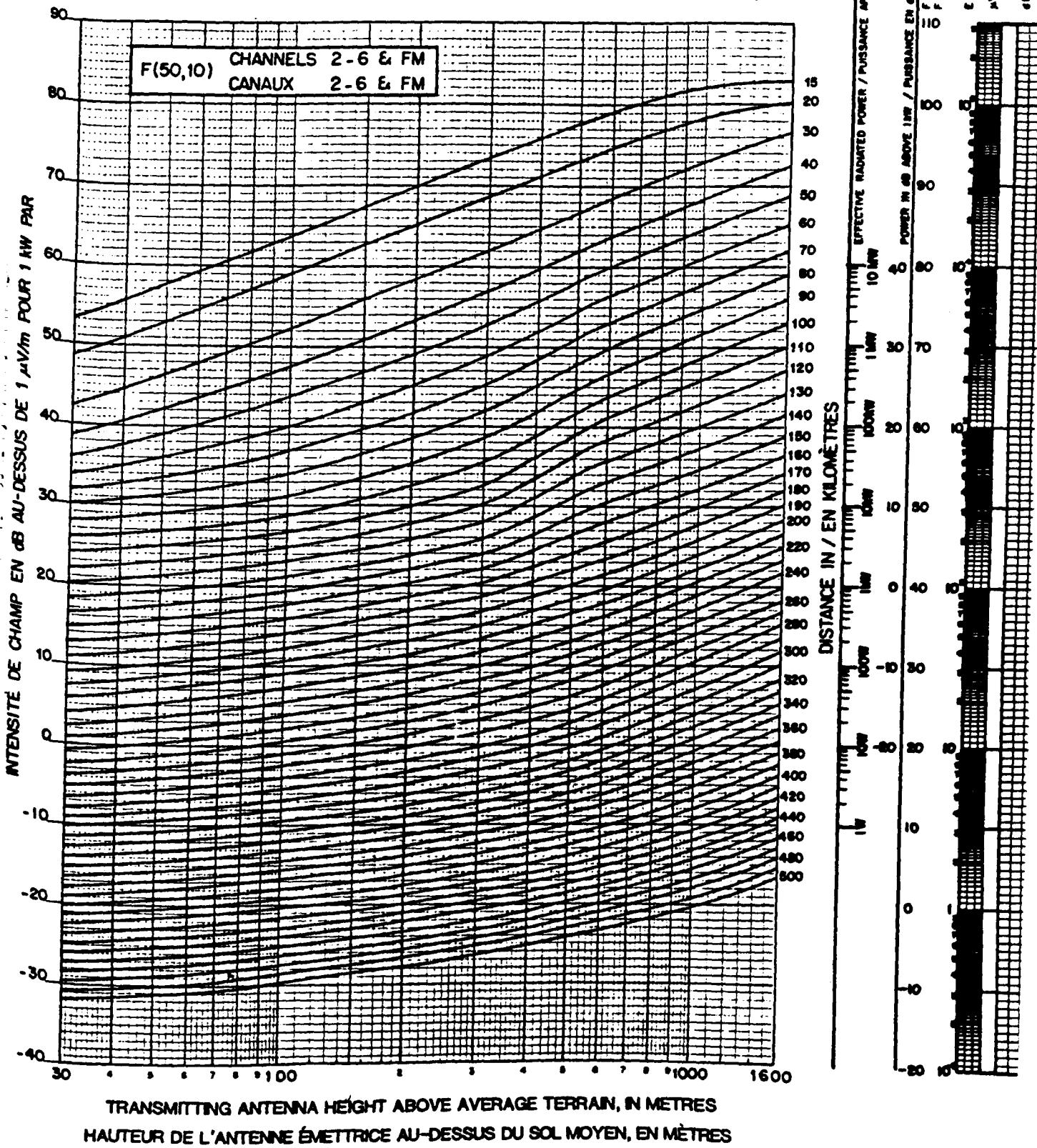


Figure 3

ESTIMATED FIELD STRENGTH EXCEEDED AT 50 % OF THE POTENTIAL RECEIVER LOCATIONS FOR AT LEAST 50% OF THE TIME AT A RECEIVING ANTENNA HEIGHT OF 9.1 METRES.

ESTIMATION DE L'INTENSITE DE CHAMP DEPASSEE A 50% DES EMPLACEMENTS RECEPTEURS POSSIBLES, POUR AU MOINS 50% DU TEMPS, POUR UNE ANTENNE RECEPTRICE DE 9,1 METRES.

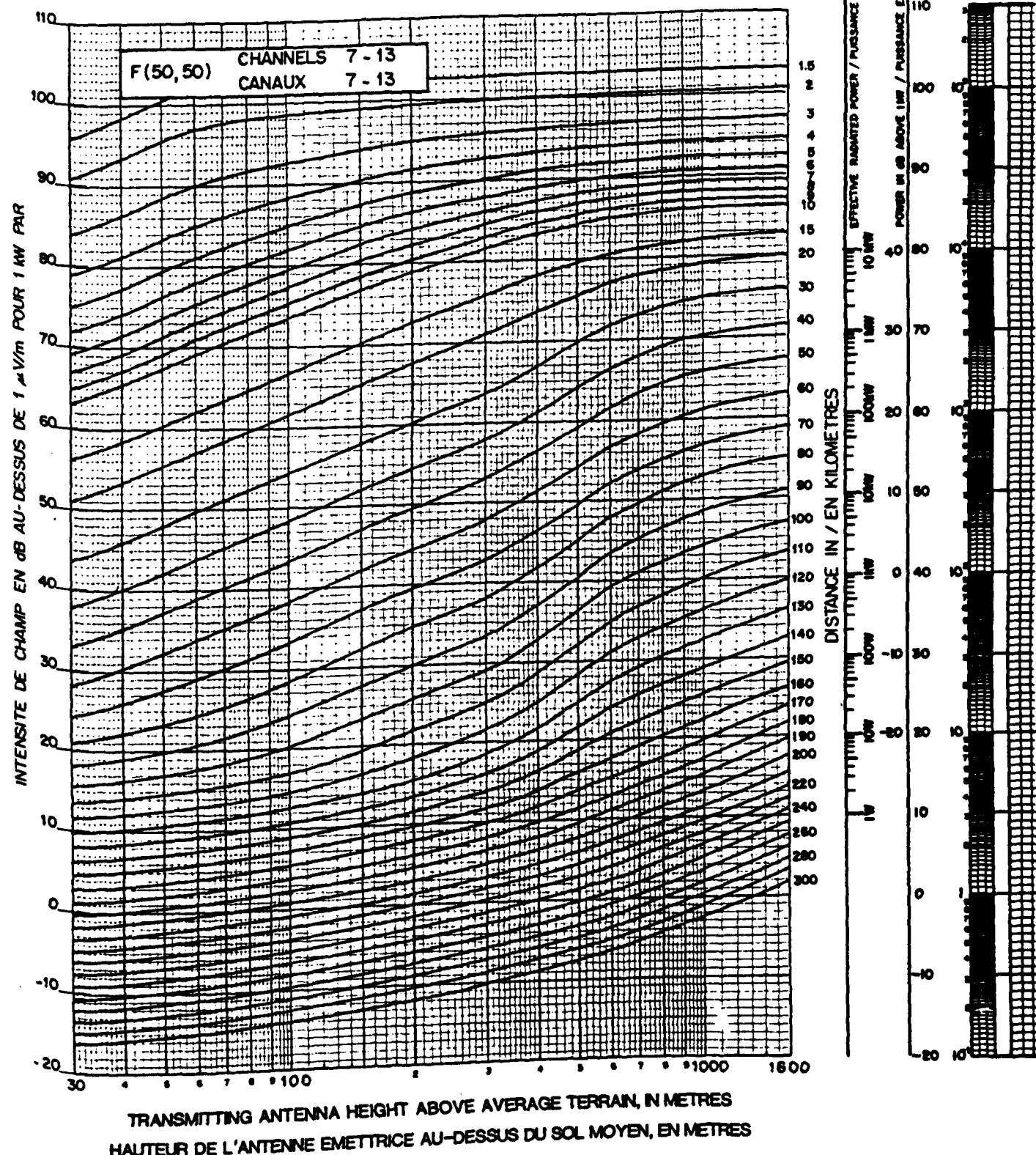


Figure 4

ESTIMATED FIELD STRENGTH EXCEEDED AT 50 % OF THE POTENTIAL RECEIVER LOCATIONS FOR AT LEAST 10 % OF THE TIME AT A RECEIVING ANTENNA HEIGHT OF 9.1 METRES.

