Chapter 3
International Matters

3.1 TREATIES AND AGREEMENTS

The primary treaties and other international agreements in force relating to radio communication and to which the United States is a party are as follows:

The International Telecommunication Convention was signed at Nairobi on November 6, 1982. The United States deposited its instrument of ratification on January 7, 1986.

The Radio Regulations annexed to the International Telecommunication Convention were signed at Geneva on December 6, 1979 and entered into force with respect to the United States on January 1, 1982.

The United States-Canada Agreement relating to the Coordination and Use of Radio Frequencies Above 30 Megacycles per Second was effected by an exchange of notes at Ottawa on October 24, 1962. A revision to the Technical Annex to the Agreement, made in October 1964 at Washington, was effected by an exchange of notes signed by the United States on June 16, 1965 and by Canada on June 24, 1965. The revision entered into force on June 24, 1965. A revision to this Agreement to add Arrangement E (Arrangement the Department of Communications of Canada between Industry Canada and the National Telecommunications and Information Administration and the Federal Communications Commission of the United States concerning the use of the 406.1 to 430 MHz band in Canada-United States Border Areas) was effected by an exchange of notes signed by the United States on February 26, 1982 and Canada on April 7, 1982 and entered into force on April 7, 1982. Another revision to this Agreement to add Arrangement F (Arrangement Between the Department of Communications of Canada and the Federal Communications Commission of the United States Concerning the Use of the Band 806-890 MHz along the Canada-United States Border) was effected by an exchange of notes signed by Canada on November 2, 1993 and by the United States on January 4, 1994 and entered into force on January 4, 1994. An additional revision to this Agreement to add Arrangement G (Sharing Arrangement Between the Department of Industry of Canada and the Federal Communications Commission of the United States of America Concerning the Use of the Frequency Bands 764 to 776 MHz and 794 to 806 MHz by the Land Mobile Service along the Canada-United States Border) was effected by an exchange of notes signed by Canada on June 15, 2005 and by the United States on June 20, 2005 and entered into force on June 20, 2005.

Inquiries concerning the purchase of copies of the International Telecommunication Union (ITU) Constitution and Convention, the Radio Regulations, and the partial revisions thereto, should be sent to the Sales and Marketing Division, International Telecommunication Union, Place des Nations, CH-1211 Geneva 20, Switzerland. Inquiries concerning the substance of the publications should be addressed either to the Office of International Communications and Information Policy, Department of State, or to the Assistant Secretary of Commerce for Communications and Information.

Inquiries concerning copies of the U.S.-Canada Agreement should refer to “Treaties and Other International Acts Series 5205 and 5833" and should be sent to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C.

3.2 THE INTERNATIONAL TELECOMMUNICATION UNION

The International Telecommunication Union (ITU) was established in 1865 to manage the first international telegraph networks. The ITU is a specialized agency of the United Nations (UN) headquartered in Geneva, Switzerland. It also has a number of regional and sub-regional offices. It is responsible for international frequency allocations, worldwide telecommunications standards and telecommunication development activities. The ITU is unique among international organizations in that it was founded on the principle of cooperation between governments and the private sector. One hundred ninety-one (191) Countries are Members of the ITU. Any administration (country) that accedes to the ITU Convention can become a Member of the Union. Member Countries have voting privileges in all ITU Organs. International and regional organizations with an interest in telecommunications, public and private operators, broadcasters, and scientific and industrial companies can become members of components of the ITU known as sectors. Sector members participate in most Union activities on an advisory basis but do not have voting rights. There are over 700 Sector Members and Associate Members. Additional information on the ITU can be found at www.itu.int.

The broad functions of the ITU are the regulation, coordination and development of international telecommunications. The United States is an active member of the ITU and its work is considered critical to the interests of the United States.

3.2.1 Purposes of the Union

The ITU's mission is to enable the growth and sustained development of telecommunications and information networks, and to facilitate universal access so that people everywhere can participate in, and benefit from, the emerging information society and global economy. The ability to communicate freely is a pre-requisite for a more equitable, prosperous and peaceful world. The ITU assists in mobilizing the technical, financial and human resources needed to make this vision a reality.

The purposes of the Union are to ensure the rational, equitable, efficient and economical use of the radio-frequency spectrum by all radiocommunication services, including those using satellite orbits and the radio astronomy service, and to carry out studies and approve recommendations on radiocommunication matters, develop information and communication technology/telecom standards to meet the needs of industry and consumers, and to ensure world-wide interoperability and promote the right to communicate of all inhabitants of the planet through access to infrastructure and information and communication services.

3.2.2 Structure of the Union

The ITU Constitution states that the Union shall comprise: the Plenipotentiary Conference, which is the supreme authority of the Union; the Council, which acts on behalf of the Plenipotentiary Conference; world conferences on international telecommunications; the Radiocommunication Sector, including world and regional radiocommunication conferences, radiocommunication assemblies and the Radio Regulations Board; the Telecommunication Standardization Sector, including world telecommunication standardization conferences; the Telecommunication Development Sector, including world and regional telecommunication development conferences; and the General Secretariat.

3.2.3 Plenipotentiary Conference

The Plenipotentiary Conference is convened every four years. This conference adopts the fundamental policies of the Union and decides its organization and activities by means of a treaty known as the International Telecommunication Constitution and Convention. These conferences focus on long-term policy issues. They take decisions on draft Strategic Plans submitted by the Council outlining the objectives, work, programs and expected outcome for each constituent of the Union until the following Conference. Plenipotentiary Conferences elect members of the Council, the Secretary-General and Deputy Secretary-General, the Bureau Directors in the three Bureau Sectors of the ITU, and the members of the Radio Regulations Board. ITU Member States control the events at Plenipotentiary Conferences; Sector Members may attend the Conferences as observers.

3.2.4 The Council

The Council of the ITU is composed of 25% (46 Members) of the total number of Member States, which are elected by the Plenipotentiary Conference, with due regard to the need for equitable distribution of the seats on the Council among the five world regions (Americas, Western Europe, Eastern Europe, Africa, Asia and Australasia). The role of the Council is to consider, in the interval between two Plenipotentiary Conferences, broad telecommunication policy issues in order to ensure that the Union's policies and strategy fully respond to the constantly changing telecommunication environment. The Council is responsible for ensuring the efficient coordination of the work of the Union and for exercising an effective financial control over the General Secretariat and the three Sectors. The Council takes all steps to facilitate the implementation by Members of the provision of the Constitution, the Convention, the Administrative Regulations of the Plenipotentiary conferences and, where appropriate, of the decisions of other conferences and meetings of the Union. Additional information regarding the Council is located at http://www.itu.int/council/index.html.

3.2.5 General Secretariat

The General Secretariat manages the administrative and financial aspects of the Union's activities, including the provision of conference services, information services, long-range strategic planning, and corporate functions (communications, legal advice, finance, personnel and common services). The General Secretariat's work in managing the Union's many meetings, regional and international assemblies and conferences covers organizational and logistical support, the provision of administrative services, documentation, and the provision of translation and interpretation services in the six working languages of the Union. In addition, its work involves providing legal advice, communication support and media relations services for these events. Through an extensive document preparation and handling center, the General Secretariat is also charged with the production and printing of documents and publications as well as with marketing, sales and dispatch of publications to customers worldwide. The management of the finances of the Union is also the responsibility of the General Secretariat. Activities include advising and informing the membership and legislative bodies of the Union on financial and budgetary matters, preparation of the Union's draft budget, preparation of cost analysis, and financial reporting. Additional information regarding the General Secretariat is located at http://www.itu.int/net/gs/index.aspx.

3.2.6 Radiocommunication Sector

The Radiocommunication Sector (ITU-R) ensures the rational, equitable, efficient and economical use of the radio-frequency spectrum by all radiocommunication services, including those using the geostationary-satellite orbit, and carries out studies without limit of frequency range on the basis of which recommendations are adopted. Subjects covered include: spectrum utilization and monitoring; inter-service sharing and compatibility; science services; radio wave propagation; the fixed satellite, fixed, and mobile services and sound and television broadcasting. The Radiocommunication Sector operates through World and Regional Radiocommunication Conferences and Radiocommunication Assemblies supported by study groups (legislative functions), an Advisory Group (strategic advice) and a Bureau headed by a Director (administrative functions). Additional information regarding the Radio Communication Sector is located at http://www.itu.int/ITU-R/index.asp.

3.2.7 Telecommunication Standardization Sector

The Telecommunication Standardization Sector (ITU-T) studies technical, operating and tariff questions and issues recommendations with a view to standardizing telecommunications on a worldwide basis, including recommendations on interconnection of radio systems in public telecommunication networks and on the performance required for these interconnections. Activities cover: telecommunication services and network operation; telecommunication tariffs and accounting principles; maintenance; protection of outside plant; data communication; terminal for telematic services; switching, signaling and man-machine language; transmission performance, systems and equipment; and ISDN. The Standardization Sector operates through World Telecommunication Standardization Conferences which are supported by study groups (legislative) and convened every four years, and an Advisory Group on Standardization (strategic advice and a Standardization Bureau headed by a Director (administrative function). Additional information regarding the Standardization Sector is located at http://www.itu.int/ITU-T/index.html.

3.2.8 Telecommunication Development Sector

The Telecommunication Development Sector (ITU-D) activities include policy and regulatory advice, advice on the financing of telecommunications and on low-cost technology options, assistance in human resource management, and the development of initiatives targeting rural development and universal access. Throughout all these activities, ITU-D maintains a strong emphasis on brokering partnerships with the private sector, with a view to harnessing the commercial drive of industry to meet the needs of developing nations. The World Telecommunication Development Conference (WTDC) provides direction to the Telecommunications Development Bureau (BDT), setting guidelines for development priorities, planning BDT activities and establishing the Bureau's work program. WTDC also establishes study groups to undertake studies on issues of relevance to developing countries, including development policies, financing, network planning, and introduction of new services, and is charged with examining the reports of such study groups. Additional information regarding the Development Sector is located at http://www.itu.int/net/ITU-D/index.aspx.

3.3 SUBMISSION OF INFORMATION TO THE ITU

3.3.1 Notification of Frequency Assignments

Frequencies assigned to Federal radio stations shall be notified to the Radiocommunication Bureau, Geneva, Switzerland.

3.3.2 Provision of Information Regarding Satellite Networks in Planned Satellite Systems

In order to ensure compliance with the provisions of the ITU Radio Regulations, any Federal agency intending to establish a satellite system shall provide to the Spectrum Planning Subcommittee (SPS) and the Space Systems Subcommittee (SSS) the details contained in Appendix **4** to the ITU Radio Regulations for each satellite network within the planned satellite system, including changes in the technical characteristics and the employment and deployment of stations contained therein.

The information in Appendix **4** of the ITU Radio Regulations shall be furnished to the SPS in accordance with the instructions appearing in Chapter 10 of this Manual.

The information in Appendix **4** shall be furnished to the SSS in accordance with the current ITU Radio Regulations and applicable Radiocommunication Bureau (BR) Circular Letters. The Appendix **4** information required for Advance Publication shall be provided to the SSS at the same time as the request for Stage 2 Systems Review under Chapter 10 of this Manual, and shall not normally be transmitted to the Radiocommunication Bureau for Advance Publication until Stage 2 certification of Spectrum Support has been granted or earlier if sufficient information is available. The Appendix 4 information required for coordination and notification shall be provided at the same time as the Stage 3 Systems Review approval request under Chapter 10 of this Manual. After Stage 3 approval, the required coordination will be initiated. Notification of frequency assignments to the BR will be made after Stage 4 approval has been granted and any required coordination has been accomplished. Operational frequency assignments will not normally be granted until notification has been initiated.

Before Stage 2, 3, or 4 support is granted the SSS must indicate that the appropriate Appendix **4** data have been submitted and reviewed.

The SSS will review the information and:

(a) Notify the SPS that the required data is on file.

(b) Request the FCC Liaison Representative to submit the appropriate data to the BR or to other administrations under the provisions of the ITU Radio Regulations.

It is recognized that the submission of information to the BR concerning earth stations located outside the jurisdiction of the United States may be the responsibility of the country on whose territory the earth station is located.

As a matter of policy, advance publication information, coordination information (as necessary), and notices of frequency assignments relating to space systems shall be submitted to the BR. Exceptions to this policy will be made only by the NTIA on a case-by-case basis.

It is the practice of the United States not to submit space system information to the BR if: i) the intended use is for a short period of time (on the order of 12 months or less); ii) the intended use is not in accordance with the Table of Frequency Allocations of the ITU RR, or iii) national security is affected.

An agency requesting exemption from international registration for a particular satellite system shall submit a request that the international registration be waived to the SSS. The submission to the SSS shall include the following:

(a) a statement that the agency has reviewed the existing satellite systems registered with the ITU and determined their system is compatible;

(b) a statement that the agency will continue to monitor the international registration process for satellite systems that operate co-channel to the system for which they have requested a waiver and be responsible for taking the measures necessary to ensure compatibility with any new system; and

(c) a statement that the agency recognizes that should a waiver of the international registration requirement be approved and interference occurs to or from their unregistered system, they have no status or rights under the ITU Radio Regulations (RR). Agencies operating such a system, without the benefit of the recognition and protection afforded by the international registration process, assume full responsibility for making modifications required to resolve any interference problems with systems operating in accordance with the RR.

3.3.3 Provision of Information Regarding Terrestrial Systems

Any Federal agency intending to register a terrestrial station assignment with the ITU Radiocommunication Bureau (BR) shall provide the coordination information, if necessary, and notification information, as contained in Appendix **4** to the ITU Radio Regulations, to the Federal Communications Commission (Notification Branch, Planning and Negotiations Division, International Bureau) for submission to the BR.

3.4 AGREEMENT BETWEEN THE UNITED STATES OF AMERICA AND CANADA CONCERNING THE COORDINATION AND USE OF RADIO FREQUENCIES ABOVE 30 MEGACYCLES PER SECOND

3.4.1 General

The United States-Canada Agreement relating to the Coordination and Use of Radio Frequencies Above 30 Megacycles per Second contains a Technical Annex which is composed of an Index and seven frequency sharing/coordination Arrangements lettered A, B, C, D, E, F, and G, respectively.

The Index to the Technical Annex indicates for each of the seven Arrangements the frequency bands involved and the authorized coordination agencies or channels in each country for each band.

The National Telecommunications and Information Administration (NTIA) and Industry Canada (The Canadian Department of Industry, known as Industry Canada, has superceded the Department of Communications which had previously superceded the Department of Transport as the authorized coordination agency or channel for Canada with respect to certain frequency bands.) are the authorized coordination agencies for the bands shown in the following tabulation:

Band (MHz)	Arrangement	Type Assignments Involved
32.0-33.0	D	Experimental and military tactical & training excluded
34.0-35.0	D	Same as above
36.0-37.0	D	Same as above
38.0-39.0	D	Same as above
40.0-42.0	D	Same as above
46.6-47.0	ITU RR 228	Ionospheric scatter only
49.6-50.0	ITU RR 228	Same as above
138.0-144.0	D	Experimental and military radar and tactical & training excluded
148.0-149.9	D	Same as above
150.05-150.8	D	Same as above
162.0-174.0	D	Experimental and military tactical & training excluded
406.1-430.0	E	Same as above
1540.0-1660.0	B	Space techniques only
1710.0-1850.0	D	Experimental and military tactical & training excluded
2110.0-2120.0	D	Experimental excluded
2200.0-2290.0	D	Experimental and military tactical & training excluded
2900.0-3100.0	C	Non-military radar only
4200.0-4400.0	B	Space techniques only
4400.0-4990.0	D	Experimental and military tactical & training excluded
5000.0-5250.0	B	Space techniques only
5460.0-5650.0	C	Non-military radar only
7125.0-7250.0	D	Experimental and military tactical & training excluded
7250.0-7750.0	D	Experimental excluded
7750.0-7900.0	D	Experimental and military tactical & training excluded
7900.0-8400.0	D	Experimental excluded
9300.0-9500.0	C	Non-military radar only
15400.0-15700.0	B	Space techniques only

3.4.2 Index to the Technical Annex

(The Index to the Technical Annex, Arrangements C and D, and the pertinent portion of Arrangement B are reproduced below.)

Item	Frequency	Authorized Coordination Agencies or Channels		Coordination Arrangements Remarks
		US	Canada	
1	30.56-32.0	FCC	DOT	Arrangement A
2	32.0-33.0	IRAC	DOT	Arrangement D
3	33.0-34.0	FCC	DOT	Arrangement A
4	34.0-35.0	IRAC	DOT	Arrangement D
5	35.0-36.0	FCC	DOT	Arrangement A
6	36.0-37.0	IRAC	DOT	Arrangement D
7	37.0-38.0	FCC	DOT	Arrangement A
8	38.0-39.0	IRAC	DOT	Arrangement D
9	39.0-40.0	FCC	DOT	Arrangement A
10	40.0-42.0	IRAC	DOT	Arrangement D
11	42.0-46.6	FCC	DOT	Arrangement A
12	46.6-47.0	IRAC	DOT	ITU RR 228
13	47.0-49.6	FCC	DOT	Arrangement A
14	49.6-50.0	IRAC	DOT	ITU RR 228
15	72.0-73.0	FCC	DOT	Arrangement A
16	74.6-75.4	FAA	DOT	Arrangement B
17	75.4-76.0	FCC	DOT	Arrangement A
18	108.0-117.975	FAA	DOT	Arrangement B
19	117.975-121.975	FAA	DOT	Arrangement B
20	121.975-123.075	FCC	DOT	Arrangement B
21	123.075-123.575	FCC	DOT	Arrangement B
22	123.575-128.825	FAA	DOT	Arrangement B
23	128.825-132.025	FCC	DOT	Arrangement B
24	132.025-136.0	FAA	DOT	Arrangement B
25	138.0-144.0	JCS	CDS*	Arrangement C
26	148.0-149.9	IRAC	DOT	Arrangement D
27	148.0-149.9	JCS	CDS	Arrangement C
28	150.05-150.8	IRAC	DOT	Arrangement D
29	150.05-150.8	JCS	CDS*	Arrangement C
30	150.8-174.0	FCC	DOT	Arrangement A
31	162.0-174	IRAC	DOT	Arrangement D
32	216.0-225.0	JCS	CDS*	Arrangement C
33	328.6-335.4	FAA	DOT	Arrangement B
33bis	406.1-430.0	NTIA	DOC	Arrangement E
34	420.0-450.0	JCS	CDS*	Arrangement C
35	450.0-470.0	FCC	DOT	Arrangement A
35bis	764-776	FCC	IC	Arrangement G
35ter	794-806	FCC	IC	Arrangement G
35quar	806-890	FCC	DOC	Arrangement F
36	890.0-942.0	JCS	CDS*	Arrangement C
37	942.0-960.0	FCC	DOT	Arrangement A
38	960.0-1215.0	FAA	DOT	Arrangement B
39	1215.0-1400.0	JCS	CDS*	Arrangement C
40	1300.0-1350.0	FAA	DOT	Arrangement C
41	1535.0-1540.0			Coordination not required at this time
42	1540.0-1660.0	IRAC	DOT	Arrangement B
43	1710.0-1850.0	IRAC	DOT	Arrangement D
44	1850.0-2200.0	FCC	DOT	Arrangement A
45	2110.0-2120.0	IRAC	DOT	Arrangement D

Item	Frequency	Authorized Coordination Agencies or Channels		Coordination Arrangements Remarks
		US	Canada	
46	2200.0-2290.0	IRAC	DOT	Arrangement D
47	2300.0-2450.0	JCS	CDS*	Arrangement C
48	2450.0-2690.0	FCC	DOT	Arrangement A
49	2700.0-2900.0	FAA	DOT	Arrangement C
50	2700-3700.0	JCS	CDS*	Arrangement C
51	2900-3100.0	IRAC	DOT	Arrangement C
52	3700.0-4200.0	FCC	DOT	Arrangement A
53	4200.0-4400.0	IRAC	DOT	Arrangement B
54	4400.0-4990.0	IRAC	DOT	Arrangement D
55	5000.0-5250.0	IRAC	DOT	Arrangement B
56	5250.0-5925.0	JCS	CDS*	Arrangement C
57	5460.0-5650.0	IRAC	DOT	Arrangement C
58	5925.0-7125.0	FCC	DOT	Arrangement A
59	7125.0-8400.0	IRAC	DOT	Arrangement D
60	8400.0-8500.0			Coordination not required at this time
61	8500.0-10500.0	JCS	CDS*	Arrangement C
62	9000.0-9200.0	FAA	DOT	Arrangement C
63	9300.0-9500.0	IRAC	DOT	Arrangement C
64	10.55-10.68 GHz	FCC	DOT	Arrangement A
65	10.70-13.25 GHz	FCC	DOT	Arrangement A
66	13.25-13.4 GHz			Coordination not required at this time
67	13.4-14.0 GHz	JCS	CDS*	Arrangement C
68	14.0-15.4 GHz			Coordination not required at this time
69	15.4-15.7 GHz	IRAC	DOT	Arrangement B
70	15.7-17.7 GHz	JCS	CDS*	Arrangement C
71	17.7-23.0 GHz			Coordination not required at this time
72	23.0-24.25 GHz	JCS	CDS*	Arrangement C
73	24.25-33.4 GHz			Coordination not required at this time
74	33.4-36.0 GHz	JCS	CDS*	Arrangement C
75	36.0 GHz and above			Coordination not required at this time

*CDS - Chief of Defence Staff - Authorized Coordination Channel only.Coordination of Frequency Assignments in the 138-144 MHz Band

Without amendment of the Agreement, the IRAC and the Canadian Department of Communications agreed to coordinate fixed and mobile service (excluding Tactical and Training) assignments in the band 138-144 MHz in accordance with the provisions of Arrangement D of the Agreement (Ref. IRAC Doc. 20638/1).

3.4.3 No. 228 of the ITU Radio Regulations

No. **228,** as well as other provisions of the Radio Regulations relating to ionospheric scatter assignments, was not carried over from the World Administrative Radio Conference (Geneva, 1979). References to No. **228** in the Agreement are no longer valid and remain in Sections 3.4.1 and 3.4.2 of the Manual pending renegotiation of the Agreement, including Arrangement D, with the Government of Canada.

3.4.4 Text of Arrangement B

Arrangement For the Exchange of Frequency Assignment Information and Engineering Comments on Proposed Assignments Along the Canada/United States Borders in Certain Aviation Bands.

(Adopted Ottawa, March 1962; Revised Washington, D.C., October 1964)

(1) This arrangement involves assignments in the frequency bands set forth in paragraph 8 hereof.

(2) In the interest of the planned use of the spectrum, information concerning future expansions and adjustments of the services allocated these bands, in the coordination zones stipulated in the Appendices attached hereto, shall be exchanged to the maximum extent practicable.

(3) The Agency proposing to establish a new station, or to modify the basic characteristics of an existing station, shall furnish to the appropriate Agency the technical data necessary to complete coordination, in accordance with the attached Appendices.

(4) The Agency responsible for coordination shall examine the information provided and shall reply as soon as practicable advising whether or not a conflict is anticipated. If so, the detail of the conflict and the particulars of the station likely to experience interference shall be supplied. New proposals or discussions may be initiated with the object of resolving the problem.

