Report on International Negotiations, Spectrum Policy & Notifications

2001 Report

Planning & Negotiations Division
International Bureau
Federal Communications Commission
Washington, DC

Preface

This Report consolidates information on important international spectrum management activities of the United States Federal Communications Commission (FCC). The Report surveys a full range of activities involving management of radio spectrum on an international basis for commercial (non-governmental) uses, including policy formulation and coordination, implementation nationally and internationally of treaties and other instruments, and notification for planning and enforcement purposes. It also catalogues the various bilateral and international radio communication arrangements and agreements to which the FCC is a party. This 2001 Report updates and expands on the previous reports on this subject, which were published in 1995, 1997, and 1999. This year's update includes a greatly expanded chapter on international spectrum policy, including a process for FCC participation in the International Telecommunications Union (ITU), a discussion of the critical issues before the ITU, and a new presentation of notification statistics.

The Planning and Negotiations Division of the International Bureau has the primary responsibility for carrying out the FCC's obligations related to international negotiations, spectrum policy, and notifications. However, most of the activities described in this Report involve substantial participation by other Bureaus and Offices within the FCC. Additionally, international negotiations require the involvement of other government agencies—most notably, the Department of State and the National Telecommunications and Information Administration (NTIA) of the Department of Commerce.

This is a staff report. It is not the result of any official FCC or government action. As such, no obligations are imposed nor are any rights created by the issuance of this Report. The information presented in this Report is believed to be current and accurate as of August 2001. Readers are cautioned, however, not to derive legal opinions from this Report; but, instead, should consult the original documents cited herein for complete texts and details of the negotiated instruments.

The full text of this document is available for public inspection and copying during regular business hours at the FCC Reference Information Center, Portals II, 445 12th Street, SW, Room CY-A257, Washington, DC, 20554. This document may also be purchased from the Commission's duplicating contractor, Qualex International, Portals II, 445 12th Street, SW, Room CY-B402, Washington, DC, 20554, telephone 202-863-2893, facsimile 202-863-2898, via e-mail qualexint@aol.com or http://www.fcc.gov/ib/pnd/agree/.

I hope you will find this Report to be a valuable resource. If you have comments or questions regarding this Report, please contact our Division by calling (202) 418-2150.

Richard B. Engelman
Chief, Planning & Negotiations Division
FCC International Bureau
September, 2001

International Bureau

Donald Abelson, Chief
Anna Gomez, Deputy Chief
Roderick Porter, Deputy Chief
Jacqueline Ponti, Chief of Staff

Planning and Negotiations Division

Richard Engelman, Chief
Breck Blalock, Deputy Chief
Linda Dubroof, Assistant Chief
Linda Armstrong, Senior Legal Advisor
Larry Olson, Assistant Chief, Engineering

Sheila Crawley
Juan Guerra
Janice Shields
Song Volk

International Spectrum Branch

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Edward Jacobs
Jacqueline Spindler
Donald Weiland
Nancy Wiley

Negotiations Branch

Pamela Gerr, Chief
Julie Barrie
Charlene Lagerwerff
Thomas Lucey
Thomas Polzin
Steven Selwyn
Salvatore Tropea

Notifications Branch

James Ballis, Chief
Thomas Albers
Stacey Wise-Ashton
Anne Bisese
George Fehlner
James McLuckie
Jeree Payton
James Powers
Judith Yeager

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I. EXECUTIVE SUMMARY

Because radio communication services have the potential to produce transmissions that go beyond national borders, international coordination is often required to protect service and avoid interference. Such protection is usually accomplished through bilateral and multilateral treaties and agreements. Whenever new radio communication services are developed, negotiations with affected countries are necessary to develop the appropriate agreements. Once an agreement is completed, stations in the new radio communication service are subject to the procedures in the agreement in order to protect their service areas and avoid interference to others. It is the responsibility of the International Bureau's Planning and Negotiations Division to negotiate and tailor these cross-border agreements to satisfy our radio spectrum requirements. After agreements are reached, the Division administers related coordination and notification functions.

This 2001 *Report on International Negotiations, Spectrum Policy, and Notifications* is an update of the 1999 Report and includes new developments both in the Negotiations and in the Notifications sections. In the Negotiations area, many new agreements have been completed, including: (1) a Letter of Understanding (LOU) on Digital Television (DTV) with Canada concerning deployment of DTV stations in the border area; (2) an agreement with Canada governing operations in the 220-222 MHz band; (3) an agreement with Canada on the Local Multipoint Distribution Service (LMDS); (4) an Agreement with Canada on Broadband Wireless Systems in the 24 and 38 GHz bands; (5) an agreement with Mexico on Digital Audio Radio Service (DARS) and Wireless Communication Service (WCS); and (6) a Special Coordination Procedure (SCP) with Mexico for the 806-824 MHz and 851-869 MHz bands.

In the Notifications area, several projects are ongoing, including the AM Database Verification Project with Mexico. Meanwhile, the Division's new International Spectrum and Communication Policy Branch is preparing for the International Telecommunication Union's World Radiocommunication Conference (WRC-2003) (see also, www.itu.int). Additionally, since our last report, substantial progress has been made in computerizing and modernizing our international notifications, most notably in the automation of the processing of correspondence with the ITU related to Space Services.

In light of a continuing focus on our northern and southern neighbors, we have included in this report separate sections on negotiations with Canada and with Mexico. Each section contains information on frameworks for negotiation, current activities and accomplishments, existing agreements, and issues for future action. We have also included maps of the U.S./Canadian and U.S./Mexican border areas showing coordination zones for different services.

Since the 1999 Report was published, the Division has been involved in numerous bilateral meetings with Canada and Mexico. There were nine meetings with Canada, including five meetings of the Radio Technical Liaison Committee (RTLC), and three meetings on DTV and one meeting on U.S. DARS and Canadian Terrestrial Digital

Radio Broadcasting (T-DRB). There were five meetings with Mexico, including three meetings of the Working Group for the Planning of Radio Spectrum (WGPR). There were also additional working group meetings to address DARS and other specific issues.

The Division will continue to work toward enabling our licensees to optimize service possibilities with the fewest administrative and geographic barriers. Over the next twelve months, discussions will continue concerning such matters as use of the 700 MHz band for non-broadcast services, digital television, the 2-way Multipoint Distribution Service (MDS), various land mobile bands, cross border point-to-point microwave links, LMDS, WCS, and the 3650-3700 MHz and 4940-4990 MHz bands.

Furthermore, the Division is concentrating on spectrum issues and the relationship of the U.S. with the International Telecommunications Union (ITU). Issues pending with the ITU are discussed and a graph highlighting the current organizational structure of the ITU is provided. In terms of the U.S. relationship with the ITU, the Division is specifically striving to build regional and global acceptance of U.S. views and initiatives by engaging other administrations and organizations in constructive discussions. The FCC, in a coordinated effort with the National Telecommunications and Information Administration (NTIA) (see also, www.ntia.doc.gov) and the Department of State (see also, www.state.gov), is also working to increase the efficient use of spectrum in the global marketplace in order to accommodate innovative new technologies and competitive telecommunications services. Such efforts will expand services to consumers.

This Report also includes several appendices. Appendix A contains a table of frequency bands subject to international agreements and arrangements with Canada and Mexico. Appendix B contains a listing of Canadian agreements and arrangements. Appendix C contains a listing of Mexican agreements. Appendix D contains the 1996 High Level Consultative Commission Communique and the 1996, 1998-1999, and 2000 Work Programs for U.S.-Mexico coordination. Appendix E contains copies of FCC Public Notices concerning international agreements and coordination issued by the International Bureau through June 2001. Appendix F contains detailed charts and graphs of the total volume of international notifications processed by the International Bureau through the third quarter of 2001.

To make the Report as accessible and as widely available as possible, the Report is now accessible on the FCC World Wide Web site: http://www.fcc.gov.

II. NEGOTIATIONS - BACKGROUND

Because radio signals can transcend national boundaries, all radio communication services can involve a certain amount of transborder transmission and in many cases require international coordination to avoid interference. Some protection is afforded through worldwide international treaties.[1] However, in general, terrestrial stations operating at frequencies above 28 megahertz (MHz) are not covered by worldwide international treaty. Protection for terrestrial stations operating at such frequencies must be obtained through bilateral or regional agreements. The United States (U.S.) has entered into a number of bilateral and regional arrangements for services operating at frequencies above 28 MHz, as well as for selected non-broadcast services operating at frequencies below 28 MHz.[2] Most agreements are with our immediate border neighbors, Canada and Mexico. With respect to broadcast operations that may have extensive geographic reach, particularly AM and high-frequency (HF) radio broadcasting, the U.S. has entered into regional agreements and/or multinational coordinations.[3]

In certain cases, interim working arrangements or memoranda of understanding (MoU) may be negotiated. This is the case most frequently with arrangements negotiated with Canada and Mexico. Both countries observe these interim working arrangements and memoranda of understanding, although they are not binding as a matter of international law. They provide a mechanism for coordinating spectrum allocated for new services in the border areas on a temporary basis until a formal agreement is concluded.

The U.S. delegations to bilateral negotiations are officially organized and led by the Office of International Communications and Information Policy (CIP), Department of

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[1] For example, the Radio Regulations established conditions for international recognition and protection of certain categories of frequency assignments made by administrations. See Radio Regulations (International Telecommunication Union, Geneva: Edition 1990, revised 1994 and 1996.) See also, International Telecommunication Convention, (Nairobi, 1982), revised at Nice, 1989, and the Constitution and Convention of the International Telecommunication Union, (Geneva: Edition 1992), revised at Kyoto, 1994.

[2] For the U.S., these agreements may be treaties brought into force after the advice and consent of the Senate, or executive agreements, concluded pursuant to the constitutional authority of the President and existing statutory authority, including the Communications Act of 1934, as amended and 22 U.S.C., §2656. Binding international communications agreements are negotiated and concluded in conjunction with the Department of State in accordance with procedures set forth in 22 C.F.R., Part 181, and Volume 11, Foreign Affairs Manual, Chapter 700 (Circular 175 procedure). These procedures ensure the legal basis of the proposed agreement, appropriate preparations for and conduct of negotiations, and conformance of the text with appropriate form and formalities.

[3] In particular, AM radio is coordinated on a regional basis. The United States must coordinate AM radio with countries in Region 1 - Northern Asia, including Russia; in Region 2 - North, Central, and South America; and in Region 3 - Southeast Asia, Australia, and Oceania. Due to propagation characteristics that may affect several other countries, certain aviation, marine, and broadcast services are coordinated on a multilateral basis and HF (shortwave) broadcasting is coordinated on an international basis.

State. CIP obtains the necessary negotiating authority and works with foreign administrations to establish the overall agenda for negotiations at each bilateral session. CIP also coordinates, through the International Bureau, U.S. positions with the expert staff within the FCC, as well as with other U.S. agencies, including the Commerce Department's National Telecommunications and Information Administration (NTIA), the Federal Aviation Administration (FAA), the Coast Guard, the Department of Defense (DoD), and the National Aeronautics and Space Administration (NASA), when appropriate. Within the U.S. delegation, the FCC is the lead expert agency with regard to non-government radio frequencies and communications service rules, while NTIA is the lead for government radio frequencies and communications service rules. In the case of shared government and non-government radio frequencies, both agencies work jointly.

Staff of the Negotiations Branch of the International Bureau's Planning and Negotiations Division leads FCC preparation for bilateral negotiations. Preparations are made in close cooperation with other Bureaus and Offices within the FCC that have licensing responsibilities or expert technical knowledge regarding the subject service, including the Mass Media Bureau, the Wireless Telecommunications Bureau, the Enforcement Bureau, and the Office of Engineering and Technology.

III. NEGOTIATIONS, CONSULTATIONS, AND AGREEMENTS WITH CANADA

A. Canadian Counterpart Authorities

Three Canadian federal authorities are involved in communications coordination issues: Industry Canada (which replaced the former Department of Communications), the Canadian Radio-Television and Telecommunications Commission, and the Department of Canadian Heritage.

Industry Canada. Industry Canada is in charge of national economic issues and is the FCC's primary counterpart for technical coordination. Its main role is to provide policy advice, industry sector information, and business services. It is a consolidation of four former departments and agencies. It assumed the former Department of Communication's role in formulating, integrating, and coordinating policies and regulations regarding telecommunications, broadcasting, information technologies, and competition in the marketplace. It is responsible for issuing licenses, allocating radio frequencies, and establishing national policy for radio communication. Industry Canada represents Canada's interests in bilateral and multilateral negotiations regarding the use of radio spectrum. Of the three agencies discussed here, Industry Canada has the exclusive responsibility to negotiate spectrum issues.

In 1995, Industry Canada reorganized its telecommunications responsibilities. Under the Assistant Deputy Minister for Spectrum, Information, Technologies and Telecommunications, there are four General Directorates: (1) Radiocommunications & Broadcasting Regulation; (2) Spectrum Engineering; (3) Information Technologies Industry; and (4) Telecommunications Policy. Generally, the Spectrum Engineering Directorate is responsible for developing all new spectrum allocation and frequency sharing arrangements with the U.S. The Radiocommunications & Broadcasting Regulation Directorate focuses mainly on in-service non-broadcast and broadcast operations (including notifications, interference resolution, etc.). Some satellite regulatory matters are based in this group as well. (See also, www.ic.gc.ca).

Canadian Radio-Television and Telecommunications Commission (CRTC). All major telecommunications suppliers operating in Canada are subject to the jurisdiction of the CRTC. The CRTC is federally constituted and functions as a quasi-judicial independent body. As the Canadian federal regulatory body, the CRTC's main responsibility is to approve tariffs and rates of return. It also has the power to make regulations, set service standards, authorize construction plans, and investigate company operations. (See also, www.crtc.gc.ca).

Department of Canadian Heritage. The Department of Canadian Heritage is in charge of arts, heritage, culture, and broadcasting. It was established to support and encourage a strong sense of Canadian identity and heritage based on Canadian bilingualism and multiculturalism. The CRTC is part of this Department and reports to Parliament through the Minister of Canadian Heritage. (See also, www.pch.gc.ca).

B. Framework for U.S./Canada Negotiations

Negotiations with Industry Canada on frequency sharing arrangements are conducted in several bilateral arenas involving various U.S. agencies. The State Department has overall lead responsibility. Generally, the FCC participates in discussions and negotiations as one of the primary expert agencies. However, in technical discussions dealing with specific topics of interest, the FCC may take the lead.

Niagara Senior Level Consultative Meetings. The Niagara meetings are the highest level consultations on communications matters involving the most senior officials in Industry Canada, the U.S. State Department's CIP, the FCC, and the NTIA. First held in 1980, the Niagara senior level group meets periodically depending on inter-governmental consultative requirements. The topics discussed cover national, bilateral, and multilateral activities of the two countries.

High Level Meetings. Other meetings with Canada are conducted on an *ad hoc* basis and include senior FCC and Industry Canada staff. These meetings are overseen by the State Department, scheduled as needed, and cover a full range of technical issues, both broadcast and non-broadcast. Some of the meetings are informal and occur in the same time frame as other meetings that representatives of the U.S. and Canada jointly attend, *e.g.,* ITU-R Study Group meetings.

Non-Broadcast Allocations and Technical Coordination. Coordination between the U.S. and Canada for the use of non-broadcast spectrum begins very early in the spectrum allocation and planning process for both countries. Discussions usually begin under the auspices of the Radio Technical Liaison Committee (RTLC). The RTLC provides a forum for direct exchange of information between the technical experts of both countries with the aim of promoting early coordination on spectrum allocations and facilitating achievement of spectrum sharing arrangements necessary for licensing of individual stations. RTLC meetings have been conducted between Industry Canada and the FCC technical experts since the early 1980s, approximately one to three times per year. The RTLC exchanges technical and spectrum allocation information, and discusses frequency sharing arrangements for fixed/land mobile terrestrial communications services, leading to arrangements for services including PCS, cellular, and paging. The RTLC discussions are co-chaired by senior-level FCC and Industry Canada officials.

Broadcast Allocations and Technical Coordination. Coordination between the U.S. and Canada for the use of broadcast spectrum is conducted between Industry Canada and FCC broadcast experts under the auspices of the State Department's CIP and Industry Canada. Meetings are conducted whenever there is a need (generally once or twice a year) and result in agreements and their associated arrangements.

C. U.S./Canadian Agreements

Broadcast

There are five agreements currently in effect with Canada:

1) *Agreement Between the Government of the United States of America and the Government of Canada Relating to the AM Broadcasting Service in the Medium Frequency Band*, 1984, for use of the 535-1605 kilohertz (kHz) band;

1a) associated with the AM Agreement is the *Interim Working Arrangement Between the Federal Communications Commission and the Department of Communications Relating to the AM Broadcasting Service in the Medium Frequency Band*, 1991 (amended 1997), for use of the expanded band 1605-1705 kHz;

2) *Agreement Between the Government of Canada and the Government of the United States of America Relating to the FM Broadcasting Service,* and its associated *Working Arrangement*, 1991 (amended 1997);

3) *Agreement Between the Government of Canada and the Government of the United States of America Relating to the TV Broadcasting Service*, 1994, and its associated *Working Arrangement* covers the VHF and UHF TV bands and the low power television (LPTV) service;

3a) associated with the TV agreement is the *Letter of Understanding Related to the Use of the 54-72 MHz, 76-88 MHz, 174-216 MHz, and 470-806 MHz Bands for the Digital Television Broadcasting Service*, 2000, which establishes procedures for implementing digital television services in the U.S./Canada border area and permits the operation of certain non-broadcast services in the 700 MHz band;

4) *Agreement Concerning the Coordination Between U.S. Satellite Digital Audio Radio Service (DARS) and Canadian Fixed Service and Mobile Aeronautical Telemetry Service in the Band 2320-2345 MHz,* 1998. The Agreement provides U.S. DARS systems the opportunity to operate at power levels sufficient to provide CD-quality audio to U.S. consumers direct from satellite and through ground-based repeaters. Also, it provides protection to receivers located in the U.S. from Canadian transmitters; and

5) *Agreement on Coordination of Canadian Terrestrial Digital Radio Broadcasting (T-DRB) at 1452-1492 MHz and U.S. Aeronautical Telemetry at 1435-1525 MHz,* 1998.