ESTIMATION DE L'INTENSITE DE CHAMP DEPASSEE A 50 % DES EMPLACEMENTS RECEPTEURS POSSIBLES, POUR AU MOINS 10 % DU TEMPS, POUR UNE ANTENNE RECEPTEUR DE 9.1 METRES

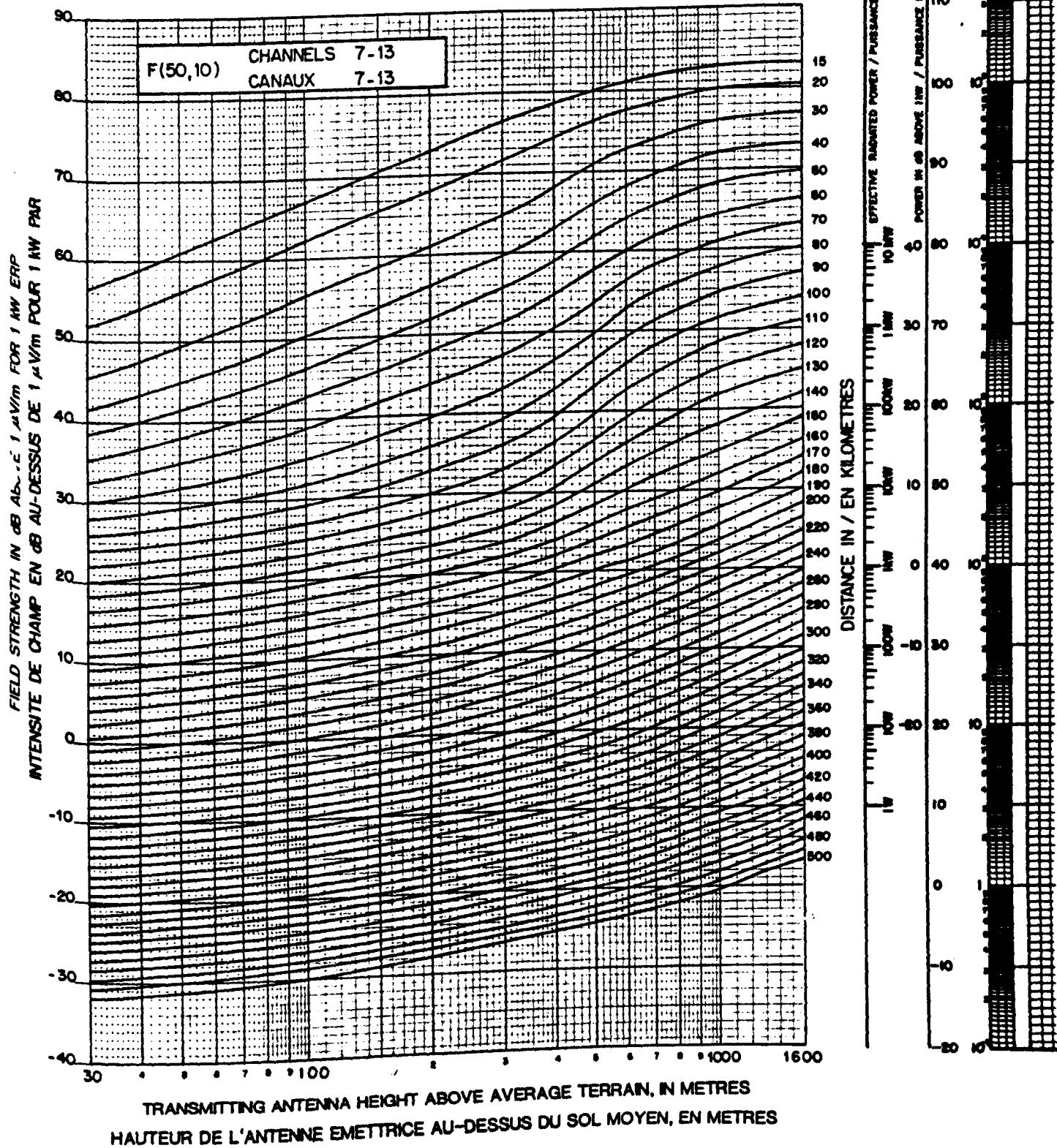


Figure 5

ESTIMATED FIELD STRENGTH EXCEEDED AT 50 % OF THE POTENTIAL RECEIVER LOCATIONS FOR AT LEAST 50 % OF THE TIME AT A RECEIVING ANTENNA HEIGHT OF 9.1 METRES.

ESTIMATION DE L'INTENSITE DE CHAMP DEPASSEE A 50 % DES EMPLACEMENTS RECEPTEURS POSSIBLES, POUR AU MOINS 50 % DU TEMPS, POUR UNE ANTENNE RECEPTEURICE DE 9,1 METRES.

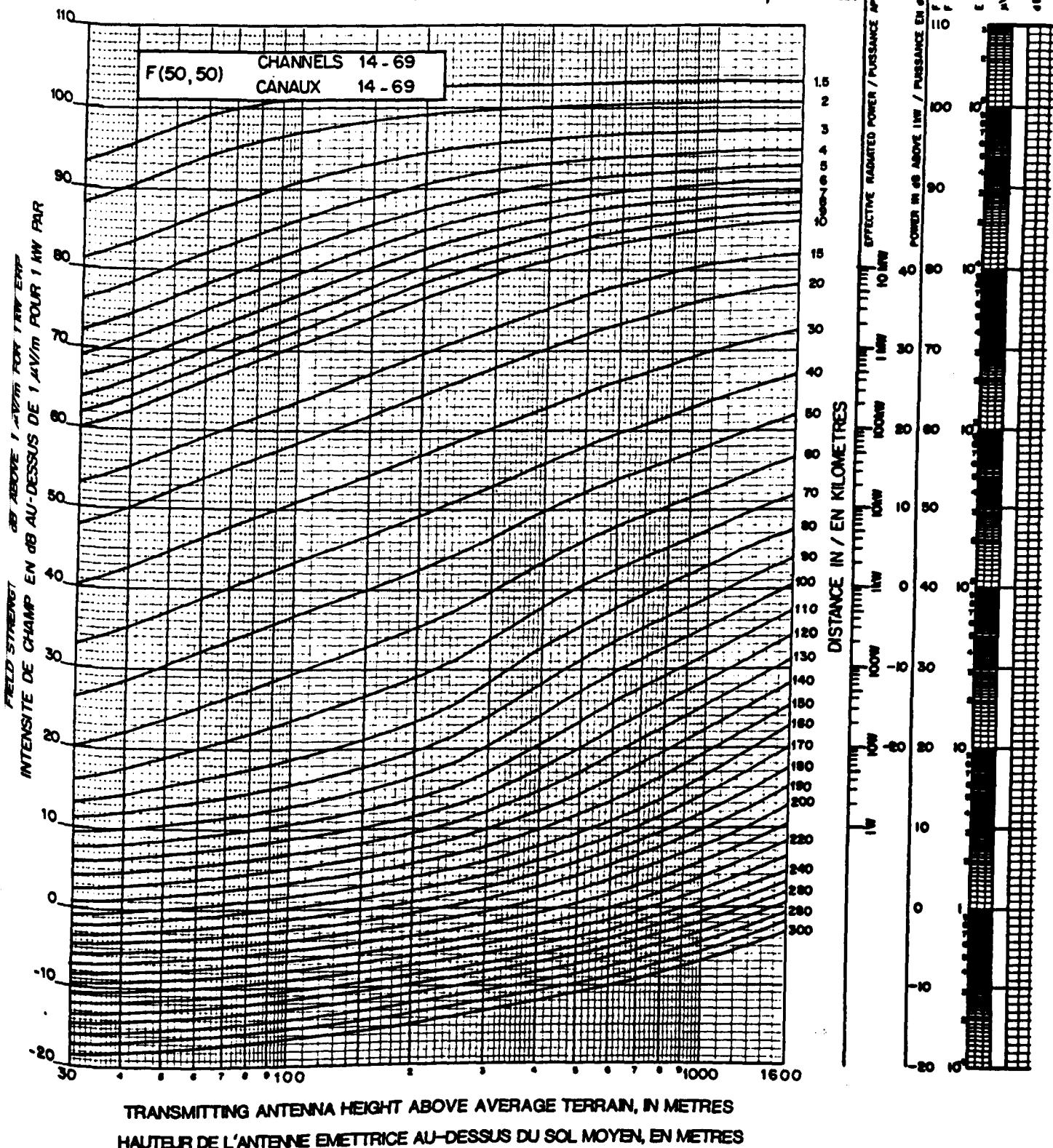
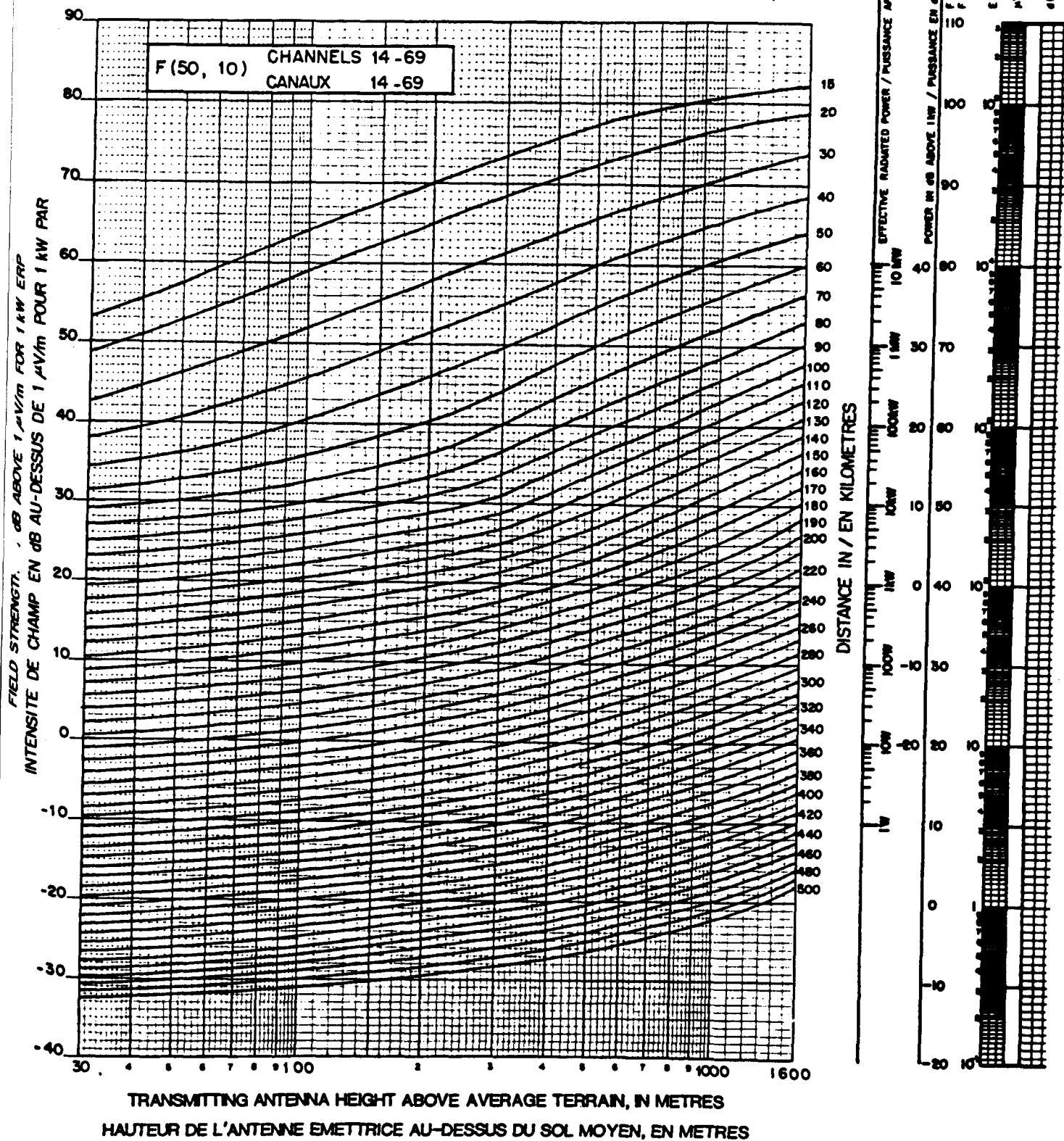