(5) In the interest of planned use of the frequency bands allocated for use of space techniques in the Aeronautical Mobile (R) and Aeronautical Radionavigation Services, information concerning assignments to stations using space techniques in these bands shall be exchanged to the maximum extent practicable. This will involve assignments for a) all spacecraft and b) transmitting stations and receiving stations which use space techniques.

(6) Whenever differences of opinion concerning the probability of harmful interference exist, which cannot be resolved otherwise, or in cases where the information available makes it difficult to determine whether harmful interference would be created by the proposed operation, mutual arrangement should be made for actual on-the-air tests to be observed by representatives of the U.S. agencies concerned and the Department of Transport. Should harmful interference be caused to the existing station, the Agency having jurisdiction over the proposed operation should be notified promptly so that the transmissions of the interfering station may be halted.

(7) Neither the U.S. agencies concerned nor the Department of Transport shall be bound to act in accordance with the views of the other. However, to keep such instances to a minimum, each Agency should cooperate to the fullest extent practicable with the other by furnishing such additional data as may be required.

(8) The bands treated and the agreed action on each are as follows:

Frequency Band Mc/s	**Authorized Coordination Agency**		**Remarks**
	U.S.	**Canada**	
74.60-75.40	FAA	DOT	Coordination not required at this time
108.0-117.975	FAA	DOT	SEE APPENDIX 1
117.975-121.975	FAA	DOT	SEE APPENDIX 2
121.975-123.075	FCC	DOT	Coordination not required at this time
123.075-123.575	FCC	DOT	Coordination not required at this time
123.575-128.825	FAA	DOT	SEE APPENDIX 2
128.825-132.025	FCC	DOT	SEE APPENDIX 3
132.025-135.0	FAA	DOT	SEE APPENDIX 2
135.0-136.0	FAA	DOT	SEE APPENDIX 4
328.6-335.4	FAA	DOT	SEE APPENDIX 1
960.0-1215.0	FAA	DOT	SEE APPENDIX 1
1540-1660	IRAC	DOT	Coordination not required at this time except for applications involving the use of space techniques
4200-4400	IRAC	DOT	Coordination not required at this time except for applications involving the use of space techniques
5000-5250	IRAC	DOT	Coordination not required at this time except for applications involving the use of space techniques
15.4-15.7 Gc/s	IRAC	DOT	Coordination not required at this time except for applications involving the use of space techniques

NOTE: "Coordination not required at this time" in the Remarks column indicates that the present use of these frequencies does not cause conflict in their application, either in the United States or Canada. However, authorized agencies are designated to coordinate any future use, which may be capable of causing harmful interference. (Appendices 1 through 4 of Arrangement B are not reproduced in this Manual.)

3.4.5 Text of Arrangement C

Arrangement for Frequency Coordination of Fixed Installation Radars

(Adopted Ottawa, March 1962, and revised Washington, D.C., October 1964)

It is agreed that:

(1) Coordination shall be effected in those frequency bands used by fixed installation radars, some of which are essential to the defense of North America, whenever there is considered to be a likelihood of harmful interference. For this purpose information will be exchanged through the authorized coordination agencies, as follows:

(a) All relevant existing assignments as of the effective date of this arrangement, as soon as practicable.

(b) Current editions of the information in (a), as requested.

(c) Proposed or planned assignments as far in advance as practicable.

(2) The authorized agencies responsible for taking action on the coordinations are specified in the Index to the Technical Annex. In the case of U.S. military coordinations, the coordination data will be transmitted via the established coordination channel. The Canadian military will coordinate as necessary with the DOT who will be responsible for the technical examination and completion of Canadian coordination in conjunction with cognizant Canadian military agencies. In the case of Canadian originated military coordinations, after internal coordination with the DOT, the data will be passed to the U.S. via the established coordination channel. Non-military coordinations, after complete internal coordination, will be transmitted direct between the authorized non-military coordination agencies shown in the Index for each particular band.

(3) Detailed characteristics of transmitting and receiving equipment, for both radar and any relevant non-radar equipment, will be exchanged in advance of the coordination referred to above. The minimum desirable information is as follows:

(a) Frequency band or operating frequencies

(b) Location name and geographical coordinates

(c) Site elevation above mean sea level and antenna height above ground

(d) Class of emission and necessary bandwidth

(e) Power (peak) delivered to the antenna

(f) Function

(g) Antenna gain and orientation

(4) Until the bands covered by this arrangement have been cleared of potential conflicts, at installations where there is a possibility of harmful interference, evaluation testing of radar installations will be carried out at the time of activation and maximum cooperation will be extended in obtaining the best engineering solution to any harmful interference problems. It is recognized that special problems exist in bands presently in use for non-radar purposes. These problems require continuous further study as regards both the procedures and the necessity of allocation adjustments so as to accommodate radars essential to the defense of North America.

(5) Radar assignments in use on the effective date of this arrangement are not subject to further coordination by virtue of this arrangement.

(6) Mobile radar assignments are not subject to this arrangement.

NOTE: For the purpose of complying with the provisions of paragraph 1 of Arrangement C, the IRAC shall coordinate all proposed non-military assignments to stations, other than mobile stations, with a power of one kilowatt peak or over, which are located within the coordination zone specified in paragraph 2(a) of Arrangement D.)

3.4.6 Text of Arrangement D

Arrangement Between the Department of Transport and the Interdepartment Radio Advisory Committee For the Exchange of Frequency Assignment Information and Engineering Comments on Proposed Assignments Along the Canada-United States Borders in Certain Frequency Bands Above 30 Mc/s.

(Adopted Washington, D.C., June 1956; Revised Ottawa, March 1962 and Washington, D.C., October 1964).

1. This arrangement provides for the exchange of frequency assignment information and engineering comments on proposed assignments in the following frequency bands:

(a) Mc/s	32.00-33.00	40.00-42.00	1710.00-1850.00	**(b) Mc/s**	2110.00-2120.00
	34.00-35.00	148.00-149.90	2200.00-2290.00		7250.00-7750.00
	36.00-37.00	150.05-150.80	4400.00-4990.00		7900.00-8400.00
	38.00-39.00	162.00-174.00	7125.00-7250.00		
			7750.00-7900.00		

2. (a) For the bands below 1000 MHz, the areas involved are those bounded by:

Line A-Begins at Aberdeen, Wash. running by great circle arc to the intersection of 48°N., 120°W., thence along parallel 48°N., to the intersection of 95°W., thence by great circle arc through the southernmost point of Duluth, Minn., thence by great circle arc to 45°N., 85°W., thence southward along meridian 85°W., to its intersection with parallel 41°N., thence along parallel 41°N., to its intersection with meridian 82°W., thence by great circle arc through the southernmost point of Bangor, ME, thence by great circle arc through the southernmost point of Searsport, ME, at which point it terminates; and

Line B-Begins at Tofino, B.C., running by great circle arc to the intersection of 50°N, 125°W, thence along parallel 50°N., to the intersection of 90°W., thence by great circle arc to the intersection of 45°N., 79°30'W, thence by great circle arc through the northernmost point of Drummondville, Quebec (Lat: 45°52'N., Long: 72°30'W.), thence by great circle arc to 48°30'N, 70°W., thence by great circle arc through the northernmost point of Campbellton, N.B., thence by great circle arc through the northernmost point of Liverpool, N.S., at which point it terminates. Line C-Begins at the intersection of 70°N., 144°W., thence by great circle arc to the intersection of 60°N., 143°W., thence by great circle arc so as to include all of the Alaskan Panhandle; and

Line D-Begins at the intersection of 70°N., 138°W., thence by great circle arc to the intersection of 61°20'N., 139°W. (Burwash Landing), thence by great circle arc to the intersection of 60° 45'N., 135°W., thence by great circle arc to the intersection of 56°N., 128°W., thence south along 128° meridian to Lat. 55°N., thence by great circle arc to the intersection of 54°N., 130°W., thence by great circle arc to Port Clements, thence to the Pacific Ocean where it ends.

(b) For any station of a terrestrial service using a band above 1000 MHz, the areas involved are as follows:

(1) For a station the antenna of which looks within the 200° sector toward the Canada-United States borders, that area in each country within 35 miles of the borders;

(2) For a station the antenna of which looks within the 160° sector away from the Canada-United States borders, that area in each country within 5 miles of the borders; and,

(3) The area in either country within the coordination distance (paragraph 8) of a receiving earth station in the other country which uses the same band.

(c) For the bands above 1000 MHz, coordination of an earth station is required if any portion of the Canada-United States borders lies within the coordination distance (paragraph 8) of the earth station.

3. Current records of frequency assignments in the frequency bands listed in paragraph 1 will be exchanged as required.

4. (a) Before either Agency takes final action on any proposal for the use of any frequency, other than for military tactical and training operations in the bands listed in paragraph (1)(a), in the areas stipulated in paragraph (2):

(1) in the bands below 1000 MHz, listed in paragraph (1) involving power in excess of 5 watts; or,

(2) in the bands above 1000 MHz, listed in paragraph (1);

it will refer the pertinent particulars of the proposed assignment (see Appendix 1, 2 or 3, as appropriate) to the other Agency for comment on whether the granting of an authorization will be liable to result in the causing of harmful interference to any existing radio operations of the Agency whose views are sought, or, in the case of a receiving earth station, whether harmful interference would be caused to reception at the earth station by any existing radio operations of the Agency whose views are sought.

(b) If adverse comment is not received within 30 calendar days from the date of the receipt of the proposal, the initiating Agency may go ahead with the operation after having notified the other Agency. In an emergency, coordination may be effected after the assignment is put into operation.

(c) Neither the Interdepartment Radio Advisory Committee nor the Department of Transport shall be bound to act in accordance with the views of the other. However, to keep such instances to a minimum, each Agency should cooperate to the fullest extent practicable with the other by furnishing such additional data as may be required.

5. In cases where the information available makes it difficult to determine whether harmful interference would be created by the granting of a particular authorization, arrangements may be made for actual on-the-air tests to be observed by representatives of each Agency and further exchanges of engineering comments following such tests.

6. In the interest of planned use of the spectrum, information about future expansions and adjustments of the services allocated the use of the bands listed in paragraph (1), in the areas stipulated herein, may be exchanged to the maximum extent practicable.

7. Where a previously coordinated frequency assignment is in use and an additional assignment is proposed for the same frequency in the same area, the additional assignment must also be coordinated, attention being drawn to the previous coordination. This does not apply to the addition of mobile units to a previously coordinated land mobile system.

8. Coordination distance shall be the distance, calculated for any station, according to Recommendation 1A of the Final Acts of the EARC, Geneva, 1963.

APPENDIX 1 TO ARRANGEMENT D

Basic Data Required for the Coordination of Terrestrial Stations in the Bands Below 1000 MHz

a. Class of station
b. Number of stations (including, when available, number of mobile stations)
c. Location and coordinates
d. Frequency
e. Power (mean) delivered to the antenna
f. Class of emission and necessary bandwidth
g. Antenna gain (dB) and azimuth, when available
h. Antenna elevation in feet above mean sea level (MSL), when available

APPENDIX 2 TO ARRANGEMENT D

Basic Data Required for the Coordination of Terrestrial Stations in the Bands Above 1000 MHz

a. Class of station
b. Number of stations (including, when available, number of mobile stations)
c. Location and coordinates
d. Frequency
e. Power (mean) delivered to the antenna
f. Class of emission and necessary bandwidth
g. Antenna gain (dB), azimuth and, when available, elevation angle
h. Antenna elevation in feet above mean sea level (MSL)
i. Polarization of transmitted wave
j. Topographic map of territory between stations at fixed locations and the Canada-United States borders (required only for stations within the coordination distance of a previously coordinated receiving station which uses the same band)

APPENDIX 3 TO ARRANGEMENT D

Basic Data Required for the Coordination of Earth Stations in the Space Service

a. Class of station
b. Frequencies
c. Location and coordinates
d. Azimuthal and elevation coverage of celestial hemisphere as defined by main axis of antenna
e. Class of emission and necessary bandwidth
f. Power (mean) delivered to the antenna and, where applicable, estimated terminal coupling losses
g. Maximum gain of antenna in the horizontal plane as a function of azimuth
h. Maximum gain of antenna (referred to isotropic)

i. Antenna elevation in feet above mean sea level (MSL)

j. Polarization of transmitted wave

k. Topographic map of territory between earth station and Canada-United States borders in the sector wherein the coordination distance exceeds the distance to the border

l. Numerical values of terrain shielding in the pertinent directions

3.4.7 Determination of the Coordination Area Around an Earth Station

With respect to paragraph 8 of Arrangement D, Recommendation 1A of the Final Acts of the Extraordinary Administrative Radio Conference (Geneva, 1963) has been superceded. The method for determination of the coordination area around an earth station in the frequency bands between 100 MHz and 105 GHz shall now be in accordance with Appendix **7 (Rev.WRC-03)** of the ITU Radio Regulations.

3.4.8 Text of Arrangement E

Arrangement Between the Department of Communications of Canada and the National Telecommunications and Information Administration and the Federal Communications Commission of the United States Concerning the Use of the 406.1 MHz to 430 MHz Band in Canada-United States Border Areas

1. General

1.1-This Arrangement between the Department of Communications of Canada and the National Telecommunications and Information Administration and the Federal Communications Commission of the United States, herein referred to as the Agencies, provides for the operation of Canadian Fixed and Mobile Services and United States Fixed and Mobile Services in the 406.1-430 MHz band and United States Radiolocation Service in the 420-430 MHz band. In accordance with the international Table of Frequency Allocations contained in the Final Acts of the World Administrative Radio Conference (Geneva, 1979), aeronautical mobile radio services are excluded from the band 406.1 to 430 MHz.

1.2-Section 6 of this Arrangement sets forth the conditions for the shared use of the 420-430 MHz band by the Fixed and Mobile Services in Canada (the Mobile Service being primary and Fixed Service being secondary in Canada) and the Radiolocation Service in the United States (the Radiolocation Service being primary in the United States).

1.3-The areas involved in this Arrangement concerning sharing by the Canadian and United States Fixed and Mobile Services are those set forth in sub-paragraph 2(a) of Arrangement D of this Agreement; hereafter these areas are referred to in this Arrangement as the Coordination Zone.

1.4-For the purpose of coordinating assignments to stations in the Fixed and Mobile Services in the 406.1-430 MHz band with 25 kHz spacing between channels and 16 kHz necessary bandwidth, a minimum interstitial channel (12.5 kHz offset) selectivity of 25 dB will be assumed. The standard definition and method of measurement is defined in the United States Electronic Industries Association (EIA) specification RS-204B, titled "Adjacent Channel Selectivity and Desensitization", dated April 1980.

1.5-The coordination channel for this Arrangement is the Department of Communications in Canada and the National Telecommunications and Information Administration in the United States, in accordance with the procedures of Arrangement D of this Agreement.

2. Exceptions

2.1-It is recognized that in the band 406.1-420 MHz there are limited requirements for airborne operations. When the possibility exists that assignments outside of the normal Coordination Zone might result in harmful interference to the radio services of the other country due to their particular circumstances, i.e., aircraft altitude, power, etc., the assignment of the frequencies involved will, to the extent practicable, be subject to special coordination between the National Telecommunications and Information Administration and the Department of Communications.

2.2-The Amateur Service is excluded from the band 420-430 MHz in the Coordination Zone. Additionally, airborne operations associated with stations in the Fixed and Mobile Services are excluded from this band.

2.3-Stations in the Fixed and Mobile Services will not operate in the 420-430 MHz band within 250 km of the United States-Canada border in the state of Alaska or the Yukon Territory.

3. The Use of the 406.1-420 MHz Band by the Fixed and Mobile Services

3.1-Proposed frequency assignments in this band are subject to coordination between Industry Canada and the National Telecommunications and Information Administration in accordance with the procedures of Arrangement D of this Agreement.

3.2-Except for the bands identified in paragraph 3.6, the frequencies identified in paragraph 3.7 and the band identified in paragraph 3.9, all existing frequency assignments in the two countries which are included in the lists appended to this Arrangement as Annex A (Canada) and Annex B [1](United States) are accepted as coordinated by the Department of Communications and the National Telecommunications and Information Administration and have equal status under this Agreement.

3.3-The United States will channel and use the band for assignments with 16 kHz or less necessary bandwidth on center frequencies spaced 25 kHz apart, from 406.125 to 419.975 MHz inclusive. Canada will channel and use the band for assignments with 16 kHz or less necessary bandwidth on center frequencies spaced 25 kHz apart from 406.1125 to 419.9875 MHz inclusive.

3.4-The use of a necessary bandwidth greater than 16 kHz is discouraged but is permitted as an exception subject to coordination on a case by case basis in accordance with the procedures specified in Arrangement D of this Agreement.

3.5-Canada, within its Coordination Zone, agrees to protect the existing and future unrestricted geographic use in the United States of the bands 406.1875-406.4625 and 408.6875-408.9625 MHz. Coordination with Canada of assignments in the United States in these bands is not required.

3.6-Use of the bands 406.1875-406.4625 and 408.6875-408.9625 MHz by Canada within its Coordination Zone is to be coordinated on a case by case basis and must meet the terms of 3.5 above. It is understood that any such Canadian use of these bands will only be attempted as a last resort when a requirement cannot be met outside these bands. Any such coordinated radio system must be adjusted or removed if it causes interference to existing United States radio systems or is anticipated to cause interference to planned United States radio systems.

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[1] Not printed herein. The annex is deposited in the archives of the Department of State where it is available for reference.

3.7-Canada, within its Coordination Zone, agrees to protect the existing and future unrestricted geographic use in the United States of the following center frequencies with 16 kHz or less necessary bandwidth (all MHz):

415.850	416.000	418.475
415.875	416.025	418.500
415.900	418.375	418.525
415.925	418.400	418.550
415.950	418.425	418.600
415.975	418.450	

Coordination with Canada of assignments in the United States on these frequencies is not required.

3.8-Canadian use of the above listed center frequencies within its Coordination Zone is to be coordinated on a case by case basis and must meet the terms of 3.7 above. It is understood that any such Canadian use of these frequencies will only be attempted as a last resort when a requirement cannot be met on other frequencies. Any such coordinated radio system must be adjusted or removed if it causes interference to existing United States radio systems or is anticipated to cause interference to planned United States radio systems.

3.9-With the exception of United States use of the frequency 409.625 MHz, the United States, within its Coordination Zone, agrees to protect the existing and future unrestricted geographic use in Canada of the band 409-410 MHz. Canadian use of the 409-410 MHz band is primarily for mobile stations paired with base stations in the 420-421 MHz band. Coordination with the United States of assignments in Canada in this band is not required. The protection of the existing and future unrestricted geographic use of the frequency 409.625 MHz in the United States is based on 16 kHz necessary bandwidth.

3.10-With the exception of the United States use of the frequency 409.625 MHz, other use of the 409-410 MHz band by the United States within its Coordination Zone is to be coordinated on a case by case basis and must meet the terms of 3.9 above. It is understood that any such United States use of the 409-410 MHz band within its Coordination Zone will only be attempted as a last resort when a requirement cannot be met outside the band. Any such coordinated radio system must be adjusted or removed if it causes interference to existing Canadian radio systems or is anticipated to cause interference to planned radio systems.

3.11-It is recognized that Canada and the United States have unrestricted geographic use of the bands and/or frequencies specified in 3.5, 3.7 and 3.9. When the possibility exists that assignments outside the Coordination Zone may result in harmful interference to the radio services of the other country, due to the particular characteristics of such assignments (e.g., antenna height, power, directive arrays, etc.), special coordination may be initiated by that Agency which does not have the unrestricted geographic use.

4. The Use of the 420-421 MHz Band by the Fixed and Mobile Services

4.1-The United States, within its Coordination Zone, agrees to protect the existing and future unrestricted geographic use in Canada of the band 420-421 MHz from Fixed and Mobile Services. Canadian use of the 420-421 MHz band is primarily for base stations paired with mobile stations in the 409-410 MHz band. Coordination with the United States of assignments in Canada in this band is not required, except as specified in 6.3.

4.2-United States use of the 420-421 MHz band within its Coordination Zone is to be coordinated on a case by case basis and must meet the terms of 4.1 above. It is understood that any such United States use of 420-421 MHz within its Coordination Zone will only by attempted as a last resort when a requirement cannot be met outside the band. Any such coordinated radio system must be adjusted or removed if it causes interference to existing Canadian radio systems or is anticipated to cause interference to planned radio systems.

4.3-It is recognized that Canada has unrestricted geographic use in Canada of the band 420-421 MHz, except as specified in Section 6. When the possibility exists that assignments in the Fixed and Mobile Services outside of the Coordination Zone in the United States might result in harmful interference to the radio services in Canada, due to the particular characteristics of the U.S. assignments (e.g., antenna height, power, directive arrays, etc.), the U.S. Agency may effect special coordination of the frequencies involved.

5. The Use of the 421-430 MHz Band by the Fixed and Mobile Services

5.1-Sharing of this band is carried out by the Agencies within the terms and conditions specified in this section. Figures 1, 2 and 3 represent the text of this section in chart and map form.

5.2-The 421.000-424.9875 MHz and 426.000-429.9875 MHz bands will be used for Fixed and Mobile Services systems which will operate on frequency pairs: one frequency from each band. Mobile systems will operate with the mobile receivers on the lower band and mobile transmitters on the upper band. The 424.9875-426.000 MHz band will also be utilized for Fixed and Mobile Service systems.

5.3-Except as provided in Paragraph 5.4 and Section 6, the 421-430 MHz band will be shared between the two countries as follows: a) Canada will have unrestricted geographic use of the bands 421.000-423.000 MHz and 425.500-428.000 MHz. b) The United States will have unrestricted geographic use of the bands 423.0125-425.4875 MHz and 428.0125-429.9875 MHz.

5.4-In recognition of demographic circumstances, the division of spectrum between Canada and the United States varies from the general sharing provisions of Paragraph 5.3 in the two sectors defined below:

a) Sector I is defined to be the portions of the Coordination Zone in the United States and Canada, bounded on the west by 85°W longitude and on the east by 81°W longitude. In this sector of the Coordination Zone, the United States will have the unrestricted geographic use of the bands 422.1875-425.4875 MHz and 427.1875-429.9875 MHz; Canada will have the unrestricted geographic use of the bands 421.000-422.175 MHz, and 425.500-427.175 MHz.

b) Sector II is defined to be the portions of the Coordination Zone in the United States and Canada bounded on the west by 81°W longitude and on the east by 71°W longitude. In this sector of the Coordination Zone, the United States will have the unrestricted geographic use of the bands 423.8125-425.4875 MHz and 428.8125-429.9875 MHz; Canada will have the unrestricted geographic use of the bands 421.000-423.800 MHz and 425.500-428.800 MHz.

5.5-As a result of the special sharing arrangements of Paragraph 5.4, the overlap of frequency bands occurs in the following geographical areas:

5.5.1-The geographical area in Canada is enclosed by the United States-Canada border; the meridian 71°W; and the line beginning at the intersection of 72°20'W and the United States-Canada border, thence running north along the meridian 72°20'W to the intersection of 46°N, thence running east along 46°N to the meridian 71°W. Canada will channel and use the 423.0125-423.800 MHz and 428.0125-428.800 MHz bands for assignments with 16 kHz or less necessary bandwidth on center frequencies spaced 25 kHz apart from 423.0375 to 423.7875 MHz inclusive and 428.0375 to 428.7875 MHz inclusive.