Non-Broadcast

The principal agreement governing the allocation and use of frequency bands by terrestrial non-broadcasting radiocommunications services along the U.S./Canadian border is the *Agreement Concerning the Coordination and Use of Radio Frequencies Above Thirty Megacycles per Second, with Annex* (Above 30 MHz Agreement). This agreement was signed into effect on October 24, 1962, and has been subsequently amended. This agreement covers both government and non-government frequency use, and covers frequency bands utilized in such diverse services as aeronautical mobile, maritime public correspondence, railroad radio, air-to-ground radio, land mobile, cellular radio, personal communications service, point-to-point and point-to-multipoint services, paging, multipoint distribution services, and fixed microwave operations.[4]

The Above 30 MHz Agreement is comprised of the six "Arrangements" which address different sets of frequency bands. These arrangements identify coordinating agencies and establish coordination procedures for different frequency bands, including specification of the distance from the border within which coordination must take place.

Coordination under this agreement is generally made with reference to coordination zones that are encompassed by the geographical lines, "Lines A, B, C, and D", that are described in the agreement (see U.S./Canadian Border Coordination Maps). "Line A" is used to define the coordination zone in the U.S. along the main U.S./Canada border while "Line B" fulfills the same requirement on the Canadian side. "Lines C and D" are used to establish the coordination zones along the Alaska-Canada divide (see U.S. Alaskan/Canadian Border Coordination Map). The coordination distance from the border following these Lines is generally about 70 miles, but the distance is variable where the border diverts non-linearly. There are instances, particularly in some of the interim working arrangements, where these Lines are not applicable and actual distances are specified.

Since the Above 30 MHz Agreement originally became effective, in addition to the amendments that have been made, interim working agreements have been adopted for certain non-governmental bands. These typically address certain services within specified band segments and are often associated with one of six Arrangements of the above 30 MHz Agreement listed below:

- Arrangement A: *Arrangement Between the Canada Department of Transport and the U.S. Federal Communications Commission for the Exchange of Frequency Assignment Information and Engineering Comments on Proposed Assignments along the Canada United States Borders in Certain Bands Above 30 Mc/s*.

[4] Frequency coordination under this Agreement involves both government and non-government (commercial) spectrum and is performed by a number of agencies within both governments. Under this agreement, the FCC coordinates with Industry Canada on non-government use and jointly with other U.S. agencies for shared spectrum use.

This Arrangement is the primary instrument for FCC/Industry Canada non-government, non-broadcast coordination of the fixed and land mobile services.

- 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.*

  This Arrangement is the cornerstone of notifications relating to aeronautical services. The Federal Aviation Administration is the primary administrator for the coordination of radionavigation and radiocommunication functions in these bands; however, the FCC has responsibility in certain bands subject to this Arrangement.

- Arrangement C: *Arrangement for Frequency Coordination of Fixed Installation Radars*.

  This Arrangement is primarily associated with defense-related radar use on government frequency bands and is administered by the Joint Chiefs of Staff.

- Arrangement D: *Arrangement Between the Canada Department of Transport and the U.S. Interdepartment Radio Advisory Committee (IRAC) for the Exchange of Frequency Assignment Information and Engineering Comments on Proposed Assignments along the Canada-United States Borders in Certain Bands Above 30 Mc/s.*

  This Arrangement relates to coordination of terrestrial and earth station frequency assignments that are within the shared government and non-government frequency bands specified therein. IRAC functions as the U.S. coordinating entity for these bands.

- 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.*

  This Arrangement establishes the procedures for the use of the band 406.1-430.0 MHz by fixed and mobile services; and for use of the band 420-430 MHz for the radiolocation service within the U.S. and for the mobile (primary) and fixed (secondary) services within Canada. NTIA is the coordinating agency for the U.S.

- 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 to 890 MHz along the Canada-United States Border.

This Arrangement covers the coordination of land mobile radio services operating in the 806-890 MHz band in the border area.

Associated arrangements and attachments listed by service category and organized from low to high frequency bands are as follows:

- Aeronautical Mobile (R) Services:

  128-132 MHz: *Interim Arrangement on the Coordination and Use of 25 kHz Frequency Assignments in the Aeronautical Mobile (R - en route) Service Sub-band 128.8125-132.0125 MHz*. A table specifies the channels designated for use by each of the Administrations. Signed: December 20, 1977, and associated with Arrangement B.

  136.5-137.0 MHz: *Interim Channeling Arrangement for the Aeronautical Mobile (R) Service Utilizing 25 kHz Channels for the Band 136-137 MHz*. A table specifies the channels specified for use by the Administrations. Signed: January 15, 1992, and associated with Arrangement B.

- Maritime Mobile:

  Appendix 18 (156.8/162.0 MHz): Revised Attachments A and B to Arrangement A. Maritime Mobile Frequencies Appearing in Appendix 18 of the International Radio Regulations. Signed: June 8, 1973.

  Vancouver/Seattle Area (156.55/156.72 MHz): Attachment C to Arrangement A. Frequency Usage for Vessel Traffic Systems in the General Vancouver/Seattle Area. Signed: August 2, 1976.

  West Coast VHF (156/174 MHz): Revised Attachment D to Arrangement A. Channeling Arrangement for the West Coast VHF Maritime Public Correspondence. Signed: February 20, 1984.

  157 MHz: *VHF Channeling arrangement for Parallel Mobile Public Correspondence on the Great Lakes and the St. Lawrence Seaway/Agreement to Promote Safety on the Great Lakes by Means of Radio*. Signed: December 29, 1978, and associated with Arrangement A.

- Railroad Radio:

  160-161 MHz: *Arrangement for Railroad Radio Frequency Assignment Plan for 30 kHz Narrow-Band Assignments*. Signed: July 28, 1960, and associated with Arrangement A.

- Air/Ground Radio:

  454-459 MHz: *Arrangement for 400 MHz Air/Ground Channel Designations and Frequency Assignments*. Twelve 25 kHz channel pairs are established for use on a geographic/coordination basis. Signed: June 24, 1971, and associated with Arrangement A.

  849-851/894-896 MHz: *Interim Arrangement Concerning Air-to-Ground Radio Services*. Covers the coordination and operation of air-to-ground and ground-to-air stations and applies to properly situated ground stations within 885 km of the border. Ten multichannel blocks are fully available to both countries. Signed: August 28, 1992, and associated with Arrangement F.

- Land Mobile Services:

  220-222 MHz Band: *Interim Arrangement Concerning the Use of the Band 220 to 222 MHz.* This arrangement governs the operations in the 220-222 MHz band within 120 kilometers of the U.S./Canadian border. Signed: December 21, 1999.

  806-890 MHz: *Arrangement for the Use of Land Mobile Services*. Amended the Agreement Concerning Allocation of UHF TV Channels. (This is the basis for Arrangement F.) Signed: April 7, 1982.

  821-824/866-869 MHz: *Interim Arrangements for Land Mobile Radio*. Arrangement allots channel pairs evenly; power and height limits are imposed where they fall into the 3 sharing zones and 2 protection zones that are defined in the document. There are also 5 nationwide public safety channel mutual aid channel pairs specified. Signed: August 15, 1990, and associated with Arrangement F.

  896-901/935-940 MHz: *Interim Arrangement for Land Mobile Service*. Arrangement is effective within 140 km of the border. Frequencies are divided evenly on an *a priori* basis and different power and antenna height restrictions apply depending upon which sharing zone the station is located. Signed: August 15, 1990, and associated with Arrangement F.

- Cellular Services:

  824-825/845-849/869-870/890-894 MHz: *Arrangement Concerning Cellular Radio Systems*. Terms call for equal spectrum sharing through close technical coordination. In general, a maximum signal limit of 35 dBuV/m at the border is permitted. Signed: January 8, 1990, and associated with Arrangement F.

- Personal Communications Services:

  901-902/930-931/940-941 MHz: *Interim Arrangement for Narrowband PCS*. Establishes a common plan for the equitable use of these bands for Narrowband PCS Systems within a distance of 120 km from the common border. The Arrangement establishes a channel plan that includes 15 paired channels and 9 unpaired channels per Administration. Where operators agree to share a channel, such agreements are to be submitted to the Administrations for review. Signed: September 22, 1994.

  1850-1990 MHz: *Interim Arrangement for Broadband PCS*. Establishes a common plan for the shared and equitable use of the band for Broadband PCS within a 72 km distance from the common border. The band 1910-1930 MHz is reserved for low power unlicensed PCS. All PCS systems must be coordinated with any potentially affected existing fixed point-to-point operations within 120 km from the common border. No new fixed systems will be authorized in the band. Where operators agree to share channels, such arrangements are to be submitted to Administrations and are subject to review. Signed: November 14, 1994, and associated with Arrangement A.

- Paging:

  All Paging Frequencies: *Arrangement on Trans-Border Paging Operations*. Specifies the terms for acceptability of transborder paging operations while also noting the undesirability of the offering of service to subscribers of the other country. Signed: June 25, 1971.

  929-932 MHz: *Interim Arrangements on Paging Operations*. Using Lines A and B for the 929 MHz band allots 929.0-929.5 MHz for Canadian use and 929.5-930.0 for U.S. use. For the 931 MHz segment, the channel distribution varies in specified population centers, but elsewhere across the border it is evenly divided between the two countries including 3 common nationwide channels. Signed: January 11, 1994; August 14, 1992; April 20, 1988; February 10, 1987; and September 14, 1983.

- Point-to-Point and Point-to-Multipoint Fixed Services:

  928-929/952-953 MHz: *Arrangement Concerning Point-to-Multipoint Systems*. Using Lines A, B, C, & D as general limiting distances, bands are divided into 3 groups with each country receiving a priority segment plus a third common band segment, use subject to case-by-case coordination. Signed: August 7, 1991.

  932-935/941-944 MHz: *Interim Arrangement on Point-to-Point and Point-to-Multipoint Fixed Services.* Within Lines A, B, C, & D provides priority use for Canadian systems in 932.0-932.25 MHz and 941.0-941.25 MHz bands, and priority use for the U.S. in the 932.25-932.50 MHz and 941.25-941.50 MHz bands. The remaining portions of the bands are subject to the terms of Arrangement A with slight modification. Signed: September 19, 1994, and associated with Arrangement A.

  2500-2686 MHz: *General FCC/DOC Understanding Concerning the Coordination of the Band within 80 km of the Border*. This arrangement covers the Multipoint Distribution Service (MDS) and Instructional Television Fixed Service (ITFS). Terms apply to operations within 80 km of the border. Both countries have access to all channels. Use of frequency offset and antenna gain and polarization criteria specified; a coordination threshold PFD at the border of -70 dBW/m2 for analog systems and -80 dBW/m^2 for digital systems. Signed: December 5, 1997.

  24 GHz and 38 GHz Bands: *Interim Arrangement on Broadband Wireless Systems in the Frequency Bands 24.25-24.45 GHz, 25.05-25.25 GHz, and 38.6-40.0 GHz*. Signed: December 21, 2000.

  28 GHz, 29 GHz, and 31 GHz Bands: *Interim Arrangement Concerning the Local Multipoint Distribution Service*. This arrangement establishes a plan for sharing frequencies in the 27.35-28.35 GHz, 29.1-29.25 GHz and 31.0-31.3 GHz bands, which are used by the U.S. Local Multipoint Distribution Service (LMDS), the Canadian Local Multipoint Communications Service (LMCS), and certain other services. Signed: December 20, 2000.

- Fixed and Mobile Services:

  4400/5000 MHz: Signed August 12, 1984.

  17.7-23.6 GHz (for specific band segments): *Interim Arrangement for Coordination of Fixed and Mobile Stations*. Supersedes the provisions of the Above 30 MHz Agreement by requiring the coordination of all fixed and mobile services in the specified band segments. Signed: July 8, 1995.

- Satellite Services:[5]

  All Satellite News-Gathering (SNG) Frequencies: Understanding Concerning U.S./Canada Cross-Border Roaming of SNG Units. Signed: August 1992.

  In August 1992, there was an exchange of letters between the FCC and the Canadian Department of Communications (now Industry Canada) that defined SNG for purposes of service implementation in the two countries. Additionally, the letters provided an expedited procedure for the authorization of the cross-border roaming of SNG units between the two countries. Finally, the letters reserved the right for each governmental authority to review such temporary authorizations after a reasonable period to determine if the other country's space segment can provide the necessary facilities, while considering the needs for flexibility and for appropriate utilization of in-orbit facilities.

  Transborder Satellite Policies for Very Small Aperture Satellite (VSAT) Earth Stations. This series of letters exchanged between the FCC and Canada's Department of Communications (now Industry Canada) outlines the policies and conditions for the use of U.S. and Canadian VSATs and fixed-satellite service satellites in each country. Dated: 1972, 1982, and 1989.

  Mobile Satellite Terminal Cross-Border Roaming. This exchange of letters facilitated U.S./Canadian cross-border roaming of certain MSS/RDSS mobiles using the Geostar and Qualcomm satellite systems. Dated: April/May 1991.

  Trilateral Arrangement Regarding the Use of the Geostationary Orbit Reached by Canada, Mexico and the United States. This "working arrangement" provides for the shared use of the geostationary orbit between 103 degrees W.L. and 123 degrees W.L., in the 3700-4200 MHz, 5925-6425 MHz, 11.7-12.2 GHz, and 14.0-14.5 GHz frequency bands. FCC Public Notice dated: September 2, 1988.

  Broadcast Satellite /Fixed Services. Coordination of systems operating in the 17.7-19.7 GHz and 21.2-23.6 GHz bands. Signed: July 8, 1995.

  Memorandum of Understanding for Intersystem Coordination of Certain Geostationary Mobile Satellite Systems Operating in the Bands 1525-1544 MHz, 1545-1559 MHz, 1626.5-1645.5 MHz, and 1646.5-1660.5 MHz. This Multilateral Arrangement was signed in Mexico City and facilitates the operation of the American Mobile Satellite Corporation, Inc. (AMSC) system of the U.S. Signed: June 19, 1996.

[5] A full description of all satellite coordination between the U.S. and other countries is beyond the scope of this Report.

Additional information on the interim working arrangements for which the FCC has coordination responsibilities is listed in Appendices A and B.[6]

D. Overview of Activities and Accomplishments[7]

February 1998 U.S./Canada RTLC Bilateral Meeting. The following sharing/coordination issues were addressed: the 220-222 MHz band, LMCS, 800-900 MHz land mobile, and the 38.6-40 GHz band. Information exchange items addressed included frequency bands for fixed wireless access, return channels for MDS/MCS, and 23 GHz MCS. There were information exchanges for the following new services: high altitude platforms and other fixed systems in the 37-42.5 GHz and 47.2-48.2 GHz bands, wireless meter reading, license-exempt equipment in U.S. (impact on Canada), and the use of bands 2025-2130 and 2110-2165 (TV pickups) and its impact on IMT-2000 emerging services.

March 1998 U.S./Canada RTLC Bilateral Meeting. The following sharing/coordination issues were addressed: the 220-222 MHz band, LMDS/LMCS, 800-900 MHz land mobile, WCS and GWCS and the 38.6-40 GHz band. Information exchange items addressed included frequency bands for fixed wireless access and return channels for MDS/MCS. There were information exchanges for the following new services: high altitude platform stations and fixed and fixed-satellite systems in the 37-51 GHz band, wireless meter reading, and license-exempt equipment.

April 1998 U.S./Canada RTLC Bilateral Meeting. The following sharing/ coordination issues were addressed: the 220-222 MHz band, LMDS/LMCS, 800-900 MHz land mobile, the U.S. 1910-1930 MHz unlicensed PCS band, the 3.4-3.7 GHz band, and the 38.6-40 GHz band. Information exchange items addressed included return channels for MDS/MCS, MCS at 18 and 23 GHz, and operations at 24 GHz (BSS allocation and DEMS). There were information exchanges for the following new services: fixed and fixed-satellite systems in the 37-51 GHz band, wireless meter reading (1427-1430 MHz), re-allocation of the UHF-TV channels 60-69, Superphone (800-900 MHz), and ITS.

June 1998 U.S./Canada DARS/T-DRB Bilateral Meeting. U.S. discussed the status of its DARS licensees and their effect on terrestrial systems in Canada. Canada discussed the status of its T-DRB systems. Draft arrangements were worked on.

June 1998 U.S./Canada DTV Bilateral Meeting. Canada discussed the public notice of its DTV allocation plan. U.S. discussed its schedule for DTV notifications. There was discussion of the draft MoU and discussions of the remaining DTV incompatibilities.