Figure 6

- 23 -

ESTIMATED FIELD STRENGTH EXCEEDED AT 50 % OF THE POTENTIAL RECEIVER LOCATIONS FOR AT LEAST 10 % OF THE TIME AT A RECEIVING ANTENNA HEIGHT OF 9.1 METRES.

ESTIMATION DE L'INTENSITE DE CHAMP DÉPASSEE À 50% DES EMPLACEMENTS RECEPTEURS POSSIBLES, POUR AU MOINS 10% DU TEMPS, POUR UNE ANTENNE RECEPTEUR DE 9,1 MÈTRES



ANNEX VI

TABLES A & B

TABLES OF ALLOTMENTS WITH OFFSET DESIGNATION

Revised to January 1, 1989

Offset Carrier Designators:

- Zero offset frequency (underscore)
  - + Plus 10 kHz
  - Minus 10 kHz
- 

TABLEAUX DES ALLOTISSEMENTS AVEC DÉSIGNATION DU DÉCALAGE DE FRÉQUENCE

Mise à jour au 1er janvier 1989

Désignation du décalage de la porteuse:

- Décalage de fréquence nul (souligné)
- + 10 kHz au dessus de la porteuse
- 10 kHz au dessous de la porteuse

TABLE A TABLEAU A

CANADA

ALBERTA

<u>City/Ville</u>	<u>Canal/VHF/Channel</u>	<u>Canal/UHF/Channel</u>
Banff		<u>34</u>
Blairmore		<u>15</u> <u>31</u>
Brooks		<u>30-</u> <u>47+</u>
Burmis	<u>3</u> <u>5-</u>	<u>20</u> <u>47</u>
Calgary	<u>2+</u> <u>4</u> <u>9+</u> <u>13-</u>	<u>16</u> <u>32</u> <u>38</u> <u>49</u> <u>54</u>
Cardston		<u>22+</u>
Claresholm		<u>36</u>
Coronation	<u>10</u>	<u>41</u>
Coutts/Milk River	<u>4-</u>	<u>24+</u>
Drumheller	<u>12</u>	<u>19</u> <u>24</u> <u>53</u>
Etzikom	<u>12+</u>	<u>31</u>
Forestburg		<u>27-</u> <u>52</u>
Fort MacLeod		<u>19+</u> <u>25</u>
Hanna		<u>25+</u>
High River		<u>44</u>
Innisfail		<u>42+</u>
Lacombe		<u>44-</u>
Lethbridge	<u>7</u> <u>10-</u> <u>13+</u>	<u>17</u> <u>23+</u> <u>28</u> <u>50</u>
Lougheed	<u>7-</u>	<u>16-</u>
Medicine Hat	<u>6</u> <u>8</u> <u>13-</u>	<u>21-</u> <u>34+</u> <u>51</u>
Olds		<u>30+</u>
Oyen	<u>2-</u>	<u>23-</u>
Pincher Creek		<u>42</u>
Pivot	<u>4+</u>	<u>18</u> <u>35</u>
Provost		<u>20-</u>
Raymond		<u>20</u> <u>26</u> <u>31-</u>
Red Deer	<u>6-</u> <u>8+</u> <u>10+</u>	<u>19-</u>
Rocky Mountain House		
Rosemary	<u>11</u>	<u>34-</u>
Stettler		<u>15-</u>
Taber		<u>27</u>
Vulcan		

BRITISH COLUMBIA COLOMBIE-BRITANNIQUE

<u>City/Ville</u>	<u>Canal/VHF/Channel</u>	<u>Canal/UHF/Channel</u>
Armstrong		26-
Ashcroft		49+
Bonnington	13+	
Burns Lake	4+ 7+	
Campbell River	7- <u>13</u>	14- <u>51</u>
Canal Flats	<u>12</u>	
Cassiar	<u>7</u>	
Castlegar		<u>41</u>
Chilliwack	<u>3</u>	<u>14+</u> <u>30</u> <u>36</u> 47+
Clinton	<u>9+</u>	<u>24</u> <u>43</u> 59+
Comox		20+ 54+
Courtenay	9-L(1) <u>11</u>	<u>49</u>
Cranbrook	3+ 5+L(2) <u>10</u> <u>13</u> L(3)	<u>24</u> <u>43</u> 59+
Crawford Bay	<u>5</u> L(4)	
Creston	<u>3</u> L(5)	44+
Duncan		<u>54</u>
Enderby		<u>16</u> <u>36</u> <u>47</u> <u>53</u>
Fernie	<u>8</u> L(6)	21+ 51+
Fort Fraser	<u>6</u>	
Fort St. James		<u>16</u>
Golden	<u>13</u>	<u>41+</u>
Grand Forks		36-
Hope		<u>38</u>
Houston	2+ <u>8</u>	<u>23</u>
Kamloops	4+ <u>6</u> +	22- <u>44</u> 50+
Kelowna	<u>2</u> 5-	<u>21</u> <u>45</u> <u>51</u> 69+
Kimberley		<u>27</u>
Kinnaird		<u>19</u>
Kitimat		<u>14</u> <u>19</u>
Lake Cowichan		<u>48</u>
Lillooet		23+
Merritt		41-
Nanaimo		<u>50</u> <u>60</u> <u>69</u>
Natal	<u>11</u>	
Nelson	<u>3</u> + <u>9</u> L(7)	50-
New Denver		<u>17</u>
Oliver	3+ <u>8</u>	<u>43</u> +
Ootsa Lake	<u>5</u> <u>10</u>	
Osoyoos		49-
Parksville		44-
Peachland		29-
Pemberton	4-L(8)	
Penticton	<u>10</u> <u>13</u>	17 <u>23</u>
Port Alberni	<u>3</u> +	<u>36</u> + <u>41</u>

BRITISH COLUMBIA COLOMBIE-BRITANNIQUE

<u>City/Ville</u>	<u>Canal/VHF/Channel</u>	<u>Canal/UHF/Channel</u>
Port Hardy	<u>6</u> <u>8</u>	<u>15</u>
Powell River		<u>22</u> <u>33</u> 43-
Prince Rupert	<u>6+</u> <u>7</u>	<u>15</u> <u>20</u>
Princeton		<u>35+</u>
Radium		<u>17</u> <u>28</u> 52+
Revelstoke		<u>43-</u>
Rossland		<u>52</u>
Salmon Arm	<u>9-</u>	<u>34+</u>
Smithers	<u>5+</u> <u>13</u>	<u>15+</u>
South Hazelton	<u>9+L(9)</u>	
Sparwood		<u>33</u>
Spillimacheen		<u>69</u>
Squamish		<u>55</u>
Summerland		<u>48+</u>
Terrace	<u>3</u> <u>11</u>	<u>22</u> <u>27</u>
Trail	<u>8+</u> <u>11</u>	<u>14</u>
Vancouver	<u>2+</u> <u>8+10+</u>	<u>15L(10)</u> <u>21-</u> <u>26</u> <u>32</u> <u>42</u> <u>52</u> <u>58</u> <u>63L(11)</u> <u>68L(12)</u>
Vernon	<u>7-</u> <u>12</u>	<u>24-</u> <u>42+</u>
Victoria	<u>6</u>	<u>29</u> <u>40</u> <u>46</u> <u>66</u>
Nanaimo		<u>30</u>
Whistler	<u>13+</u>	
Williams Lake		<u>15</u>
Wilson Creek		<u>23</u>
Woss Camp		
100 Mile House	<u>12</u> <u>3</u> <u>5-</u>	

MANITOBA

<u>City/Ville</u>	<u>Canal/VHF/Channel</u>	<u>Canal/UHF/Channel</u>
Alonsa		<u>14</u> 24+ <u>34</u> <u>46</u>
Altona		<u>34+</u>
Beausejour		<u>23+</u>
Birch River-Harte Mt	4- 10-	<u>17</u> 45+
Boissevain		<u>29+</u>
Brandon	4+ 5+	21+ <u>27</u> <u>43</u>
Carberry		49+
Carmen		<u>31</u>
Dauphin-Baldy Mountain	6- <u>8</u> 12-	15+ 18+ <u>26</u>
Fairford	7-	40-
Fisher Branch	8- 10+	<u>32</u> 43-
Foxwarren	<u>9</u> <u>11</u>	28+ <u>33</u> <u>50</u>
Gimli		<u>19</u>
Jackhead	5	<u>23</u>
Killarney		19+
Lac du Bonnet	4 5-	15+ <u>21</u> 26- <u>39</u>
Little Grand Rapids	<u>9</u> -	
Manigotagan		<u>22</u>
Matheson Island		<u>18</u> 29+ <u>41</u> <u>47</u>
McCreary	<u>11</u>	
Melita	<u>9</u> +	48+
Minnedosa	2-L(13)	17+
Morden-Winkler		<u>50</u>
Neepawa		39+
Oak Lake		<u>32</u>
Pembina Valley		<u>18</u> 28- 41- 47+
Pine Falls	11-	
Piney		<u>29</u>
Portage la Prairie	13+	<u>40</u> 53+
Roblin		48-
Russel		<u>22</u>
Selkirk		<u>17</u>
Ste Rose du Lac	3+	<u>38</u>
Steinbach		<u>45</u>
Swan River		29-
Vassar		24+ 41+ 47- <u>53</u>
Virden		<u>35</u>
West Hawk		22- <u>28</u> 40+ <u>46</u>
Winnipeg	3- 6- 7+ 9+	25+ <u>36</u> <u>42</u> <u>48</u> <u>54</u> <u>65</u>