The geographical area in the United States is enclosed by the United States-Canada border; the meridian 71°W; and the line beginning at the intersection of 44°13'N, 71°W, running by great circle arc to the intersection of 45°N and 69°40'W, thence north along the meridian 69°40'W, to the intersection of 46°N, thence running west along 46°N to the intersection of the United States-Canada border. The United States will channel and use the 423.0125-423.800 MHz and 428.0125-428.000 MHz bands for assignments with 16 kHz or less necessary bandwidth on center frequencies spaced 25 kHz apart from 423.025 to 423.775 MHz inclusive and 428.025 to 428.775 MHz inclusive.

Coordination of proposed frequency assignments in the bands 423.0125-423.800 MHz and 428.0125-428.800 MHz is required in two areas as follows:

(a) The geographical area in Canada is enclosed by the United States-Canada border; the meridian 71°W; and the line beginning at the intersection of 72°W and the United States-Canada border, thence running north along meridian 72°W to the intersection of 45°45'N, thence running along 45°45'N to the meridian 71°W.

(b) The geographical area in the United States is enclosed by the United States-Canada border; the meridian 71°W and the line beginning at the intersection of 44°25'N and 71°W, thence running by great circle arc to the intersection of 45°N and 70°W, thence north along meridian 70°W to the intersection of 45°45'N, thence running west along 45°45'N to the intersection of the United States-Canada border.

5.5.2-Within the land area in the United States enclosed by the line of 81°W longitude, the arc of a circle of 120 km radius centered at the intersection of 81°W longitude and the northern shore of Lake Erie and drawn clockwise from the southerly intersection with 81°W longitude to the westerly intersection with the United States-Canada border, and the United States-Canada border, the United States will channel and use the bands 422.1875-423.800 MHz and 427.1875-428.800 MHz for assignments with 16 kHz or less necessary bandwidth on center frequencies spaced 25 kHz apart from 422.200 to 423.775 MHz inclusive and 427.200 to 428.775 MHz inclusive.

Within the land area in Canada enclosed by the line of 81°W longitude, the arc of a circle of 120 km radius centered at the intersection of 81°W longitude and the southern shore of Lake Erie drawn clockwise from the northerly intersection with 81°W longitude to the easterly intersection with the United States-Canada border, and the United States-Canada border, Canada will channel and use the bands 422.1875-423.800 MHz and 427.1875-428.800 MHz for assignments with 16 kHz or less necessary bandwidth on center frequencies spaced 25 kHz apart from 422.2125 to 423.7875 MHz inclusive and 427.2125 to 428.7875 MHz inclusive.

5.5.3-Within the land area in the United States enclosed by the line of 85°W longitude, the arc of a circle of 120 km radius centered at the intersection of 85°W longitude and the Ontario-Lake Superior shore, and drawn counter-clock-wise from the southerly intersection with 85°W longitude to the easterly intersection with the United States-Canada border, and the United States-Canada border, the United States will channel and use the bands 422.1875-423.000 MHz and 427.1875-428.800 MHz for assignments with 16 kHz or less necessary bandwidth on center frequencies spaced 25 kHz apart from 422.200 to 422.975 MHz and 427.200 to 427.975 MHz inclusive.

Within the land area in Canada enclosed by the line of 85°W longitude, the arc of a circle of 120 km radius centered at the intersection of 85°W longitude and Michigan-Lake Superior shore, drawn counter-clockwise from the northerly intersection with 85°W longitude to the westerly intersection with the United States-Canada border, and the United States-Canada border, Canada will channel and use the bands 422.1875-423.000 MHz and 427.1875-428.000 MHz for assignments with 16 kHz or less necessary bandwidth on center frequencies spaced 25 kHz apart from 422.2125 to 422.9875 MHz inclusive and 427.2125 to 427.9875 MHz inclusive.

5.6-In order to minimize the need for coordination in the band 421-430 MHz, Effective Radiated Power (ERP) and Effective Antenna Height (EAH) guidelines have been established as provided in Annex C. If these ERP values are exceeded, within the corresponding EAH ranges, coordination is required in accordance with the procedures specified in Arrangement D of this Agreement.

6. Conditions for the Shared Use of the 420-430 MHz Band by the Canadian Fixed and Mobile Services with the United States Radiolocation Service

6.1-Existing United States fixed installation radars, with exception of the installation at Concrete, N.D. and those in Alaska, which will receive or cause harmful interference from or to fixed and mobile operations in Canadian territory, will restrict their operational use to the 430-450 MHz band except during emergency periods when the United States reserves the right to operate all radiolocation devices on an unrestricted basis. The United States radar at Concrete, N.D. and Canadian fixed and mobile systems in the adjacent border area will be protected from interference by observation in Canada of fixed and mobile system power and height restrictions.

No use of this band by the Fixed and Mobile Services will be allowed to advertently impact the operation of the radar at Concrete, N.D. If the United States reports harmful interferences to its radar at Concrete, N.D., which is caused by fixed or mobile operations in Canada, Canada will cooperate in the immediate identification and elimination of such harmful interference. Subsequently the United States will cooperate to attempt to reach a mutually satisfactory resolution of the problem.

6.2-The United States reserves the right, irrespective of other provisions of this Arrangement, to operate in the band 420-430 MHz radiolocation stations on board fixed wing aircraft. However, the United States will minimize use of this band on flights when they are within possible interference range of fixed and mobile operations in major Canadian population areas. If Canada reports harmful interference to Canadian fixed or mobile operations which is caused by radiolocation transmission from United States fixed wing aircraft, the United States will cooperate in resolution of such harmful interference to the maximum extent possible.

6.3-Proposed assignments for Canadian fixed and mobile systems which are not in accordance with the constraints specified for mutual compatibility with the radar at Concrete, N.D. and with radars aboard U.S. ships transiting the Strait of Juan de Fuca and Puget Sound and any other proposed assignment whose compatibility with these radiolocation units is in doubt, will be coordinated with the National Telecommunications and Information Administration.

6.4-Experimental research and development transmissions by fixed radiolocation systems in this band in the United States within 250 km of the United States-Canada border will be on a non-interference basis and with notification to Canada.

6.5-Except for operations on fixed wing aircraft, United States tactical and training radiolocation operations in the 420-430 MHz band will be on a non-interference basis.

6.6-Except for the state of Alaska, any future fixed installation radiolocation system proposed for United States operation within 250 km of the United States-Canada border which would normally operate in the 420-430 MHz band will be subject to prior coordination with Canada. The United States will confer with Canada concerning proposed modifications to the characteristics of current radiolocation systems or their replacement, if such modifications or replacements could impose further restrictions on Canadian operations in the Fixed and Mobile Services. In the event that radiolocation operations in the band 420-430 MHz, at Concrete, N.D. or on ships in the Strait of Juan de Fuca are terminated the United States will notify Canada, and the special arrangements herein will cease to apply in the affected Canadian area.

ANNEX C

Limits of Effective Radiated Power and Effective Antenna Height for the Band 421-430 MHz

Effective Radiated Power (ERP) is defined as the product of the power supplied to the antenna and its gain relative to a half-wave dipole in a given direction.

For base stations in the Coordination Zone, Table C1 lists the limits of ERP corresponding to the Effective Antenna Height (EAH) ranges shown. EAH is calculated by subtracting the Assumed Average Terrain Elevation (AATE) given in Table C2 from the antenna elevation above mean sea level.

TABLE C1: Limits of ERP and EAH

Effective Antenna Height		Maximum Effective Radiated Power (ERP) towards the border, Watts
Feet	Meters	
up to 500	up to 152	250
501-1000	153-305	150
1001-1500	306-457	75
1501-2000	458-609	40
2001-2500	610-762	20
2501-3000	763-914	15
3001-4000	915-1210	10
above 4000	above 1210	5

Table C2 lists the value of Assumed Average Terrain Elevations (AATE) within the Coordination Zone on both sides of the United States-Canada Border.

TABLE C2: Values of Assumed Average Terrain Elevations (AATE)

Longitude (ϕ)	Latitude ϕ	Assumed Average Terrain Elevations			
		U.S.		Canada	
		Ft	m	Ft	m
$65 \le \phi < 69$	$\theta < 45$	0	0	0	0
$65 \le \phi < 69$	$45 < \theta < 46$	300	91	300	91
$65 \le \phi < 69$	$\theta \ge 46$	1000	305	1000	305
$69 \le \phi < 73$	all	2000	609	1000	305
$73 \le \phi < 74$	all	500	152	500	152
$74 \le \phi < 78$	all	250	76	250	76
$78 \le \phi < 80$	$\theta < 43$	500	152	500	152
$78 \le \phi < 80$	$\theta \ge 43$	250	76	250	76
$80 \le \phi < 90$	all	600	183	600	183
$90 \le \phi < 98$	all	1000	305	1000	305
$98 \le \phi < 102$	all	1500	457	1500	457
$102 \le \phi < 108$	all	2500	762	2500	762
$108 \le \phi < 111$	all	3500	1066	3500	1066
$111 \le \phi < 113$	all	4000	1219	3500	1066
$113 \le \phi < 114$	all	5000	1524	4000	1219
$114 \le \phi < 121.5$	all	3000	914	3000	914
$\phi \ge 121.5$	all	0	0	0	0

Map. Canada/United States Sharing Arrangement

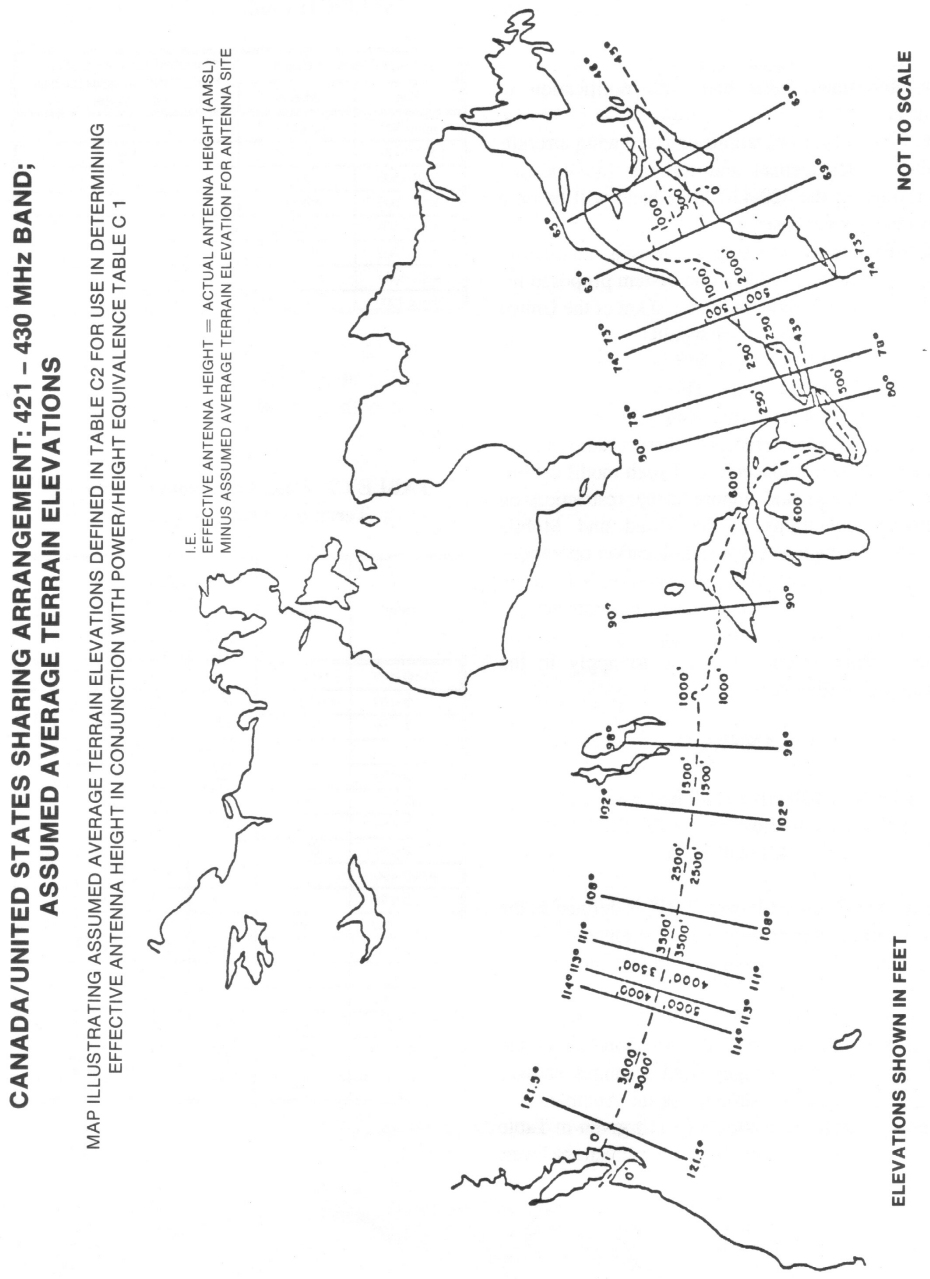


Figure 1. Canada/United States Sharing Arrangement 421-430 MHz Band

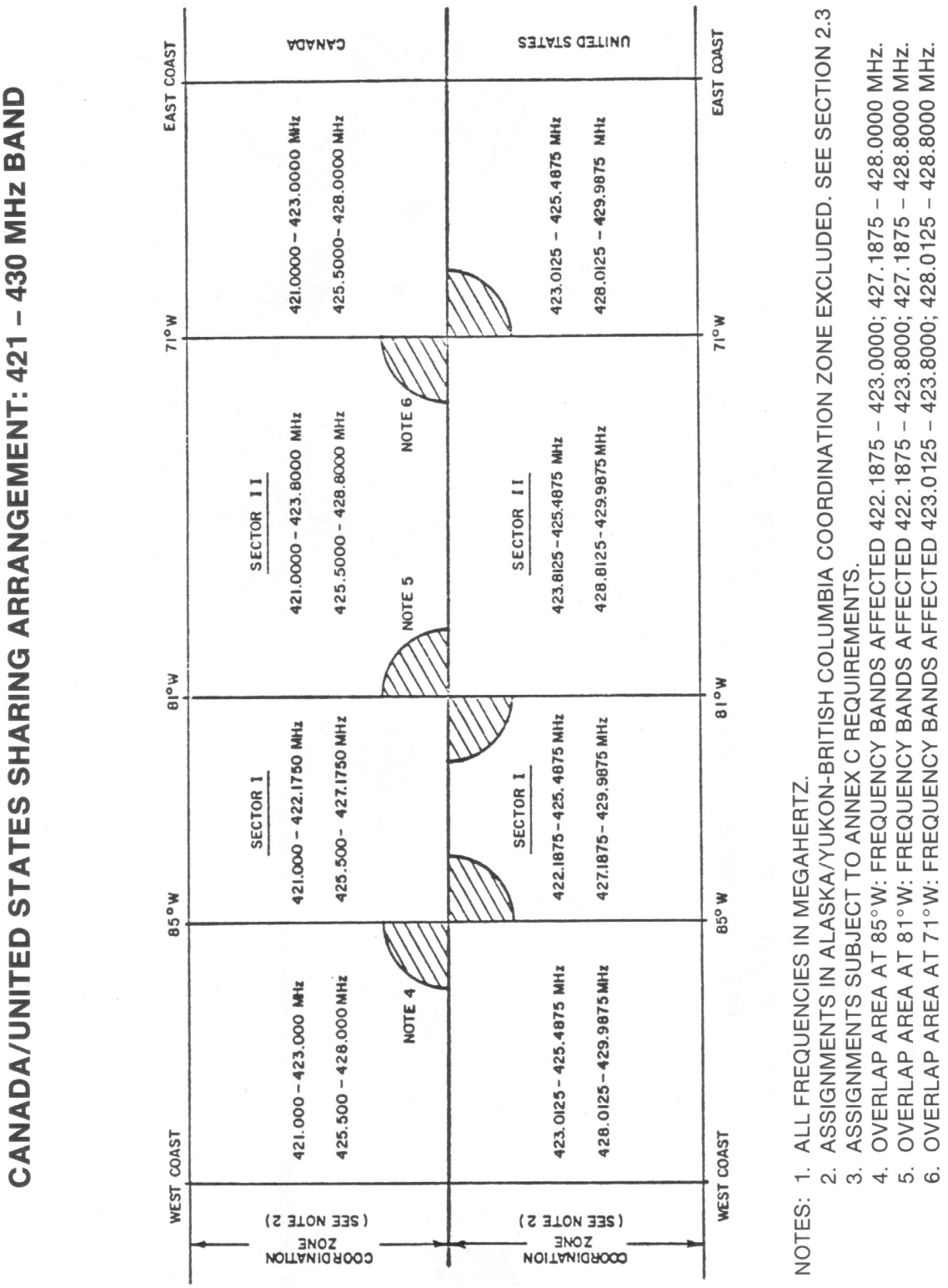


Figure 2. Canada/United States Sharing Arrangement 421-430 MHz Band Coordination Zones

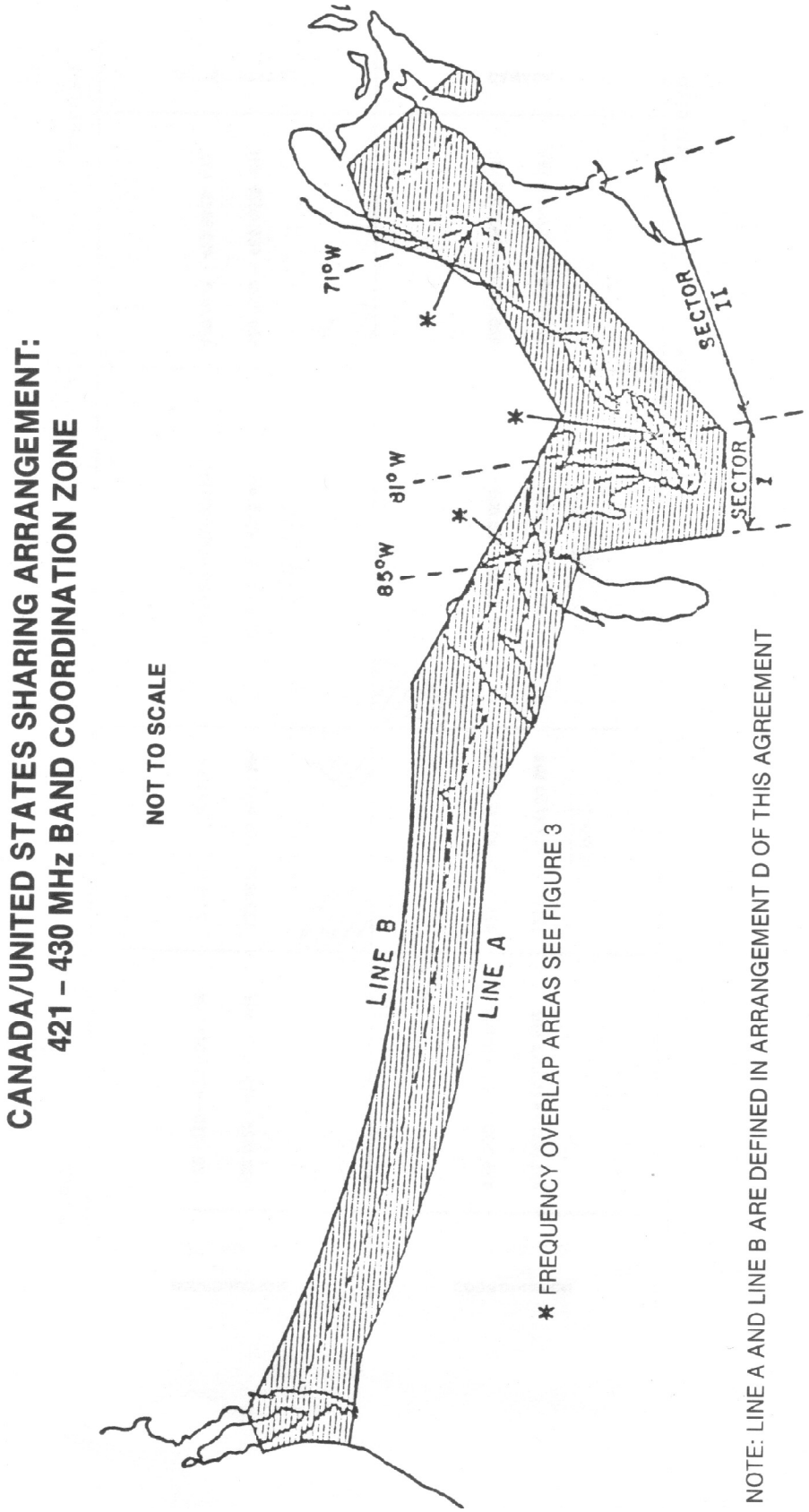
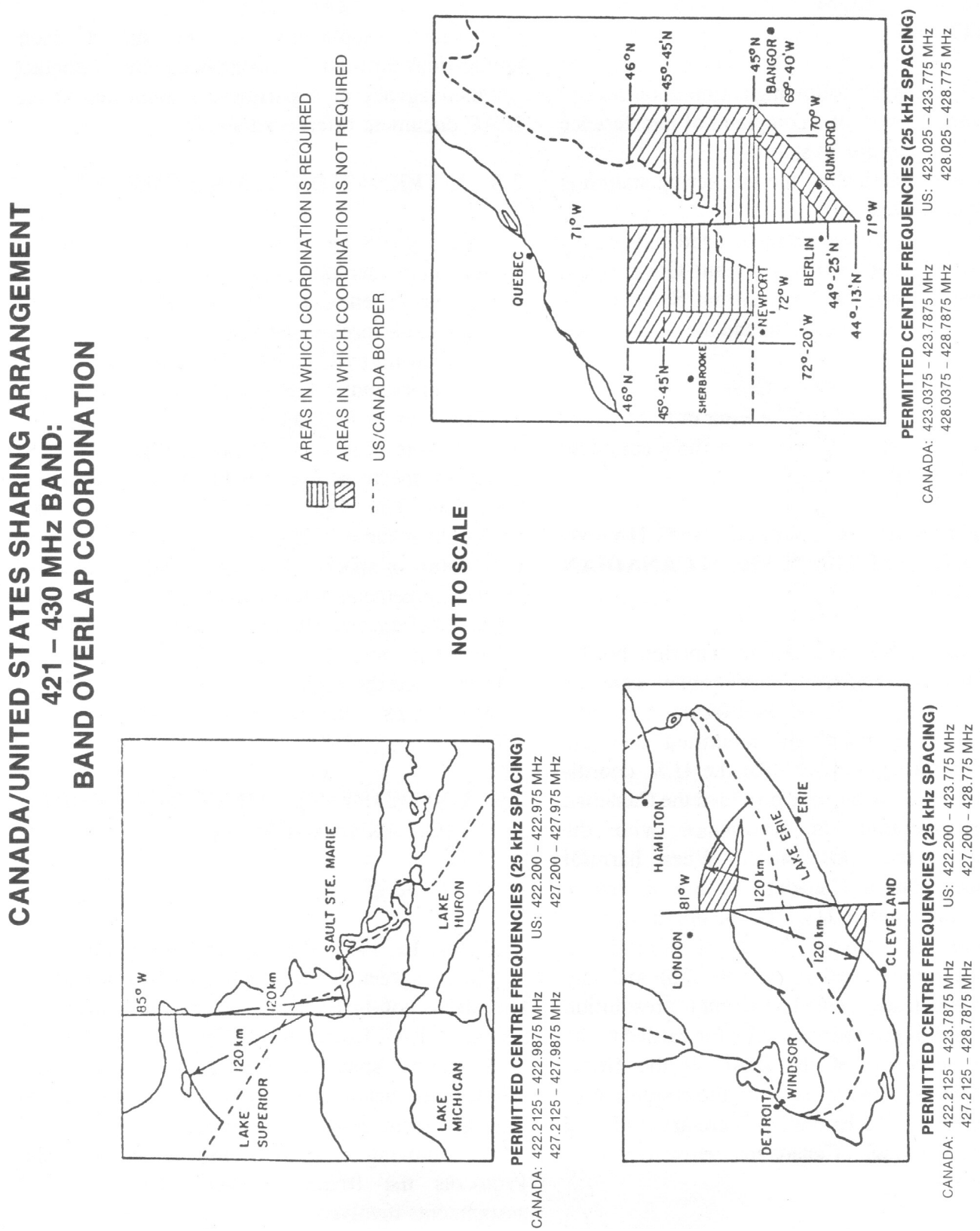


Figure 3. Canada/United States Sharing Arrangement 421-430 MHz Band Overlap Coordination



3.5 FOREIGN REPORTS TO FCC OF INTERFERENCE FROM U.S. GOVERNMENT STATIONS

The FCC takes the following action upon receipt from another country of a complaint of interference from a U.S. Federal Government station:

(1) When practicable, the interfering station is positively identified.