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[6] The tables in Appendix A present this information organized by frequency band.

[7] A summary of meetings held prior to 1998 can be found in the Division's previous report, published in 1999.

November 1998 U.S./Canada DTV Bilateral Meeting. There was discussion of the status of DTV in the U.S. and Canada, NTSC notifications, and of resolving incompatibilities in the DTV plans.

November 1998 U.S./Canada RTLC Bilateral Meeting. The following sharing/ coordination issues were addressed: the draft 220-222 MHz band agreement, Canada tabled draft interim arrangements for LMCS/LMDS, wideband systems in 24 and 38 GHz bands, preliminary draft for the 3.4-3.7 GHz band, Aeronautical and Maritime De-licensing, GWCS, two-way MDS/MCS, and cross-border coordination process. Information exchange items addressed included 36-51.4 GHz band, TV pickup/BAS, ITS (5.9 GHz), and WCS.

February 1999 U.S./Canada Bilateral Meeting. The following sharing/ coordination issues were addressed: 220-222 MHz band, LMCS/LMDS, and 24/38 GHz band arrangements.

April 1999 U.S./Canada RTLC Bilateral Meeting. The following sharing/coordination issues were addressed: the 220-222 MHz band, LMDS/LMCS and 24/38 GHz band draft arrangements, MCS/MDS low power gap fillers, and the MCS/MDS (2.5 GHz) grandfather list. Information exchange items addressed included the 36-51.4 GHz band, WCS, 3.4-3.7 GHz FWA, TV Pickup/BAS, and ITS (5.9 GHz).

April 1999 U.S./Canada DTV Bilateral Meeting. There was an update on the status of DTV in the U.S. and Canada. It was noted that there have not been any problems for either country with NTSC notifications. There was a review of the cases that Canada indicated needed resolution.

November 1999 U.S./Canada DTV Bilateral Meeting. There was a discussion of the draft DTV Letter of Understanding (LOU), resolving incompatibilities in the DTV plans, public safety operations, and an update on the status of DTV in the U.S. and Canada.

November 1999 U.S./Canada RTLC Bilateral Meeting. The following sharing and coordination issues were addressed: the status of the 220-222 MHz, 24/38 GHz, and LMCS/LMDS arrangements, and low power gap fillers in the MCS/MDS band. Information was exchanged on Y2K impact, the 36-51.3 GHz and the 18 GHz bands, WCS, 3400-3700 MHz band ITS, non-ionizing radiation issues, refarming, and license exempt devices.

April 2000 U.S./Canada DTV Bilateral Meeting. There was a discussion of the draft DTV Letter of Understanding (LOU).

April 2000 U.S./Canada RTLC Bilateral Meeting. The following sharing/coordination issues were addressed: 2-way MDS/MCS and LMCS/LMDS. Information was exchanged on Class A television service, 700 MHz band, Ultrawideband Radio, Software defined radio, GWCS and Multiple Address Systems (MAS).

September 2000 U.S./Canada RTLC Bilateral Meeting. The following sharing/coordination issues were addressed: 2-way MDS/MCS, LMCS/LMDS, and the 700 MHz band. Information was exchanged on IMT-2000, 18 GHz, CARS, Canadian spectrum policy, ITS, 1.4 GHz, Class A television service, and auctions.

December 2000 U.S./Canada RTLC Bilateral Meeting. The following sharing/coordination issues were addressed: 2-way MDS/MCS Arrangement and the reallocation of TV channels 60-69 for use by public safety and commercial wireless services. Information was exchanged on LPTV, GWCS, WCS, license exempt operations, ITS, ultrawideband radio, and Software Defined Radio.

E. Issues for Future Action

Future issues to be discussed include agreements concerning 2-way MDS, WCS, the reallocation of TV channels 52-69 for land mobile uses, and improvements in the U.S.-Canada cross border coordination process.

IV. NEGOTIATIONS, CONSULTATIONS, AND AGREEMENTS WITH MEXICO

A. Mexican Counterpart Authorities

Secretaría de Comunicaciones y Transportes (SCT). The highest Mexican authority over telecommunications matters is the Secretariat of Communications and Transports, led by a cabinet-level Minister. The Minister officially signs all international telecommunications agreements. The Subsecretariat of Communications and Technological Development, led by an Undersecretary, is directly responsible for day-to-day regulatory decisions. These entities are referred to collectively in this report as the SCT. Within the SCT, the Coordinator for International Negotiations, who reports directly to the Undersecretary, leads the delegations for bilateral treaties. As in the U.S., the Coordinator brings experts together, as required, from the SCT as well as other Mexican government agencies and state-owned companies to address the points of bilateral discussions. (See also www.sct.gob.mx.)

The Comision Federal de Telecomunicaciones (COFETEL or CFT) was established in 1996. COFETEL is the primary telecommunications regulatory body in Mexico, although the SCT retains certain important responsibilities. On some issues, COFETEL makes decisions requiring little, if any, input from the SCT; while on other issues COFETEL must obtain the approval of the SCT or the SCT has the lead. In general, most international issues should be coordinated with the SCT and COFETEL. Major COFETEL decisions are made by vote of a four person Commission, with the Chairman having the deciding vote. According to Mexican law and regulations, COFETEL's role with respect to radio is to carry out studies; grant, modify and revoke concessions (licenses) and permits; submit (for approval by the SCT) a frequency allocation and coordination program; administer the radio-electric spectrum; coordinate (with the SCT) frequency issues regarding satellites; establish mandatory equipment standards; certify equipment; and establish and maintain a registry of telecommunications. In its role as federal administrator of radio spectrum, COFETEL sets parameters for power, modulation and other technical issues, grants equipment approvals, establishes auction processes, maintains databases of users and frequencies, and performs technical analysis. The SCT seeks the opinion of COFETEL's technical experts before publishing decisions. (See also www.cft.gob.mx.)

Telecomunicaciones de Mexico (TELECOMM). TELECOMM is the Mexican government-owned satellite administration. Currently, TELECOMM participates in all international negotiations concerning space station and ground station coordination. Governmental responsibilities for satellite-related coordination ultimately will be undertaken directly by the SCT.

B. Framework for U.S./Mexico Negotiations

U.S. negotiations with Mexico regarding border frequency sharing arrangements are led by State Department's CIP with the FCC participating as one of the primary expert agencies. Negotiations are organized under the auspices of the High Level Consultative Commission on Telecommunications (HLCC), originally constituted in 1990. This high level meeting of senior U.S. and Mexican government officials is convened approximately every two years or as needed for the exchange of views on important regulatory, standards, administrative, and telecommunications policy issues; for the signature of new agreements and protocols; and for the establishment of cooperative work plans.

At the fourth U.S./Mexico HLCC meeting[8] held in Williamsburg, Virginia, in June 1994, a landmark Framework Agreement was signed that consolidated a large number of agreements and memoranda of understanding previously reached between the U.S. and Mexico, and established an efficient procedure for entering into additional agreements, called "protocols," that become amendments to the Framework Agreement and are thus binding international agreements. The fifth HLCC meeting was held in Morelia, Mexico in April 1996. At this meeting new protocols on aeronautical radionavigation and communications service and point-to-point microwave services were signed.

In Washington, D.C., in September 1998, a high level meeting was held between senior U.S. and Mexican officials at which the parties discussed DARS coordination. In addition, the parties agreed to finalize an agreement covering digital MDS systems and an agreement reserving certain frequencies in border areas for firefighting and other emergency use, and adopted a 1998-1999 Work Plan.

In Mexico City, on July 24, 2000, the DARS/WCS agreement was signed and the 2000 Work Plan ratified at the Bilateral Meeting of High Level Authorities on Telecommunications.[9]

Broadcast and Non-Broadcast Consultations. Generally, two non-broadcast and two broadcast bilateral meetings take place on an annual basis between sessions of the High Level Consultative Commission. These negotiations are organized and led by the State Department, with participation by the FCC and other federal agencies, as appropriate. The negotiations follow agendas set in cooperation with the SCT, consistent with the work plan established at the most recent high level meeting. The negotiations, which may span several months, if not years, ultimately yield agreements (or protocols/memoranda of understanding) that the senior officials of the particular agencies affected may sign.

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[8] Prior meetings of the High Level Consultative Commission were held at Cocoyoc, Morelos (September 1990), Chestertown, Maryland (July 1991), and Queretaro, Mexico (August 1992).

[9] Copies of recent U.S./Mexico Work Plans are provided in Appendix D.

Interference Resolution-Mixed Commission.[10] To facilitate interference-free operations in accordance with existing frequency sharing protocols and agreements, informal meetings are held as needed between the FCC's Enforcement Bureau's (EB's) regional monitoring offices and the SCT regional spectrum administration officials. During these meetings of the "Mixed Commission," specific interference cases are analyzed relative to existing treaty specifications and agreement is often reached on means to eliminate the interference. EB may bring in technical representatives of the affected licensees and other FCC experts to facilitate the discussions. Additionally, the Notifications Branch, in cooperation with the EB, maintains the *Mexican Interference Database and Updates*, a report that documents events and activities relevant to dozens of pending interference cases affecting U.S. stations. The report provides a comprehensive centralized resource to assist in the coordination process by supplying a chronological history of the individual cases and their associated technical details. Specific interference cases are coordinated with representatives of the SCT headquarters and field staffs, with input from representatives of the affected stations and their engineering and legal representatives.

C. U.S./Mexico Agreements

Broadcast

There are two AM agreements and one FM agreement with Mexico:

1) *Agreement Between the Government of the United States of America and the Government of the United Mexican States Relating to the AM Broadcasting Service in the Medium Frequency Band*, 535-1605 kilohertz (kHz) band. Signed: 1998.

2) *Agreement Between the Government of the United States of America and the Government of the United Mexican States for the Use of the Band 1605 to 1705 kHz in the AM Broadcasting Service*, 1605-1705 kHz band. Signed: 1992

An FM *Agreement Between the Government of the United States of America and the Government of the United Mexican States Relating to the FM Broadcasting Service in the 88-108 MHz Band.* Signed: 1992.

The following two TV agreements with Mexico provide for low power TV (LPTV) usage and were amended in 1988:

1) *United States-Mexico VHF Television Agreement*. Signed: 1962; and

2) *Agreement Relating to Assignments and Usage of Television Broadcasting Channels in the Frequency Range 470-806 MHz (Channels 14-69) Along the United States-Mexico Border.* Signed: 1982.

[10] Also referred to (in Spanish) as the "Comision Mixta Encargada de Resolver Asuntos de Radiointerferencia" (CMERAR).

A recent Memorandum of Understanding (MoU) concerning Digital Television (DTV) was signed July 22, 1998:

> *Memorandum of Understanding Between the Federal Communications Commission of the United States of America and the Secretaria de Comunicaciones y Transportes of the United Mexican States Related to the Use of the 54-72 MHz, 76-88 MHz, 174-216 MHz and 470-806 MHz Bands for the Digital Television Broadcast Service Along the Common Border*.

An agreement concerning the Digital Audio Radio Service (DARS) and Wireless Communications Service (WCS) was signed on July 24, 2000:

> *Agreement Between the Government of the United States of America and the Government of the United Mexican States concerning the Use of the 2310-2360 MHz Band.*

This agreement governs the operation of satellite DARS in the 2310-2360 MHz band along the U.S./Mexico border. The agreement designates part of the band for U.S. DARS, part for Mexican DARS, and part solely for terrestrial services. Terrestrial services can operate throughout the entire band subject to certain restrictions on the power levels.

Non-Broadcast

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* (Framework Agreement) was signed at the 4th HLCC meeting in June 1994 on behalf of the U.S. by three senior U.S. telecommunications officials.[11]

The Framework Agreement deals with a range of non-broadcast issues and provides for the attachment of service-specific protocols, which may be agreed upon from time to time between the regulatory authorities of each country, specifically the SCT and the FCC.[12] Each individual protocol sets forth channel allotments and conditions for use for the subject service. The six original protocols annexed to the Framework Agreement in 1994, represented (1) updated consolidations of prior agreements and memoranda of understanding (MoU) reached at previous Consultative Commission meetings,[13] and (2) new agreements on selected fixed and mobile service topics. Following the 4th HLCC meeting two new protocols were signed, and at the 5th

[11] Ambassador Vonya B. McCann, Deputy Assistant Secretary of State for International Communications and Information Policy; Reed E. Hundt, Chairman, Federal Communications Commission; and Larry Irving, Assistant Secretary of Commerce for Communications and Information.

[12] Appropriate Circular 175 Authority will be required for new topics.

[13] The prior versions of the agreements and MoUs consolidated into the Framework Agreement were thereby terminated.

HLCC meeting two additional protocols were signed. A structural index of the Framework Agreement is contained in Appendix C.

- Terrestrial Non-Broadcasting Radiocommunications Services:

  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 Radiocommunications Services Along the Common Border (1994 Framework Agreement). The 1994 Framework Agreement (and its associated protocols) was established to ensure the equitable use of frequency bands by terrestrial non-broadcasting radiocommunications services in the common border area. The allocation of bands for specific radio services and the conditions for their use are set forth in protocols that are attached as annexes to the Framework Agreement. This agreement was signed on June 16, 1994, in Williamsburg, VA, and entered into force on June 2, 1995.[14] These protocols, which concern a variety of land mobile services (including SMR, cellular, and PCS) as well as public air-to-ground and fixed point-to-multipoint services, are briefly summarized below. All Agreements were signed in June 1994 unless otherwise noted.

- Specialized Mobile Radio Services:

  220-222 MHz: *Protocol Concerning the Allocation and Use of the Channels in the 220-222 MHz Band for Land Mobile Services Along the Common Border*. This protocol establishes a common plan for the use of this band within a 120 km distance on each side of the border. This band has been allocated in the U.S. for use by the Specialized Mobile Radio Service (SMRS).

- Land Mobile Services:

  470-512 MHz: *Protocol Concerning the Use of the 470-512 MHz Band for Land Mobile Services Along the Common Border*. This band is allocated to both land mobile and (television) broadcasting services. This protocol recognizes the differing levels of requirements for these services in the two countries and establishes a requirement to coordinate assignments made for stations within 150 km of the common border (a greater distance may be agreed for assignments near the Pacific coast).

  806-824/851-869 and 896-901/935-940 MHz: *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*. This protocol establishes a common plan

[14] The two protocols concerning Personal Communications Service (PCS) also are formally associated with the 1994 Framework Agreement, but were signed in Washington, D.C. on May 16, 1995, and entered into force on that same date.

for the use of frequencies for Land Mobile services which include Public Safety Mutual Aid and SMRS within a 110 km distance from the border. The channels are evenly divided as specified in the appendices to this protocol.

Special Coordination Procedure (SCP) for the 806-824 and 851-869 MHz Band. This SCP, signed November 8, 2000, allows licensees on either side of the border to develop their own sharing arrangements and to operate at higher power levels than normally permitted under the existing agreement.

- Cellular Services:

  824-849/869-894 MHz: *Protocol Concerning the Use of the 824-849/ 869-894 MHz Bands for Public Radiocommunications Services Using Cellular Systems Along the Common Borde*r. This protocol establishes the technical parameters for cellular systems in these bands and a requirement for coordination within a 72 km distance from the common border. Coordination occurs directly between the carriers licensed in each country and the conclusions are subject to approval by each administration.

- Air-to-Ground Services:

  849-851/894-896 MHz: *Protocol Concerning the Use of the 849-851/ 894-896 MHz Bands for Public Air to Ground Radio Services*. This protocol establishes a common plan for the use of frequencies within an 885 km distance from the common border for Public Air to Ground Radio Service. The spectrum is divided into 10 channel blocks and each specific site is coordinated. Channel blocks are assigned to specific sites. Sites not already specified require individual coordination.

- Fixed Point-to-Multipoint:

  932-932.5/941-941.5 MHz: *Protocol Concerning the Allotment and Use of the 932.0-932.5/ 941.0-941.5 MHz Bands for Fixed Point-to-Multipoint Services Along the Common Border*. This protocol establishes an allotment plan for the use of the channels within a 113 km distance from the common border for fixed point-to-multipoint radiocommunications stations.

- Fixed Point-to-Point:

  932.5-935/941.5-944 MHz: *Protocol Concerning the Allotment and Use of the 932.5-935/941.5-944 MHz Bands for Fixed Point-to-Point Services Along the Common Border*. This protocol establishes an allotment plan for the use of the channels within a 60 km distance from the common border for fixed point-to-point radiocommunication stations.

- Personal Communications Services:

  901-902/930-931 MHz: *Protocol Concerning the Allocation and Use of the Bands 901-902 MHz, 930-931 MHz, and 940-941 MHz for Personal Communications Services Along the Common Border*. This protocol establishes a channel plan for the equitable use of these bands for Narrowband PCS Systems within a distance of 120 km from the common border (see U.S./Mexican Border Coordination Map). The agreement establishes a channel plan that includes 15 paired channels and 9 unpaired channels per administration. Where operators agree to share a channel, such arrangements are to be submitted to the administrations for review.

  1850-1990 MHz: *Protocol Concerning the Use of the Band 1850-1990 MHz for Personal Communications Services Along the Common Border*. This protocol establishes a common plan for the equitable use of the band for Broadband PCS within a 72 km distance from the common border. The band 1910-1930 MHz is reserved for low power unlicensed PCS. All PCS systems must be coordinated with any existing fixed point-to-point stations. The protocol provides protection for existing fixed point-to-point operations within 120 km from the common border. However, the countries agree that no new fixed systems will be authorized in the band. Use in the border area is based on equal access. Operator-to-operator agreements are permitted (as with the cellular protocol) but subject to review/approval by the administrations. Signed: May 16, 1995.