NEW BRUNSWICK NOUVEAU-BRUNSWICK

<u>City/Ville</u>	<u>Canal/VHF/Channel</u>	<u>Canal/UHF/Channel</u>
Allardville	<u>3</u>	51+
Bathurst		28+ 50-
Bon Accord	<u>6-</u>	<u>43</u>
Buctouche		<u>49-</u>
Campbellton	4- 7- 9- <u>12</u>	23- <u>35</u>
Caraquet		20+ <u>54</u>
Chatham	<u>6</u>	<u>40</u>
Chipman		<u>24</u>
Dalhousie		55+
Dorchester		50+
Edmundston	4- 13+	<u>26</u> <u>36</u>
Fredericton	5-L(14) 11+L(15)	19 <u>41+</u> 47- <u>53</u> 59+
Grand Falls		<u>49</u>
McAdam		28- 51-
Milltown		32+
Moncton	<u>2</u> <u>7</u> <u>11</u>	16+ <u>27</u> 33- <u>39</u> 44+
Newcastle		34-
Oromocto		31-
Perth		30+
Richibucto		55-
Jacksonville		<u>66</u>
Saint John	4+ 9+ 12+L(16)	<u>17</u> 23+ <u>29</u> 35+ 69+
Salisbury		<u>21</u>
Shediac		<u>62</u>
Shippegan		43-
St Andrews		26+
St Leonard		<u>18</u>
St Quentin		52+
St Stephen		20+
Sussex		<u>57</u>
Tracadie		30-
Woodstock	<u>3+</u>	<u>50</u>

NORTHWEST TERRITORIES    TERRITOIRES DU NORD-OUEST

<u>City/Ville</u>	<u>Canal/VHF/Channel</u>	<u>Canal/UHF/Channel</u>
Fort McPherson	<u>13</u>	
Inuvik	<u>6</u>	

NOVA SCOTIA NOUVELLE-ÉCOSSE

<u>City/Ville</u>	<u>Canal/VHF/Channel</u>	<u>Canal/UHF/Channel</u>
Amherst		<u>22</u> <u>56</u>
Annapolis Royal		<u>49+</u>
Antigonish	<u>9</u>	<u>50</u>
Aspen	<u>5-</u>	
Bridgetown		<u>15</u>
Bridgewater	<u>9-</u>	<u>36</u>
Caledonia	<u>2+L(17)</u> <u>6+</u>	<u>21+</u> <u>42+</u>
Canning	<u>10</u>	
Digby		<u>18+</u> <u>52-</u> <u>58</u>
Halifax	<u>3</u> <u>5</u> <u>13L(18)</u>	<u>20-</u> <u>26</u> <u>32</u> <u>38+</u> <u>43-</u> <u>48+</u> <u>54</u>
Kentville		<u>30</u>
Liverpool	<u>12</u>	<u>31+</u>
Lunenburg		<u>60</u>
Middleton	<u>8-</u>	<u>46</u>
New Glasgow	<u>4-</u>	<u>15-</u> <u>34+</u> <u>47+</u>
Parrsboro		<u>40-</u>
Pictou		<u>68</u>
Sheet Harbour	<u>2+</u> <u>11+</u>	<u>29+</u>
Shelburne	<u>7+L(19)</u>	<u>28+</u>
Springhill		<u>61</u>
Matamagouche		<u>58+</u>
Truro		<u>18</u> <u>55</u>
Windsor		<u>51</u>
Yarmouth	<u>3-</u> <u>11-</u>	<u>40</u> <u>45-</u> <u>50-</u>

ONTARIO

<u>City/Ville</u>	<u>Canal/VHF/Channel</u>	<u>Canal/UHF/Channel</u>
Armstrong	<u>10</u>	
Arnprior		<u>20</u>
Atikokan	<u>7-</u>	<u>23+</u>
Bancroft	<u>2+</u>	
Barrie	<u>3+</u>	<u>14</u> <u>24-</u> <u>33-</u> <u>46-</u> <u>55+</u>
Barry's Bay		<u>19+</u> <u>39</u>
Belleville-Deseronto	<u>6-</u>	<u>15-</u> <u>35-</u> <u>53+</u> <u>64+</u> <u>69</u>
Blind River		<u>18</u>
Brantford		<u>34+L(20)</u>
Brockville		<u>45+</u>
Chapleau	<u>7+ 13+</u>	<u>33</u>
Chatham		<u>16-</u> <u>48L(21)</u> <u>59L(22)</u> <u>64+</u>
Cloyne		<u>55-</u>
Cobourg		<u>66</u>
Collingwood		<u>42</u>
Cornwall	<u>8+</u>	<u>31-</u> <u>41+</u> <u>47</u> <u>52-</u> <u>63+</u>
Deep River	<u>3-L(23)</u>	<u>52</u>
Driftwood		<u>22-</u>
Dryden	<u>4+ 6 9-</u>	<u>24</u>
Elliot Lake	<u>3 7- 12+</u>	<u>21+</u>
Espanola		<u>22-</u>
Exeter		<u>14+</u>
Fort Frances	<u>5</u>	<u>15 25</u>
Gananoque		<u>28-</u>
Geraldton	<u>7- 13+</u>	<u>33+</u>
Goderich		<u>23 29-</u>
Gogama		<u>41-</u> <u>47-</u>
Golden Lake		<u>36+</u>
Guelph		
Hamilton	<u>11+</u>	<u>65</u>
Hanover		<u>50</u>
Hawkesbury		<u>39-</u> <u>48+</u>
Hearst	<u>4- 5+ 7</u>	
Huntsville	<u>8+L(24)</u> <u>11- 13</u>	
Kapuskasing	<u>2+ 10 12</u>	<u>19+ 41+</u>
Kenora	<u>2+ 8 13+L(25)</u>	<u>16 38+ 44</u>
Kingston	<u>11-</u>	<u>19 32- 38 48 58</u>
Kirkland Lake-Kearns	<u>2 11</u>	
Kitchener	<u>13+</u>	<u>28L(26) 39+ 56+L(27)</u>
		<u>61-L(28)</u>
Little Current		<u>16-</u>

ONTARIO

<u>City/Ville</u>	<u>Canal/VHF/Channel</u>	<u>Canal/UHF/Channel</u>
London	<u>10</u>	<u>18</u> L(29) <u>40</u> <u>53</u> L(30) <u>69+</u>
Manitouwadge	<u>8+</u>	<u>15</u> <u>20-</u>
Marathon	<u>11-</u>	
Mattawa		<u>26</u> <u>48</u>
Maynooth		<u>51+</u>
McArthur's Mills		<u>33-</u> <u>42+</u>
Midland	<u>7</u>	
Niagara Falls		<u>55</u>
Nipigon		<u>16</u> <u>26</u>
North Bay	4- <u>6</u> L(31) <u>10-</u>	<u>32+</u> <u>45+</u> <u>50+</u>
Opasatika		<u>30+</u>
Orillia		<u>43</u>
Ottawa-Hull	4+ <u>6</u> <u>9+</u> <u>13+</u>	<u>14-</u> <u>24</u> <u>30+</u> <u>40</u> <u>49</u> <u>60+</u> <u>65</u>
Owen Sound	4+L(32) <u>12-</u> L(33)	
Paris	<u>6+</u>	
Parry Sound		<u>31-</u>
Pembroke	<u>5+</u>	<u>17-</u>
Penetanguishene		<u>34-</u> <u>51</u>
Peterborough	<u>12+</u>	<u>18-</u> L(34) <u>27</u> <u>44</u> <u>54</u>
Pickle Lake	<u>9</u>	
Prescott		<u>26-</u>
Red Lake	<u>7</u> <u>10-</u>	
Renfrew		<u>22</u>
Sarnia-Oil Springs		<u>17+</u> <u>29+</u> L(35) <u>34-</u> L(36) <u>42-</u> L(37) <u>51+</u> <u>63+</u> L(38) <u>68</u>
Sault Ste Marie	<u>2-</u> <u>5</u>	<u>20</u> <u>26-</u> <u>38-</u> <u>44</u> <u>54+</u>
Sioux Lookout	<u>12+</u>	
Smiths Falls		<u>36</u>
St Catharines		<u>60</u>
St Thomas		<u>64-</u>
Stevenson		<u>22-</u> L(39)
Stratford		<u>44+</u>
Sturgeon Falls	<u>7+</u>	<u>29+</u>
Sudbury	<u>5</u> <u>9+</u> <u>13-</u>	<u>19</u> <u>25-</u> <u>30</u> <u>35+</u> <u>41+</u> <u>47</u> <u>52-</u>
Temagami		<u>15</u> <u>44+</u>
Thessalon		<u>36</u>
Thunder Bay	<u>2</u> <u>4-</u> <u>9</u> <u>12</u>	<u>14-</u> <u>25-</u> <u>30-</u> <u>41-</u>
Timmins	<u>3-</u> <u>6+</u> <u>7-</u> <u>9-</u>	<u>26+</u> <u>48+</u> <u>54-</u>
Tobermory		<u>17-</u> <u>26</u> <u>43+</u>
Toronto	<u>5</u> L(40) <u>9</u>	<u>19-</u> <u>25</u> <u>30-</u> L(41) <u>41</u> <u>47+</u> <u>52+</u> <u>57</u> <u>63-</u> L(42) <u>68+</u>
Trenton		<u>40+</u>
Uxbridge		<u>22+</u>