(2) The complaint is acknowledged and sent by letter of transmittal to the cognizant Federal agency, with copies to the Assistant Secretary of Commerce for Communications and Information and the Department of State.

(3) If the cognizant Federal agency responds via FCC channels, the letter or telegram of response is forwarded by the FCC without comment to the government concerned.

3.6 PROCEDURE FOR RESOLVING HARMFUL INTERFERENCE FROM CANADIAN STATIONS

Within the U.S./Canadian coordination border zone, some intermittent interference can be expected; however, if the interfering Canadian station has been positively identified and the coordination date is earlier than the U.S. coordination date, little can be done provided the Canadian station is operating in accordance with the provisions of the coordination. When harmful interference from a Canadian station is severe enough to interrupt a U.S. radiocommunications service and relief from Canada is desired, an interference report (see Section 8.2.30) and any comments which are deemed pertinent for resolution of the harmful interference must be forwarded to the Executive Secretary of the IRAC if the IRAC Secretariat is expected to assist in the resolution of the interference. The Executive Secretary will then take formal action with Canada to attempt to resolve the interference.

3.7 APPLICATIONS TO OPERATE WITHIN THE INMARSAT SYSTEM

The current procedure for processing Federal applications to operate within the International Maritime Satellite (INMARSAT) Organization is contained in Annex E of this manual. Federal Government applicants are to submit their applications through the designated point-of-contact for their agency or department as indicated in the IRAC document referenced above.

3.8 INTERNATIONAL AGREEMENTS

Frequently U.S. Government agencies consummate agreements/understandings with foreign entities (government agencies or international organizations) which include provisions regarding the use of the radio spectrum by U.S. entities. When such agreements/understandings are being developed it is essential that the U.S. agencies involved ensure that the spectrum provisions do not conflict with U.S. policy or spectrum uses, including U.S. overseas operations. The assistance of NTIA and FCC shall be sought if there is any doubt as to conflict with U.S. policy or spectrum use prior to the conclusion of such agreements/understandings.

When such agreements/understandings which have a potential impact on U.S. spectrum use are consummated the responsible agency will promptly provide copies of the spectrum related provisions to NTIA.

3.9 UNITED STATES – MEXICO SHARING AND COORDINATION AGREEMENTS, PROTOCOLS AND ARRANGEMENTS

3.9.1 General

On June 16, 1994, the United States and Mexico signed an agreement for frequency bands used by terrestrial non-broadcasting radiocommunications services (IRAC Document 28874). Protocols which deal with specific frequency bands and radiocommunications services will be annexed to this agreement as they are signed.

The following table indicates for each of the Protocols the frequency bands and types of assignments involved:

Band	Coordination Remarks	Type of Assignments Involved
190-285 kHz	Protocol 9	Aeronautical
285-435 kHz	Protocol 9	Aeronautical
510-535 kHz	Protocol 9	Aeronautical
74.8-75.2 MHz	Protocol 9	Aeronautical
108-118 MHz	Protocol 9	Aeronautical
118-137 MHz	Protocol 9	Aeronautical
162-174 MHz	Administrative Arrangements	Fixed and Mobile
220-222 MHz	Protocol 1	Land Mobile
328.6-335.4 MHz	Protocol 9	Aeronautical
470-512 MHz	Protocol 2	Land Mobile
806-824 MHz	Protocol 3	Land Mobile
824-849 MHz	Protocol 4	Cellular
849-851 MHz	Protocol 5	Public Air-to-Ground
851-869 MHz	Protocol 3	Land Mobile
869-894 MHz	Protocol 4	Cellular
894-896 MHz	Protocol 5	Public Air-to-Ground
896-901 MHz	Protocol 3	Land Mobile
901-902 MHz	Protocol 7	Personal Communications
930-931 MHz	Protocol 7	Personal Communications
932-932.5 MHz	Protocol 6	Fixed
932.5-935 MHz	Protocol 10	Fixed
935-940 MHz	Protocol 3	Land Mobile
940-941 MHz	Protocol 7	Personal Communications
941-941.5 MHz	Protocol 6	Fixed
941.5-944 MHz	Protocol 10	Fixed
960-1215 MHz	Protocol 9	Aeronautical
1215-1400 MHz	Protocol 9	Aeronautical
1850-1990 MHz	Protocol 8	Personal Communications
2700-2900 MHz	Protocol 9	Aeronautical
4200-4400 MHz	Protocol 9	Aeronautical
5000-5250 MHz	Protocol 9	Aeronautical
5350-5470 MHz	Protocol 9	Aeronautical
9000-9200 MHz	Protocol 9	Aeronautical
13.25-13.4 GHz	Protocol 9	Aeronautical
15.4-15.7 GHz	Protocol 9	Aeronautical

Specific protocols and memoranda of understanding involving bands allocated for Federal Government use are given in subsequent sections of this part.

3.9.2 Agreement Between the Government of the United States of America and the Government of the United Mexican States Concerning the Allocation and Use of Frequency Bands by Terrestrial Non-Broadcasting Radiocommunication Services along the Common Border

(Signed Williamsburg, VA, June 16, 1994)

The Government of the United States of America and the Government of the United Mexican States, the Parties, desiring to continue their mutual understanding and cooperation regarding telecommunications services, recognizing the sovereign right of both countries to manage their telecommunications, taking into account the provisions of Article **24** of the International Telecommunication Convention Nairobi, 1982, and Article 6 of the Radio Regulations (1982 edition), considered an annex to the Convention, in order to establish the conditions for the use of frequency bands by terrestrial non-broadcasting radiocommunication services along their common border, have agreed as follows:

ARTICLE I.

Purposes

The purposes of this Agreement are:

1. To establish and adopt common plans for the equitable use of frequency bands by terrestrial non-broadcasting radiocommunications services in areas on either side of the common border.
2. To achieve an equitable distribution of the available frequencies.
3. To establish the conditions and technical criteria to regulate the use of the frequencies.

ARTICLE II.

Conditions of Use

The allocation of frequency bands for specific radio services and the conditions for their use shall be as agreed in Protocols which form an integral part of this Agreement and which shall be included in Annex I to this Agreement. A listing of the Protocols shall be maintained in the Index to Annex I.

ARTICLE III.

Termination of Previous Agreements

Upon entry into force, this Agreement supersedes existing agreements between the United States of America and the United Mexican States and memoranda of understanding between the agencies of the governments thereof listed in Annex II of this Agreement and replaces them with the corresponding Protocols included in Annex I of this Agreement.

ARTICLE IV.

Implementing Entities

The entities responsible for implementing this Agreement, herein referred to as the Authorities, shall be, for the United Mexican States, the Secretaría de Comunicaciones y Transportes and, for the United States of America, the Department of State.

The entities responsible for implementing each of the Protocols included in Annex I to this Agreement, herein referred to as the Administrations, shall be as designated by the Authorities in each of the Protocols. In those cases where an Authority designates more than one Administration responsible for implementation of a Protocol, one of the Administrations shall be designated as responsible for coordination with the Administration of the other Party.

ARTICLE V.

Amendment of the Agreement and Protocols

This Agreement may be amended by agreement of the Parties. Said amendments shall enter into force on the date on which both Parties have notified each other by exchange of diplomatic notes that they have complied with the requirements of their respective national legislation.

The annexed Protocols may be amended and additional Protocols concluded by written agreement of the Administrations. Such amendments and additional Protocols shall be included in Annex I of this Agreement by the Parties.

ARTICLE VI.

Entry into Force and Duration

This Agreement shall enter into force on the date on which both Parties have notified each other by exchange of diplomatic notes that they have complied with the requirements of their respective national legislation for entry into force. It shall remain in force until it is replaced by a new agreement or until it is terminated by either Party in accordance with Article VII of this Agreement.

ARTICLE VII.

Termination of the Agreement

This Agreement may be terminated by mutual agreement of the Parties or by either Party by written notice of termination to the other Party through diplomatic channels. Such notice of termination shall enter into effect one year after receipt of the notice.

Any of the Protocols annexed to this Agreement may be terminated by agreement of the Administrations or by either Administration by written notice of termination to the other Administration(s). Such notice of termination shall enter into effect one year after receipt of the notice. Upon termination, Annex I of this Agreement shall be appropriately modified by the Parties.

ANNEX I

Index of Protocols Annexed to the Agreement

Protocol 1

Protocol Concerning the Allocation and Use of the Channels in the 220-222 MHz Band For Land Mobile Services Along the Common Border

Protocol 2

Protocol Concerning Use of the 470-512 MHz Band For Land Mobile Services Along the Common Border

Protocol 3

Protocol Concerning the Use of the 806-824/851-869 and 896-901/935-940 MHz Bands for Land Mobile Services Along the Common Border

Protocol 4

Protocol Concerning Conditions of Use of the 824-849 and 869-894 MHz Bands for Public Radiocommunications Services Using Cellular Systems Along the Common Border

Protocol 5

Protocol Concerning the Use of the 849-851 and 894-896 MHz Bands For Public Air-to-Ground Services

Protocol 6

Protocol Concerning the Allotment and Use of Channels in the 932-932.5 and 941-941.5 MHz Bands for Fixed Point-to-Multipoint Services Along the Common Border

Protocol 7

Protocol Concerning the Allocation and Use of the Bands 901-902 MHz, 930-931 MHz, and 940-941 MHz Bands for Personal Communications Services Along the Common Border

Protocol 8

Protocol Concerning the Use of the Band 1850-1990 MHz for Personal Communications Services Along the Common Border

Protocol 9

Protocol Concerning the Use of Bands Allocated to the Aeronautical Radionavigation and Aeronautical Communications Services Along the Common Border

Protocol 10

Protocol Concerning the Use of Channels in the 932.5-935 MHz and the 941.5-944 MHz Bands for Fixed Point-to-Point Services Along the Common Border

Protocol 11

Protocol Concerning the Allotment and Use of the 406.1-420 MHz Band for Fixed and Mobile Services Along the Common Border

Protocol 12

Protocol (on an interim basis) Concerning the Allotment and Use of the 380-399.9 MHz Band for the Fixed and Mobile Terrestrial Non-broadcasting Services Along the Common Border

Protocol 13

Protocol (on an interim basis) Concerning the Allotment and Use of the 138-144 MHz Band for Terrestrial Non-Broadcasting Radiocommunication Services Along the Common Border

ANNEX II

List of Agreements and Memoranda of Understanding Terminated by Article III of this Agreement

Agreement between the United States of America Government and the Government of the United Mexican States Concerning Land Mobile Service in the Bands 470-512 MHz and 806-890 MHz along their Common Border (Signed Mexico City, June 18, 1982.)

Agreement between the Governments of the United States of America and the United Mexican States Regarding Conditions for Utilization of the Bands 825-845 MHz and 870-890 MHz, for Public Radiocommunications Services Using Cellular Systems along the Common U.S.-Mexican Border (Signed Mexico City, September 12, 1988.)

Memorandum of Understanding between the Federal Communications Commission of the United States of America and the Secretaría de Comunicaciones y Transportes of the United Mexican States Concerning Conditions of Use of the 824-825, 845-849, and 869-870 MHz Bands for Public Radiocommunications Services Using Cellular Systems along the Common Border (Signed Washington, DC, June 21, 1993.)

Memorandum of Understanding between the Federal Communications Commission of the Government of the United States of America and the Secretaría de Comunicaciones y Transportes of the United Mexican States Concerning Conditions of Use of the 890-894 MHz Band for Public Radiocommunications Services Using Cellular Systems along the Common Border (Signed Queretaro, Mexico, August 11, 1992.)

Memorandum of Understanding between the Federal Communications Commission of the United States of America and the Secretaría de Comunicaciones y Transportes of the United Mexican States Concerning Private Land Mobile Use of the Bands 821-824 MHz and 866-869 MHz along the Common Border (Signed Chestertown, MD, July 2, 1991.)

Memorandum of Understanding between the Federal Communications Commission of the United States of America and the Secretaría de Comunicaciones y Transportes of the United Mexican States Concerning the Use of the 896-901 and 935-940 MHz Bands for the Land Mobile Service along the Common Border (Signed Queretaro, Mexico, August 11, 1992.)

Agreement between the United States of America and the United Mexican States Concerning the Allocation and Use of the Channels in the 220-222 MHz Band along the Common Border (Signed Queretaro, Mexico, August 11, 1992.)

3.9.3 Protocol 1 Concerning the Allocation and Use of the Channels in the 220-222 MHz Band for Land Mobile Services along the Common Border

(Signed Williamsburg, VA, June 16, 1994)

This Protocol is being concluded pursuant to the Agreement Between the Government of the United States of America and the Government of the United Mexican States Concerning the Allocation and Use of Frequency Bands by Terrestrial Non-Broadcasting Radiocommunication Services Along the Common Border signed June 16, 1994, herein referred to as the Agreement.

ARTICLE I.

Purposes

The purposes of this Protocol are:

1. To establish and adopt a common plan for the use of the 220-222 MHz frequency band within a distance of 120 kilometers on each side of the common border (Sharing Zone) and to achieve an equitable distribution of the available channels.
2. To establish technical criteria to regulate the use of the channels.
3. To establish conditions of use so that each Administration may use the channels allotted to the other country, provided this causes no interference.

ARTICLE II.

Definitions

For the purpose of this Protocol and as provided for in Article IV of the Agreement, the term Administration(s) shall refer to the Federal Communications Commission and the National Telecommunications and Information Administration of the United States of America and the Secretaría de Comunicaciones y Transportes of the United Mexican States.

ARTICLE III.

Conditions of Use

1. In the agreed Sharing Zone, the Administrations shall use the frequency plan in the Table of Allotment appearing as the Appendix to this Protocol, which shall form an integral part of this Protocol.

2. Within the Sharing Zone, the frequencies in the 220-222 MHz band shall be shared by the Administrations in accordance with the Appendix to this Protocol.

3. The following channels shall be available for the Administrations on an unprotected basis and operated with a maximum effective radiated power (ERP) of 2 watts and a maximum antenna height of 6.1 meters above ground.

Channel	Base	Mobile
195	220.9725 MHz	221.9725 MHz
196	220.9775 MHz	221.9775 MHz
197	220.9825 MHz	221.9825 MHz
198	220.9875 MHz	221.9875 MHz
199	220.9925 MHz	221.9925 MHz
200	220.9975 MHz	221.9975 MHz

4. The assignments which an Administration makes of its own primary use frequencies within the Sharing Zone shall be authorized subject to the effective radiated power (ERP) and antenna height limits specified in the following table:

Antenna Height Above Mean Sea Level Meters	ERP Watts (Maximum)
Up to 150	500
Above 150 to 225	250
Above 225 to 300	125
Above 300 to 450	60
Above 450 to 600	30
Above 600 to 750	20
Above 750 to 900	15
Above 900 to 1,050	10
Above 1,050	5

The maximum effective radiated power allowable for portable/mobile units shall be 50 watts.

5. Each Administration that authorizes the development of major wide area systems in the 220-222 MHz band shall provide the Administration(s) of the other country information about these systems to promote mutual compatibility and benefits.

6. Frequencies allotted for the primary use of one Administration may be assigned by the Administration(s) of the other country within the Sharing Zone in accordance with the following conditions:

a. The maximum power flux density (pfd) at any point at or beyond the border shall not exceed -86 dBW/m^2.

b. Administrations shall take proper measures to eliminate any harmful interference caused by their licensees.

c. Each Administration shall grant protection to stations that have primary use of the authorized frequency.

d. Stations operating under this provision shall be considered as secondary and shall not be granted protection against harmful interference from stations that have primary use of the authorized frequency.

ARTICLE IV.

Exchange of Data

In May of each year, the Federal Communications Commission of the United States of America and the Secretaría de Comunicaciones y Transportes of the United Mexican States shall exchange summary lists of all of their country's assignments in the 220-222 MHz band within Sharing Zone.

ARTICLE V.

Entry Into Force and Termination

This Protocol shall enter into force on the same date as the Agreement. It shall remain in force until it is replaced by a new Protocol, or until it is terminated in accordance with Article VII of the Agreement.

APPENDIX - TABLE OF ALLOTMENT (220-222 MHz Band)

Channel	Base Frequency	Mobile Frequency	Country
1	220.0025	221.0025	Mexico
2	220.0075	221.0075	Mexico
3	220.0125	221.0125	Mexico
4	220.0175	221.0175	Mexico
5	220.0225	221.0225	Mexico
6	220.0275	221.0275	Mexico
7	220.0325	221.0325	Mexico
8	220.0375	221.0375	Mexico
9	220.0425	221.0425	Mexico
10	220.0475	221.0475	Mexico
11	220.0525	221.0525	Mexico
12	220.0575	221.0575	Mexico
13	220.0625	221.0625	Mexico
14	220.0675	221.0675	Mexico
15	220.0725	221.0725	Mexico
16	220.0775	221.0775	United States
17	220.0825	221.0825	United States
18	220.0875	221.0875	United States
19	220.0925	221.0925	United States
20	220.0975	221.0975	United States
21	220.1025	221.1025	United States

APPENDIX - TABLE OF ALLOTMENT (220-222 MHz Band)			
Channel	**Base Frequency**	**Mobile Frequency**	**Country**
22	220.1075	221.1075	United States
23	220.1125	221.1125	United States
24	220.1175	221.1175	United States
25	220.1225	221.1225	United States
26	220.1275	221.1275	United States
27	220.1325	221.1325	United States
28	220.1375	221.1375	United States
29	220.1425	221.1425	United States
30	220.1475	221.1475	United States
31	220.1525	221.1525	Mexico
32	220.1575	221.1575	Mexico
33	220.1625	221.1625	Mexico
34	220.1675	221.1675	Mexico
35	220.1725	221.1725	Mexico
36	220.1775	221.1775	Mexico
37	220.1825	221.1825	Mexico
38	220.1875	221.1875	Mexico
39	220.1925	221.1925	Mexico
40	220.1975	221.1975	Mexico
41	220.2025	221.2025	Mexico
42	220.2075	221.2075	Mexico
43	220.2125	221.2125	Mexico
44	220.2175	221.2175	Mexico
45	220.2225	221.2225	Mexico
46	220.2275	221.2275	United States
47	220.2325	221.2325	United States
48	220.2375	221.2375	United States
49	220.2425	221.2425	United States
50	220.2475	221.2475	United States
51	220.2525	221.2525	United States
52	220.2575	221.2575	United States
53	220.2625	221.2625	United States
54	220.2675	221.2675	United States
55	220.2725	221.2725	United States
56	220.2775	221.2775	United States
57	220.2825	221.2825	United States
58	220.2875	221.2875	United States
59	220.2925	221.2925	United States
60	220.2975	221.2975	United States
61	220.3025	221.3025	Mexico
62	220.3075	221.3075	Mexico
63	220.3125	221.3125	Mexico
64	220.3175	221.3175	Mexico

APPENDIX - TABLE OF ALLOTMENT (220-222 MHz Band)			
Channel	**Base Frequency**	**Mobile Frequency**	**Country**
65	220.3225	221.3225	Mexico
66	220.3275	221.3275	Mexico
67	220.3325	221.3325	Mexico
68	220.3375	221.3375	Mexico
69	220.3425	221.3425	Mexico
70	220.3475	221.3475	Mexico
71	220.3525	221.3525	Mexico
72	220.3575	221.3575	Mexico
73	220.3625	221.3625	Mexico
74	220.3675	221.3675	Mexico
75	220.3725	221.3725	Mexico
76	220.3775	221.3775	United States
77	220.3825	221.3825	United States
78	220.3875	221.3875	United States
79	220.3925	221.3925	United States
80	220.3975	221.3975	United States
81	220.4025	221.4025	United States
82	220.4075	221.4075	United States
83	220.4125	221.4125	United States
84	220.4175	221.4175	United States
85	220.4225	221.4225	United States
86	220.4275	221.4275	United States
87	220.4325	221.4325	United States
88	220.4375	221.4375	United States
89	220.4425	221.4425	United States
90	220.4475	221.4475	United States
91	220.4525	221.4525	Mexico
92	220.4575	221.4575	Mexico
93	220.4625	221.4625	Mexico
94	220.4675	221.4675	Mexico
95	220.4725	221.4725	Mexico
96	220.4775	221.4775	Mexico
97	220.4825	221.4825	Mexico
98	220.4875	221.4875	Mexico
99	220.4925	221.4925	Mexico
100	220.4975	221.4975	Mexico
101	220.5025	221.5025	Mexico
102	220.5075	221.5075	Mexico
103	220.5125	221.5125	Mexico
104	220.5175	221.5175	Mexico
105	220.5225	221.5225	Mexico
106	220.5275	221.5275	United States
107	220.5325	221.5325	United States

APPENDIX - TABLE OF ALLOTMENT (220-222 MHz Band)			
Channel	**Base Frequency**	**Mobile Frequency**	**Country**
108	220.5375	221.5375	United States
109	220.5425	221.5425	United States
110	220.5475	221.5475	United States
111	220.5525	221.5525	United States
112	220.5575	221.5575	United States
113	220.5625	221.5625	United States
114	220.5675	221.5675	United States
115	220.5725	221.5725	United States
116	220.5775	221.5775	United States
117	220.5825	221.5825	United States
118	220.5875	221.5875	United States
119	220.5925	221.5925	United States
120	220.5975	221.5975	United States
121	220.6025	221.6025	Mexico
122	220.6075	221.6075	Mexico
123	220.6125	221.6125	Mexico
124	220.6175	221.6175	Mexico
125	220.6225	221.6225	Mexico
126	220.6275	221.6275	Mexico
127	220.6325	221.6325	Mexico
128	220.6375	221.6375	Mexico
129	220.6425	221.6425	Mexico
130	220.6475	221.6475	Mexico
131	220.6525	221.6525	Mexico
132	220.6575	221.6575	Mexico
133	220.6625	221.6625	Mexico
134	220.6675	221.6675	Mexico
135	220.6725	221.6725	Mexico
136	220.6775	221.6775	United States
137	220.6825	221.6825	United States
138	220.6875	221.6875	United States
139	220.6925	221.6925	United States
140	220.6975	221.6975	United States
141	220.7025	221.7025	United States
142	220.7075	221.7075	United States
143	220.7125	221.7125	United States
144	220.7175	221.7175	United States
145	220.7225	221.7225	United States
146	220.7275	221.7275	Mexico
147	220.7325	221.7325	Mexico
148	220.7375	221.7375	Mexico
149	220.7425	221.7425	Mexico
150	220.7475	221.7475	Mexico