- Paging:

  929-930/931-932 MHz: *Protocol Concerning the Use of the 929-930 MHz and 931-932 MHz Bands for Paging Services Along the Common Border*. This protocol establishes a common plan for the equitable use of the band for one-way paging within a 120 km distance from the common border. It identifies priority channels of each administration. Twelve channels are designated as shared. The protocol also allows for operators in both countries to form joint operating partnerships to expand service areas and avoid transborder conflicts. Signed: February 27, 1997.

- Aeronautical Radionavigation and Communications:

  Protocol Concerning the Use of the Bands Allocated to the Aeronautical Radionavigation and Aeronautical Communications Services Along the Common Border. This protocol establishes a procedure for the coordination of frequency assignments in various identified frequency bands for the aeronautical radionavigation and aeronautical communications services along the common border. It allows each administration to use all the channels in each frequency band, provided it does not cause harmful interference to stations in the other country. Signed: April 26, 1996.

There are six additional non-broadcasting terrestrial agreements in effect between the U.S. and Mexico that concern spectrum use: (1) an agreement concerning multipoint distribution services (signed at Queretaro, 1992); (2) an agreement concerning the use of radio frequencies for firefighting and other emergency relief efforts (signed in Washington, 1998); and (3) four agreements concerning satellite services.

- Multipoint Distribution Services:

  2500-2686 MHz: *Agreement Between the Government of the United States of America and the Government of the United Mexican States Concerning the Assignment of Frequencies and Usage of the 2500-2686 MHz Band Along the United States-Mexico Border*. The purpose of this agreement is to establish a procedure for the assignment of channels and use of the 2500-2686 MHz band for analog and digital point-to-multi-point distribution services within 80 kilometers of the common border. The 31 channels, each having a 6 MHz bandwidth, are divided into 8 groups (labeled A through H). Assignment of these groups is based on specific coordination criteria, and, excluding the locations specified in the Annexes, the groups are available for use by both administrations. Signed: October 23, 1998.

- Firefighting and Emergency Use Frequencies:

  Memorandum of Understanding Between the Department of Agriculture Forest Service and the Federal Communications Commission of the United States of America and the Secretaria de Comunicaciones Y Transportes of the United Mexican States for the Use of Radio-Frequencies, Coordination and Cooperation for Emergency Purposes. The agreement reserves certain radio frequencies for firefighting and other emergency use in the border areas, significantly improving the ability of both the U.S. and Mexico to protect lives and property along the U.S.-Mexico border. The Agreement also encourages the parties to minimize use of these frequencies outside of the border area and includes procedures for coordinating frequency use and addressing any interference that may occur. In addition, the agreement establishes a program

that will allow Mexico to use certain U.S. radio equipment. Signed: December 9, 1998.

- Satellite Services:

  5925-6425 MHz: *Agreement Between the Government of the United States of America and the Government of the United Mexican States Regarding an Earth Station Coordination Procedure*. This agreement covers the band 5925-6425 MHz. It establishes a procedure for coordinating the operation of earth stations that are part of one or more fixed-satellite service networks with terrestrial fixed stations in the same band. Signed: July 2, 1991, in Chestertown, MD. Entered into force February 2, 1993.

  17.7-17.8 GHz: *Agreement Between the Government of the United States of America and the Government of the United Mexican States on the Use of the 17.7-17.8 GHz Band*. The agreement establishes sharing conditions for use of the band to facilitate operation of the fixed and broadcasting-satellite services on both sides of the common border. Signed: June 23, 1993, in Washington, D.C.

  Memorandum of Understanding for Intersystem Coordination of Certain Geostationary Mobile Satellite Systems operating in the bands 1525-1544 MHz, 1545-1559 MHz, 1626.5-1645.5 MHz, and 1646.5-1660.5 MHz. This arrangement facilitates the operation of the Motient system of the U.S. Signed: June 19, 1996.

  The *Agreement Between the Government of the United States of America and the Government of the United Mexican States Concerning the Transmission and Reception of Signals from Satellites for the Provision of Satellite Services to Users in the United States of America and the United Mexican States.* Signed: April 28, 1996. The following protocols are associated with the Agreement:[15]

  - *Protocol Concerning the Transmission and Reception of Signals from Satellites for the Provision of Direct-to-Home Satellite Services in the United States of America and the United Mexican States.* Signed: November 8, 1996. Entered into force November 11, 1996.

  - *Protocol Concerning the Transmission and Reception of Signals from Satellites for the Provision of Fixed-Satellite Services in the United States of America and the United Mexican States.* (This protocol does not include services as defined in DTH Protocol, signed November 8, 1996.) Signed: October 16, 1997.

[15] A complete listing of the frequencies protected by these Protocols can be found in Appendix C.

- *Protocol Concerning Transmission and Reception of Signals from Satellites for the Provision of Mobile-Satellite Services and Associated Feeder Links in the United States of America and the United Mexican States.* Signed: December 21, 1998.

Additional information on the agreements for which the FCC has coordination responsibilities is listed in Appendices A and C.[16]

D. Overview of Activities and Accomplishments[17]

February 1998 U.S./Mexico Bilateral Meeting/WGPR. There was an update on the firefighting agreement, on the 3.4-3.7 GHz band, and on the exchange of paging databases. There was also discussion on modifying the current MDS agreement to include digital MDS operations. For the WGPR portion of the meeting, the U.S. submitted the following information: auctions for GWCS and public coast station frequencies, WCS, the 18 and 24 GHz bands, and the 36-51 GHz band.

April 1998 U.S./Mexico Bilateral Meeting/WGPR. There were discussions on the following: revising the MDS agreement to include digital systems, a review of FM/TV Channel 6 interference, and the status of DTV. After the meeting between U.S. and Mexican government officials, there was a meeting with the FCC DARS licensees. There was a follow-up conference call to continue discussions on the firefighting agreement, exchange of paging service database information, cross-border point-to-point microwave links, LMDS, Public Coast Stations 156-162 MHz and 406.1-420 MHz, and WCS.

June 1998 U.S./Mexico Bilateral Meeting. There were discussions on interference issues related to XETV Channel 6/KSDS FM and the Mexican TV Channel 3/Cox Cable in San Diego. Mexico distributed its DTV allocation table. Two interference cases were resolved.

September 1998 U.S./Mexico High Level Meeting. Senior level U.S. and Mexican officials met to discuss DARS. In addition, the parties agreed to finalize an agreement concerning digital MDS systems and an agreement reserving certain frequencies in the border area for firefighting and other emergency use, and adopted a 1998-1999 U.S.-Mexico Work Plan.

January 1999 U.S./Mexico Bilateral Meeting/WGPR. There were discussions on DARS spectrum requirements, status, and timeframe for implementation, and a work plan was adopted. In addition, the following special cases were discussed: Channel 3/Cox Cable, TV Channel 6/KSDS-FM, and station KTCT. Also discussed was the status of the AM verification project, DTV update, and terrestrial digital audio broadcasting. In a

[16] The tables in Appendix A present this information organized by frequency band.

[17] A summary of meetings held prior to 1998 can be found in the Division's previous report, published in 1999.

subsequent conference call, the WGPR discussed the 162-174 MHz band, cross-border point-to-point microwave links, frequencies and locations of paging stations, and Mexico's firefighting frequencies.

May 1999 U.S./Mexico DARS Bilateral Meeting. There were updates on the following issues: U.S. DARS systems protection of Mexican terrestrial systems, definition of Mexican DARS system, and status of U.S. DARS licensees. Protection requirements for NASA deep space network operations at Goldstone, CA in the 2290-2300 MHz band were also discussed.

August 1999 U.S./Mexico Bilateral Meeting. There were reviews of the DARS Work Plan and the DARS system protection requirements for terrestrial systems and consideration of a draft DARS Agreement. There were discussions on DTV, updates on the status of the AM verification project, LPTV, and the channel 3/Cox Cable and the channel 6/KSDS-FM issues. There were also discussions on firefighting frequencies, paging, Intelligent Transportation Systems (ITS), two-way MDS, cross-border microwave links, and airborne cellular service.

November 1999 U.S./Mexico DARS Meeting. There were discussions on sharing between satellite and terrestrial services, comments on a proposed spectrum emissions mask, and a review of the draft agreement.

March 2000 U.S./Mexico Bilateral & WGPR Meeting. There were discussions on the 2000 Work Program, paging issues, cross-border microwave links, the implementation of the firefighting MOU, and several land mobile bands. The WGPR met and discuss the Special Coordination Procedure (SCP), the18 GHz, 24 GHz, 28 GHz, and the 39 GHz bands, the 700 MHz band, IVDS, and airborne cellular service.

February 2001 U.S./Mexico Bilateral & WGPR Meeting. There were discussions on the 2001 Work Program, update on DTV standards, future use of TV Channels 52-69, land mobile bands 148-174 MHz and 450-470 MHz, and the AM verification project. The WGPR met and discussed the following: new classes of television service, current status of Digital Radio Broadcasting, implementation of the SCP, status of paging interference cases, cross-border microwave links, use of the 3650-3700 MHz and 4940-4990 MHz bands, third generation wireless systems, and an auctions update.

August 2001 U.S./Mexico Bilateral & WGPR Meeting. There were discussions on the 700 MHz band, two-way MDS, several land mobile bands, and cross-border microwave links. The WGPR met and discussed the following: LMDS, the 3650-3700 and 4940-4990 MHz bands, a proposal of a balloon-based system in the narrowband PCS spectrum, and the status of the Protocol for the 932.5-935 and 941.5-944 MHz bands.

E. Issues for Future Action

Future issues for discussion will include agreements concerning use of the 700 MHz band for non-broadcast services, two-way MDS, LMDS, certain land mobile bands

between 138-470 MHz, and the 3650-3700 MHz and 4940–4990 MHz bands. Additional discussions with Mexico will focus on completion of the AM database verification process and approval of cross-border point-to-point microwave links.

V. MULTILATERAL NEGOTIATIONS ANDAGREEMENTS WITH OTHER COUNTRIES

A. AM Broadcasting

Because of the long distances AM signals can travel at night via skywave propagation, AM agreements must cover a much larger geographic area, are much more complex, and result in the need to coordinate with other countries beyond Canada and Mexico. Complex engineering studies are required to analyze interference issues because of the effects of the ionosphere on the propagation of electromagnetic waves in the AM frequency band.

In addition to bilateral agreements, four ITU multilateral agreements are in force affecting the use of AM broadcasting frequencies in the United States. They include the *North American Regional Broadcasting Agreement*, 1950 (NARBA), the *Regional Agreement for the Medium Frequency Broadcasting Service in Region 2, Rio de Janeiro, 1981* (1981 Rio Agreement), the *Regional Agreement Concerning the Use by the Broadcasting Service of Frequencies in the Medium Frequency Bands in Regions 1 and 3 and in the Low Frequency Bands in Region 1*, *Geneva, 1975* (1975 LF/MF Agreement), and the *Regional Administrative Radio Conference to Establish a Plan for the Broadcasting Service in the Band 1605-1705 kHz in Region 2, Rio de Janerio, 1988* (1988 Rio Agreement).

The NARBA agreement governed the allotment and use of all AM (535-1605 kHz) stations for the United States, Cuba, Canada, the Dominican Republic, and the Bahamas until it was effectively superseded by the 1981 Rio Agreement. Technically, NARBA still applies between the U.S., the Bahamas, and the Dominican Republic, since these countries have not formally abrogated the agreement.

The 1981 Rio Agreement affects AM broadcasting assignments in the Americas and contains criteria that differ significantly from many NARBA provisions concerning interference protection, including the elimination of clear channels. It provides for separate bilateral agreements as long as they are consistent with its provisions. To provide for greater domestic flexibility and, in some cases, greater interference protection, the U.S. entered into negotiations with both Canada and Mexico culminating in agreements signed in 1984 and 1986, respectively.

The 1975 LF/MF Agreement establishes the plan and associated provisions for AM broadcasting assignments outside of the Americas. It also governs the use of the AM band in U.S. territories in the South Pacific, such as Guam and Saipan. The technical criteria in some ways are different from those of the 1981 Rio Agreement. For example, channel spacing is 9 kHz instead of 10 kHz used in the 1981 and 1988 Rio Agreements.

The 1988 Rio Agreement affects AM broadcasting assignments in the Americas for the use of the expanded AM band (1605-1705 kHz). It also provides for separate bilateral agreements as long as they are consistent with its provisions. As in the case of the 1981 Rio Agreement, the U.S. entered into bilateral negotiations with both Canada

and Mexico. An interim working arrangement with Canada was reached in 1991, and an agreement with Mexico was signed in 1992.

B. International Broadcasting

Transmissions of high frequency (HF), or shortwave international broadcast stations, are intended for direct reception by the general public in foreign countries.[18] These stations use high power transmitters and directional antennas and may broadcast to several areas of the world, simultaneously, using multiple transmitters and antennas. There are both government and private international broadcast stations. The U.S. government operates the Voice of America, Radio Liberty, and Radio Free Asia under the Broadcasting Board of Governors. The FCC regulates privately owned international U.S. broadcast stations, which includes 24 licensees with a combined total of 76 transmitters and 102 antennas.

All stations in this service operate without exclusive use of any frequency, and must share the allocated spectrum with all other international broadcasters in the world. As a result of seasonal propagation changes, stations may have to make frequency changes regularly. Accordingly, frequencies are coordinated and authorized on a seasonal basis. The potential for mutual interference around the world is great because these signals travel extreme distances.

In 1963, an informal frequency coordination group (1963 group) was formed for the purpose of reducing mutual interference among several large western nation broadcasters. Today this group is currently composed of representatives of the International Broadcast Bureau (IBB), Merlin Communications Inc., Deutsche Welle, Radio Nederland, Radio Canada International, and the FCC. The IBB is responsible for the frequency coordination of the U.S. government broadcasters under the Broadcast Board of Governors. Merlin Communications Inc. is responsible for the frequency coordination of the British Broadcasting Corporation. In 1990, another informal group was formed which currently includes the aforementioned broadcasters plus broadcasters from Eastern and Western Europe, Russia, China, Turkey, Iran, the Arab States Broadcast Union (ASBU), South America, and South Africa.

The success of the above-mentioned informal groups played a pivotal role in the ITU World Radio Conference in 1997 (WRC-97), adopting the first ever use of regional coordination groups as the planning method for the HF international broadcasting service. Currently there are two ITU registered regional coordination groups, the High Frequency Coordination Committee (HFCC) and Asian Broadcast Union High Frequency Committee (ABU-HFC). The FCC has been a member of the HFCC since 1994. The FCC has also attended, as an observer, two of the coordination conferences hosted by the ABU in 1997 and 2000.

[18] HF Broadcasting is regulated under Part 73, Subpart F of the Commission's Rules, 47 C.F.R. Sec. 73.701 *et seq.*

The final acts of WRC-97 concerning HF were implemented January 1, 1999, and required HF notifications to be made under procedures detailed in Article S12, replacing the previous procedure under Article 17.

C. Agreement with Argentina

On June 5, 1998, the U. S. and Argentina signed the *Agreement Between the Government of the United States of America and the Government of the Argentine Republic Concerning the Provision of Satellite Facilities and the Transmission and Reception of Signals to and from Satellites for the Provision of Satellite Services to Users in the United States of America and the Republic of Argentina.* The purpose of the Agreement is to facilitate the provision of services to, from, and within the U. S. and Argentina via commercial satellites and to establish the conditions relating to the use in both countries of satellites licensed by the U. S. and Argentina.

The Agreement provides for the inclusion of a Protocol covering particular satellite services. The U. S. and Argentina concurrently signed the *Protocol Concerning the Transmission and Reception of Signals from Satellites for the Provision of Direct-to-Home Satellite Services and Fixed-Satellite Services in the United States of America and the Argentine Republic.* The Protocol addresses the provision of direct broadcast satellite (DBS), direct-to-home fixed satellite services (DTH-FSS), and other fixed-satellite services (FSS) to, from, and within the U. S. and Argentina. The Agreement and Protocol entered into force upon signature.

INTERNATIONAL SPECTRUM AND COMMUNICATIONS POLICY BRANCH

A. Overview

The International Spectrum and Communications Policy Branch (ISCPB), one of the branches of the Planning and Negotiations Division, plays a vital role in helping to shape the Commission's spectrum and communications policies and in advocating those positions at international meetings and conferences. The ISCPB is comprised of engineers, attorneys, and other professionals. The ISCPB coordinates the Commission's involvement in many international activities addressing a range of issues from the Internet to international spectrum allocations. The ISCPB's principal functions include: (1) overseeing the Commission's participation in the International Telecommunication Union (ITU); (2) managing the Commission's preparation for and participation in the World Radiocommunication Conferences (WRCs); and (3) drafting various rulemakings that relate to spectrum management and allocation issues. The Branch's work is becoming increasingly important as globalization adds complexity to international communications issues and as the demand for spectrum rises.

B. Executive Planning Secretariat

ISCPB leads the Executive Planning Secretariat (EPS) and staffs its operations. The EPS manages and oversees the Commission's ITU-related work, and it reports directly to the International Bureau Chief. The EPS ensures that information and positions related to the Commission's ITU activities are shared and coordinated within the International Bureau and, where appropriate, within the Commission. Attached is a chart illustrating the organizational structure of the EPS.