ONTARIO

<u>City/Ville</u>	<u>Canal/VHF/Channel</u>	<u>Canal/UHF/Channel</u>
Vermillion		<u>14</u> 20+
Wawa	9+	<u>16</u> 21- <u>27</u>
Welland		<u>20</u>
White River	12-	
Wiarton	2-	20-
Windsor	9-	26-L(43) 32+ <u>54</u> 60-
Wingham	8-	<u>45</u>
Woodstock		<u>31</u>

PRINCE EDWARD ISLAND ILE-DU-PRINCE-ÉDOUARD

<u>City/Ville</u>	<u>Canal/VHF/Channel</u>	<u>Canal/UHF/Channel</u>
Charlottetown	8+ 13+	<u>25</u> <u>31</u> <u>42</u> 52+
Souris		<u>19+</u>
St Edward-St Louis	<u>4</u> 5+ 9+	
Summerside		36+ <u>65</u>

QUEBEC

<u>City/Ville</u>	<u>Canal/VHF/Channel</u>	<u>Canal/UHF/Channel</u>
Alma		16+ 32+ 48+
Asbestos		47-
Ayer's Cliff		42+
Baie Comeau	7-	<u>28</u> 34+ 40+ <u>52</u>
Baie St Paul		18+
Baie Trinite	12-	<u>17</u>
Bearn Fabre	3	18+ 27+
Beauceville	<u>6</u> L(44)	55-L(45)
Bolton-Est		19+
Buckingham		48-
Cabano		15+
Carleton	2- 5	<u>23</u>
Chandler	6+ 8-L(46)	23+ <u>35</u>
Chapeau	11+	<u>24</u> <u>35</u> <u>40</u> <u>58</u>
Chicoutimi	2+ <u>6</u> 8+L(47)	<u>41</u>
Clermont		62-
Cloridorme	8+ <u>11</u>	65+
Coaticook		51+
Cowansville		25-
Dolbeau		36+ <u>53</u>
Donnaconna		18+
Drummondville		<u>23</u>
Escuminac		<u>25</u>
Estcourt		32-
Forestville		18 35+
Gascons		<u>27-</u> <u>54</u> 59+
Gaspe	<u>7</u> 9+	<u>31</u> <u>54+</u>
Gaspe Nord	5+	
Granby		
Grand Fonds		
Grande Vallee	6-	
Hull (see Ottawa-Hull, Ontario)		
Joliette		<u>43</u>
Jonquiere	4+ 12+	14- 19- 53-
L'Anse à Valleau	12+	
Lac Etchemin		17+ 55+
Lac Megantic		66+
La Pocatiere		<u>28</u>
La Tuque	3- 9-	26+ 49-
Magog		<u>30</u> <u>68</u>
Manicouagan	<u>10</u>	15+
Maniwaki		14+ 43+
Matane	6+	
Mont Climont	<u>13</u>	

QUEBEC

<u>City/Ville</u>	<u>Canal/VHF/Channel</u>	<u>Canal/UHF/Channel</u>
Mont Joli		16- 27- 39- 45- <u>56</u>
Mont Laurier	3+	21- <u>27</u> 54+
Mont St Michel		16+ <u>33</u> + 38+
Mont Tremblant	<u>11</u>	
Montmagny		57- 68+
Montreal	2 6+ <u>10</u> <u>12</u>	17 <u>23</u> <u>29</u> 35+ <u>46</u> 51- <u>56</u> <u>62</u>
Mt. Louis en Haut	10-	19 <u>29</u> 21+ 31+ <u>47</u>
Murdochville		45
New Carlisle		27+
New Richmond		14 40- 53-
Perce	11- 13-	29+
Plessisville		16-
Port Daniel	7+	15- <u>20</u> <u>33</u> <u>38</u> 65-
Quebec	2+ <u>4</u> 5- 11+	
Rapides des Joachims	8-	18+ <u>22</u> <u>51</u>
Rimouski	2 11-	
Riviere au Renard	2+ 4+	29- 50- <u>59</u>
Riviere du Loup	7+ 9+	45-
Roberval	<u>10</u>	36+ 48+
Sept Iles	<u>3</u> 9- 11+ 13+	18- <u>55</u> <u>66</u>
Shawinigan		14+ <u>24</u> + <u>50</u> <u>60</u>
Sherbrooke	<u>7</u> <u>9</u> L(48)	19- <u>64</u> 69-
Sorel		15 <u>54</u> -
Ste Adele		32+ 42-
Ste Agathe des Monts		
Ste Anne des Monts	8-L(49)	43+
Ste Marguerite-Marie	3-	<u>27</u>
St Fabien de Panet	<u>13</u> L(50)	19+
St Felicien		48-
St Fulgence		<u>25</u>
St Georges-de-Beauce		<u>26</u>
St Hyacinthe		
St Jean-Iberville		50+
St Jerome	4	<u>30</u> 41-
St Michel des Saints	<u>7</u> +	44
St Pamphile	3+	<u>22</u> 28+ 40+ <u>53</u>
St Prosper		<u>21</u> <u>32</u> <u>42</u> <u>52</u> <u>61</u>
St Rene de Matane		42+
Stoneham		16- <u>28</u> <u>39</u> L(52) <u>45</u>
Temiscaming	12-	68+
Thetford Mines		34- 58+ <u>63</u>
Trois Pistoles		30+
Trois Rivieres	<u>8</u> L(51) 13-	
Valleyfield		
Victoriaville		
Ville de la Baie	9	

SASKATCHEWAN

<u>City/Ville</u>	<u>Canal/VHF/Channel</u>	<u>Canal/UHF/Channel</u>
Assiniboia		23-
Bellegarde		26- 54+
Biggar		29+
Broadview		49-
Canora		32-
Carlyle Lake	7+	47-
Colgate	<u>12</u>	<u>48</u>
Cypress Hills	2+	19-
Davidson		14+ <u>54</u>
Esterhazy		<u>19</u> <u>25</u> <u>41</u>
Estevan		33+
Eston		22+
Fort Qu'Appelle	7	<u>27</u>
Golden Prairie	10+	39- 45+
Gravelbourg		26+
Greenwater Lake	4+	<u>22</u>
Humboldt		21+
Indian Head		54-
Kamsack		54+
Kindersley		16+
Maple Creek		<u>15</u> 26-
Marengo		17-
Melville		<u>16</u> <u>26</u> <u>42</u>
Moose Jaw-Marquis	4- 7-	36+
Moosomin		46+
Norquay	7- <u>13</u>	34+
Oxbow		<u>22</u>
Ponteix	<u>3</u>	<u>18</u> 24+ <u>29</u> <u>46</u>
Regina	<u>2</u> 9- 11+L(53) 13-	<u>25</u> <u>43</u>
Riverhurst	10-	40
Rosetown		<u>17</u> <u>23</u> <u>28</u> <u>33</u>
Saskatoon	<u>4</u> 8+ <u>11</u> <u>13</u>	15+
Shaunavon	7+	19-
St Brieux	7+	24-
Stranraer	3- <u>9</u>	<u>30</u> <u>36</u>
Swift Current	5- 12-	<u>27</u>
Unity		36-
Warmley	3-	32+
Watrous		16+
Weyburn		<u>21</u>
Wilkie		41+
Willow Bunch	6- 10+	<u>14</u> <u>34</u>
Wynyard	<u>6</u> 12+	
Yorkton	5- <u>10</u>	

YUKON

<u>City/Ville</u>	<u>Canal/VHF/Channel</u>	<u>Canal/UHF/Channel</u>
Clinton Creek	8	22
Dawson	<u>3</u> 10	<u>14</u> 19
Elsa	<u>9</u>	15
Faro	<u>8</u>	15+
Keno Hill	<u>13</u>	20
Mayo	<u>7</u>	23
Watson Lake	8+	14-
Whitehorse	2+ <u>6</u>	<u>14</u> 19