APPENDIX - TABLE OF ALLOTMENT (220-222 MHz Band)			
Channel	**Base Frequency**	**Mobile Frequency**	**Country**
151	220.7525	221.7525	Mexico
152	220.7575	221.7575	Mexico
153	220.7625	221.7625	Mexico
154	220.7675	221.7675	Mexico
155	220.7725	221.7725	Mexico
156	220.7775	221.7775	United States
157	220.7825	221.7825	United States
158	220.7875	221.7875	United States
159	220.7925	221.7925	United States
160	220.7975	221.7975	United States
161	220.8025	221.8025	United States
162	220.8075	221.8075	United States
163	220.8125	221.8125	United States
164	220.8175	221.8175	United States
165	220.8225	221.8225	United States
166	220.8275	221.8275	Mexico
167	220.8325	221.8325	Mexico
168	220.8375	221.8375	Mexico
169	220.8425	221.8425	Mexico
170	220.8475	221.8475	Mexico
171	220.8525	221.8525	Mexico
172	220.8575	221.8575	Mexico
173	220.8625	221.8625	Mexico
174	220.8675	221.8675	Mexico
175	220.8725	221.8725	Mexico
176	220.8775	221.8775	Mexico
177	220.8825	221.8825	Mexico
178	220.8875	221.8875	United States
179	220.8925	221.8925	United States
180	220.8975	221.8975	United States
181	220.9025	221.9025	United States
182	220.9075	221.9075	United States
183	220.9125	221.9125	United States
184	220.9175	221.9175	United States
185	220.9225	221.9225	United States
186	220.9275	221.9275	United States
187	220.9325	221.9325	United States
188	220.9375	221.9375	United States
189	220.9425	221.9425	United States
190	220.9475	221.9475	United States
191	220.9525	221.9525	United States
192	220.9575	221.9575	United States
193	220.9625	221.9625	United States

APPENDIX - TABLE OF ALLOTMENT (220-222 MHz Band)			
Channel	**Base Frequency**	**Mobile Frequency**	**Country**
194	220.9675	221.9675	United States
195	220.9725	221.9725	Both Countries
196	220.9775	221.9775	Both Countries
197	220.9825	221.9825	Both Countries
198	220.9875	221.9875	Both Countries
199	220.9925	221.9925	Both Countries
200	220.9975	221.9975	Both Countries

3.9.4 Protocol 6 Concerning the Allotment and Use of Channels in the 932-932.5 and 941-941.5 MHz Bands for Fixed Point-to-multipoint Services along the Common Border

(Signed Williamsburg, VA, June 16, 1994)

This Protocol is being concluded pursuant to the Agreement Between the Government of the United States of America and the Government of the United Mexican States Concerning the Allocation and Use of Frequency Bands by Terrestrial Non-Broadcasting Radiocommunication Services Along the Common Border signed June 16, 1994, herein referred to as the Agreement.

ARTICLE I.

Purposes

The purposes of this Protocol are:

1. To establish and adopt an allotment plan for the use of channels in the 932-932.5 and 941-941.5 MHz bands within a distance of 113 kilometers on each side of the common border (Sharing Zone) for fixed point-to-multipoint radiocommunication stations and to achieve an equitable distribution of the available channels.
2. To establish technical criteria to regulate point-to-multipoint radiocommunication stations in the 932-932.5 and 941-941.5 MHz bands.
3. To establish conditions of use so that each Administration may use the channels allotted to the other country, if this use causes no interference.

ARTICLE II.

Definition

For the purpose of this Protocol and as provided for in Article IV of the Agreement, the term Administration(s) shall refer to the Federal Communications Commission and the National Telecommunications and Information Administration of the United States of America and the Secretaría de Comunicaciones y Transportes of the United Mexican States.

ARTICLE III.

Conditions of Use

1. In the agreed Sharing Zone, Administrations shall use the frequency plan in the Table of Allotment appearing as the Appendix to this Protocol, which shall form an integral part of this Protocol.

2. Within the Sharing Zone, the frequencies in the 932-932.5 and 941-941.5 MHz bands shall be shared by the Administrations in accordance with the Appendix to this Protocol.

3. The assignments which a country makes of its own primary use frequencies within the Sharing Zone shall be authorize subject to the effective isotropic radiated power (EIRP) and antenna height limits specified in the following table:

a. Station use of the 941-941.5 MHz band:

Antenna Height/Above Mean Sea Level (Meters)	Maximum Effective Radiated Power (Watts)	Isotropic (EIRP) (dBW)
Up to 152	1000	30
Above 152 to 182	630	28
Above 182 to 213	500	27
Above 213 to 243	400	26
Above 243 to 274	315	25
Above 274 to 305	250	24
Above 305	200	23

b. Stations using the 932-932.5 MHz band shall be limited to the maximum effective isotropic radiated power of 50 watts (17 dBW).

4. Frequencies allotted for the primary use of one country may be assigned by the other country within the Sharing Zone in accordance with the following conditions:

a. The maximum power flux density (pfd) at any point at or beyond the border shall not exceed - 100 dBW/m^2.

b. Administrations shall take proper measures to eliminate any harmful interference caused by their licensees.

c. Each Administration shall grant protection to stations that have primary use of the authorized frequency.

d. Stations operating under this provision shall be considered as secondary and shall not be granted protection against harmful interference from stations that have primary use of the authorized frequency.

ARTICLE IV.

Transborder Traffic

Administrations will make their best efforts to satisfy the needs of transborder traffic.

ARTICLE V.

Exchange of Data

In October of each year, the Federal Commission for the United States of America and the Secretaría de Comunicaciones y Transportes of the United Mexican States shall exchange summary lists of all of their country's assignments in the 932-932.5 and 941-941.5 MHz bands within Sharing Zone.

ARTICLE VI.

Entry Into Force and Termination

This Protocol shall enter into force on the same date as the Agreement. It shall remain in force until it is replaced by a new Protocol, or until it is terminated in accordance with Article VII of the Agreement.

APPENDIX - TABLE OF ALLOTMENT 932-932.5 and 941-941.5 MHz Bands

Channel Pairs for Point-to-Multipoint Assignments			
Mexico		United States	
932.00625	941.00625	932.25625	941.25625
932.01875	941.01875	932.26875	941.26875
932.03125	941.03125	932.28125	941.28125
932.04375	941.04375	932.29375	941.29375
932.05625	941.05625	932.30625	941.30625
932.06875	941.06875	932.31875	941.31875
932.08125	941.08125	932.33125	941.33125
932.09375	941.09375	932.34375	941.34375
932.10625	941.10625	932.35625	941.35625
932.11875	941.11875	932.36875	941.36875
932.13125	941.13125	932.38125	941.38125
932.14375	941.14375	932.39375	941.39375
932.15625	941.15625	932.40625	941.40625
932.16875	941.16875	932.41875	941.41875
932.18125	941.18125	932.43125	941.43125
932.19375	941.19375	932.44375	941.44375
932.20625	941.20625	932.45625	941.45625
932.21875	941.21875	932.46875	941.46875
932.23125	941.23125	932.48125	941.48125
932.24375	941.24375	932.49375	941.49375

3.9.5 Protocol 9 Concerning the Use of Bands Allocated to the Aeronautical Radionavigation and Aeronautical Communications Services Along the Common Border.

(Signed Morelia, Mexico, April 26, 1996)

This Protocol is being concluded pursuant to the Agreement Between the Government of the United States of America and the Government of the United Mexican States Concerning the Allocation and Use of Frequency Bands by Terrestrial Non-Broadcasting Radiocommunication Services Along the Common Border signed June 16, 1994, herein referred to as the Agreement.

ARTICLE I.

Purposes

The purposes of this Protocol are:

1. To establish a procedure for the coordination of frequency assignment information and the exchange of engineering comments on proposed frequency assignments for Aeronautical Radionavigation and Aeronautical Communications Services along the Mexico/United States common border.
2. To establish the frequency bands and technical criteria that is to be provided as part of the coordination of proposed frequency assignments.
3. To establish conditions of use so that each Administration has access to all of the channels in each of the frequency bands, provided that the use does not cause harmful interference to stations in the other country.

ARTICLE II.

Definition

For the purpose of this Protocol and as provided for in Article IV of the Agreement, the term Administration(s) shall refer to the Federal Aviation Administration and the Federal Communications Commission of the United States of America and the Secretaría de Comunicaciones y Transportes (SCT/SENEAM) of the United Mexican States.

ARTICLE III.

Conditions of Use

1. The frequency bands set forth in the table below shall be used for aeronautical radionavigation, and aeronautical communications and associated uses in accordance with Appendix I:

Item	Frequency Band	Authorized Coordination Agencies	
		U.S.	Mexico
1	190-285 kHz	FAA	SCT/SENEAM
2	285-435 kHz	FAA	SCT/SENEAM
3	510-535 kHz	FAA	SCT/SENEAM
4	74.8-75.2 MHz	FAA	SCT/SENEAM
5	108-118 MHz	FAA/FCC	SCT/SENEAM
6	118-137 MHz	FAA/FCC	SCT/SENEAM
7	328.6-335.4 MHz	FAA	SCT/SENEAM
8	960-1215 MHz	FAA	SCT/SENEAM
9	1215-1400 MHz	FAA	SCT/SENEAM
10	2700-2900 MHz	FAA	SCT/SENEAM
11	4200-4400 MHz	*	*
12	5000-5250 MHz	FAA/FCC	SCT/SENEAM
13	5350-5470 MHz	*	*
14	9000-9200 MHz	FAA/FCC	SCT/SENEAM
15	13.25-13.4 GHz	*	*
16	15.4-15.7 GHz	*	*

* No coordination required at this time.

2. The above-mentioned frequency bands are available for use by both countries subject to coordination in the zones established in Appendix I.

ARTICLE IV.

Coordination Procedures

1. Before an Administration authorizes a new assignment or a modification to an existing assignment in the frequency bands governed by this protocol in the coordination zones established in Appendix I, it shall coordinate the assignment with the other country. A coordination request shall include the information required for that communication service as listed in Appendix I. The Program Director for Spectrum Policy and Management of the Federal Aviation Administration and the Gerencia de Normas Operacionales de la Secretaría de Comunicaciones y Transportes (SCT/SENEAM) shall conduct the coordination. The medium used for providing the information shall be established by mutual agreement, and the receiving Administration shall acknowledge receipt of the coordination request.

2. The affected Administration shall examine the coordination request and shall reply as soon as practicable advising whether or not a conflict is anticipated. If so, the details of the conflict and the particulars of the station likely to experience interference shall be supplied. A counter proposal or discussions on the initial proposal may be initiated with the objective of resolving any problem.

3. If adverse comment is not received from the affected Administration with 30 days from the date of the receipt of the proposal, the initiating administration may go ahead with the operation after having notified the other Administration.

4. Whenever differences of opinion concerning the probability of harmful interference exist, which cannot be resolved otherwise, or in cases where the information available makes it difficult to determine whether harmful interference would be created by the proposed operation, mutually acceptable arrangements should be made for actual on-the-air tests to be observed by representatives of both the Federal Aviation Administration and Secretaría de Comunicaciones y Transportes/SENEAM. Should harmful interference be caused to the existing station, the administration having jurisdiction over the proposed operation should be notified promptly so that the transmissions of the interfering station may be halted.

5. Neither the Federal Aviation Administration nor Secretaría de Comunicaciones Y Transportes/SENEAM shall be bound to act in accordance with the views of the other. However, to keep such instances to a minimum, each agency should cooperate to the fullest extent practicable with the other by furnishing such additional data as may be required.

ARTICLE V.

Master List of Aeronautical Stations

1. Appendices III and IV* to this Protocol list the existing stations (and their associated technical parameters) of each Administration that are in the frequency bands covered by this Protocol. These stations comprise the initial Master List and are entitled to the protections accorded stations coordinated pursuant to this Protocol. Any future modifications to these stations shall be coordinated with the other Administration in accordance with Article IV of this Protocol.

2. In June of each year, the Federal Aviation Administration and Secretaría de Comunicaciones y Transportes/SENEAM shall exchange recapitulative lists of all of their country's assignments for Aeronautical Radionavigation and Aeronautical Communications Services within the coordination zones.

* Appendix III (List of U.S. Assignments) and Appendix IV (List of Mexican Assignments) to be maintained by the FAA.

ARTICLE VI.

Entry into Force and Termination

This Protocol shall enter into force on the date of signing. It shall remain in force until it is replaced by a new Protocol, or until it is terminated in accordance with Article VII of the Agreement.

APPENDIX I

AERONAUTICAL RADIONAVIGATION SERVICE

NDB	190-285, 285-435 and 510-535 kHz
OM/MM	74.8-75.2 MHz
ILS-LOC	108-112 MHz
VOR	108-117.975 MHz
ILS-GS	328.6-335.4 MHz
DME/TACAN	960-1215 MHz
SSR	1030 MHz
Radar	1215-1400 MHz, 2700-2900 MHz, 9000-9200 MHz
MLS	5000-5150 MHz*

* At the present time, there is no MLS use in the band 5091-5150 MHz.

Technical Data Required for Coordination

(a) Frequency (provide pulse repetition frequency for SSR
(b) Location Name and Geographical Coordinates (NAD-83)
(c) Class of Emission and Necessary Bandwidth
(d) Transmitter Mean Power Output (Peak for DME and SSR)
(e) Antenna Azimuth and Gain in the Event of a Directional Antenna Array
(f) Facility Service Volume in Terms of Altitude and Radius Protected. (Not applicable to OM/MM. Radius only for NDB's)

Coordination Zones

NDB 0-25W	135 NM of U.S./Mexican Border
26-400W	250 NM of U.S./Mexican Border
OVER 400W	350 NM of U.S./Mexican Border
OM/MM	10 NM of U.S./Mexican Border
ILS-LOC/GS/DME	120 NM of U.S./Mexican Border
VOR/DME/TACAN up to 18,000 ft	200 NM of U.S./Mexican Border
VOR/DME/TACAN up to 75,000 ft	400 NM of U.S./Mexican Border
SSR	200 NM of U.S./Mexican Border
Radar	150 NM of U.S./Mexican Border
MLS	200 NM of U.S./Mexican Border

Note 1 - The power for NDB's is the transmitter mean power output.
Note 2 - DME Channels 1 through 16 and 60 through 69 are excluded from coordination between FAA/Mexico.
Note 3 - The frequency of 1090 MHz is excluded from coordination.

AERONAUTICAL MOBILE (R) SERVICE - AIR TRAFFIC CONTROL 117.975-137.000 MHz

Technical Data Required for Coordination

(a) Frequency
(b) Location Name and Geographic Coordinates
(c) Class of Emission and Necessary Bandwidth
(d) Transmitter Mean Power Output
(e) Antenna Gain and Azimuth in the Event of a Directional Antenna Array
(f) Facility Service Volume and Function, e.g., Typical Function Service Volumes:

Helicopter Control	30 NM up to 5,000 ft
Local Control and VFR Radar Advisory	30 NM up to 20,000 ft
Approach Control Including Radar	60 NM up to 25,000 ft
Departure Control including Radar	60 NM up to 20,000 ft
Basic Altitude En Route	100 NM up to 15,000 ft
Intermediate Altitude En Route	100 NM up to 24,000 ft
High Altitude En Route	200 NM up to 75,000 ft

Coordination Zones

Ground Control Frequencies

121.6-121.9 MHz	25 NM of U.S./Mexican Border
Low Altitude (up to 24,000 ft)	400 NM of U.S./Mexican Border
High Altitude (up to 75,000 ft)	600 NM of U.S./Mexican Border

Note 1: The frequency 121.5 MHz is excluded from coordination.
Note 2: For definitions of abbreviations, see Appendix II, Glossary

APPENDIX II

GLOSSARY

1. **DISTANCE MEASURING EQUIPMENT (DME)** - Equipment (airborne and ground) used to measure, in nautical miles, the slant range distance of an aircraft from the DME navigational aid.

2. **INSTRUMENT LANDING SYSTEM (ILS)** - A precision instrument approach system which normally consists of the following electronic components and visual aids:

a. Localizer (LOC) - Provides course guidance to the runway.

b. Glideslope (GS) - Provides vertical guidance for aircraft during approach and landing.

c. Outer Marker (OM) - A 75 MHz beacon at or near the glideslope intercept altitude of an ILS approach. The OM is normally located four to seven miles from the runway threshold on the extended centerline of the runway.

d. Middle Marker (MM) - A 75 MHz marker beacon that defines a point along the glideslope of an ILS normally located at or near the point of decision height (ILS category I - 200 ft.).

e. Approach Lighting System (ALS) - An airport lighting facility which provides visual guidance to landing aircraft by radiating light beams in a directional pattern by which the pilot aligns the aircraft with the extended centerline of the runway on his final approach for landing.

3. MICROWAVE LANDING SYSTEM (MLS) - A precision landing system operating in the 5 GHz band.

4. NONDIRECTIONAL BEACON (NDB) - A low/medium frequency (L/MF) or ultra high (UHF) frequency radio beacon transmitting nondirectional signals whereby the pilot of an aircraft equipped with direction finding equipment can determine his bearing to or from the radio beacon and "home" or track to or from the station. When the radio beacon is installed in conjunction with the Instrument Landing System (ILS) marker, it is normally called a Compass Locator.

5. SECONDARY SURVEILLANCE RADAR (SSR) - Also known as a Radar Beacon. A radar system in which the object to be detected is fitted with cooperative equipment in the form of a radio receiver/transmitter (transponder). Radar pulses transmitted from the search transmitter/receiver (interrogator) site are received in the cooperative equipment and used to trigger a distinctive transmission from the transponder.

6. TACTICAL AIR NAVIGATION (TACAN) - A UHF electronic rho-theta air navigation aid which provides suitably equipped aircraft a continuous indication of bearing and distance to the TACAN station.

7. VHF OMNIDIRECTIONAL RANGE (VOR) - A ground-based electronic navigation aid transmitting VHF navigation signals, 360 degrees in azimuth, oriented from magnetic north. Used as the basis for navigation in the National Air Space. The VOR periodically identifies itself by Morse Code and may have an additional voice identification feature.

3.9.6 Protocol 10 Concerning the Use of Channels in the 932.5-935 MHz and the 941.5-944 MHz Bands for Fixed Point-to-point Services Along the Common Border

(Signed Morelia, Mexico, April 26, 1996)

This Protocol is being concluded pursuant to the Agreement Between the Government of the United States of America and the Government of the United Mexican States Concerning the Allocation and Use of Frequency Bands by Terrestrial Non-Broadcasting Radiocommunication Services Along the Common Border signed June 16, 1994, herein referred to as the Agreement.

ARTICLE I.

Purposes

The purposes of this Protocol are:

1. To establish and adopt a common plan for the use of the 932.5-935 and 941.5-944 MHz bands within a distance of 60 kilometers on each side of the common border (Sharing Zone) for fixed point-to-point radiocommunication stations.

2. To establish the technical criteria that will permit each Administration to have equitable access to the available channels.

3. To establish conditions of use so that each Administration may use the channels allotted to the other country, provided this causes no interference.

ARTICLE II.

Definition

For the purpose of this Protocol and as provided for in Article IV of the Agreement, the term Administration(s) shall refer to the Federal Communications Commission and the National Telecommunications and Administration of the United States of America and the Secretaría de Comunicaciones y Transportes of the United Mexican States.

ARTICLE III.

Conditions of Use

1. In the Sharing Zone, the frequencies in the 932.5-935 MHz and 941.5-944 MHz bands shall be shared by the Administrations in accordance with the channeling plan in Appendix I* to this Protocol, which is an integral part hereof. These frequencies can be used singly but any paired use must be in accordance with the Table.

2. For each of the emission bandwidths provided for in Appendix I, the individual channels are designated as being either for the primary use of Mexico or primary use of the United States of America or reserved for future use.

* In recognition of the fact that Mexico needs to move its present users of these frequencies in the bands 932.5-935 MHz and 941.5-944 MHz to other frequency bands before it can make use of the new frequency allocation, the parties have agreed to this protocol and channeling plan until action is taken under Articles VII and VIII. It is the objective of the Administrations to replace the channeling plan and promote the most efficient use of the channels and maximize the sharing of the channels by both countries.

ARTICLE IV.

Technical Criteria

1. For fixed point-to-point stations in the Sharing Zone, the maximum equivalent isotropically radiated power shall not exceed 26 dBW (400 watts) within 120 degrees in the direction of the common border.

2. The stations must employ antennas that meet or exceed the performance standards for Category B. Category A antennas may be required where coordination or interference problems can be resolved by their use. (See the Table, below.) If Category A antennas are necessary to allow a proposed assignment to be made, they must be employed, beginning with the Administration proposing the assignment.

TABLE. ANTENNA PERFORMANCE STANDARDS

Antenna Category	Maximum Beamwidth to 3 dB Points (Included angle in degrees)	Minimum Radiation Suppression to Angle in Degrees from Centerline of Main Beam in Decibels					
		10 to 15	15 to 20	20 to 30	30 to 100	100 to 140	140 to 180
A	14	6	11	14	17	20	24
B	20	--	6	10	13	15	20

ARTICLE V.

Transborder Traffic

Transborder transmissions by means of private point-to-point links are permitted subject to the authorizations by both administrations in accordance with their regulations in force. Requests for coordination for this type of transmission shall include information on the transborder service to be provided. See Appendix II.

ARTICLE VI.

Exchange of Information

In October of each year, the Federal Communications Commission of the United States of America and the Secretaría de Comunicaciones y Transportes of the United Mexican States shall exchange recapitulative lists of all the assignments made by their countries in the 932.5-935 MHz and 941.5-944 MHz bands within the Sharing Zone, in accordance with Appendix II.

ARTICLE VII.

Negotiation of a New Protocol

Two years from the date of entry into force of this Protocol, the Administrations shall initiate a review of the use of the bands with the objective of preparing a new Protocol prior to the termination of this Protocol which maximizes the use of the radio electric spectrum, while keeping in mind the existing assignments and the needs of the two countries.

ARTICLE VIII.

Entry Into Force and Termination

This Protocol shall enter into force on the date of signing. It shall remain in force until it is replaced by a new Protocol. If a replacement Protocol is not concluded within three years from the entry into force of this Protocol, it is terminated on that date, unless it is mutually agreed by the Administrations to extend it.