As one of its first major projects, the EPS developed a strategic vision for Commission participation in the ITU. The EPS identified seven major goals to serve as a framework to guide the FCC in developing positions on ITU issues:

- Promote Competition and Innovation
- Expand the Leadership Role of the United States
- Strengthen Relationships with other Governments and the ITU
- Improve Efficiency of ITU Administration
- Manage Scarce Communications Resources
- Encourage Telecommunications Development
- Serve the Public Interest

In addition, the EPS outlined several primary international issues that the Commission faces at the ITU in the areas of radiocommunications, telecommunications, standards, education, and development. Some of those issues are explained below, following a brief description of the ITU itself.

1. *The International Telecommunication Union*

The ITU is a specialized agency of the United Nations that deals with international telecommunications issues. With roots going back to 1865, the ITU today consists of 189 Member States and more than 650 Sector Members from industry and other organizations. The ITU addresses three main subject areas:

a. **The Radiocommunication Sector of the ITU (ITU-R)**: Coordinates technical studies, tests, and measurements being carried out in the various areas of radiocommunications and promotes international spectrum management.
b. **The Telecommunication Standardization Sector of the ITU (ITU-T)**: Promotes the efficient development of standards in all fields of telecommunications except radiocommunications.
c. **The Telecommunication Development Sector of the ITU (ITU-D)**: Provides telecommunications development assistance to developing countries.

While the United States Department of State leads U.S. delegations at the ITU, the State Department works closely with the Commission and the National Telecommunications and Information Administration.

2. The Radiocommunication Sector of the ITU (ITU-R)

The ITU-R handles many issues related to international spectrum allocations, and coordinates technical work related to terrestrial and satellite wireless systems. Although there are numerous ITU-R issues that the EPS is currently addressing, one continuing problem for which the EPS is actively engaged in finding a solution is the ITU-R backlog of satellite network filings. As of March 2001, the ITU had failed to act on 1,296 satellite network filings. This processing backlog has occurred for a number of reasons, including:

- complexity of ITU forms and database structure;
- the large number of filings from administrations between 1994 and 1998;
- technological advancements generating more complicated filings;
- new satellite spectrum allocated at WRCs;
- filings by administrations to preserve future options; and
- change in procedures and regulations

The U.S. supported an ITU Council-2001 decision to create a Satellite Backlog Action Group. The International Bureau will join other countries as well as the satellite industry in addressing the backlog issue in this group.

3. *The Telecommunication Standardization Sector of the ITU (ITU-T)*

The ITU-T serves the important function of promoting global interoperability and interconnection through consensus-driven standards development. Although industry leads much of the work of the ITU-T, the ISCPB has actively worked to improve the efficiency and effectiveness of the ITU-T. In Fall 2000, the ITU hosted the World Telecommunication Standardization Assembly in Montreal. Agreement was reached for an Alternative Approval Process, which has already improved the speed in approving standards recommendations. The ISCPB is also closely following several issues in the ITU-T that have major policy implications for the international communications marketplace. For example, the ISCPB has been working closely with experts throughout the Commission to develop international positions related to electronic numbering (ENUM) and Internet Protocol (IP) telephony.

4. *The Telecommunication Development Sector of the ITU (ITU-D)*

The ITU-D holds World Telecommunication Development Conferences (WTDC) every four years. The 2002 WTDC will address a number of issues aimed at helping to bridge the digital divide. The WTDC will also establish the work plan for the Telecommunication Development Bureau (BDT) and Study Groups to follow for the next four years. Commission staff anticipate that the following issues, among others, will arise at the WDTC:

- reform of ITU-D;
- results of the ITU-D Study Group work;
- results of the World Telecommunication Policy Forum (WTPF);
- the work of the "Group of Experts" on IP telephony;
- the G-8 "Dot Force" initiative;
- the role of the private sector in the ITU-D;
- the Global Regulators Symposium; and
- the Strategic Plan of the Sector.

The United States has worked closely with the ITU-D Director as it formulates proposals to make the ITU-D more effective for developing countries. For example, the FCC, in conjunction with the State Department and NTIA, is developing proposals to improve the efficiency and focus of the ITU-D Study Group process. The U.S. has also taken the view that the WTDC should focus on high-level issues, leaving more detailed administrative and substantive matters to the Telecommunications Development Advisory Group (TDAG) and the Development Sector.

5. World Telecommunications Policy Forum (WTPF) on IP Telephony

In March of 2001, ISCPB staff joined other Commission staff and U.S. Government representatives in participating at the World Telecommunications Policy Forum on Internet Protocol (IP) Telephony. The WTPF, which was established at an ITU

workshop on IP Telephony in Geneva in June 2000, provided a forum for representatives from approximately 150 nations to review the technological, economic, and policy implications of IP Telephony. A few ITU Member States hoped to use the WTPF to encourage regulation of IP-based networks or to apply the legacy settlement-rate regime to international Internet traffic through an International Charging Arrangement for Internet Services (ICAIS) system. The United States and other participants urged the adoption of a pro-competitive, deregulatory approach to the nascent IP Telephony market. The United States succeeded in achieving an output that promoted competition and stressed the benefits that new IP technologies offer.

C. World Radiocommunication Conferences

ISCPB leads the Commission's participation in the World Radiocommunication Conferences (WRCs), which are convened every two to three years to amend the international radio regulations. The two main reasons the U.S. participates in WRCs are: (1) to secure spectrum for new telecommunications services and (2) to protect incumbent telecommunications services from interference caused by other telecommunications services. No other meeting of the ITU has broader implications for U.S. terrestrial and satellite wireless industries and consumers.

In recognition of the extensive impact a WRC has on the U.S. telecommunications industry, the Commission commits significant resources to its WRC preparations. At WRC-2000, the Commission sent nine staff members to the Conference for the full four weeks of negotiations on the many agenda items under consideration. Other high-level Commission officials participated for briefer periods to help advance the U.S. position. WRC-2000 was a success for the U.S. The U.S. was able to build consensus with its colleagues from around the world and achieve its goals on a number of important issues, such as additional spectrum for 3rd Generation Wireless and sharing between non-geostationary satellite operators and incumbent geostationary satellite operators.

The U.S. has gone to great lengths to continuously improve its performance in the WRC context. The Commission already has started preparing for the next WRC to be held in Caracas, Venezuela, in 2003. The WRC-03 Industry Advisory Committee has held several meetings to consider the 39 items on the WRC-03 agenda. It has forwarded a number of preliminary views to the Commission for its consideration. Brian Fontes of Cingular Wireless and Jennifer Warren of Lockheed Martin serve as Chair and Vice Chair, respectively, of the Advisory Committee. ISCPB believes that an early start is important for the U.S. to succeed at WRC-03. To that end, ISCPB's WRC-03 Director has put in place mechanisms to help reach consensus on WRC-03 agenda items among the various Bureaus and Offices within the Commission. The Director has also worked closely with NTIA to reconcile differing Excecutive Branch and Commission views.

D. International Spectrum Rulemaking

In addition to managing the Commission's participation in ITU matters, ISCPB has been responsible for a number of rulemakings involving spectrum issues.

1. *FWCC/Onsat Notice of Proposed Rulemaking*

Over the past year, the Commission has engaged in a rulemaking proceeding that addressed three related requests involving satellite earth station licensing. These requests include the Onsat Petition for Rulemaking, Fixed Wireless Communications Coalition (FWCC) Petition for Rulemaking, and Hughes Network Systems (Hughes) *ex parte* filing in another Commission proceeding.

Onsat

On October 13, 2000, the Commission adopted an NPRM to address petitions filed by Onsat and the FWCC, as well as a request from Hughes. Onsat's petition sought to promote access to broadband, data, and other satellite telecommunications services in underserved, rural, and Native American areas of America by deploying a C-band satellite network under a single authorization, and with prior frequency coordination. On May 23, 2001, the Commission adopted a First Report and Order addressing the Onsat petition and promulgated rules that provide much needed relief in the implementation of satellite networks using small aperture antenna terminals in the C-band. The rule promulgated balanced the requirements of the terrestrial and satellite systems that extensively share this spectrum.

The Commission's Order amends Part 25 of the Commission's rules to permit, with prior coordination, the licensing of a limited class of small aperture terminal earth station networks in the C-band under a single authorization. This option is available only to operators whose applications identify no more than three discrete geostationary satellites to be accessed and a maximum of 20 megahertz of spectrum, in each direction of transmission for each of the satellites to be accessed. Among other things, these procedures require an applicant to complete frequency coordination for each individual earth station antenna, but will allow licensing for a system of coordinated technically-identical earth stations with simplified reporting to the Commission. In addition, where earth stations have been coordinated, the streamlined rules allow providers to operate on a conditional basis until final approval, facilitating deployment of systems and service to the public.

FWCC/Hughes

While the Onsat issues have been decided, the FWCC and Hughes petitions are still pending. The FWCC asked the Commission to examine ways to more equitably use spectrum in bands that are shared by the terrestrial fixed service (FS) and the fixed satellite service (FSS). In response, the Commission proposed in its NPRM a rule that sought to ensure that an FSS earth station licensee uses the spectrum within an

appropriate period of time after receiving a license, particularly when an FS applicant desires to use the same spectrum. The Commission also proposed to shorten the loading period for C-band and Ku-band FS licensees from 30 months to 24 months. Moreover, in all frequency bands where the FS and FSS share a primary service allocation, an FSS earth station or FS station licensee that accepts a particular interference analysis model to successfully coordinate its station would be required to accept use of the same model in subsequent coordinations. The Commission also asked a number of questions about the nature and extent of the FS and FSS sharing problem.

2. *18 GHz Report and Order*

On June 8, 2000, the Commission adopted the 18 GHz Report and Order (*18 GHz Order*), which adopted rules designed to permit more efficient use of the radio spectrum in the 17.7-20.2 GHz band (18 GHz band).[19] The 18 GHz band currently serves a variety of valuable communications needs and also has the potential to provide consumers with exciting new services in the future. Previously, the entire band was allocated on a shared basis for use by the terrestrial FS, FSS, and the Mobile Satellite Service (MSS). In the *18 GHz Order*, the Commission found that the public interest required separating terrestrial FS operations from ubiquitously deployed FSS earth stations into dedicated sub-bands.

Specifically, in the *18 GHz Order*, the Commission:

- adopted a band plan designating how the FS, GSO/FSS, NGSO/FSS, and MSS/FL licensees will share the band;
- established a "Legacy List" coordination process that requires GSO/FSS licensees to pay to alleviate any interference they cause to FS licensees in the 18.3-18.8 GHz band whose receivers point within two degrees of the geostationary arc;
- adopted rules regarding relocation of grandfathered terrestrial facilities operating in satellite-primary bands;
- authorized the blanket licensing of satellite Earth stations in the bands where FSS is the sole primary designation; and
- allocated the 17.3-17.7 GHz band to the Broadcasting-Satellite Service (BSS) and the 24.75-25.25 GHz band to the FSS for BSS feeder links.

The Commission received four petitions seeking reconsideration and/or clarification of certain of the Commission's decisions in the *18 GHz Order*, as well as several comments, oppositions, and replies in response. ISCPB is currently in the process of drafting an Order on Reconsideration addressing the issues raised in the petitions.

[19] Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Service Use, *Report and Order*, IB Docket No. 98-172, FCC Rcd (2000); Teledesic, LLC v. FCC, D.C. Cir. No. 00-1466 (filed Nov. 6, 2000).

3. *36.0-51.4 GHz Further Notice of Proposed Rulemaking*

The Commission adopted a Further Notice of Proposed Rulemaking that proposes to modify the band plan for the 36.0-51.4 GHz band. The proposed band plan reflects decisions reached at the 2000 World Radiocommunication Conference (WRC-2000) in Istanbul, Turkey. Specifically, the Commission proposes:

- to re-designate the 41.0-42.0 GHz band for satellite services and the 37.6-38.6 GHz band for wireless services; and
- to add a designation to the 40.5-41.0 GHz band for MSS.

The Commission proposes to adopt or consider several changes to the Table of Frequency Allocations, including the following:

(1) adding an FSS allocation in the 37.5-37.6 GHz band;
(2) shifting the MSS allocation from the 39.5-40.0 GHz band to the 40.5-41.0 GHz band;
(3) adding a primary Government FSS allocation to the 40.5-41.0 GHz band; adding a primary FSS allocation in the 41.0-42.0 GHz band; considering the addition of fixed and mobile for non-Government use to the 42.5-43.5 GHz band; and
(4) providing additional protection to Radio Astronomy in the 42.5-43.5 GHz band.

Finally, to provide satellite and terrestrial operators with greater certainty about the scope of operations in this band, the Commission proposed specific power flux-density (PFD) limits on satellite operations in portions of this band consistent with the results of WRC-2000 and sought comment on whether and how to adjust Part 101 rules to accommodate satellite Earth station licensees. The Commission sought comment on the general approach to the proposed domestic implementation of the U.S. achievements at WRC-2000 and on each of the proposals individually.

4. Proposal to Provide MSS Operators Flexibility in Delivery of Service

On August 9, 2001, the Commission adopted a Notice of Proposed Rulemaking, drafted in part by ISCPB, that proposes to permit operators of Mobile Satellite Service (MSS) systems in the 2 GHz band and the L-band to integrate terrestrial services with their networks. The Notice also seeks comments on whether to open up the 2 GHz band and L-band to operators other than MSS operators to provide services in conjunction with MSS operators or stand-alone services. The Notice also seeks comments on extending similar flexibility to operations in the 1.6/2.4 GHz band. The Notice was initiated in response to filings submitted by New ICO Global Communications (Holdings) Ltd. (ICO) and Motient Services Inc. (Motient). ICO and Motient are MSS licensees in the 2 GHz band and the L-band, respectively. ICO and Motient argue that by integrating terrestrial services with their networks, MSS operators would be able to reach a wider

customer base because they would be able to serve areas where their satellite signal would otherwise be too attenuated to provide service, namely inside buildings in urban areas.

VII. NOTIFICATIONS

A. Overview

The notification and coordination processes together provide U.S. radio communication stations with protection against harmful interference from foreign radio communication stations. To better understand the notification process, it is imperative to understand the differences between notifications and coordinations.

Notification: A data submission to other administrators or the ITU that is necessary to fulfill U.S. obligations under ITU treaties, other multilateral or regional agreements, and bilateral agreements with Canada and Mexico.

Coordination: Exchange of information among potentially affected administrations for the purpose of resolving interference issues.

The Notifications Branch of the International Bureau's Planning and Negotiations Division is responsible for performing all notifications required by bilateral, multilateral, and ITU treaties and agreements to which the U.S. is a signatory. While there are similarities in notification requirements among the various services and agreements, there are also many elements and procedures that differ between services. For example, completion of the ITU registration process for AM radio requires that applicable regional agreement provisions are completed before application of the procedures for recordation of frequency assignments in the ITU's Master International Frequency Register. Another specialized procedure is the Advanced Publication requirements for satellite systems. In certain space system services, Advanced Publications are an early step in the registration process and provide an advanced notice to other administrations that a particular satellite system is being planned. The ITU registration process facilitates coordination and planning of satellite systems early in the design process before rigid design decisions are finalized. Other unique procedures and recording requirements are discussed below in individual sections related to particular services.

B. Notification Services

The International Bureau's Planning and Negotiations Division performs all international notifications, including assignments of stations licensed by the FCC and those authorized by the NTIA. Until recently, the Division also preformed the International Telecommunications Satellite Organization (INTELSAT) notifications.[20]

[20] The FCC serves as a conduit for all notifications and coordinations, including those for government frequency assignments authorized by the NTIA and similar correspondence of INTELSAT. On July 19, 2001, Intelsat was privatized resulting in a change to the notification process. Intelsat satellite issues are now handled in the Satellite Radiocommunication Division of the International Bureau.

The Notifications Branch provides the following six notifications services:

1) All terrestrial frequency assignment notices to the ITU pursuant to Article S11 of the ITU Radio Regulations;

2) Notification and recording in the ITU Master International Frequency Register of Frequency Assignments of all U.S. terrestrial radiocommunication stations;

3) AM notifications to the ITU pursuant to the AM broadcasting under the 1975 LF/MF Agreement, the 1981 Rio Agreement, and the 1988 Rio Agreement;

4) Coordination and notification of satellite activities to individual countries and the ITU under Articles S9 and S11 of the ITU Radio Regulations;

5) Multilateral coordination of FCC licensed HF International Broadcasting stations pursuant to Article 17 of the ITU Radio Regulations; and

6) Notification of changes in the use of AM, FM, TV, multipoint distribution service (MDS), ITFS, aeronautical, and U.S. fixed land mobile frequencies with Mexico and Canada pursuant to bilateral agreements with each country.

Appendix F contains tables illustrating the overall volume of notifications fluctuations over the period from October 1995 to June 2001, and variations by service. Notifications for the period 1995 through the 3rd quarter 2001 totaled 234,146 with nearly half (109,577) processed through an automated system with Canada.

The Bureau also coordinated and submitted seasonal broadcasting schedules for twenty-two shortwave broadcasting licensees reflecting a total of 10,043 frequency hours for this reporting period. This volume illustrates the significant coordination activity associated with the numerous schedule changes inherent in this service.