- |       |   |       |   |
|-------|---|-------|---|
| L(1)  | Limitation of 8.9 kW ERP,<br>147 metres EHAAT, with specified<br>pattern to protect KCTS-TV<br>Seattle, Washington.                             | L(1)  | PAR et HEASM limitées à 8.9 kW<br>et 147 m, avec le diagramme<br>prescrit pour protéger KCTS-TV<br>Seattle (Wash.).                               |
| L(2)  | Limitation to protect KFFB-TV<br>Great Falls, Montana.  | L(2)  | Limitation pour protéger KFFB-TV<br>Great Falls (Mont.).  |
| L(3)  | Limitation to protect KECI-TV<br>Missoula, Montana.   | L(3)  | Limitation pour protéger KECI-TV<br>Missoula (Mont.).   |
| L(4)  | Limitation of 1 kW ERP and<br>31 metres EHAAT.  | L(4)  | PAR et HEASM limitées à 1 kW et<br>31 m.  |
| L(5)  | Limitation of 790 watts ERP at<br>610 metres EHAAT.   | L(5)  | PAR et HEASM limitées à 790 W et<br>610 m.  |
| L(6)  | Limitation to protect KPAX-TV<br>Missoula, Montana.   | L(6)  | Limitation pour protéger KPAX-TV<br>Missoula (Mont.).   |
| L(7)  | Limitation of 1.37 kW ERP,<br>427 metres EHAAT to protect<br>KCFW-TV Kalispell, Montana.  | L(7)  | PAR et HEASM limitées à 1.37 kW<br>et 427 m pour protéger KCFW-TV<br>Kalispell (Mont.).   |
| L(8)  | Limitation to protect KOMO-TV<br>Seattle, Washington.   | L(8)  | Limitation pour protéger KOMO-TV<br>Seattle (Wash.).  |
| L(9)  | Limitation of 304 watts at<br>-295.7 metres EHAAT to protect<br>co-channel allotment at<br>Ketchikan, Alaska.                                   | L(9)  | Limitation avec une PAR et une<br>HEASM de 304 watts et -295.7 m.<br>pour protéger un allotissement<br>sur le même canal à Ketchikan<br>(Alaska). |
| L(10) | Limited to 1 Megawatt at<br>305 metres EHAAT or the<br>equivalent in the direction of<br>channel 15+ Centralia,<br>Washington allotment.        | L(10) | PAR et HEASM limitées à 1 MW et<br>305 m ou l'équivalent dans la<br>direction de l'allotissement du<br>canal 15+ Centralia (Wash.).               |
| L(11) | Limited to 1 Megawatt at<br>305 metres EHAAT or the<br>equivalent in the direction of<br>channel <u>64</u> Bellingham,<br>Washington allotment. | L(11) | PAR et HEASM limitées à 1 MW et<br>305 m ou à l'équivalent dans la<br>direction de l'allotissement du<br>canal <u>64</u> Bellingham (Wash.).      |
| L(12) | Approved site: 49° 21' 12"<br>N.L. 122° 57' 18" W.L.  | L(12) | Emplacement approuvé:<br>49° 21' 12" de latitude nord,<br>122° 57' 18" de longitude<br>ouest.   |

- L(13) Minnedosa site to be located no less than 275 km from co-channel assignment at Grand Forks, North Dakota with site co-ordinates 48° 08' 24" N.L., 97° 59' 38" W.L. and limited to 100 kW maximum ERP and 305 metres EHAAT, or the equivalent, in the general direction of Grand Forks, North Dakota.
- L(14) Limitation to protect WABI-TV Bangor, Maine.
- L(15) Specially coordinated short-spaced allotment with ERP limited to 50 kW at HAAT of 271 metres towards WMEM-TV Presque Isle, Maine.
- L(16) Specially coordinated short-spaced allotment with ERP limited to 4.35 kW at 363.9 metres HAAT at azimuth of 247° towards WMEB-TV Orono, Maine with a maximum ERP of 35.5 kW at 145° azimuth.
- L(17) Limitation to protect WLBZ-TV Bangor, Maine.
- L(18) Limitation to protect WMED-TV Calais, Maine. Moreover, this channel shall not prejudice the future use of channel 13- at Calais, Maine.
- L(19) Limitation of 14 dBk at 549 metres (or equivalent) to protect WVII-TV Bangor, Maine.
- L(20) Short spaced allotment to be specially coordinated with the United States.
- L(13) L'emplacement de Minnedosa ne doit pas être à moins de 275 km du canal commun assigné à Grand Forks (N.D.) à 48° 08' 24" de latitude nord et 97° 59' 38" de longitude ouest, avec une PAR et une HEASM limitées à 100 kW et 305 m ou l'équivalent dans la direction générale de Grand Forks (N.D.).
- L(14) Limitation pour protéger WABI-TV Bangor (Maine).
- L(15) Allotissement à faible espace-ment ayant fait l'objet de coordinations particulières et limité à un PAR et HASM de 50 kW à 271 mètres vers WMEM-TV Presque Isle (Me.).
- L(16) Allotissement à faible espace-ment ayant fait l'objet de coordinations particulières et limité à un PAR et HASM de 4.35 kW à 363.9 mètres à 247° d'azimut vers WMEB-TV Orono (Me.). PAR maximale de 35.5 kW à 145° d'azimut.
- L(17) Limitation pour protéger WLBZ-TV Bangor (Maine).
- L(18) Limitation pour protéger WMED-TV Calais (Me.). De plus, ce canal ne doit pas nuire à l'exploitation future de canal 13- à Calais (Me.).
- L(19) PAR et HEASM limitées à 14 dBk et 549 m (ou l'équivalent) pour protéger WVII-TV Bangor (Me.).
- L(20) Allotissement à écart insuffisant qui doit faire l'objet de coordinations particulières avec les Etats-Unis.

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|-------|---|---|
| L(21) | Approved site: $42^{\circ} 27' 00''$<br>N.L. $82^{\circ} 05' 00''$ W.L.   | L(21) Emplacement approuvé:<br>$42^{\circ} 27' 00''$ de latitude nord,<br>$82^{\circ} 05' 00''$ de longitude ouest.   |
| L(22) | Approved site: $42^{\circ} 27' 00''$<br>N.L. $82^{\circ} 05' 00''$ W.L.   | L(22) Emplacement approuvé:<br>$42^{\circ} 27' 00''$ de latitude nord,<br>$82^{\circ} 05' 00''$ de longitude ouest.   |
| L(23) | Limited to 10 kW ERP and<br>100 metres.   | L(23) PAR et HEASM limitées à 10 kW<br>et 100 m.  |
| L(24) | Limitation to protect WROC-TV<br>Rochester, New York.   | L(24) Limitation pour protéger WROC-TV<br>Rochester (N.Y.).   |
| L(25) | Limitation to protect WIRT<br>Hibbing, Minnesota.   | L(25) Limitation pour protéger WIRT<br>Hibbing (Min.).  |
| L(26) | Approved site: $43^{\circ} 15' 35''$<br>N.L. $80^{\circ} 26' 39''$ W.L.   | L(26) Emplacement approuvé:<br>$43^{\circ} 15' 35''$ de latitude nord,<br>$80^{\circ} 26' 39''$ de longitude ouest.   |
| L(27) | Limitation to protect co-<br>channel station WTVS Detroit,<br>Michigan.   | L(27) Limitation pour protéger WTVS<br>Detroit (Mich) sur le même<br>canal.   |
| L(28) | Approved site: $43^{\circ} 27' 00''$<br>N.L. $80^{\circ} 36' 08''$ W.L. Short<br>spaced allotment to be<br>specially coordinated with the<br>United States. | L(28) Emplacement approuvé:<br>$43^{\circ} 27' 00''$ de latitude nord,<br>$80^{\circ} 36' 08''$ de longitude ouest.<br>Un allotissement à faible<br>espace doit faire l'objet de<br>coordinations particulières avec<br>les États-Unis. |
| L(29) | Approved site: $42^{\circ} 57' 20''$<br>N.L. $81^{\circ} 21' 20''$ W.L.   | L(29) Emplacement approuvé:<br>$42^{\circ} 57' 20''$ de latitude nord,<br>$81^{\circ} 21' 20''$ de longitude ouest.   |
| L(30) | Short spaced allotment to be<br>specially coordinated with the<br>United States.  | L(30) Allotissement à faible<br>espace qui doit faire<br>l'objet de coordinations<br>particulières avec les<br>Etats-Unis.  |
| L(31) | Limitation of 100 kW ERP and<br>183 m EHAAT toward WCML-TV<br>Alpena, Michigan at notified<br>distance of 383 km.   | L(31) Limitation de 100 kW PAR et<br>HEASM de 183 m à WCML-TV Alpena<br>(Mich.) à une séparation de<br>383 km.  |

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|-------|---|-------|--|
| L(32) | Specially coordinated short spaced allotment with power limited to 3 kW towards WTOM-TV Cheboygan, MI. (using a directional antenna with an 11 dB null on a bearing of 298 degrees; maximum ERP of 38 kW at 105° true; EHAAT of 130.8 metres. | L(32) | Allotissement à faible espace-ment ayant fait l'objet de coordinations particulières et limité à un PAR d'environ 3 kW vers WTOM-TV Cheboygan (MI) en environ 298° d'azimut; un PAR maximale de 38 kW à 105° d'azimut; HASM de 130.8 mètres. |
| L(33) | Limitation of 18 kW at 134 metres EHAAT over sector 224 to 258 degrees true to protect WJRT-TV Flint, Mich., and a limitation of 158 kW at 134 metres EHAAT, at an azimuth of 150 degrees true, to protect WICU-TV Erie, Pennsylvania.        | L(33) | PAR et HEASM limitées à 18 kW et 134 m dans le secteur de 224 à 258 degrés d'azimut pour protéger WJRT-TV Flint (Mich) et PAR et HEASM limitées à 158 kW et 134 m à 150 degrés d'azimut pour protéger WICU-TV Erie (PA.).                    |
| L(34) | Limitation to protect co-channel allotment at Elmira, NY  | L(34) | Limitation pour protéger un allotissement sur le même canal à Elmira (N.Y.).   |
| L(35) | Approved site: 42° 43' 21" N.L. 82° 10' 00" W.L.  | L(35) | Emplacement approuvé:<br>42° 43' 21" de latitude nord<br>82° 10' 00" de longitude ouest  |
| L(36) | Limited to 10 kW ERP at 98m EHAAT to protect co-channel assignments WOSO-TV Columbus, Ohio and WNIT-TV South Bend, Ind., and Channel 20 assignment WXON-TV Detroit, Mich.   | L(36) | Limitation de 10 kW PAR et HEASM de 98m pour protéger WOSO-TV Columbus (Ohio) et WNIX-TV South Bend (Ind.), et WXON-TV Detroit (Mich.) sur canal 20.   |
| L(37) | Approved site: 42° 42' 53" N.L. 82° 08' 12" W.L.  | L(37) | Emplacement approuvé:<br>42° 42' 53" de latitude nord,<br>82° 08' 12" de longitude ouest.  |
| L(38) | Assignment to be located not less than 93 km from WTVS, channel <u>56</u> , Detroit and 85 km from WGPR-TV, channel <u>62</u> , Detroit, Michigan.  | L(38) | L'assignation ne doit pas être à moins de 93 km de la station WTVS, canal <u>56</u> , Detroit, ni à moins de 85 km de la station WGPR-TV, canal <u>62</u> , Detroit (Mich.).   |