APPENDIX I

TABLE OF CHANNELS - 932.5-935 AND 941.5-945 MHz BANDS PAIRED FREQUENCIES FOR POINT-TO-POINT ASSIGNMENTS 25 kHz BANDWIDTH PAIRS			
MEXICO		UNITED STATES	
MHz		MHz	
932.5125	941.5125	934.8375	943.8375
932.5375	941.5375	934.8625	943.8625
932.5625	941.5625	934.8875	943.8875
932.5875	941.5875	934.9125	943.9125
932.6125	941.6125	934.9375	943.9375
932.6375	941.6375	934.9625	943.9625
932.6625	941.6625	934.9875	943.9875

TABLE OF CHANNELS - 932.5-935 AND 941.5-945 MHz BANDS PAIRED FREQUENCIES FOR POINT-TO-POINT ASSIGNMENTS 50 kHz BANDWIDTH PAIRS			
MEXICO		UNITED STATES	
MHz		MHz	
932.7000	941.7000	934.8000	943.8000
* RESERVED - 932.7500 and 941.7500 MHz			

TABLE OF CHANNELS - 932.5-935 AND 941.5-945 MHz BANDS PAIRED FREQUENCIES FOR POINT-TO-POINT ASSIGNMENTS 100 kHz BANDWIDTH PAIRS			
MEXICO		UNITED STATES	
MHz		MHz	
932.8250	941.8250	934.5250	943.5250
932.9250	941.9250	934.6250	943.6250
933.0250	942.0250	934.7250	943.7250

TABLE OF CHANNELS - 932.5-935 AND 941.5-945 MHz BANDS PAIRED FREQUENCIES FOR POINT-TO-POINT ASSIGNMENTS 200 kHz BANDWIDTH PAIRS			
MEXICO		UNITED STATES	
MHz		MHz	
933.1750	942.1750	933.9750	942.9750
933.3750	942.3750	934.1750	943.1750
933.5750	942.5750	934.3750	943.3750
* RESERVED - 933.7750 and 942.7750 MHz			

* An assignment on a reserved channel can be made by one country only with the concurrence of the other country. An administration requesting concurrence for such an assignment shall provide full justification for its need including an indication that it is not able to satisfy its requirement on any other frequency in the channel plan. Such assignments will be coordinated on a case-by-case basis.

APPENDIX II

DATA ELEMENTS USED FOR THE EXCHANGE OF LISTS OF ASSIGNMENTS*

(a) Identify number for the assignment
(b) Radio frequency in Megahertz
(c) Locations: city and state of the transmitter and receiver
(d) Latitude and longitude of the transmitter antenna and receiver antenna (degrees, minutes, seconds)
(e) Emission designator for each carrier
(f) Total e.i.r.p. in dBW for each carrier
(g) Transmitter antenna azimuth
(h) Transmitter antenna polarization
(i) Maximum transmitter antenna gain in dBi
(j) Transmitter antenna site ground elevation in meters above mean sea level
(k) Transmitter antenna radiation centerline height above ground in meters
(l) Transmitter antenna manufacturer and model number
(m) Transmitter antenna performance (Category A, B or Other)
(n) Any other optional information

* If an administration submits a request for coordination, such a request should include as a minimum, the data elements listed in this Appendix.

3.9.7 Protocol 11 - Protocol Between the Department of State of the United States of America and the Secretaría de Comunicaciones y Transportes of the United Mexican States Concerning the Allotment and Use of the 380-399.9 MHz Band for Fixed and Mobile Terrestrial Non-Broadcasting Services Along the Common Border

This Protocol is being concluded on an interim basis pursuant to the Agreement Between the Government of the United States of America and the Government of the United Mexican States Concerning the Allocation and Use of Frequency Bands by Terrestrial Non-Broadcasting Radiocommunication Services Along the Common Border signed in Williamsburg, Virginia June 16, 1994, (herein referred to as the “Agreement”).

ARTICLE I.

Purposes

1. The purposes of this Protocol are:

a. To establish and adopt a plan for the equitable allotment on an interim basis of the frequency sub-bands in the 380-399.9 MHz band within the Sharing Zone defined in this Protocol;

b. To allow for new assignments in frequency sub-bands allotted as primary for each Administration in the 380-399.9 MHz band within the Sharing Zone defined in this Protocol on an interim basis until a more complete protocol governing both new assignments and existing stations can be negotiated and concluded; and

c. To allow for temporary cross-border communications on an interim basis as set forth under Article IV, herein.

2. This Protocol does not apply to existing stations for fixed and mobile services in the 380-399.9 MHz band within the Sharing Zone defined in this Protocol.

ARTICLE II.

Designation of Administrations and Definitions

1. For the purpose of this Protocol and as provided for in Article IV of the Agreement, the term Administration or Administrations will refer with equal effect to the National Telecommunications and Information Administration of the Department of Commerce United States of America and the Secretaría de Comunicaciones y Transportes of the United Mexican States are hereby designated the Administrations responsible for the implementation of this Protocol for the United States (hereinafter United States) and the United Mexican States (hereinafter Mexico), respectively, as provided for in Article IV of the Agreement.

2. The Sharing Zone is defined to include the border areas within the United States and Mexico and their respective territorial waters as set forth in Appendix I.

ARTICLE III.

Restriction on Use of Mobile Satellite Service

Neither Administration shall introduce the mobile satellite service into the sub-bands allotted for the primary use of the other Party within the Sharing Zone defined herein.

ARTICLE IV.

Conditions of Use

1. Within the Sharing Zone, the radio frequency sub-bands in the 380-399.9 MHz band shall be allotted for the primary use of each Administration in accordance with Appendix II. Each Administration shall ensure that new assignments made on or after the date that this Protocol enters into force are operated in such a way that the transmission bandwidth shall not exceed the primary frequency allotments in Appendix II.

2. Each Administration shall ensure that fixed and mobile stations assigned to primary frequency allotments within the Sharing Zone shall be operated on an interim basis in accordance with the effective radiated power (ERP) and antenna height limitations specified in the following table (Table I):

Table I		
Average of the Antenna Height Above Average Terrain on Standard Radials in the Direction of the Common Border[2]	**Maximum ERP in Any Direction Toward the Common Border**	
Meters	Watts	dBm
Up to 150	500	+56.98
Above 150 to 225	350	+55.44
Above 225 to 300	250	+53.98
Above 300 to 450	200	+53.01
Above 450 to 600	150	+51.76
Above 600 to 750	100	+50.00
Above 750 to 900	75	+48.75
Above 900 to 1,050	50	+46.98
Above 1,050	30	+44.77

3. Notwithstanding Article IV, paragraph 1 herein, which limits new assignments to primary allotments for each Administration, new assignments on the frequencies and their associated bandwidths shown in Appendix III are allowed on a temporary basis at certain stations in the United States so that those U.S. stations may engage in cross-border communications with counter-part stations in Mexico. Those U.S. stations are located in the State of Arizona in the United States and are identified in Appendix IV of this Protocol. Appendix IV also lists the counter-part stations in Mexico. Such temporary new assignments are not allowed on other U.S. stations in any of the border states of the United States.

a. The U.S. Administration may make new temporary assignments to the U.S. stations listed in Appendix IV under the exception set forth in this paragraph only on the condition that no harmful interference is caused to stations in Mexico. In the case of harmful interference to the U.S. stations listed in Appendix IV from Mexican stations, the U.S. Administration will request cooperation from the Mexican Administration in order to ensure viable direct cross-border communications between the stations in each country.

b. The limited temporary use permitted under the terms set forth in the prior provisions of this paragraph may continue only until the two Administrations either find and agree upon an alternative radio-frequency band for the assigned use or until July 1, 2008, whichever occurs first. If the two Administrations agree upon an alternative radio-frequency band for the assigned use for any U.S. station prior to July 1, 2008, the limited temporary use of the frequencies by that U.S. station shall end when cross-border operations are deployed and transmissions by that U.S. station begins on the alternative frequency band.

[2] Standard radials are 000, 045, 090, 135, 180, 225, 270 and 315 relative to True North.

ARTICLE V.

Appendices

Appendices I, II, III, and IV are an integral part of this Protocol.

ARTICLE VI.

Entry into Force and Termination

This Protocol shall enter into force on the date of signature. It shall remain in force until it is replaced by a Protocol governing both new assignments and existing stations, or until it is terminated in accordance with Article VII of the Agreement.

APPENDIX I

Areas Within Which the Frequencies Are to Be Protected

U.S.- MEXICO SHARING ZONE

The Sharing Zone is defined on an interim basis as the area covered by a distance of 145 kilometers (90.1 miles) from the U.S.-Mexico common border into the national territory of each country and includes areas of the Pacific Ocean and the Gulf of Mexico.

These areas are enclosed by the boundaries shown on the map below and are further defined in Table II.

Table II

The following geographic coordinates define the U.S. - Mexico Sharing Zone on an interim basis in the national territory of each country. Point 1 is located in the Pacific Ocean due west from the U.S.-Mexico common border and is the starting point in defining the Sharing Zone. The boundary of the Sharing Zone is then defined by plotting each geographic point in advancing numerical order in a clockwise direction. Each distance path between consecutive points is traversed by great circle arc.

No.	Degrees/Minutes/Seconds	Decimal Degrees
1	32 14’16”N 118 37’09”W	32.2378N 118.6192W
2	33 44’18”N 119 58’13”W	33.7384N 119.9704W
3	34 00’16”N 114 28’01”W	34.0044N 114.4670W
4	32 37’24”N 110 51’01”W	32.6234N 110.8505W
5	32 38’60”N 109 18’02”W	32.6500N 109.3006W
6	33 05’47”N 108 15’42”W	33.0965N 108.2617W
7	33 01’27”N 106 06’30”W	33.0242N 106.1083W
8	32 46’33”N 105 30’38”W	32.7757N 105.5105W
9	31 21’30”N 103 55’51”W	31.3584N 103.9309W
10	30 39’31”N 103 34’01”W	30.6587N 103.5670W
11	31 11’40”N 102 26’12”W	31.1945N 102.4368W
12	31 02’47”N 101 04’18”W	31.0465N 101.0717W
13	30 51’19”N 100 36’43”W	30.8553N 100.6120W
14	29 54’03”N 099 28’55”W	29.9007N 099.4820W
15	27 21’20”N 097 48’03”W	27.3556N 097.8009W
16	27 21’05”N 095 42’14”W	27.3516N 095.7038W
17	25 58’50”N 095 42’22”W	25.9805N 095.7061W
18	24 33’14”N 095 42’46”W	24.5539N 095.7128W
19	24 32’41”N 097 48’44”W	24.5448N 097.8122W
20	25 15’14”N 099 40’56”W	25.2539N 099.6823W
21	25 40’42”N 100 10’59”W	25.6782N 100.1833W
22	27 52’01”N 101 35’16”W	27.8669N 101.5877W
23	28 29’18”N 101 57’45”W	28.4884N 101.9625W
24	27 58’15”N 102 11’48”W	27.9709N 102.1967W
25	27 38’22”N 103 16’32”W	27.6394N 103.2755W
26	27 54’33”N 103 59’11”W	27.9093N 103.9863W
27	28 30’31”N 105 15’57”W	28.5085N 105.2659W
28	29 13’30”N 105 45’37”W	29.2249N 105.7604W
29	30 19’17”N 106 57’15”W	30.3215N 106.9544W
30	30 01’37”N 107 56’47”W	30.0271N 107.9464W
31	30 01’18”N 111 15’28”W	30.0216N 111.2579W
32	31 14’10”N 115 05’28”W	31.2361N 115.0911W
33	31 21’26”N 115 20’31”W	31.3572N 115.3419W
34	31 14’34”N 116 21’25”W	31.2427N 116.3570W
35	31 08’09”N 117 53’38”W	31.1359N 117.8939W

APPENDIX II

Allotment of Frequency Sub-bands in the 380-399.9 MHz Band

Mexico Primary[3]	U.S. Primary[3]
380.0000 - 384.9500	384.9500 - 389.9500
389.9500 - 394.9500	394.9500 - 399.9000

APPENDIX III

Temporary Cross-Border Frequencies [4]

382.3000 392.3000

Each frequency employs an associated bandwidth of plus and minus 12.5 kHz relative to the center carrier frequency, i.e 382.2875-382-3125 MHz and 392.2875-392.3125.

APPENDIX IV

List of Certain U.S. and Associated Mexican Stations. The U.S. Stations May Be Assigned Frequencies Set Forth in Appendix III on a Limited Temporary Basis under Article IV, Paragraph 3

In the State of Arizona:

1) U.S. Customs & Border Protection Station, Nogales
2) U.S. Customs & Border Protection Station, Naco
3) U.S. Customs & Border Protection Station, Douglas
4) U.S. Border Patrol Sector Communications Center, Yuma
5) County of Santa Cruz, Office of Emergency Management, Nogales
6) Police Department of City of Nogales, Nogales
7) Cochise County Sheriffs Department, Bisbee
8) Police Department of City of Douglas, Douglas
9) Police Department of City of San Luis, San Luis
10) Police Department of City of Somerton, Somerton

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[3] All Frequencies in MHz

[4] These two frequencies and their associated bandwidths are designated as primary for new assignments by Mexico and may also be assigned for temporary cross-border use only as set forth in Article IV, paragraph 3, to the U.S. stations listed in Appendix IV of this Protocol.

In the State of Sonora:

1) C4 Station, Nogales
2) C4 Station, Naco
3) C4 Station, Agua Prieta (site at Prima Loma)
4) C4 Station, San Luis Rio Colorado
5) C4 Station, Nogales
6) C4 Station, Nogales
7) C4 Station, Agua Prieta (site at Prima Loma)
8) C4 Station, Agua Prieta (site at Prima Loma)
9) C4 Station, San Luis Rio Colorado
10) C4 Station, San Luis Rio Colorado

3.9.8 Protocol 12 - Protocol Between the Department of State of the United States of America and the Secretaría de Comunicaciones y Transportes of the United Mexican States Concerning the Allotment and Use of the 406.1-420 MHz Band for Fixed and Mobile Services Along the Common Border

This Protocol is being concluded pursuant to the Agreement Between the Government of the United States of America and the Government of the United Mexican States Concerning the Allocation and Use of Frequency Bands by Terrestrial Non-Broadcasting Radiocommunication Services Along the Common Border signed in Williamsburg, Virginia June 16, 1994, (herein referred to as the "Agreement").

ARTICLE I.

Purposes

The purposes of this Protocol are:

1. To establish and adopt a plan for the equitable allotment and use of frequency sub-bands in the 406.1-420 MHz band within the Sharing Zone defined in this Protocol;
2. To establish technical criteria to regulate the use of the frequency sub-bands referred to in paragraph 1 of this Article;
3. To establish conditions of use so that each Administration may use the frequency sub-bands allotted to the other country for fixed and mobile services, provided this causes no harmful interference; and
4. To provide special interference protection for certain critical receiver stations specifically identified in Appendix I.

ARTICLE II.

Definitions

1. For the purpose of this Protocol and as provided for in Article IV of the Agreement, the term Administration or Administrations will refer with equal effect to the National Telecommunications and Information Administration of the Department of Commerce of the United States of America (hereinafter United States) and to the Secretaría de Comunicaciones y Transportes of the United Mexican States (hereinafter Mexico).

2. The Sharing Zone is defined to include the border areas within the United States and Mexico and their respective territorial waters as set forth in Appendix II.

3. Special interference protection is defined as that protection from harmful interference afforded only to those critical receiver stations specifically identified in Appendix I.

ARTICLE III.

Conditions of Use

1. In the Sharing Zone, the radio frequency sub-bands in the 406.1-420 MHz band shall be allotted for the primary use of each Administration in accordance with Appendix III. Each Administration shall ensure that all stations subject to its jurisdiction in the 406.1-420 MHz band are operated in such a way that the transmission bandwidth on radio channels shall not exceed the primary frequency allotments in Appendix III.

2. Each Administration shall ensure that fixed and mobile stations assigned to primary frequency allotments within the Sharing Zone shall be operated in accordance with the effective radiated power (ERP) and antenna height limitations specified in the following table (Table I):

Table I

Average of the Antenna Height Above Average Terrain on Standard Radials in the Direction of the Common Border[5]	**Maximum ERP in Any Direction Toward the Common Border**	
Meters	**Watts**	**dBm**
Up to 150	500	+56.98
Above 150 to 225	350	+55.44
Above 225 to 300	250	+53.98
Above 300 to 450	200	+53.01
Above 450 to 600	150	+51.76
Above 600 to 750	100	+50.00
Above 750 to 900	75	+48.75
Above 900 to 1,050	50	+46.98
Above 1,050	30	+44.77

Existing stations in primary frequency allotments shall conform with the above power limitations on or before January 1, 2008.

[5] Standard radials are 000, 045, 090, 135, 180, 225, 270 and 315 relative to True North.

3. Each Administration shall ensure that the operation of stations on aircraft is limited to portable stations situated inside the aircraft, which have a maximum power of 5.0 watts and which do not employ antennas externally mounted on the aircraft. Such stations may only operate in the primary frequency allotments for their Administrations and at an altitude of up to 20,000 feet (6096 meters) above mean sea level. Each Administration shall take measures to eliminate any harmful interference caused by its portable stations situated inside aircraft.

4. Frequencies in sub-bands that are allotted for the primary use of one Administration may be assigned by the other Administration to stations located within the latter Administration's territorial segment of the Sharing Zone in accordance with the following conditions:

a. The maximum power flux density (PFD) at any point at or beyond the common border shall not exceed -143 dBW/m.

b. Land mobile stations and ship station's shall not be operated within 30 kilometers of the common border, and in addition to this distance separation, the power flux density of transmissions from land mobile stations and ship stations shall, in no case, exceed -143 dBW/m at any point at or beyond the common border.

c. Land portable stations shall not be operated within 10 kilometers of the common border, and in addition to this distance separation, the power flux density of transmissions from portable stations shall, in no case, exceed -143 dBW/m at any point at or beyond the common border.

d. Each Administration shall take proper measures to eliminate any harmful interference caused by stations operating within its own territory pursuant to this Protocol.

e. Each Administration shall ensure protection to stations assigned to radio frequencies in primary allotments of the other Administration operating in accord with this Protocol.

f. Stations operating in accordance with the conditions set forth in this paragraph 4 shall be considered as secondary and shall not be granted protection against harmful interference from stations whose Administration has primary use of the frequency allotment.

5. Beyond the Sharing Zone, each Administration shall have unrestricted use of the 406.1-420 MHz band.

ARTICLE IV.

Transition Arrangement for Existing Stations

1. Each Administration shall ensure that existing stations within the Sharing Zone that are operating in primary frequency sub-bands allotted to the other Administration shall either cease transmissions or assume secondary status on or before January 1, 2008, in accordance with paragraph 2 or 3 below except for the stations listed in Appendix I which are governed by Article V of this Protocol.

2. Existing stations in the following categories, which are operating in primary frequency allotments of the other Administration, shall cease transmissions on or before January 1, 2008:

a. Stations at fixed locations that do not meet the pfd limitation set forth in subparagraph 4.a of Article III of this Protocol;

b. Land mobile stations, ship stations and land portable stations that are located in the areas set forth in subparagraphs 4.b and 4.c of Article III of this Protocol; and

c. Portable stations operated in aircraft located in the Sharing Zone defined in paragraph 2 of Article II.

3. Existing stations that are able to assume secondary status as provided in paragraph 1 of this Article shall conform to the provisions of subparagraphs 4.d, 4.e and 4.f of Article III of this Protocol.

ARTICLE V.

Special Interference Protection for Critical Receiver Stations

1. The critical receiver stations within the 406.1-420 MHz band specifically identified in Appendix I shall be afforded special interference protection from harmful interference notwithstanding the provisions of Article III and Article IV.

2. Any station within the Sharing Zone that causes harmful interference to a critical receiver station or stations specifically identified in Appendix I shall take all remedial measures necessary to eliminate the harmful interference to the protected station or stations and their referenced parameters.

ARTICLE VI.

Relation to Other Agreements

This Protocol forms an integral part of the Agreement and shall be referred to as the Protocol for the 406.1 - 420 MHz band in the Index of Annex I of the Agreement.

ARTICLE VII.

Appendices

Appendices I, II and III are an integral part of this Protocol.

ARTICLE VIII.

Entry into Force and Termination

This Protocol shall enter into force on the date of signature. It shall remain in force until it is replaced by a new Protocol, or until it is terminated in accordance with Article VII of the Agreement.

APPENDIX I

CRITICAL RECEIVER STATIONS IN MEXICO IN THE 406.1-420 MHz BAND THAT WILL BE AFFORDED SPECIAL INTERFERENCE PROTECTION

No.	Receiver Station Name	Receiver Frequency in MHz	Receiver Emission Designator	Receiver Geographic Coordinates (NAD 83) Latitude (N) Longitude (W)	Receiver Antenna Azimuth Relative to True North (N. 000 E.) (NAD 83)	Receiver Antenna Type, Beamwidth in Degrees & Polarization "H" or "V"	Receive Antenna Height Above Ground Level In Meters
1	Rep. Cedros	413.9250	3M75F8EJF	25 32 52 100 58 51	187 42 05	Parabolic 14 V	40
2	S.E. Ramos Arizpe Potencia	410.1750	3M75F8EJF	25 35 46 100 54 45	232 03 54	Parabolic 14 V	45
3	Rio Escondido	413.9250	3M75F8EJF	28 29 30 100 41 08	230 52 48	Yagi 45 H	40.9

No.	Theoretical PFD Level of Desired Signal at Receiver in dBm	Associated Transmitter Station Name	Associated Transmitter Location Latitude (N) Longitude (W)	Nominal Power (dBW)	Antenna Gain (dBd)	Effective Radiated Power ERP (dBW)	Equivalent Isotropically Radiated Power EIRP (dBW)
1 (Cont'd)	-12.8	S.E. Saltillo	25 24 35 101 00 05	10	23	30 *	32.16 *
2 (Cont'd)	-12.8	Rep. Cedros	25 32 52 100 58 51	10	23	30 *	32.16 *
3 (Cont'd)	-36.3	Nava	28 26 00 100 46 00	10	12	19 *	21.16 *

* Calculation includes 3 dB loss for transmission line

CRITICAL RECEIVER STATIONS IN THE UNITED STATES IN THE 406.1-420 MHz BAND THAT WILL BE AFFORDED SPECIAL INTERFERENCE PROTECTION

No.	Receiver Station Name	Receiver Frequency in MHz	Receiver Emission Designator	Receiver Geographic Coordinates (NAD 27) Latitude (N) Longitude (W)	Receiver Antenna Azimuth Relative to True North (N.000 E.) (NAD27)	Receiver Antenna Type, Beamwidth in Degrees & Polarization "H" or "V"	Receiver Antenna Height Above Ground Level in Meters
1	Laguna Dredge	406.1875	11K00F2D	32 51 19 114 28 55	58	Yagi 60 V	18
2	Telegraph Pass	406.5000	11K00F3E	32 40 12 114 20 06	228	Yagi 45 H	6
3	Gila Substation	407.7875	11K00F2D	32 41 05 114 28 09	304	Yagi 60 V	24
4	Hidden Shores Substation	415.1875	11K00F2D	32 52 05 114 27 28	238	Yagi 60 V	6
5	San Luis	416.4000	11K00F3E	32 29 42 114 45 57	64	Yagi 45 H	6
6	Siphon Drop	416.7875	11K00F2D	32 46 45 114 38 05	124	Yagi 60 V	8

No.	Theoretical PFD Level of Desired Signal at Receiver in dBm	Associated Transmitter Station Name	Associated Transmitter Location Latitude (N) Longitude (W)	Nominal Power (dBW)	Antenna Gain (dBd)	Effective Radiated Power ERP (dBW)	Equivalent Isotropically Radiated Power EIRP (dBW)
1 (Cont'd)	-44.6	Hidden Shores Substation	32 52 05 114 27 28	7	6	13	15.15
2 (Cont'd)	-57	Sonora Substation	32 28 48 114 35 14	7	10	17	19.15
3 (Cont'd)	-60	Siphon Drop	32 46 45 114 38 05	7	6	13	15.15
4 (Cont'd)	-45	Laguna Dredge	32 51 19 114 28 55	7	6	13	15.15
5 (Cont'd)	-58	Telegraph Pass	32 40 12 114 20 06	7	10	17	19.15
6 (Cont'd)	-61	Gila Substation	32 41 05 114 28 09	7	6	13	15.15

Appendix II

Areas Within Which the Frequencies Are to Be Protected

U.S. - MEXICO SHARING ZONE

The Sharing Zone is defined as the areas covered by a distance of 145 kilometers (90.1 miles) from the U.S.-Mexico common border into the national territory of each country and includes areas of the Pacific Ocean and the Gulf of Mexico.