By far the most labor-intensive notifications, however, are in the domestic broadcast services, particularly AM radio. Each notification, whether it is received from a foreign administration, appears in the ITU biweekly Terrestrial Radiocommunications Bureau International Frequency Information Circulars (BRIFIC), or if proposed by the U.S., requires complex engineering studies to determine possible interference.

No processing backlogs exist in the notifications area, despite the high number of notifications requiring evaluation. There are, however, cases where the FCC may not act on a pending application because of international constraints. For instance, cases that may not be specifically addressed under the terms of the pertinent bilateral Agreement,

such as FM-to-TV channel 6 interference or TV interference to cable operations, are negotiated on an individual basis. Other cases may involve applicants who specifically request special coordination of their proposals that do not strictly adhere to the terms of the current Agreement. Any disputed proposals are negotiated on a case-by-case basis. The Commission attempts to negotiate international Agreements to mirror as closely as possible our domestic standards. Because foreign Administrations have their own domestic priorities and standards for their stations and because the Commission's own standards may undergo rapid change, the bilateral Agreements the Commission has signed with our foreign counterparts often do not address all the technical issues from our perspective. Therefore, the Notifications Branch attempts to accommodate U.S. applicants as much as possible in their requests for coordination and special consideration through direct involvement in each case. There are thirty-nine AM applications that are pending due to delays experienced with the ITU registration process, pending Canadian notifications, or with the Mexican Verification Project.

C. Database and Automation Projects

The FCC is continually working to increase the efficiency and accuracy of the notifications process, by improving assignment databases and by coordinating with other administrations in the development of automated notifications processing systems as follows:

ITU Information	• A significant amount of information issued by the ITU is now accessed electronically by FCC staff, saving considerable resources. • Full utilization of this information was achieved by software configured by the staff of the Planning & Negotiations Division. The ITU information, which includes the International Frequency List, Space Radiocommunications Stations, and ITU-Radiocommunications (ITU-R) Recommendations, is available electronically in the FCC's Consolidated Public Reference Room. • The Notifications Branch manages the procurement and distribution of ITU publications for all offices of the FCC. These publications consist of the final acts of telecommunication conferences, lists of radio stations and satellite networks, operational bulletins, newsletters, weekly circulars, recommendations, handbooks, radio regulations, etc.
Software Implementation for ITU's TerRaSys Project	• The Radiocommunications Bureau of the ITU outlined its plans for modernizing its information systems in an ITU Circular Letter dated April 12, 1995. • **Modernizing Efforts**: The ITU expects to: 1) Improve services to administrations; 2) Facilitate the sharing of PC-based software and data with administrations and other users; 3) maximize flexibility; and 4) minimize the costs of implementing changes to the Radio Regulations, procedures, and enhancements in technology. • To achieve these objectives, the ITU has designed an entirely new

	information system called **the Terrestrial Radiocommunication System** (TerRaSys).[21]
ITU Space Services Automation	• Due to an increasing backlog in processing submissions for coordination and notification of assignments in the space services, the ITU developed an electronic notification form and additional software for distribution and analysis of electronic publications. • The Notifications Branch staff and other government agencies analyzed beta versions of the electronic form software and submitted comments and suggestions to the ITU. • The electronic form and space weekly circular are now available on CD and accessible to employees on the FCC's network.
HF Coordination	• In 1995, coordination information concerning U.S. shortwave radio licensees was placed on the Internet at the FCC's World Wide Web site. • Due to the frequency with which HF assignments are changed and the complexity of the coordinations for this service, immediate access to relevant information over the Internet provides significant advantages to licensees and the public.[22]
AM, FM & TV Broadcasting	• The most significant broadcast database project involving Mexico concerns the AM radio service. • In 1995, the U.S. and Mexico agreed to procedures and a timetable for verification of 3,480 Mexican and 10,046 U.S. AM assignment records in an updated database. • Although the work associated with the AM database verification has been more complex and time consuming than initially anticipated, substantial progress is being made by both Mexico and the United States. • When completed, the database will remove longstanding uncertainties that have affected existing and prospective AM broadcasters in the U.S. • The Notifications Branch maintains a tracking system of all FM and TV proposals that are coordinated with Canada, Mexico, and the ITU. • This system allows the branch to track the status of all pending proposals. • It also provides a historical reference that assists in confirming and resolving cases in which U.S. FM and TV licensees may encounter interference. • The Branch also conducts periodic database exchanges with Canada and Mexico in order to verify data and ensure accuracy, since erroneous or obsolete database records often preclude the placement of new FM and TV stations.

[21] The TerRaSys project has been a long-term project, spanning a period of several years and is now operational for all but a few remaining terrestrial services. The conversion to TerRaSys has required changes in the formats of notifications, both paper and electronic. The Notifications Branch has been involved since its inception and will continue to work on the project until all work is completed for all terrestrial services.

[22] *See* FCC Public Notice, dated October 27, 1995, concerning the placement of HF Coordination on the Internet, at Appendix E.

The U.S. has conducted extensive discussions with Mexico concerning a shared mutual interest in having more accurate and electronically accessible information on each country's non-broadcast frequency allocation and station assignments. However, no database or automation projects with Mexico currently exist for non-broadcast services.

D. Bilateral Non-Broadcast Coordinations

Mexico

Microwave coordinations are processed manually in Mexico. The decreased number of coordinations with Mexico reflects Mexico's use of auctions in microwave bands that have previously been used for transborder links. Currently, Mexico does not permit authorization of transborder links except for companies providing long distance telephone services.

Total Number of Transborder Microwave Coordinations with Mexico	
Fiscal Year 1995	347
Fiscal Year 1996	1022
Fiscal Year 1997	241
Fiscal Year 1998	17
Fiscal Year 1999	2
Fiscal Year 2000	24
Fiscal Year 2001[23]	20

Canada

The most significant non-broadcast automation project with Canada is the coordination serial number (COSER) system for coordination of frequency assignments of stations operating above 30 MHz. By treaty, technical parameters of such stations within the border zone must be exchanged before licensing and operation. The FCC and Industry Canada maintain databases concerning U.S. and Canadian licensed operations, respectively. Each country can access the other country's database automatically. Maintenance of the U.S. database involves several different offices within the FCC.

[23] Fiscal Year 2001 figures represent the first three-quarters of Fiscal Year 2001.

Technical meetings between participating FCC offices and Canadian counterparts are held approximately every other year to clear database problems and review procedures.

Total Number of Automated COSER System Coordinations with Canada	
Fiscal Year 1995	16, 591
Fiscal Year 1996	15, 603
Fiscal Year 1997	12,295
Fiscal Year 1998	12,852
Fiscal Year 1999	13,823
Fiscal Year 2000	15, 530
Fiscal Year 2001[24]	13, 596

E. Broadcast Services - Notifications

AM Broadcasting

AM Notifications for Canada & Mexico

The Notifications Branch conducts all engineering studies required in connection with U.S. AM notifications to Canada and Mexico and evaluations of all notifications received from those administrations. The studies involve technical and legal aspects of the proposals. Separate interference studies are necessary for day and night operations of stations in the AM band. Daytime studies require groundwave analysis of co-channel and three upper and lower adjacent channel frequencies. Night studies require complex analysis of the cumulative effects of multiple nighttime stations utilizing the root-sum-square (RSS) method. Also, for night studies involving U.S. Class A stations, an analysis must be performed to ensure that the nighttime 0.5 mV/m - 50% nighttime skywave contour is adequately protected. Further, on certain frequencies, protection during critical hours (the transitional time near sunrise and sunset) must be analyzed.

After review of the notifications, the staff prepares detailed written comments and engineering reports on the acceptability or unacceptability of all Canadian and Mexican

[24] This figure represents the first three-quarters of Fiscal Year 2001.

AM notifications. These reports form the basis for the future acceptability of all Canadian and Mexican proposals as well as related U.S. AM station proposals.

Total Number of AM Notifications for Canada and Mexico	
1995	1561
1996	1642
1997	1031
1998	1100
1999	1216
2000	432
2001[25]	501

The sharp decrease in the total number of AM Notifications for Canada and Mexico in 2000 was due to a computer system conversion in preparation for Y2K. Now that the computer conversion is finalized, the 2001 totals are expected to be on par with 1999 numbers.

ITU-AM Registrations

The ITU registration process for AM facilities has two separate components:

First, to ensure protection to United States AM facilities, the ITU must be properly notified of U.S. stations' parameters. Proper notifications involve a multi-step process in which stations notify the ITU in accordance with the framework of the applicable Plan Agreement, either the 1981 Rio Agreement or the 1975 LF/MF Agreement, and then follow-up with proper Article S11 notification for inclusion in the ITU's International Frequency List (IFL). Completion of this process entitles the U.S. station to protection from potential interference from any station worldwide.

Second, continual comprehensive engineering review of the ITU's BRIFIC and its applicable associated Special Sections (RJ81 and GE75) must be done in order to ascertain if any recently published foreign proposed facilities would cause impermissible interference to United States stations. These engineering studies often require technical analysis to determine whether adequate protection is being provided to U.S. stations. Additionally, Article S11 studies may involve analyses utilizing the procedures contained in IFRB Circular-letter No. 662, IFRB Rules of Procedure for the Assignments of the Broadcasting Service in the Band 525 - 1606.5 kHz, otherwise known as the "Finding Diagram" method.

After completing the studies, detailed finding reports are prepared that document the results of the studies and serve as an historical reference for future studies.

[25] This figure represents the first three-quarters of Fiscal Year 2001.

Depending upon the results of the engineering analysis, any necessary correspondence is prepared and sent to the ITU or the applicable foreign administration.

Total Number of ITU AM Registrations	
1995	896
1996	993
1997	1078
1998	1510
1999	1078
2000	817
2001[26]	848

The total number of ITU AM Registrations dipped slightly in the year 2000 because the ITU was in the process of converting its computer systems.

FM Broadcasting

Canada and Mexico Agreements

The potential for interference from FM signals generally extends for a few hundred kilometers. For this reason, it is necessary only to coordinate most U.S. FM stations with Canada and Mexico and only within a specified distance on either side of the respective border. The U.S. and Canada signed an agreement for the allotment and use of FM (88-108 MHz) channels in the U.S./Canada border area in 1947. The U.S. signed a similar agreement with Mexico in 1972. Significant changes to FCC rules have been made since the signing of these agreements. For this reason, both countries negotiated to update provisions relative to domestic rules and develop improved technical standards and procedures to more effectively deal with border area congestion. Canada signed a new agreement in 1991; Mexico in 1992. Each agreement includes tables of allotments and technical standards for the Administrations to consider new allotments and assignments within 320 km of their respective borders (*See* U.S./Canadian Border Coordination Map).

FM Notifications to Canada, Mexico and ITU

FM allotments and assignments are notified and evaluated under the pertinent bilateral agreement or international treaty. The Planning and Negotiations Division staff performs engineering evaluations on all U.S. and foreign proposals to ensure acceptability under the technical criteria specified in each agreement. After a review of each proposal, the staff coordinates each U.S. proposal or responds to each foreign proposal through a standard notification letter. FM notifications in Puerto Rico, the

[26] This figure represents the first three-quarters of Fiscal Year 2001.

Virgin Islands, and America Samoa are sent to the ITU for coordination. These evaluations are made according to ITU-R technical criteria.

Each agreement sets forth specific time frames within which to respond to an international referral. If the FCC does not respond to the referral within this time frame, the foreign administration may then classify the proposal as acceptable, regardless of its actual potential for causing interference.

Foreign administrations often submit station referrals in large batches, which frequently contain technical errors. The resolution of these discrepancies often involves direct correspondence (written and/or by telephone) with foreign counterparts. The FCC prefers to coordinate FM stations on a case-by-case basis rather than by group referrals, thus decreasing the amount of time an applicant must wait before the station can commence operation.

Total Number of FM Notifications Processed	
1999	997
2000	974
2001[27]	600

TV Broadcasting

Canada and Mexico Agreements

The U.S. and Canada established working arrangements for the allotment and use of VHF (54-72 MHz, 76-88 MHz and 174-216 MHz) and UHF (470-806 MHz) television channels in the Television Agreement of 1952. A revised agreement, signed in 1994, combined the two working arrangements and revised LPTV technical standards. The Agreement of 1994 includes tables of allotments and technical standards for both administrations to consider new allotments and assignments within 400 kilometers of the border and contains technical criteria for the coordination of LPTV stations (*See* U.S./Canadian Border Coordination Map). A Letter of Understanding between the U.S. and Canada regarding the use of Digital Television Broadcast Services within 400 km of the common border was signed in September 2000.

Similar agreements are in effect with Mexico. The VHF Television Agreement of 1962 covers the allotment and use of VHF channels within 400 km of the border, while the UHF Television Agreement of 1958, modified in 1982, covers UHF allotments within 320 km of the border. Modifications to both agreements were made in 1988, which provided coordination of LPTV stations (see U.S./Mexican Border Coordination Map). A Memorandum of Understanding, signed in July 1998, currently governs the use of Digital Broadcasting Services within 275 km of the U.S.-Mexico common border.

[27] This figure represents the first three-quarters of Fiscal Year 2001.

TV Notifications to Canada, Mexico and the ITU (including low power TV and digital TV)

When necessary, the FCC notifies and evaluates television allotments and assignments under the pertinent bilateral agreement or international treaty. Notifications Branch staff conducts engineering evaluations on all U.S. and foreign proposals to ensure acceptability under the technical criteria specified in each agreement. Bilateral engineering evaluations are based on separation standards and contour overlap. Stations which do not meet the separation standards are classified as short-spaced and are evaluated by contour overlap. With regard to Canadian agreements, interference from a new station to an existing station is permissible as long as the interference zone occurs over water or within the land areas of the administration proposing the new station.

The CURVES computer program conducts overlap studies by calculating field strength contours based on effective radiated power (ERP) and height above average terrain (HAAT), and then by entering these contour values into a plotting program to examine where the overlap occurs geographically. U.S. and foreign directional antenna patterns for short-spaced stations are extrapolated from graphs listing the relative field of the station. Based on this relative field strength and the maximum ERP, the interference contours are calculated and plotted along the relevant azimuths in order to ensure that a station's actual operating parameters do not produce interference.

It is possible that a DTV proposal will cause predicted overlap in excess of that which may have been previously agreed to, as determined by using standard HAAT values and the Commission's curves. When this occurs, a more detailed analysis to determine the extent of the possible interference is performed using the Longley-Rice propagation model. Cases are resolved through direct negotiation with Canada or Mexico.

Low Power Television (LPTV) assignments, including class A LPTVs are coordinated under the existing National Television Standards Committee (NTSC) and DTV agreements. Class A LPTVs are considered secondary operations with regard to international protection from Mexico. They are, however, coordinated with Canada as full-service operations provided that they abide by the terms of the current NTSC Agreement and DTV LOU.

To date, Canada and Mexico have coordinated 793 U.S. DTV station applications. This figure excludes individual stations, but includes any station modification that required prior coordination. Any DTV or analog TV station that increases its level of radiation in the direction of Canada or Mexico requires prior approval from the foreign Administration before it can initiate the change. With regard to individual allotments, Canada has approved 522 U.S. DTV allotments and Mexico has approved 115 U.S. DTV allotments. While the Commission has approved a plan of allotments for Canada (1029 Canada DTV allotments) and Mexico (122 Mexico DTV allotments), neither country has

begun coordination on a large scale. Canada has coordinated only one station proposal and Mexico has coordinated only two station proposals for actual DTV operations.

ITU FM and TV calculations involve criteria specified in ITU-R Recommendations and Reports. When evaluating a station, factors such as terrain profile and propagation characteristics (*i.e.,* over land or water) are considered when calculating whether or not harmful interference is produced.

After a review of each proposal, the Notifications Branch staff coordinates each U.S. proposal or responds to each foreign proposal through a standard notification letter. TV notifications in Puerto Rico, the Virgin Islands, and America Samoa are sent to the ITU for coordination. These evaluations are done according to ITU-R technical criteria.

The total number of TV[28] notifications processed in Fiscal Year 1999 was 291. For 2000, the total was 460. For the first three-quarters of Fiscal Year 2001, the total number of TV notifications was 530.

F. International Notifications

Frequency Assignments for the Fixed and Mobile Services

The international notification of frequency assignments of stations capable of causing harmful interference to the stations of other countries greatly enhances frequency management by reducing the likelihood of harmful interference, providing a useful basis for resolving interference cases when they occur, and reducing potential economic losses that could run into the millions of dollars. The notified services include land stations communicating with aircraft, ships, and land vehicles. The notification process is essential in providing interference-free use of frequencies for public safety.

Total Number of Fixed and Mobile Notices Sent to the ITU for Mobile Services	
1997	1089
1998	322
1999	90
2000	2396
2001[29]	1025

The total number of fixed and mobile notices sent to the ITU for mobile services was substantially lower in 1999 because the ITU was converting its computer systems. Once the computer conversion was completed, the totals rose dramatically in 2000.

[28] This total does not include DTV.

[29] This figure represents the first three-quarters of Fiscal Year 2001.

HF International Broadcasting Notifications

As required by Article S12, the FCC must coordinate operational frequency used for its HF licensees and notification to the ITU.

Total Number of HF Frequency Hours Submitted	
1997	4035
1998	4078
1999	4175
2000	4223
2001	3191

Satellite Systems

The International Bureau's Satellite and Radiocommunication Division performs detailed international coordination of satellite space systems not covered in this report. The Planning and Negotiations Division does, however, exchange all messages for administration-to-administration satellite coordination and transmit notifications, including those for satellite systems, required under international regulations and treaties.