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|-------|--|---|
| L(39) | Approved site: 42° 03' 41"<br>N.L. 82° 29' 05" W.L.  | L(39) Emplacement approuvé:<br>42° 03' 41" de latitude nord,<br>82° 29' 05" de longitude ouest.   |
| L(40) | Limitation to protect WTVH<br>Syracuse, New York.  | L(40) Limitation pour protéger WTVH<br>Syracuse (N.Y.)  |
| L(41) | Limitation to protect WUTV<br>Buffalo, New York, channel 29-<br>and channel <u>23</u> allotment at<br>Buffalo, New York.   | L(41) Limitation pour protéger WUTV<br>Buffalo (N.Y.) canal 29- et un<br>allotissement sur canal <u>23</u> à<br>Buffalo (N.Y.).   |
| L(42) | Approved site: 43° 38' 33"<br>N.L. 79° 23' 15" W.L. Short<br>spaced allotment to be<br>specially coordinated with the<br>United States.  | L(42) Emplacement approuvé:<br>43° 38' 33" de latitude nord,<br>79° 23' 15" de longitude ouest.<br>Allotissement à écart<br>insuffisant qui doit faire<br>l'objet de coordinations<br>particulières avec les<br>Etats-Unis. |
| L(43) | Approved site: 42° 17' 42"<br>N.L. 83° 05' 00" W.L.  | L(43) Emplacement approuvé:<br>42° 17' 42" de latitude nord,<br>83° 05' 00" de longitude ouest.   |
| L(44) | Limitation to protect WCSH-TV<br>Portland, Maine.  | L(44) Limitation pour protéger<br>WCSH-TV Portland (Maine).   |
| L(45) | Limitation to protect WEDB-TV<br>Berlin, New Hampshire on<br>Channel 40-.  | L(45) Limitation pour protéger<br>WEDB-TV Berlin (N.H.), sur<br>canal 40-.  |
| L(46) | Limitation to protect WAGM-TV<br>Presque Isle, Maine.  | L(46) Limitation pour protéger WAGM-TV<br>Presque Isle (Me).  |
| L(47) | Limitation to protect WAGM-TV<br>Presque Isle, Maine.  | L(47) Limitation pour protéger<br>WAGM-TV Presque Isle (Me).  |
| L(48) | Limited to 5 kW ERP in the<br>direction of co-channel station<br>WMUR-TV Manchester,<br>New Hampshire, with EHAAT<br>618 metres, or the equivalent,<br>and specified directional<br>antenna radiation pattern. | L(48) PAR et HEASM limitées à 5 kW et<br>618 m ou l'équivalent dans la<br>direction générale de WMUR-TV<br>Manchester (N.H.), qui utilise<br>le même canal, et diagramme de<br>rayonnement d'antenne directive<br>prescrit. |

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|-------|--|---|
| L(49) | Limitation of 100 kW ERP and<br>457 metres EHAAT at site<br>$49^{\circ} 08' 06'' W$ N.L., $66^{\circ} 20' 12''$<br>W.l. to protect WAGM-TV<br>Presque Isle, Maine.   | L(49) PAR et HEASM limitées à 100 kW<br>et 457 m à $49^{\circ} 08' 06''$ de<br>latitude nord et $66^{\circ} 20' 12''$ de<br>longitude ouest pour protéger<br>WAGM-TV Presque Isle (Me.).  |
| L(50) | Limitation of 45 watts toward<br>WMED-TV Calais, Maine and<br>maximum effective radiated<br>power of 1.114 kW at 25 and<br>240 degrees azimuth at 148<br>metres EHAAT. Moreover, this<br>channel shall not prejudice<br>the future use of channel 13-<br>at Calais, Maine. | L(50) Puissance limitée à 45 W dans la<br>direction de WMED-TV Calais<br>(Me.) avec une PAR limitée à<br>1.114 kW à 25 et 240 degrés<br>d'azimut, à une HEASM de 148 m<br>De plus, ce canal ne doit pas<br>nuire à l'exploitation<br>éventuelle de canal 13- à Calais<br>(Me.). |
| L(51) | Limitation of 12.5 kW maximum<br>ERP and 196 metres EHAAT.   | L(51) PAR et HEASM limitées à 12.5 kW<br>et 196 m.  |
| L(52) | Approved site: $46^{\circ} 29' 27''$<br>N.L. $72^{\circ} 39' 00''$ W.l.  | L(52) Emplacement approuvé:<br>$46^{\circ} 29' 27''$ de latitude nord,<br>$72^{\circ} 39' 00''$ de longitude ouest.   |
| L(53) | Limitation of 144 kW at<br>300 metres EHAAT or the<br>equivalent in the direction<br>of Channel 11- Williston,<br>North Dakota.  | L(53) Limitation avec un PAR et une<br>HEASM de 144 kW et 300 m ou<br>l'équivalent dans la direction<br>de canal 11- à Williston (N.D.).  |

TABLE B TABLEAU B  
UNITED STATES ÉTATS-UNIS  
ALASKA

<u>City/Ville</u>	<u>Canal/VHF/Channel</u>	<u>Canal/UHF/Channel</u>
Fairbanks	2+ 4+ 7+ 9+ 11+ 13+	
Juneau	<u>3 8 10</u>	
Ketchikan	<u>2 4 9</u>	
Sitka	<u>13</u>	

CONNECTICUT

Bridgeport	3+	43- 49-
Hartford		18- <u>24</u> 61+
New Britain		30+
New Haven	<u>8</u>	59+ <u>65</u>
New London		26+
Norwich		<u>53</u>
Waterbury		<u>20</u>

IDAHO

Coeur d'Alène		26+
Grangeville		15-
Lewiston	3-	
Moscow	12-	
Sandpoint		16+

ILLINOIS

Aurora		60
Chicago	<u>2- 5 7 9+ 11</u>	<u>20 26 32</u>
Joliet		38- <u>44</u> 14- <u>66+</u>

INDIANA

Anderson		67+
Angola		<u>63</u>
Bloomington	<u>4</u>	30- 42+ 63+
Elkhart		28+
Fort Wayne		15+ 33- 39- <u>55</u>
Ft Wayne-Roanoke		21+
Gary-St. John		<u>50</u>
Gary		<u>56+</u>

INDIANA

Hammond		62+
Indianapolis	<u>6</u> 8- 13-	20- <u>40</u> 59- <u>69</u>
Kokomo		29-
Lafayette		<u>18</u> <u>24</u>
Madison		60+
Marion		<u>23</u>
Muncie		17+ <u>49</u>
Richmond		43+
South Bend		<u>16</u> <u>22</u> 34- <u>46</u>

KENTUCKY

Ashland		25- 50- 61+
Covington		54+
Morehead		38+ 67-
Owenton		52+

MAINE

Augusta	10-	
Bangor	2- 5+ 7-	
Calais	13-L(1)	
Fort Kent		46+
Fryeburg		18+
Houlton		25+
Kittery		<u>39</u>
Lewiston	8-	35-
Millinocket		44-
Orono	12-	
Portland	6- 13+	26- <u>51</u>
Presque Isle	<u>8</u> 10+	62+
Rumford		43+

MARYLAND

Cumberland		52+ <u>65</u>
Frederick		<u>62</u>
Hagerstown		25- <u>31</u> 68+
Oakland		36+

MASSACHUSETTS

Boston	2+ 4- 5- 7+	25+ <u>38</u> 44+ 68+
Boston-Cambridge		<u>56</u>
Greenfield		<u>32+</u>
Middleton		<u>62</u>
New Bedford	6+	<u>28-</u> <u>34</u>
North Adams		<u>19</u> <u>35</u>
Norwell		<u>46+</u>
Pittsfield		<u>51+</u>
Springfield		<u>22</u> <u>40</u> 57+
Vineyard Haven		<u>58+</u>
Worcester		<u>14</u> <u>27</u> 48+ <u>66</u>

MICHIGAN

Alpena	<u>6</u> <u>11</u>	
Ann Arbor		31+ 58+
Bad Axe		15- <u>35</u> 57-
Battle Creek		41+ 43-
Bay City	5-	19+ 61+
Cadillac	<u>9</u>	<u>27</u> <u>33</u>
Calumet	5-	22-
Cheboygan	4+	
Detroit	2+ <u>4</u> 7-	20+ 50- <u>56</u> <u>62</u>
East Lansing		23- 69-
Escanaba	3+	
Flint	12-	28- 66-
Grand Rapids	8+ 13+	<u>17</u> 35+
Iron Mountain	8-	17+
Ironwood		15- 24+
Jackson		18+
Kalamazoo	3-	52+ <u>64</u>
Lansing	6-	<u>47</u> 53-
Manistee		<u>21</u>
Manistique		15+
Marquette	6- <u>13</u>	<u>19</u>
Mount Clemens		38+
Mount Pleasant		<u>14</u>
Muskegon		54+
Onondaga	10-	
Petoskey		23+
Port Huron		46+
Saginaw		25- 49-
Sault Ste. Marie	8 10+	32-
Traverse City	7+	29-
West Branch		<u>24</u>

MINNESOTA

Alexandria	<u>7</u>	<u>24</u> <u>42</u>
Bemidji	<u>9</u>	<u>26+</u>
Brainerd		<u>22</u>
Crookston		<u>33</u>
Duluth	<u>3</u> <u>8</u> <u>10+</u>	<u>21+</u> <u>27-</u>
Ely		<u>17-</u>
Hibbing	<u>13-</u>	<u>18-</u>
International Falls	<u>11</u>	<u>35+</u>
Minneapolis-St. Paul	<u>2-</u> <u>4</u> <u>5-</u> <u>9+</u> <u>11-</u>	<u>17</u> <u>23+</u> <u>29+</u> <u>45</u>
St. Cloud		<u>19</u> <u>25-</u> <u>41</u>
Thief River Falls	<u>10</u>	
Wadena		<u>20-</u>
Walker	<u>12-</u>	
Willmar		<u>14-</u>