These areas are enclosed by the boundaries shown on the map below and are further defined in Table II.

Table II

The following geographic coordinates define the U.S. - Mexico Sharing Zone in the national territory of each country. Point 1 is located in the Pacific Ocean due west from the U.S.-Mexico common border and is the starting point in defining the Sharing Zone. The boundary of the Sharing Zone is then defined by plotting each geographic point in advancing numerical order in a clockwise direction. Each distance path between consecutive points is traversed by great circle arc.

No.	Degrees/Minutes/Seconds	Decimal Degrees
1	32 14’16”N 118 37’09”W[6]	32.3772N 118.6192W
2	33 44’18”N 119 58’13”W	33.7384N 119.9704W
3	34 00’16”N 114 28’01”W	34.0044N 114.4670W
4	32 37’24”N 110 51’01”W	32.6234N 110.8505W
5	32 38’60”N 109 18’02”W	32.6500N 109.3006W
6	33 05’47”N 108 15’42”W	33.0965N 108.2617W
7	33 01’27”N 106 06’30”W	33.0242N 106.1083W
8	32 46’33”N 105 30’38”W	32.7757N 105.5105W
9	31 21’30”N 103 55’51”W	31.3584N 103.9309W
10	30 39’31”N 103 34’01”W	30.6587N 103.5670W
11	31 11’40”N 102 26’12”W	31.1945N 102.4368W
12	31 02’47”N 101 04’18”W	31.0465N 101.0717W
13	30 51’19”N 100 36’43”W	30.8553N 100.6120W
14	29 54’03”N 099 28’55”W	29.9007N 099.4820W
15	27 21’20”N 097 48’03”W	27.3556N 097.8009W
16	27 21’05”N 095 42’14”W	27.3516N 095.7038W
17	25 58’50”N 095 42’22”W	25.9805N 095.7061W
18	24 33’14”N 095 42’46”W	24.5539N 095.7128W
19	24 32’41”N 097 48’44”W	24.5448N 097.8122W
20	25 15’14”N 099 40’56”W	25.2539N 099.6823W
21	25 40’42”N 100 10’59”W	25.6782N 100.1833W
22	27 52’01”N 101 35’16”W	27.8669N 101.5877W
23	28 29’18”N 101 57’45”W	28.4884N 101.9625W
24	27 58’15”N 102 11’48”W	27.9709N 102.1967W
25	27 38’22”N 103 16’32”W	27.6394N 103.2755W
26	27 54’33”N 103 59’11”W	27.9093N 103.9863W
27	28 30’31”N 105 15’57”W	28.5085N 105.2659W
28	29 13’30”N 105 45’37”W	29.2249N 105.7604W
29	30 19’17”N 106 57’15”W	30.3215N 106.9544W
30	30 01’37”N 107 56’47”W	30.0271N 107.9464W
31	30 01’18”N 111 15’28”W	30.0216N 111.2579W
32	31 14’10”N 115 05’28”W	31.2361N 115.0911W
33	31 21’26”N 115 20’31”W	31.3572N 115.3419W
34	31 14’34”N 116 21’25”W	31.2427N 116.3570W
35	31 08’09”N 117 53’38”W	31.1359N 117.8939W

6 The "Table II" of the Appendix for the Sharing Zone, coordinate 1 expressed in Decimal Degrees has has an appreciable error. The coordinate expressed in Degrees, Minutes and Seconds (DMS) is correct. The DMS coordinate 32 14 16 is shown as Decimal Degrees 32.3772. The conversion to Decimal Degrees should read 32.2378. The Department of State is taking diplomatic action to correct this error.

APPENDIX III

Allotment of Frequency Sub-bands in the 406.1-420 MHz Band

Mexico Primary[7]	U.S. Primary[7]
406.10000 - 408.51875	408.51875 - 410.93125
410.93125 - 413.05000	413.05000 - 415.16875
415.16875 - 417.58125	417.58125 - 420.00000

3.9.9 Protocol 13 - Protocol Between the Department of State of the United States of America and the Secretaría de Comunicaciones y Transportes of the United Mexican States Concerning the Allotment And Use of the 138-144 MHz Band For Terrestrial Non-Broadcasting Radiocommunication Services Along the Common Border

This Protocol is being concluded pursuant to the Agreement Between the Government of the United States of America and the Government of the United Mexican States Concerning the Allocation and Use of Frequency Bands by Terrestrial Non-Broadcasting Radiocommunication Services Along the Common Border signed at Williamsburg, Virginia June 16, 1994, (herein referred to as the "Agreement").

ARTICLE I.

Purposes

1. The purposes of this Protocol are:

a. To establish and adopt a plan for the equitable allotment and use by the two Administrations of frequency sub-bands in the 138-144 MHz band within the Sharing Zone defined in this Protocol;

b. To establish technical criteria to regulate the use of the frequency sub-bands referred to in paragraph 1 of this Article for existing stations as well as for newly assigned stations; and

c. To establish conditions of use so that each Administration may use the frequency sub-bands allotted for primary use of the other country for fixed and mobile services, provided this causes no harmful interference.

ARTICLE II.

Designation of Administrations and Definitions

1. The National Telecommunications and Information Administration of the Department of Commerce of the United States of America and the Secretaría de Comunicaciones y Transportes of the United Mexican States are hereby designated the Administrations responsible for the implementation of this Protocol for the United States of America (hereinafter "United States") and the United Mexican States (hereinafter "Mexico"), respectively, as provided for in Article IV of the Agreement.

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[7] All Frequencies are in MHz.

2. The Sharing Zone is defined to include the border area within the United States and Mexico and their respective territorial waters as set forth in Appendix I.

ARTICLE III.

Supersession

1. Upon entry into force, this Protocol supersedes the provisions of the Memorandum of Understanding (MOU) Between the Department of Agriculture Forest Service and the Federal Communications Commission of the United States of America and the Secretaría de Comunicaciones y Transportes of the United Mexican States for the Use of Radio-Frequencies, Coordination and Cooperation for Emergency Purposes, signed at Washington and Mexico City December 9, 1998 to the extent that the MOU's provisions pertain to the two frequencies 139.150 MHz and 142.725 MHz.

2. Upon entry into force, this Protocol also supersedes, in its entirety, the Protocol Between the Department of State of the United States of America and the Secretariat of Communications and Transportation of the United Mexican States Concerning the Allotment and Use of the 138-144 MHz Band for Terrestrial Non-Broadcasting Radiocommunication Services along the Common Border, which Protocol was concluded on an interim basis and was signed at Washington July 17, 2006.

ARTICLE IV.

Conditions of Use

1. Within the Sharing Zone, the frequency sub-bands in the 138-144 MHz band shall be allotted for the primary use of each Administration in accordance with Appendix II. Each Administration shall ensure that stations within its national territory in the 138-144 MHz band are assigned and operated in such a way that the transmissions of those stations shall not exceed the primary frequency allotments in Appendix II.

2. Each Administration shall ensure that fixed and mobile stations assigned to primary frequency allotments within the Sharing Zone shall be operated in accordance with the equivalent isotropically radiated power (EIRP) and antenna height limitations specified in the following table:

Table I

Average of the Antenna Height Above Average Terrain on Standard Radials in the Direction of the Common Border[8]	Maximum EIRP in Any Direction Toward the Common Border	
Meters	Watts	dBm
Up to 150	500	+56.98
Above 150 to 225	350	+55.44
Above 225 to 300	250	+53.98
Above 300 to 450	200	+53.01
Above 450 to 600	150	+51.76
Above 600 to 750	100	+50.00
Above 750 to 900	75	+48.75
Above 900 to 1,050	50	+46.98
Above 1,050	30	+44.77

[8] Standard radials are 000°, 045°, 090°, 135°, 180°, 225°, 270° and 315° relative to True North.

Existing stations in primary frequency allotments shall conform to the above power limitations on or before January 1, 2011. New assignments shall conform to these limitations beginning on the date of entry into force of this Protocol.

3. Each Administration shall ensure that its stations on aircraft only operate with a maximum EIRP of 10.0 watts, only operate in the primary frequency allotments for that Administration and only operate at an altitude of less than 3,500 feet (1067 meters) above average terrain. Each Administration shall take measures to eliminate any harmful interference caused by its aircraft stations to stations operating on primary allotments or beyond the Sharing Zone in the other country.

4. Frequencies in sub-bands that are allotted for the primary use of one Administration may be assigned by the other Administration to stations located within the latter Administration's territorial segment of the Sharing Zone only in accordance with the following conditions:

a. The maximum power flux density (PFD) at any point at or beyond the common border shall not exceed -143 dBW/m^2.

b. Land mobile stations and ship stations shall not be operated within 30 kilometers of the common border, and in addition to this distance separation, the PFD of transmissions from land mobile stations and ship stations shall, in no case, exceed -143dBW/m^2 at any point at or beyond the common border.

c. Land portable stations shall not be operated within 10 kilometers of the common border, and in addition to this distance separation, the PFD of transmissions from portable stations shall, in no case, exceed -143 dBW/m^2 at any point at or beyond the common border.

d. New assignments in sub-bands that are allotted for the primary use of one Administration may not be made by the other Administration until January 1, 2011.

e. Each Administration shall take proper measures to eliminate harmful interference in order to ensure protection to stations that are operating on radio frequencies in primary allotments of the other Administration in accord with this Protocol.

f. Stations operating in accordance with the conditions set forth in paragraph 4 of this Article shall be considered as secondary and shall not be granted protection against harmful interference from stations whose Administration has primary use of the frequency allotment.

5. Beyond the Sharing Zone, the Administrations' use of the 138-144 MHz band shall in no way be restricted by this Protocol.

ARTICLE V.

Transition Arrangement for Existing Stations

1. Each Administration shall ensure that existing stations within the Sharing Zone that are operating in primary frequency sub-bands allotted to the other Administration shall either cease transmissions or assume secondary status on or before January 1, 2011, in accordance with either paragraph 2 or 3 below.

2. Existing stations in the following categories, which are operating in primary frequency allotments of the other Administration, shall cease operation on or before January 1, 2011:

a. Stations at fixed locations that do not meet the PFD limitation set forth in subparagraph 4.a of Article IV of this Protocol;

b. Land mobile stations, ship stations and land portable stations

that are located in the areas set forth in subparagraphs 4.b and 4.c of Article IV of this Protocol; and

c. Aircraft stations located in the Sharing Zone defined in Appendix I to this Protocol.

3. Existing stations that are able to assume secondary status as provided in paragraph 1 of this Article shall conform to the provisions of subparagraphs 4.e and 4.f of Article IV of this Protocol.

ARTICLE VI.

Relation to the Agreement

This Protocol forms an integral part of the Agreement and shall be referred to as Protocol 16, "Protocol Between the Department of State of the United States of America and the Secretariat of Communications and Transportation of the United Mexican States Concerning the Allotment and Use of the 138-144 MHz Band for Terrestrial Non-Broadcasting Radiocommunication Services Along the Common Border," in the Index of Annex I of the Agreement.

ARTICLE VII.

Appendices

Appendices I and II are integral parts of this Protocol.

ARTICLE VIII.

Entry into Force and Termination

This Protocol shall enter into force on the date of signature, and shall remain in force until it is replaced by a new Protocol, or until it is terminated in accordance with Article VII of the Agreement.

IN WITNESS WHEREOF, the respective representatives have signed the present Protocol.

Done at Mexico City this third day of August, 2007, in duplicate, in the English and Spanish languages, both texts being equally authentic.

FOR THE DEPARTMENT OF STATE OF THE UNITED STATES OF AMERICA

/s/ David A. Gross

Amb. David A. Gross
U.S. Coordinator for International Communications and Information Policy

FOR THE SECRETARIAT OF COMMUNICATIONS AND TRANSPORTATION OF THE UNITED MEXICAN STATES

/s/ Rafael del Villar Alrich

Dr. Rafael del Villar Alrich
Under Secretary of Communications

/s/ Hector G. Osuna Jaime

Arq. Héctor G. Osuna Jaime
Chairman, Federal Telecommunications Commission

APPENDIX I
Areas Within Which the Frequencies Are to Be Protected

U.S. - MEXICO SHARING ZONE

The Sharing Zone is defined as the areas covered by a distance of 145 kilometers (90.1 miles) from the U.S.-Mexico common border into the national territory of each country and includes areas of the Pacific Ocean and the Gulf of Mexico.

These areas are enclosed by the boundaries shown on the map below and are further defined in Table II.

Table II

The following geographic coordinates define the U.S.-Mexico Sharing Zone in the national territory of each country. Point 1 is located in the Pacific Ocean due west from the U.S.-Mexico common border and is the starting point in defining the Sharing Zone. The boundary of the Sharing Zone is then defined by plotting each geographic point in advancing numerical order in a clockwise direction. Each distance path between consecutive points is traversed by great circle arc.

No.	Degrees/Minutes/Seconds	Decimal Degrees
1	32 14’16”N 118°37’09”W	32.2378N 118.6192W
2	33 44’18”N 119°58’13”W	33.7384N 119.9704W
3	34 00’16”N 114°28’01”W	34.0044N 114.4670W
4	32 37’24”N 110°51’01”W	32.6234N 110.8505W
5	32 38’60”N 109°18’02”W	32.6500N 109.3006W
6	33 05’47”N 108°15’42”W	33.0965N 108.2617W
7	33 01’27”N 106°06’30”W	33.0242N 106.1083W
8	32 46’33”N 105°30’38”W	32.7757N 105.5105W
9	31 21’30”N 103°55’51”W	31.3584N 103.9309W
10	30 39’31”N 103°34’01”W	30.6587N 103.5670W
11	31 11’40”N 102°26’12”W	31.1945N 102.4368W
12	31 02’47”N 101°04’18”W	31.0465N 101.0717W
13	30 51’19”N 100°36’43”W	30.8553N 100.6120W
14	29 54’03”N 099°28’55”W	29.9007N 099.4820W
15	27 21’20”N 097°48’03”W	27.3556N 097.8009W
16	27 21’05”N 095°42’14”W	27.3516N 095.7038W
17	25 58’50”N 095°42’22”W	25.9805N 095.7061W
18	24 33’14”N 095°42’46”W	24.5539N 095.7128W
19	24 32’41”N 097°48’44”W	24.5448N 097.8122W
20	25 15’14”N 099°40’56”W	25.2539N 099.6823W
21	25 40’42”N 100°10’59”W	25.6782N 100.1833W
22	27 52’01”N 101°35’16”W	27.8669N 101.5877W
23	28 29’18”N 101°57’45”W	28.4884N 101.9625W
24	27 58’15”N 102°11’48”W	27.9709N 102.1967W
25	27 38’22”N 103°16’32”W	27.6394N 103.2755W
26	27 54’33”N 103°59’11”W	27.9093N 103.9863W
27	28 30’31”N 105°15’57”W	28.5085N 105.2659W
28	29 13’30”N 105°45’37”W	29.2249N 105.7604W
29	30 19’17”N 106°57’15”W	30.3215N 106.9544W
30	30 01’37”N 107°56’47”W	30.0271N 107.9464W
31	30 01’18”N 111°15’28”W	30.0216N 111.2579W
32	31 14’10”N 115°05’28”W	31.2361N 115.0911W
33	31 21’26”N 115°20’31”W	31.3572N 115.3419W
34	31 14’34”N 116°21’25”W	31.2427N 116.3570W
35	31 08’09”N 117°53’38”W	31.1359N 117.8939W

APPENDIX II

Allotment of Frequency Sub-bands in the 138-144 MHz Band

Mexico Primary *	U.S. Primary *
138.0 - 139.0	139.0 - 140.0
140.0 - 141.0	141.0 - 142.0
142.0 - 143.0	143.0 - 144.0

* All frequencies in MHz

3.9.10 Administrative Arrangement Between the United States of America and the United Mexican States Concerning Frequencies Used by the International Boundary and Water Commission

(Signed Queretaro, Mexico, August 11, 1992)

In accordance with the provisions of Article **7** of the Radio Regulations, considered annexed to the International Telecommunications Convention, Nairobi, 1982, the United States of America and the United Mexican States, the Parties, in recognition of the need to protect from harmful interference certain radio frequencies that are used by the United States and Mexican Sections of the International Boundary and Water Commission, have reached an understanding as set forth in the following:

ARTICLE I.

Purposes

The purposes of this Administrative Arrangement are:

1. To establish and to protect from harmful interference the radio frequencies used by the United States and Mexican Sections of the International Boundary and Water Commission in administering existing treaties on the subject.
2. To establish that the United States and Mexican Sections of the International Boundary and Water Commission can communicate with each other on their own or each other's radio frequencies set forth in this arrangement.

ARTICLE II.

Frequencies to be Protected

The frequencies used along the United States/Mexico Border by the United States and Mexican Sections of the International Boundary and Water Commission vary from location to location along the border. The frequencies to be used on a shared basis by both Sections of the Commission for land mobile systems are as follows:

In the Border Area East of 101 West

162.025/162.175 MHz -- Repeater transmit, base station/mobile receive only.
164.175 MHz -- Repeater receive, base station/mobile transmit only.

In the Border Area Between 101 and 103 West

162.025 MHz -- Repeater transmit, mobile receive only.
164.175 MHz -- Repeater receive, mobile transmit only.

In the Border Area Between 104 and 110 West

172.475 MHz -- Repeater receive, base/gage station/mobile transmit only.
173.175 MHz -- Repeater/base station/mobile transmit, base station/mobile receive, gage station receive only.

In the Border Area Between 113 50' and 115 15' West

164.475 MHz -- Base station/mobile transmit and receive (Simplex channel).
168.575 MHz -- Repeater receive, base station/mobile transmit only.
172.775 MHz -- Repeater/base station/mobile transmit, base station/mobile receive.

In the Border Area Within 50 km of 32 33' North and 117 02' West

164.475 MHz -- Base station/mobile transmit and receive (Simplex system).
172.475 MHz -- Mobile only transmit and receive.

The frequencies for the exclusive use of the United States Section for hydrological systems and for data collection etc., and that must be protected from harmful interference, are as follows:

In the Border Area East of 101 West

172.4/173.9625 MHz -- Backbone control of repeaters.
169.425 MHz -- Gage stations transmit, repeater/data collection center receive.
173.175 MHz -- Repeater transmit, gage stations receive.

In the Border Area Between 101 and 103 West

169.525 MHz -- Gage stations/data collection center transmit, repeater receive.
171.925 MHz -- Repeater transmit, gage stations/data collection center receive.

The frequencies for the exclusive use of the Mexican Section of the Commission that must be protected from harmful interference are as set forth below:

In the Border Area East of 101 West

171.850 MHz -- Systems of voice and data transmission
172.600 MHz -- Systems of voice and data transmission

In the Border Area Between 101 and 103 West

171.825 MHz -- Systems of voice and data transmission
172.625 MHz -- Systems of voice and data transmission

ARTICLE III.

Technical Parameters of Equipment Associated with the Assignments to be Protected

The technical parameters of the equipment associated with the radio frequency assignments to be protected by this Administrative Arrangement are set forth in Annex I.

ARTICLE IV.

Areas Within which the Frequencies are to be Protected

The areas within which both Administrations will protect the frequencies lie between the following two lines and the common border between the United States and Mexico:

> The United States line begins at Point Estero on the coast of California at 35 30'N, 121 W running by great circle arc to the intersection of 34 N, 114 W, thence by great circle arc to the intersection of 33 N, 112 W, thence along the parallel 33 N to the intersection of 106 W, thence by great circle arc to the intersection of 31 30'N, 104 W, thence by great circle arc to the intersection of 31 N, 100 W, thence by great circle arc to the intersection of 29 N, 99 W, thence by great circle arc to the intersection of 27 10'N and the Padre Island - Gulf of Mexico shore at 97 23'W, at which point it terminates.
>
> The Mexican line begins at the Pacific Ocean of Baja California, thence along parallel 31 20'N to the Gulf of California, thence by great circle arc to the intersection of 30 10'N, 111 W, thence along parallel 30 10'N to the intersection of 107 W, thence by great circle arc to the intersection of 27 30'N, 104 W, thence by great circle arc to the intersection of 28 N, 102 W, thence by great circle arc to the intersection of 24 40'N, 100 W, thence along parallel 24 40'N to the Gulf of Mexico, at which point it terminates.

The above-mentioned areas are those designated in Annex II to this Arrangement.

As stated in Article II above, not all the frequencies to be protected require protection along the entire border, but, rather, within the interference range of the individual stations.

ARTICLE V.

Protection to be provided

In recognition of the fact that both Parties have already made a considerable number of frequency assignments in the frequency bands that are used by stations of the International Boundary and Water Commission, both Parties will provide one another with an initial listing of all existing assignments on the frequencies to be protected by this Arrangement and, before issuing a frequency authorization for any new or modified frequency assignment on the frequencies used by the other Party, coordinate and request the concurrence of the other Party.

ARTICLE VI.

Period of Effect of the Administrative Arrangement and Amendments

This Administrative Arrangement shall enter into force on its date of signature and may be amended by mutual consent of the Parties.

ARTICLE VII.

Termination of the Administrative Arrangement

This Administrative Arrangement may be terminated by mutual agreement of the Parties or by either Party upon six month notice in writing by one of the Parties.

ANNEX I

Technical Data for International Boundary & Water Commission, United States Section, VHF Radio Equipment

Transmitter:

Channel spacing: 25 kHz

Frequency separation between transmitter and receiver (repeater operation):
0.5 MHz minimum with duplexer

Power output:
Base and/or repeater stations -- 15 to 100 watts
Mobiles -- 15 to 110 watts
Handie-talkies -- 5 watts

Modulation: 16KF3E +/- 5 kHz for 100% at 1000 Hz

Oscillator frequency stability: 0.0005% from -30C to +60C ambient.