The Notifications Branch serves as the single U.S. contact point for matters involving notifications and coordinations for space service systems. Notifications and coordinations for U.S. non-government, including Intelsat, and government systems are transmitted to the ITU and foreign administrations.[30] The Notifications Branch maintains a database of transmittals as well as the current postal and telefax addresses for these foreign destinations.

Incoming correspondence, coordination requests, and data are distributed by the Notifications Branch to each of the U.S. sectors (the IRAC's Space Systems Subcommittee (SSS) and the FCC's Satellite Engineering Branch (SEB)), as appropriate. Since January 2000, the Notifications Branch has maintained a collection of CD-ROMS that contain the special sections of the ITU's Bi-Weekly International Frequency Information Circular (BR IFIC). These CD-ROMS contain published data on U.S. and foreign satellites networks and are available to the public.[31] Prior to the CD-ROMS, all the information from ITU special sections was in paper format for distribution.

The Notifications Branch creates and maintains a file for every domestic and foreign space network published by the ITU or for which information is provided to the

[30] This function is carried out for the Commission and government agencies under the aegis of the Space Systems Subcommittee (SSS), a permanent sub-committee of the IRAC.

[31] Approximately 40 CD-roms have been distributed within the Commission since the 1999 Report.

U.S. by a foreign administration. These files include all related publications from the ITU and correspondence to and from the ITU and foreign administrations.

The Branch's staff consults with the SEB and government agencies on the satellite-related procedures in the ITU Radio Regulations. In this capacity, the staff represents the FCC at monthly meetings of IRAC's Space Systems Subcommittee (SSS) that regulates government space systems.

From July 1999 through June 2001, the Notifications Branch received and distributed 5,667 incoming messages originating with the ITU and other administrations. During the same period, the Branch transmitted 2,881 outgoing messages to foreign points. The Branch reviewed or commented on 16,562 items for the SSG consideration. Due to the non-responsiveness of some foreign Administrations, representatives of the SSG and SEB requested that the Branch transmit follow up messages in order to solicit responses. The Branch also transmitted the following number of items to the ITU and other countries:

Total Number of ITU/Space Items (1999-2001)	
Advance Publications of Planned Satellite Networks	77
Coordination Requests required by Article 11, Article 14, and Resolution 46 of the International Radio Regulations	236
Notifications of Satellite Networks Frequency Assignments for Registration in the ITU's Master Register	86
Total	399

The Notifications Branch continually works toward streamlining the process of notifications and correspondence to the ITU by utilizing electronic formats and e-mail.

APPENDIX A

Agreements Categorized by Frequency

Canadian Frequencies

Frequency Bands Subject to
U.S./ Canada Bilateral Agreements, Arrangements and Letters

Frequency Band (MHz)		Title	Signing Date	Effective Date	Coordination Distance/ Allocation Principle	Purpose	Requisite Bilateral Data Exchange
Low	High						
0.535 (535 kHz)	1.605 (1605 kHz)	AM Radio Broadcasting Agreement	17-Jan-84	17-Jan-84	Entire Country/Equal Access	Coordinate AM assignments to avoid interference.	Notification is on a case by case basis. Data reviewed every 5-year period.
1.605 (1605 kHz)	1.705 (1705 kHz)	AM Radio Interim Working Arrangement	28-Feb-91	28-Feb-91	500 km on either side of the common border/ Reciprocal Access.	Coordinate AM expanded band assignments in the border area to avoid interference.	Notification is on a case by case basis. No periodic review required at this time.
30.000	and above	Above 30 MHz Agreement	24-Oct-62	24-Oct-62 24-Jun-65 (amended)	Distance can vary depending on band and Arrangement. Generally, Lines A & B used.	Coordination and use of non-broadcast and non-satellite spectrum allocations. All arrangements and letters listed below for applicable services are associated with and subject to this framework document.	As required by pertinent arrangement associated with Agreement.
54.000	72.000	Covered under UHF and VHF TV Broadcasting Agreement Digital TV	3-Nov-93 22-Sep-00	5-Jan-94 22-Sep-00	400 km on either side of the common border/ Equal Access 400 km on either side of the common border/Allotment Plan	Coordinate TV broadcasting service assignments in the border area to avoid interference.	Notification is on a case by case basis. At the end of each calendar quarter, Administrations shall exchange a list of all accepted notifications made during that three-month period. Each year both Administrations shall exchange, verify, and reconcile the complete notifications in that year period.
76.000	88.000	Covered under UHF and VHF TV Broadcasting Agreement Digital TV	3-Nov-93 22-Sep-00	5-Jan-94 22-Sep-00	400 km on either side of the common border/ Equal Access. 400 km on either side of the common border/Allotment Plan	Coordinate TV broadcasting service assignments in the border area to avoid interference.	At the end of each calendar quarter, Administrations shall exchange a list of all accepted notifications made during that three-month period. Each year both Administrations shall exchange, verify, and reconcile the complete notifications in that year.
88.000	108.000	FM Broadcasting Agreement	26-Nov-90	25-Feb-91 9-July-97 (amended)	320 km on either side of the common border/ Equal Access.	Coordinate FM allotments and assignments in the border area.	At the end of each calendar quarter, Administrations shall exchange a list of all accepted notifications made during that three-month period. Each year both Administrations shall exchange, verify, and reconcile the complete notifications in that year period.
136.500	137.000	Aeronautical Mobile (R) Service Arrangement	1-Nov-91	15-Jan-92	From 50 to 600 nautical miles depending on the type of station.	Assigns priority channel use for the band with appropriate conditional requirements.	Arrangement subject to review after 15-Jan-97.
174.000	216.000	Covered under UHF and VHF TV Broadcasting Agreement Digital TV	3-Nov-93 22-Sep-00	5-Jan-94 22-Sep-00	400 km on either side of the common border/ Equal Access. 400 km on either side of the common border/ Allotment Plan.	Coordinate TV broadcasting service assignments in the border area to avoid interference.	Notification is on a case by case basis. At the end of each calendar quarter, Administrations shall exchange a list of all accepted notifications made during that three-month period. Each year both Administrations shall exchange, verify, and reconcile the complete notifications in that year.

Frequency Bands Subject to
U.S./ Canada Bilateral Agreements, Arrangements and Letters

Frequency Band (MHz)		Title	Signing Date	Effective Date	Coordination Distance/ Allocation Principle	Purpose	Requisite Bilateral Data Exchange
Low	High						
220.000	222.000	Interim Sharing Sharing Arrangement on Use of 220-222 MHz band.	21-Dec-99	21-Dec-99	120 km on either side of the common border.	200 channel pairs allotted for primary use by U.S. or Canada, or shared use.	No periodic data exchange required.
454.000	459.000	UHF Public Air/Ground Radio Channel Assignment Letters	24-Jun-71	24-Jun-71	966 km on either side of the common border/ 12 paired channels.	Max ERP 100 watts for U.S. stations and 40 watts for Canadian stations.	No periodic data exchange required.
470.000	806.000	Covered under UHF and VHF TV Broadcasting Agreement Digital TV	3-Nov-93 22-Sep-00	5-Jan-94 22-Sep-00	400 km on either side of the common border/ Equal Access. 400 km on either side of the common border/Allotment Plan.	Coordinate TV broadcasting service assignments in the border area to avoid interference.	Notification is on a case by case basis. At the end of each calendar quarter, Administrations shall exchange a list of all accepted notifications made during that three-month period. Each year both Administrations shall exchange, verify, and reconcile the complete notifications in that year period.
806.000	890.000	Land Mobile Radio Services Arrangement	7-Apr-82	7-Apr-82	For the Bands 806-821 and 851-866 MHz: 140 km on either side of the common border/ Equal Access except in the specific sharing zones and protected zones. The primary channel rules apply based on the channel location. Bands 821-851 and 866-890 MHz Equal Access/ specific usage criteria deferred.	Within each zone area, the Agencies may use their allotted portions of spectrum subject to the ERP and EAH limits as specified in the Annex A.	No periodic review of data required.
806.000	890.000	Land Mobile - Canadian Use Letters (Special Coordination)	11-Apr-86	11-Apr-86	140 km on either side of the common border/ Private use for six channels.	U.S. use on six frequencies originally allocated to Canada, east of 81 degrees longitude. Max ERP 125 watts for the base stations.	No periodic review of data required.
806.000	890.000	Land Mobile - Sharing Letters (Special Coordination)	15-Oct-86	27-Jan-87	140 km on either side of the common border/ Special request.	Canadian request for using U.S. sharing zone frequency. Request granted as secondary, non-interference base to existing and future U.S. assignments.	No periodic review of data required.
821.000	824.000	Land Mobile Services Interim Arrangement	17-Sep-90	17-Sep-90	140 km on either side of the common border/Channel divided by three sharing zones, two protection zones, and special sharing zones with agreed unequal division.	Unrestricted use allowed on Administration's primary channels; secondary use allowed on other Administration's channels if pfd of 107 dBW/m2 is not exceed at the border.	No data exchange required.

Frequency Bands Subject to
U.S./ Canada Bilateral Agreements, Arrangements and Letters

Frequency Band (MHz)		Title	Signing Date	Effective Date	Coordination Distance/ Allocation Principle	Purpose	Requisite Bilateral Data Exchange
Low	High						
821.000	851.000	Coordination of Cellular Systems Letters of Understanding	12-Jun-85	12-Jun-85	Equal Access on all channels Coordination among operators Notification of private operator arrangements to FCC and IC. Cell sites within 72 km of border require notification.	Except for agreement between Agencies 35 dBuV/m is not to extend beyond borde	Interoperator arrangements require notification. Cell sites within 72 km of border are notified. No scheduled review of databases mandated.
824.000	825.000	Cellular Radio Systems (Addition to 12-Jun-85 L.O.U.)	8-Jan-90	8-Jan-90	72 km on either side of the common border/ Equal Access.	Licensees to make adjustments to eliminate interference to other operations services.	Administrations required to provide technical data on systems within border zone. Notification is on a case by case basis. No scheduled review of databases mandated.
845.000	849.000	Cellular Radio Systems (Addition to 12-Jun-85 L.O.U.)	8-Jan-90	8-Jan-90	72 km on either side of the common border/ Equal Access.	Licensees to make adjustments to eliminate interference to other operations services.	Administrations required to provide technical data on systems within border zone. Notification is on a case by case basis. No scheduled review of databases mandated.
849.000	851.000	Air/Ground Radio Interim Arrangement	28-Aug-92	31-Aug-92	885 km on either side of the common border/Channels divided into 10 blocks as specific in the Appendix A. Fully available to both countries.	Max ERP 30 watts (air). 100 watts (ground); low power 1 watt ERP and ground station for radio service to aircraft on the ground has 480 km coordination distance.	Sites not already specified require individual coordination. No regular update schedule specified.
866.000	890.000	Coordination of Cellular Systems Letters of Understanding	12-Jun-85	12-Jun-85	Equal Access on all channels Coordination among operators Notification of private operator arrangements to FCC and IC. Cell sites within 72 km of border require notification.	Except for agreement between Agencies 35 dBuV/m is not to extend beyond borde	Interoperator arrangements require notification. Cell sites within 72 km of border are notified. No scheduled review of databases mandated.
866.000	869.000	Land Mobile Services Interim Arrangement	17-Sep-90	17-Sep-90	140 km on either side of the common border/Channel divided by three sharing zones, two protection zones, and special sharing zones with agreed unequal division.	Unrestricted use allowed on Administration's primary channels; secondary use allowed on other Administration's channels if pfd of 107 dBW/m2 is not exceed at the border.	No data exchange required.
869.000	870.000	Cellular Radio Systems (Addition to 12-Jun-85 L.O.U.)	8-Jan-90	8-Jan-90	72 km on either side of the common border/ Equal Access.	Licensees to make adjustments to eliminate interference to other operations services.	Administrations required to provide technical data on systems within border zone. Notification is on a case by case basis. No scheduled review of databases mandated.
890.000	894.000	Cellular Radio Systems (Addition to 12-Jun-85 L.O.U.)	8-Jan-90	8-Jan-90	72 km on either side of the common border/ Equal Access.	Licensees to make adjustments to eliminate interference to other operations services.	Administrations required to provide technical data on systems within border zone. Notification is on a case by case basis. No scheduled review of databases mandated.

Frequency Bands Subject to
U.S./ Canada Bilateral Agreements, Arrangements and Letters

Frequency Band (MHz)		Title	Signing Date	Effective Date	Coordination Distance/ Allocation Principle	Purpose	Requisite Bilateral Data Exchange
Low	High						
894.000	896.000	Air/Ground Radio Interim Arrangement	28-Aug-92	31-Aug-92	885 km on either side of the common border/Channels divided into 10 blocks as specific in the Appendix A. Fully available to both countries.	Max ERP 30 watts (air). 100 watts (ground); low power 1 watt ERP and ground station for radio service to aircraft on the ground has 480 km coordination distance.	Sites not already specified require individual coordination. No regular update schedule specified.
896.000	901.000	Land Mobile Services Interim Arrangement	15-Aug-90	17-Sep-90	140 km on either side of the common border/ Channel divided by specific sharing zone and protection zone arrangements outside of the designated Advanced Train Control System (ATCS) channels.	Arrange sharing plans to adjust particular demographic circumstances for land mobile services to avoid interference.	Notification is on a case by case basis. Each Administration shall exchange assigned frequencies every three months.
901.000	902.000	Narrowband PCS - Interim Arrangement	22-Sep-94	22-Sep-94	120 km on either side of the common border/ a priori 50% -50% channel division: 24 channels for each country, 30 paired channels and 18 unpaired channels.	All stations are limited to 7 watts ERP.	No data exchange required
928.000	929.000	Point-to-Multipoint Services Interim Arrangement	7-Aug-91	2-Sep-91	145 km separation to existing master stations. Frequency divided into three groups and with primary assignment rules.	Allotment plan for equitable distribution of channels; unprotected use of other Administration's channels allowed if pfd of -100 dBw/m2 is not exceeded at the border.	No data exchange required.
929.000	930.000	Paging - Interim Arrangement	14-Sep-83 (amended)	14-Sep-83 (amended)	Lines A & B use restrictions at common border/ A priori channel divisions.	Adminstrations have full use of their allotted channels. Special coordinations performed for operators with cross border partners to permit use of other Admin's channel.	No requirement for periodic updated data exchange.
930.000	931.000	Narrowband PCS - Interim Arrangement	22-Sep-94	22-Sep-94	120 km on either side of the common border/ a priori 50% -50% channel division: 24 channels for each country, 30 paired channels and 18 unpaired channels.	Base stations are limited to 3,500 watts ERP Mobile stateions are limited to 7 watts ERP.	No requirement for periodic updated data exchange.
931.000	932.000	Paging - Interim Arrangement	14-Sep-83 (amended)	14-Sep-83 (amended)	Lines A & B restrictions at common border/ A priori channel divisions.	Adminstrations have full use of their allotted channels. Special coordinations performed for operators with cross border partners to permit use of other Admin's channel.	No requirement for periodic updated data exchange.

Frequency Bands Subject to
U.S./ Canada Bilateral Agreements, Arrangements and Letters

Frequency Band (MHz)		Title	Signing Date	Effective Date	Coordination Distance/ Allocation Principle	Purpose	Requisite Bilateral Data Exchange
Low	High						
932.000	935.000	Point-to-point and Point-to-Multipoint Fixed Services Interim Arrangement	19-Sep-94	19-Sep-94	932.5-935 MHz/ Equal Access. using terms of Arrangement A 932-932.5 MHz a priori channel division for point to multipoint.	Unrestricted use allowed on Administration's primary channels; unprotected use allowed on other Administration's channels if pfd of -100 dBW/m2 is not exceeded at the border (for 932-932.5 MHz segment).	No requirement for periodic updated data exchange.
935.000	940.000	Land Mobile Services Interim Arrangement	15-Aug-90	17-Sep-90	140 km on either side of the common border/ Channel divided by specific sharing sectors and sharing and protection zone ERP & EAH limits. Also protection to designated Advanced Train Control System (ATCS) channels.	Flexible sharing plans to adjust particular demographic circumstances for land mobile services to avoid interference.	Notification is on a case by case basis. Each Administration shall exchange assigned frequencies every three months.
940.000	941.000	Narrowband PCS - Interim Arrangement	22-Sep-94	22-Sep-94	120 km on either side of the common border/ a priori 50% -50% channel division: 24 channels for each country, 30 paired channels and 18 unpaired channels.	Base stations are limited to 3,500 watts ERP Mobile stations are limited to 7 watts ERP.	No requirement for periodic updated data exchange.
941.000	944.000	Point-to-Point Point-to-Multipoint Fixed Services Interim Arrangement	19-Sep-94	19-Sep-94	941.5-944 MHz/ Equal Access. using terms of Arrangement A/ 941-941.5 MHz a priori channel division for point to multipoint.	Unrestricted use allowed on Administration's primary channels; unprotected use allowed on other Administration's channels if pfd of -100 dBW/m2 is not exceeded at the border (for 941-941.5 MHz segment).	No requirement for periodic updated data exchange.
952.000	953.000	Point-to-Multipoint Services Interim Arrangement	7-Aug-91	2-Sep-91	145 km separation to existing master stations. Frequency divided into three groups and with primary assignment rules.	Allotment plan for equitable distribution of channels; unprotected use of other Administration's channels allowed if pfd of -100 dBw/m2 is not exceeded at the border.	No requirement for periodic updated data exchange.
1850.000 (1.85 GHz)	1990.000 (2 GHz)	Broadband PCS - Interim Arrangement	14-Nov-94	14-Nov-94	120 km on either side of the common border/ Equal Access.	Coordinate all PCS vis a vis any existing fixed microwave operators. PCS operators to reach mutually acceptable cross border operating conditions with each other.	Due to its early stage, 2 GHz PCS operation has only begun to operate in either country, this arrangement to be reviewed in the near future to assess the need for further adjustment to the arrangement.
2500.000 (2.5 GHz)	2686.000 (2.686 GHz)	Multipoint Distribution Services Interim Arrangement	23-Mar-89	23-Mar-89	80 km on either side of the common border/ Access 31 channels by both administrations.	Comply with technical requirements to skip coordination step. Only notification of the use of the assignment is required. Detailed technical parameters are listed in the arrangement.	Data to be reviewed in every 2 years.