MONTANA

Billings	<u>2</u> <u>6</u> <u>8</u> <u>11</u>	<u>14</u> <u>20+</u>
Bozeman	<u>7-</u> <u>9</u>	
Butte	<u>2+</u> <u>4</u> <u>6+</u>	<u>18</u> <u>24</u>
Cutbank		<u>14-</u>
Glendive	<u>5+</u> <u>13+</u>	<u>16-</u>
Great Falls	<u>3+</u> <u>5+</u>	<u>16</u> <u>26</u> <u>32</u>
Hardin	<u>4+</u>	
Havre	<u>9+</u> <u>11+</u>	<u>18-</u>
Helena	<u>10+</u> <u>12</u>	<u>15+</u>
Joplin		<u>35-</u> <u>48</u> <u>54-</u>
Kalispell	<u>9-</u>	<u>29-</u>
Lewistown	<u>13</u>	
Miles City	<u>3-</u> <u>10</u>	
Missoula	<u>8-</u> <u>11-</u> <u>13-</u>	<u>17-</u> <u>23-</u>
Wolf Point		<u>17+</u>

NEW HAMPSHIRE

Berlin		<u>40-</u>
Concord		<u>21+</u>
Durham	<u>11</u>	
Hanover		<u>15+</u> <u>31</u>
Keene		<u>52+</u>
Littleton		<u>49+</u>
Manchester	<u>9-</u>	<u>50-</u> <u>60+</u>
Portsmouth		<u>17-</u>

NEW JERSEY

Little Falls		50+
Newark	13-	<u>68</u>
New Brunswick		47+ <u>58</u>
Newton		<u>63</u>
Paterson		41-
Secaucus	9+	
West Milford		66-

NEW YORK

Albany-Schenectady	<u>6</u> 10- <u>13</u>	17+ 23- 29+ <u>45</u>
Amsterdam		39+ <u>55</u>
Batavia		51-
Binghamton	12-	<u>34</u> 40- 46+
Buffalo	<u>2</u> 4- 7+	<u>17</u> <u>23</u> 29- 49-
Carthage	<u>7</u> -	
Corning		<u>30</u>
Elmira		18+ 36-
Ithaca		<u>52</u> 65+
Jamestown		26+ <u>46</u>
Kingston		62+
Lake Placid	<u>5</u>	34+
Massena-Norwood	<u>1</u>	<u>18</u>
New York	<u>2</u> <u>4</u> 5+ <u>7</u> 11+	<u>25</u> 31-
Oneonta		<u>15</u> <u>42</u>
Plattsburgh		<u>57</u>
Poughkeepsie		54+
Rochester	<u>8</u> 10+ 13-	<u>21</u> 31+ 61+
Syracuse	3- 5- 9-L(2)	24+ 43+ 56+ 68-
Utica	2-	20+ <u>33</u> <u>59</u>
Watertown		<u>16</u> 50+

NORTH DAKOTA      DAKOTA DU NORD

Bismarck	<u>3</u> <u>5</u> 12-	17- 26+
Devils Lake	<u>8</u> +	22+
Dickinson	2+ <u>7</u> 9-	
Ellendale		19-
Fargo	<u>6</u> 11+ <u>13</u>	15-
Grand Forks	<u>2</u> L(3)	14+ 27+
Jamestown	<u>7</u> -	<u>23</u>
Minot	6+ 10- 13-	14- <u>24</u>
Pembina	<u>12</u>	
Valley City	4-	
Williston	<u>4</u> 8- 11-	15-

OHIO

Akron		23+	49+	55-
Alliance		45+		
Ashtabula		<u>15</u>		
Athens		<u>20</u>		
Bowling Green		27+		
Cambridge		44-		
Canton		17- <u>67</u>		
Chillicothe		<u>53</u>		
Cincinnati	5- 9 <u>12</u>	19+	48-	64-
Cleveland	<u>3</u> 5+ <u>8</u>	19	25+	<u>61</u>
Columbus	4- 6+ <u>10+</u>	28-	<u>34</u>	56-
Dayton	<u>2</u> 7+	16+	22+	<u>45</u>
Defiance		65+		
Hillsboro		24+	55+	
Lima		35-	44+	57+
Lorain		<u>43</u>		
Mansfield		47+	68-	
Newark		31-	<u>51</u>	
Oxford		14+		
Portsmouth		<u>30</u>	42-	
Sandusky		<u>52</u>		
Springfield	9+	26+	<u>66</u>	
Steubenville		62+		
Toledo	11- <u>13</u>	24-	30+	36- 40-
Youngstown		21-	<u>27</u>	<u>33</u> <u>58</u>
Zanesville		18-		

OREGON

Astoria		<u>21</u>
Corvallis	7-	
Pendleton	11-	
Portland	<u>2</u> 6+ 8- <u>10</u> <u>12</u>	24+ <u>30</u> 40-
Salem		<u>22</u> <u>32</u>
The Dalles		17-

PENNSYLVANIA    PENNSYLVANIE

Allentown		<u>39</u> <u>69</u>
Altoona	10-	<u>23-</u> <u>47</u> 57+
Bethlehem		60-
Clearfield	3+	
Erie	<u>12</u>	<u>24</u> 35+ 54+ 66+
Greensburg		40+
Harrisburg		21+ 27- 33+

PENNSYLVANIA    PENNSYLVANIE

Hazleton		<u>56</u>
Johnstown	6 8-	<u>19+</u> <u>28+</u>
Lancaster	<u>8+</u>	<u>15+</u>
Lebanon		<u>55-</u>
Pittsburgh	2- 4+ <u>11</u> 13-	<u>16</u> <u>22</u> <u>53+</u>
Reading		<u>51</u>
Scranton		16- 22- 38+ 44- <u>64</u>
State College		<u>29+</u> <u>59+</u>
Wilkes Barre		<u>28</u>
Williamsport		<u>20-</u>
York		<u>43</u> <u>49+</u>

RHODE ISLAND

Block Island		<u>69-</u>
Providence	10+ 12+	<u>16</u> <u>36</u> <u>64+</u>

SOUTH DAKOTA    DAKOTA DU SUD

Aberdeen	9-	16-
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VERMONT

Burlington	<u>3</u>	<u>22+</u> <u>33-</u>
Rutland		<u>28+</u>
St. Johnsbury		<u>20-</u>
Windsor		<u>41</u>

WASHINGTON

Anacortes		<u>24</u>
Bellevue		<u>33+</u> <u>51+</u>
Bellingham	12+	<u>34</u> <u>64</u>
Centralia		<u>15+</u>
Everett		<u>16-</u>
Kennewick		<u>42+</u>
Morton		<u>39</u>
Pasco		<u>19-</u>
Pullman	10-	
Richland		<u>25</u> <u>31</u>
Rochester		<u>26+</u>
Seattle	<u>4</u> <u>5+</u> <u>7</u> <u>9</u>	<u>22+</u> <u>45+</u> <u>62</u>
Spokane	<u>2-</u> <u>4-</u> <u>6-</u> <u>7+</u>	<u>22</u> <u>28-</u> <u>34-</u>
Tacoma	11+ 13-	<u>20</u> <u>28</u> <u>56</u>

WASHINGTON

Vancouver	<u>14</u>	49-
Walla Walla	<u>14-</u>	
Wenatchee	18+	<u>27</u>
Yakima	23+	<u>29+</u> <u>35</u> <u>47</u>

WEST VIRGINIA VIRGINIE-OCCIDENTALE

Charleston	8+ 11+	<u>23</u> <u>29</u> 49-
Clarksburg	12+	<u>46-</u>
Fairmont		66-
Huntington	3+ 13+	33+
Keyser		30+
Martinsburg		<u>44</u> 60+
Morgantown		<u>24-</u>
Parkersburg		15- 39+ <u>57</u>
Weirton		50+
Weston	<u>5</u>	
Wheeling	<u>7</u>	<u>14</u> <u>41</u>

WISCONSIN

Appleton		32+
Chippewa Falls		<u>48</u>
Colfax		28-
Eau Claire	13+	<u>18</u>
Green Bay	2+ 5+ 11+	26+ <u>38</u> 44+
Kenosha		55-
Manitowoc		16+
Marshfield		39-
Milwaukee	4- <u>6</u> 10+ <u>12</u>	18- 24+ <u>30</u> <u>36</u> <u>58</u>
Park Falls		36+
Racine		49+
Rhineland	12+	
Rice Lake City		<u>16</u>
Sheboygan		<u>28</u>
Suring		14-
Superior	6+	<u>40</u>
Wausau	7- <u>9</u>	20+ 33-

- |      |  |      |   |
|------|--|------|---|
| L(1) | Limitation to protect<br>CJBR-TV-1, Edmundston, N.B.   | L(1) | Limitation pour protéger<br>CJBR-TV-1, Edmundston (N.-B.).  |
| L(2) | Limitation of 20 dBk at 305 m<br>EHAAT.  | L(2) | Limitations: 20 dBk et 305 m<br>HEASM.  |
| L(3) | Limited to 100 kW maximum ERP<br>and 305 m EHAAT, or the<br>equivalent, in the general<br>direction of Brandon,<br>Manitoba. | L(3) | Limitation de 100 kW PAR et de<br>305 m HEASM ou l'équivalent, en<br>direction générale de Brandon<br>(Man.). |

INDUSTRY CANADA/INDUSTRIE CANADA



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Canada. Radiocommunications  
Agreement between the Govern

**DATE DUE - DATE DE RETOUR**

IC 1551 (9/95)