Frequency tolerance:
Fixed/Mobile -- 5 ppm
Handie-talkie -- 25 ppm

Transmitter sideband noise:
-90 dB @ +/- 30 kHz
-105 dB @ +/- 1 MHz

Spurious & harmonics: more than 85 dB below carrier

Receiver:

Oscillator frequency stability: 0.0005% from -30C to +60C ambient

Sensitivity:
20 dB Quieting -- 0.5 *u*V
EIA Sinad -- 0.35 *u*V
Selectivity (EIA Sinad): -90 dB
Intermediation (EIA Sinad): -80 dB
Spurious & image rejection: 100 dB minimum
Squelch sensitivity: 0.2 *u*V or less

General:

Type of antenna:
Fixed system --
0 to 6 dB omnidirectional
8 to 10 dB directional
Antenna polarization: Vertical
Hours: 24 hours (continuous)

Technical Data for International Boundary & Water Commission, Mexican Section, VHF Radio Equipment

Channel spacing: 25 kHz
Transmitter and receiver frequency separation, duplex system: from 600 kHz to 4.5 MHz

Maximum power output:

Repeater	100 watts
Base	60 watts
Mobile	45 watts
Handie-Talkies	5 watts

Necessary bandwidth: 16 kHz
Emission designator: 16KF3E

Maximum deviation for 100% modulation with 1000 Hz +/- 5 kHz
Type of antenna: directional or omnidirectional
Polarization: horizontal or vertical
Hours: 24 hours
-105 dB, +/- 1 kHz
Spurious and harmonics: more than 85 dB below carrier

Receiver:

Oscillator frequency stability: 0.0005% from -30C to +60C
Sensitivity: 20 dB Quieting: 0.5 *u*V
EIA Sinad: 0.35 uV
Selectivity (EIA Sinad): -90 dB
Intermodulation (EIA Sinad): -80 dB

Transmitter:

Channel spacing: 25 kHz

Frequency separation between transmitter and receiver (repeater operation):
0.5 MHz minimum with duplexer

Power output:
Base and/or repeater stations -- 15 to 110 watts
Mobiles -- 15 to 110 watts
Handie-talkies -- 5 watts

Modulation: 16KF3E +/- 5 kHz for 100% at 1000 Hz

Oscillator frequency stability: 0.0005% from -30C to +60C

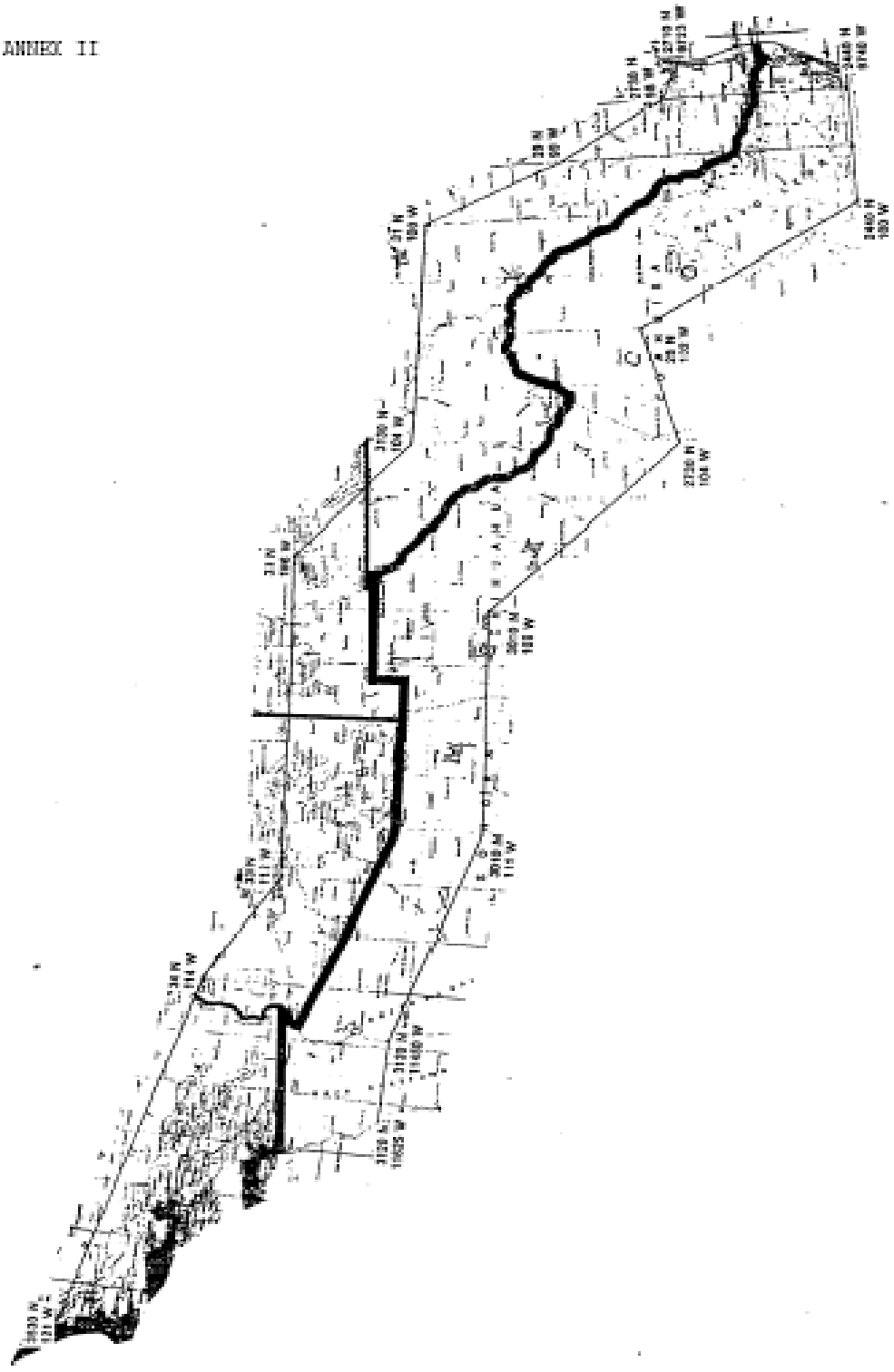
Frequency tolerance:
Fixed/Mobile -- 5 ppm
Handie-talkie -- 25 ppm

Transmitter sideband noise: -90 dB, +/- 30 kHz
Spurious and image rejection: 100 dB minimum
Squelch sensitivity: 0.2 uV or less

General:

Type of antenna:
Fixed system --
0 to 6 dB omnidirectional
8 to 10 dB directional
Antenna polarization: vertical
Hours of operation: 24 hours a day

MAP ANNEX II



3.9.11 U.S. and Mexican Special Purpose Operations

The United States and Mexico signed an administrative arrangement on July 2, 1991, concerning radio frequencies used for special purposes (IRAC Doc. 28470). In accordance with this agreement, the Department of the Homeland Security FAS Representative will notify to the Government Master File (GMF) the Mexican frequency uses.

3.9.12 Interference Resolution

Mexico and the United States have established a commission to effect informal coordination and interference resolution known as the U.S. – Mexico Joint Commission on Resolution of Radio Interference. This commission is also referred to as the "Joint Commission" or "CMERAR" based on its Spanish acronym. The primary purpose of the "Joint Commission" is to resolve interference between U.S. and Mexican users. (Procedures for reporting harmful interference are shown in Section 8.2.30.) The resolution of an interference situation may require either the U.S. user or the Mexican user to change frequency. In order to avoid interference to the same operations in the future, protection shall be afforded both operations.

In the United States, the affected U.S. Federal agency FAS Representative shall prepare and submit to the FAS[9] for review and approval the Mexican use if both Administrations agree that Mexico is to remain on the frequency. If the Mexican user is to change frequency, the U.S. Federal agency FAS Representative shall prepare and submit to the FAS for review and approval the proposed Mexican frequency. Until the proposed frequency is approved by the FAS it shall not be proposed to the Mexican user, or agreed to between any U.S. agency and Mexican authorities. In the case where the U.S. agency is proposing a replacement frequency, this is to be done prior to proposing the frequency to Mexico. In the case where the Mexicans are proposing the frequency, this is to be done **prior** to agreeing to their proposal.

The Mexican applications will appear on the daily FAS agendas for review. The Mexican application shall bear a "Mexican" serial number. "Mexican" serial numbers are obtained from the FAS.

3.9.13 U.S. and Mexico Shared Radio Frequencies and Equipment for Firefighting, Certain Other Emergency, and Disaster Relief Operations

MEMORANDUM OF UNDERSTANDING BETWEEN THE DEPARTMENT OF AGRICULTURE FOREST SERVICE AND THE FEDERAL COMMUNICATIONS COMMISSION OF THE UNITED STATES OF AMERICA AND THE SECRETARÍA DE COMUNICACIONES Y TRANSPORTES OF THE UNITED MEXICAN STATES FOR THE USE OF RADIO-FREQUENCIES, COORDINATION AND COOPERATION FOR EMERGENCY PURPOSES

The Department of Agriculture (USDA) Forest Service and the Federal Communications Commission (FCC) of the United States of America and the Secretaría de Comunicaciones y Transportes (SCT) of the United Mexican States, hereinafter referred to as the Parties;

CONSIDERING the provisions of Article **7** of the Radio Regulations considered annexed to the International Telecommunications Constitution (Geneva, 1992);

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[9] The FAS was delegated authority to address the issues in Section 3.9.12 by the IRAC.

RECOGNIZING the need to establish shared radio frequencies and radio equipment for firefighting, and certain other emergency, and disaster relief operations,

Have agreed as follows:

ARTICLE I

Purposes

The purposes of this Memorandum of Understanding (hereinafter MOU) are:

1. To establish procedures for coordinating and cooperating on firefighting, and certain other emergency and disaster relief operations.
2. To identify the Departments and/or agencies that shall cooperate in the sharing of radio equipment to support firefighting, and certain other emergency and disaster relief operations.
3. To establish, and to protect from harmful interference, the radio frequencies to be used by the Parties on a shared basis (hereinafter, emergency frequencies) to support firefighting, and certain other emergency and disaster relief operations.
4. To establish that each Party may use the emergency frequencies in the areas of the common border for the purposes established in this MOU. Within the United States, in the area defined in Annex I, Section II, paragraph 1, the emergency frequencies will be used to support firefighting, and certain other emergency and disaster relief operations that require radio equipment from the National Interagency Fire Center (NIFC). Within Mexico, in the area defined in Annex I, Section II, paragraph 1, the emergency frequencies will be used to support firefighting, and certain other emergency and disaster relief operations.

ARTICLE II

Other Participating Departments and/or Agencies

1. On behalf of the United States, the other participating Department and/or agency in this MOU is the Department of the Interior, acting through the Bureau of Land Management. The National Interagency Fire Center (NIFC), a joint operation of several United States government agencies, including the USDA Forest Service and the Bureau of Land Management, will administer the program of cooperation involving the shared use of radio equipment detailed in Article III of this MOU.
2. On behalf of Mexico, the other participating Departments and/or agencies in this MOU are: the Comisión Federal de Telecomunicaciones (CFT), the Secretaría del Medio Ambiente, Recursos Naturales y Pesca (SEMARNAP), acting through the Dirección General of Forestal, and the Secretaría de Gobernación (SEGOB), acting through the Dirección General de Protección Civil.

ARTICLE III

Shared Use of Radio Equipment

1. The participating Departments and/or agencies in Mexico may request and receive radio equipment provided by NIFC.

2. Requests for radio equipment may be made by written communications or through rapid communication methods between the participating Departments and/or agencies. If the request is not made in writing, it shall be confirmed in writing as soon as possible after the request. Written requests will shall provide an itemization of equipment needed, together with a commitment to make reimbursement in accordance with Annex III of this MOU. Each such request shall be signed by an authorized official as designated in Annex III, Section II.

3. The receiving Departments and/or agencies in Mexico shall reimburse the NIFC in accordance with Annex III, Section II, Letter (D) for any loss, damage, or expense incurred in the operation of the equipment subject to this MOU. Receiving Departments and/or agencies in Mexico shall also reimburse the NIFC for the cost of all expendable materials and transportation. The reimbursement shall be made within one hundred and twenty days after the receipt by the requesting/receiving Department and/or agency of an itemized statement of such costs.

4. Upon signature of this MOU and during the first trimester of each year, the participating Departments and/or agencies shall exchange the names of officials designated to request or provide services under this MOU as part of the establishment of annual operational guidelines (see Annex III for the Operational Guidelines for 1998) for implementation of this MOU. In accordance with the cooperative nature of this MOU, it is permissible and desirable for the participating Departments and/or agencies to exchange recommendations and suggestions designed to render more effective the operational procedures to be followed in requesting assistance and reimbursing expenses.

5. The technical parameters of the radio equipment available for use pursuant to this MOU are set forth in Annex IV. This Annex may be modified or otherwise updated when the operational guidelines are established each year.

ARTICLE IV

Frequency Use and Protection

In accordance with Annex I, the Parties shall protect from harmful interference the emergency frequencies programmed in the radio equipment used by both Parties on a shared basis to support firefighting, and certain other emergency and disaster relief operations.

ARTICLE V

Settlement of Disputes

1. Nothing in this MOU shall be construed as affecting any existing cooperative arrangements for firefighting or other emergency or disaster relief operations.

2. Any disagreement regarding the application and interpretation of this MOU shall be resolved by agreement between the two parties.

Article VI

General Provisions

1. Nothing in this MOU shall be construed as obligating the Parties to make expenditures or enter into obligations, contractual or otherwise, for the payment of money in excess of appropriations authorized by law and allocated for firefighting or certain other emergency or disaster relief operations.

2. Except for costs set forth in Article III, paragraph 3 of this MOU, neither Party, nor its officials or employees shall be liable on account of any act or omission in consequence of performance of or intended performance of this MOU.

ARTICLE VII

Entry Into Force and Amendments

This MOU shall enter into force upon signature by both Parties and may be amended by mutual agreement of the Parties. Amendments shall enter into force on a date specified by the Parties through an exchange of written modification.

ARTICLE VIII

Termination of the Memorandum

This MOU may be terminated by mutual agreement of the Parties; by its replacement by another bilateral instrument; or by a written notice of termination from either Party. Such notice of termination shall enter into force six months after its is received.

Done in Washington, this ninth day of the month of December of the year nineteen hundred and ninety eight, and in Mexico City, this ninth day of the month of December of the year nineteen hundred and ninety eight, in duplicate, in the English and Spanish languages, both texts being equally authentic.

FOR THE DEPARTMENT OF AGRICULTURE FOREST SERVICE OF THE UNITED STATES OF AMERICA:

Clyde Thompson
Deputy Chief for Business Operations

FOR THE FEDERAL COMMUNICATIONS COMMISSION OF THE UNITED STATES OF AMERICA:

William E. Kennard
Chairman

FOR THE SECRETARÍA DE COMUNICACIONES Y TRANSPORTES OF THE UNITED MEXICAN STATES:

Jorge Nicoln Fischer
Undersecretary for Communications

Javier Lozano Alarcón
Chairman of the Comisión Federal De Telecomunicaciones

ANNEX I

FREQUENCY USE AND PROTECTION

This Annex establishes the areas for use and procedures for protection of the emergency frequencies in the radio equipment used by both Parties for firefighting, and certain other emergency and disaster relief operations.

I. Frequencies to be Protected

1. The following emergency frequencies (in MHz) shall be protected from harmful interference within the border area, in accordance with Section III of this Annex:

166.6125	166.675	167.100	167.950	142.725[10]
168.075	168.100	168.400	168.475	
168.550	168.625	168.700	169.150	
169.200	169.750	170.000	170.425	
170.450	170.975	173.8125	139.150[10]	

2. The following additional emergency frequencies (in MHz) are used for firefighting operations and shall be protected from harmful interference, in accordance with Section III of this Annex, within the border area described in Section II west of 114 degrees West:

151.190	151.280	151.295	151.310
159.225			

II. Areas Within Which the Frequencies Are To Be Protected

1. The border areas within which both Parties shall protect the emergency frequencies referred to in Section I lie between the following two lines and the common border between the United States and Mexico:

The United States' line begins at Point Estero on the coast of California at 35 30 N, 121 00 W, running by great circle arc to the intersection of 34 N, 114 W, thence by great circle arc to the intersection of 33 N, 112 W, thence along parallel 33 N to the intersection of 106 W,thence by great circle arc to the intersection of 31 30 N, 104 W, thence by great circle arc to the intersection of 31 N, 100 W, thence by great circle arc to the intersection of 29 N, 99 W, thence by great circle arc to the interection of 27 30 N, 98 W, and thence by great circle arc to the intersection of 27 10 N, and the Padre Island - Gulf of Mexico shore at 97 23 W, at which point it terminates.

[10] Note suppression for this frequency in the Interim Protocol for the 138-144 MHz band.

The Mexican line begins at the Pacific Coast of Baja California, running along parallel 31 20 N to the Gulf of California, thence by great circle arc to the intersection of 30 10 N, 111 W, thence along parallel 30 10 N to the intersection of 107 W, thence by great circle arc to the intersection of 27 30 N, 104 W, thence by great circle arc to the intersection of 28 N, 102 W, thence by great circle arc to the intersection of 24 40 N, 100 W, thence along parallel 24 40 N to the Gulf of Mexico, at which point it terminates.

The areas described above are outlined on the attached map, Annex II.

2. Recognizing the fact that radios may be used outside these areas for emergency purposes, both Parties are encouraged to minimize use of the frequencies for other than these purposes.

III. Protection to be provided

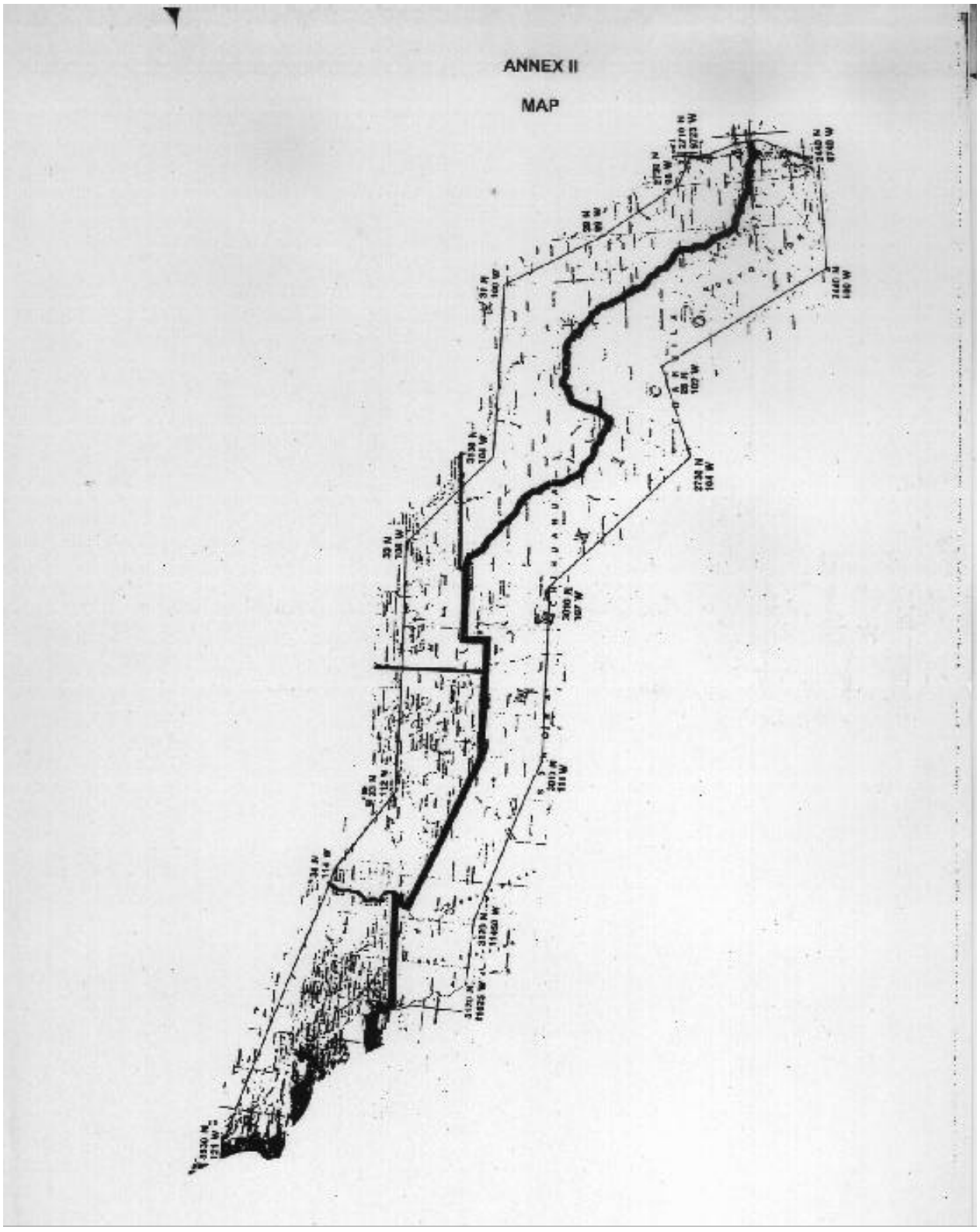
1. The use of emergency frequencies listed in Section I, shall be protected from harmful interference by both Parties as follows:

l.1. In recognition of the fact that there are already a considerable number of assignments on the frequencies designated herein as emergency frequencies, each Party shall provide the other with a listing of all existing assignments on the frequencies to be protected by this MOU until they can be moved to other frequencies. Upon entry into force of this MOU, the Parties agree not to authorize use of these frequencies for any purpose inconsistent with this MOU. Furthermore, if, in the course of firefighting or certain other emergency or disaster relief operations, a Party finds that there is harmful interference on an emergency frequency, it may ask the other Party to turn off the transmitter responsible for the interference or modify its operational parameters in order to resolve the interference problem for the duration of the emergency. The Party receiving such a request will comply with it as quickly as possible.

1.2. In the United States, within the border area described in Section II, paragraph 1 of this Annex, use of emergency frequencies listed in Section I, paragraph 1 shall be coordinated with the U.S. National Interagency Fire Center prior to each use, and use of emergency frequencies listed in Section I, paragraph 2 shall be coordinated with the FCC, San Diego Office. Use of emergency frequencies in Mexico shall be coordinated with the Secretaríaó de Comunicaciones y Transportes acting through the Comisión Federal de Telecomunicaciones, prior to each use within the border area described in Section II, paragraph 1 of this Annex.

1.3. Each year, during the first trimester, the United States-Mexico Mixed Commission Charged with Resolving Cases of Radio Interference shall undertake monitoring and coordination activities in order to ensure that, in accordance with paragraph 1.1 above, any unauthorized stations using emergency frequencies are closed down before the peak firefighting season begins.

ANNEX II
MAP



ANNEX III

OPERATIONAL GUIDELINES FOR 1998

ANNEX IV

NATIONAL INCIDENT RADIO SUPPORT CACHE

USER'S GUIDE

1998

Note: Annex III does not apply to spectrum mangagement and has not been included in this manual. Annex IV refers to a Users Guide which is updated annually and is maintained by the U.S. Forest Service, National Interagency Incident Communications Division (NIICD). If you require further information concerning these Annexes contact:

DEPARTMENT OF AGRICULTURE

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Radio Spectrum Management
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Arlington, VA 22209
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(Last Page in Chapter 3)