Frequency Bands Subject to
U.S./ Canada Bilateral Agreements, Arrangements and Letters

Frequency Band (MHz)		Title	Signing Date	Effective Date	Coordination Distance/ Allocation Principle	Purpose	Requisite Bilateral Data Exchange
Low	High						
17700.000 (17.7 GHz)	17800.000 (17.8 GHz)	Fixed Services/ BSS	29-Feb-92	29-Feb-92	Entire country/Equal Access.	Maximum aggregated power flux density is -109 dBW/m2 at the border. The BSS will not be implemented before 1/1/2007, except by mutual agreement.	No data exchange required at this time.
17700.000 (17.7 GHz)	19700.000 (19.7 GHz)	Fixed and Mobile Stations Interim Arrange-ment.	8-Jul-95	8-Jul-95	55 km on either side of the common border/ Equal Access.	Coordinate prior to licensing stations in the fixed and mobile services.	Notification is on a case by case basis.
21200.000 (21.2 GHz)	23600.000 (23.6 GHz)	Fixed and Mobile Stations Interim Arrange-ment.	8-Jul-95	8-Jul-95	55 km on either side of the common border/ Equal Access.	Coordinate prior to licensing stations in the fixed and mobile services.	Notification is on a case by case basis.
24250.000 (24.25 GHz) 25050.000 (25.05 GHz)	24450.000 (24.45 GHz) 25250.000 (25.25 GHz)	Broadband Services	21-Dec-99	21-Dec-99	pfd levels at the border, licensees can develop their own sharing arrangements.	Provides for coordination between licensees.	No data exchange required.
27350.000 (27.35 GHz) 29100.000 (29.10 GHz) 31000.000 (31.00 GHz)	28350.000 (28.35 GHz) 29250.000 (29.25 GHz) 31300.000 (31.30 GHz)	Local Multipoint Distribution Service	20-Dec-00	20-Dec-00	Power flux density (pfd) at the border, licensees can develop their own sharing arrangements.	Provides for coordination between licenses.	No data exchange required.
38600.000 (38.6 GHz)	40000.000 (40.0 GHz)	Broadband Services	21-Dec-99	21-Dec-99	pfd levels at the border, licensees can develop their own sharing arrangements.	Provides for coordination between licensees	No data exchange required.

Mexican Frequencies

Frequency Bands Subject to
U. S. / Mexico Bilateral Agreements

Frequency Band (MHz)		Title	Signing Date	Effective Date	Coordination Distance/ Allocation Principle	Purpose	Requisite Data Exchange
Low	High						
0.535 (535 KHz)	1.605 (1605 KHz)	AM	28-Aug-86	27-Apr-87	Entire Country/Equal Access.	Coordinate AM assignments to avoid interference.	Notification is on a case by case basis. No periodic review required.
1.605 (1605 KHz)	1.705 (1705 KHz)	AM (Expanded)	11-Aug-92	30-May-95	450 km on either side of the common border/ Reciprocal Access.	Coordinate AM expanded band assignments in the border area to avoid interference.	Notification is on a case by case basis. No periodic review required.
54.000	72.000	VHF-TV (NTSC) LPTV-VHF(NTSC) DTV MOU	18-Apr-62 14-Sep-88 22-July-98	18-Apr-62 26-Sep-88 22-July-98	400 km on either side of the common border/Equal Access 275 km on either side of the common border/Allotment Plan.	Coordinate VHF-TV expanded band assignments in the border area to avoid interference.	Notification is on a case by case basis. No periodic review required.
76.000	88.000	VHF-TV (NTSC) LPTV-VHF(NTSC) DTV MOU	18-Apr-62 14-Sep-88 22-July-98	18-Apr-62 14-Sep-88 22-July-98	400 km on either side of the common border/Equal Access 275 km on either side of the common border/Allotment Plan.	Coordinate VHF-TV expanded band assignments in the border area to avoid interference.	Notification is on a case by case basis. No periodic review required.
88.000	108.000	FM	11-Aug-92	2-June-95	320 km on either side of the common border/Equal Access.	Coordinate FM expanded band assignments in the border area to avoid interference.	By 3/31 of each year, Administrations shall exchange a list of all accepted notifications made during the previous calendar year and verify within 60 days. Semi-annual. Administrations shall exchange lists of notifications in that six months period.
108.000 118.000	118.000 137.000	Protocol 9 Aeronautical Radionavigation and Communications	26-Apr-96	26-Apr-96	No specified distance. Coordination required to avoid avoid harmful interference.	Establishes procedures for coordination of frequencies and sets conditions for use. Attempts to provide equal access to all frequencies without any apriori channel plans. The band noted here is jointly coordinated by the FCC and FAA.	In June of each year recapitulative lists of assignments are to be exchanged. The FAA will serve as intermediary for the FCC in the submission of the U.S. annual list.
151.190 26 specific frequencies	159.225	Firefighting, emergency, and disaster relief.	9-Dec-98	9-Dec-98	Procedures are specified in the Understanding for resolving interference problems.	Reserves 26 specific frequencies in (5 FCC and 21 Government) in border emergency and disaster relief.	Each year during 1st trimester, monitoring and coordination activities to ensure non-interference.
174.000	216.000	VHF-TV (NTSC) LPTV-VHF(NTSC) DTV MOU	18-Apr-62 14-Sep-88 22-July-98	18-Apr-62 26-Sept-88 22-July-98	400 km on either side of the common border/Equal Access 275 km on either side of the common border/Allotment Plan.	Coordinate VHF-TV expanded band assignments in the border area to avoid interference.	Notification is on a case by case basis. No periodic review required

Frequency Bands Subject to
U. S. / Mexico Bilateral Agreements

Frequency Band (MHz)		Title	Signing Date	Effective Date	Coordination Distance/ Allocation Principle	Purpose	Requisite Data Exchange
Low	High						
220.000	222.000	Protocol 1 Land Mobile (SMRS)	16-Jun-94	2-Jun-95	120 km on either side of the common border/ a priori 50% - 50% channel division.	Unlimited use allowed on administration's primary channels; secondary use allowed on other Administration's channels if pfd of .86 dBW/m2 is not exceeded at the border.	In May of each year, summary lists of assignments are to be exchanged.
470.000	512.000	Protocol 2 Land Mobile (UHF-TV channels 14 - 20), offshore Radio Telecom- Services.	16-Jun-94	2-Jun-95	150 km on either side of the common border - near the coasts may require greater distance on a case by case basis/ Access as needed but only after coordination for full protection to TV stations.	Permits use of Offshore Radio Telecommunications operations while fully protecting UHF - TV stations.	Notification is on a case by case basis. No periodic review required.
470.000	806.000	UHF-TV (NTSC) LPTV-UHF(NTSC) DTV MOU	18-Jun-82 21-Nov-88 22-July-98	17-Jan-83 21-Nov-88 22-July-98	320 km on either side of the common border/Equal Access 275 km on either side of the common border/Allotment Plan	Coordinate UHF-TV expanded band assignments in the border area to avoid interference.	Notification is on a case by case basis. No periodic review required
806.000	824.000	Protocol 3 Land Mobile (Public Safety SMRS, et al)	16-Jun-94	2-Jun-95	110 km on either side of the common border/ Channels divided evenly as specified in Appendices.	Equally divided band Allotment Plan, unrestricted use allowed on Administration's primary channels; secondary use allowed on other Administration's channels if pfd of 107 dBW/m2 is not exceeded at the border.	No data exchange required.
		Special Coordination Procedure (SCP)	8-Nov-00	8-Nov-00	Licensee can develop their own sharing arrangements.	Provides additional flexibility for licensees.	Notify frequencies authorized under the SCP and any changes to approved business arrangements.
824.000	849.000	Protocol 4 Public Radiocom (Cellular)	16-Jun-94	2-Jun-95	72 km on either side of the common border/ Equal Access - no channel plan dividing spectrum.	Licensees to make adjustments to eliminate interference to other operations servcies. Protected contour for base station is 39 dBw.	Administrations required to provide technical data on systems within border zone.
849.000	851.000	Protocol 5 Public Air to Ground Radio Service	16-Jun-94	2-Jun-95	885 km on either side of the common border/ Each specific site is coordinated and assigned a channel block.	Max ERP 30 watts (air). 100 watts (ground); Low power 1 watt ERP ground station for radio service to aircraft while on the ground has 480 km.	Sites not already specified require individual coordination. No regular update schedule specified.
851.000	869.000	Protocol 3 Land Mobile (Public Safety SMRS, et al)	16-Jun-94	2-Jun-95	110 km on either side of the common border/ Channels divided evenly as specified in Appendices.	Equally divided band Allotment Plan, unrestricted use allowed on Administration's primary channels; secondary use allowed on other Administration's channels if pfd of 107 dBW/m2 is not exceeded at the border.	No data exchange required.
		Special Coordination Procedure (SCP)	08-Nov-00	08-Nov-00			

Frequency Bands Subject to U. S. / Mexico Bilateral Agreements

Frequency Band (MHz)		Title	Signing Date	Effective Date	Coordination Distance/ Allocation Principle	Purpose	Requisite Data Exchange
Low	High						
869.000	894.000	Protocol 4 Public Radiocom (Cellular)	16-Jun-94	2-Jun-95	72 km on either side of the common border/ Equal Access - no channel plan dividing spectrum.	Licensees to make adjustments to eliminate interference to other operations services. Protected contour for base station is 39 dBw.	Administrations required to provide technical data on systems within border zone.
894.000	896.000	Protocol 5 Public Air to Ground Radio Service	16-Jun-94	2-Jun-95	885 km on either side of the common border/ Each specific site is coordinated and assigned a channel block.	Max ERP 30 watts (air). 100 watts (ground): Low power 1 watt ERP ground station for radio service to aircraft while on the ground has 480 km coordination distance.	Sites not already specified require individual coordination. No regular update schedule specified.
896.000	901.000	Protocol 3 Land Mobile (Public Safety SMRS, et al) SCP	16-Jun-94 8-Nov-00	2-Jun-95 8-Nov-00	110 km on either side of the common border/ Channels divided evenly as specified in Appendices. Licensee sharing arrangement.	Equally divided band Allotment Plan, unrestricted use allowed on Administration's primary channels; secondary use allowed on other Administration's channels if pfd of 107 dBW/m2 is not exceeded at the border.	No data exchange required.
901.000	902.000	Protocol 7 for Narrowband PCS (Mobile)	16-May-95	16-May-95	120 km on either side of the common border/ a priori 50% - 50% channel division: 15 paired channels, 9 unpaired channels per Administration.	Secondary use of other Administration's channels allowed if pfd of - 99 dBW/m2 is not exceeded at the border and primary user is fully protected. Max ERP 7 watts (mobile), 3.5 kW (base) with an HAAT adjustment.	No regularly scheduled exchange required; where operators agree to share a channel, such arrangements are to be submitted to the Administrations for review with Administration's response within 60 days of receipt.
929.000	930.000	Protocol 11 Paging Services	27-Feb-97	27-Feb-97	120 km on either side of the common border. Different channel plans for 929 and for 931 operations. Frequencies/Areas designated for U.S., Mexico, or shared use.	Establish common plans for the use of these paging bands and specify technical criteria for their use.	In May of each year recapitulative lists of assignments are to be exchanged.

Frequency Bands Subject to
U. S. / Mexico Bilateral Agreements

Frequency Band (MHz)		Title	Signing Date	Effective Date	Coordination Distance/ Allocation Principle	Purpose	Requisite Data Exchange
Low	High						
930.000	931.000	Protocol 7 for Narrowband PCS (Base)	16-May-95	16-May-95	120 km on either side of the common border/ a priori 50% - 50% channel division; 15 paired channels, 9 unpaired channels per Administration.	Secondary use of other Administration's channels allowed if pfd of - 99 dBW/m2 is not exceeded at the border and primary user is fully protected. Max ERP 7 watts (mobile), 3.5 kW (base) with an HAAT adjustment.	No regularly scheduled exchange required; where operators agree to share a channel, such arrangements are to be submitted to the Administrations for review with Administration's response within 60 days of receipt.
931.000	932.000	Protocol 11 Paging Services	27-Feb-97	27-Feb-97	120 km on either side of the common border. Different channel plans for 929 and for 931 operations. Frequencies/Areas designated for U.S., Mexico, or shared use.	Establish common plans for the use of these paging bands and specify technical criteria for their use.	In May of each year recapitulative lists of assignments are to be exchanged.
932.000	932.500	Protocol 6 Fixed Point to multipoint	16-Jun-94	2-Jun-95	113 km on either side of the common border/ a priori 50% - 50% channel division.	Allotment plan for equitable distribution of channels; Secondary use of other Administration's channels if pfd of - 100 dBw/m2 is not exceeded at the border.	Summary lists are to be exchanged in October of each year.
932.500	935.000	Protocol 10 Fixed Point to Point	26-Apr-96	26-Apr-96	60 km on either side of the common border with channel pairs designated for assigned use.	Establishes a common plan for the equitable use of the bands for fixed point to point operations.	In October of each year recapitulative lists of assignments are to be exchanged. By April 26, 1998 the protocol will be jointly reviewed to develop a new protocol. It will terminate on April 26, 1999 if it has not been replaced or extended.
935.000	940.000	Protocol 3 Land Mobile (Public Safety SMRS, et al)	16-Jun-94	2-Jun-95	110 km on either side of the common border/ Channels divided evenly as specified in Appendices.	Equally divided band Allotment Plan. unrestricted use allowed on Administration's primary channels; secondary use allowed on other Administration's channels if pfd of 107 dBW/m2 is not exceeded at the border.	No data exchange required.
940.000	941.000	Protocol 7 for Narrowband PCS (Base)	16-May-95	16-May-95	120 km on either side of the common border/ a priori 50% - 50% channel division; 15 paired channels, 9 unpaired channels per Administration.	Secondary use of other Administration's channels allowed if pfd of - 99 dBW/m2 is not exceeded at the border and primary user is fully protected. Max ERP 7 watts (mobile), 3.5 kW (base).	No regularly scheduled exchange required; where operators agree to share a channel, such arrangements are to be submitted to the Administrations for review with Administration's response within 60 days of receipt.

Frequency Bands Subject to
U. S. / Mexico Bilateral Agreements

Frequency Band (MHz)		Title	Signing Date	Effective Date	Coordination Distance/ Allocation Principle	Purpose	Requisite Data Exchange
Low	High						
941.000	941.500	Protocol 6 Fixed Point to multipoint	16-Jun-94	2-Jun-95	113 km on either side of the common border/ a priori 50% - 50% channel division.	Allotment plan for equitable distribution of channels. Secondary use of other Administration's channels if pfd of - 100 dBw/m2 is not exceeded at the border.	Summary lists are to be exchanged in October of each year.
941.500	944.000	Protocol 10 Fixed Point to Point	26-Apr-96	26-Apr-96	60 km on either side of the common border with channel pairs designated for assigned use.	Establishes a common plan for the equitable use of the bands for fixed point to point operations.	In October of each year recapitulative lists of assignments are to be exchanged. By April 26, 1998, the protocol was jointly reviewed to develop a new protocol. It will terminate on April 26, 1999 if it has not been replaced or extended.
1850.000	1990.000	Protocol 8 for Broadband PCS	16-May-95	16-May-95	72 km for other PCS operations and 120 km for fixed point-to-point operations 1910-193- MHz for very low power PCS.	Coordinate all PCS vis a vis any existing fixed pointe-to-point stations to protect (TIA/EIA TSB-1 OF) or relocate fixed users to the band.	No regularly scheduled exchange; where operators agree to share a channel, such arrangements are to be submitted to the Administrations for review with Administration's response within 60 days of receipt.
2310.000	2360.000	DARS/WCS	24-Jul-00		Satellite DARS and terrestrial systems are subject to certain pdf limits at the border.	Provides for the sharing of U.S. Dars and terrestrial systems (TIA/EIA TSB-1OF) or relocate fixed users to other band.	No regularly scheduled exchange' Administrations will provide the other with information about launch, testing, and operational dates of its satellites.
2500.000	2686.000	MDS/ITFS Analog and Digital Systems	23-Oct-98	28-Sep-00	80 km on either side of the common border/Equal Access. Coord. required if PFD at border exceeds -70 dBW for analog or -80 dBW for digital systems.	Coordinated multi-point distribution services in the border area to avoid interference.	By 3/31 of each year, Administrations shall exchange a list of all accepted notifications made during the previous calendar year and verify within 60 days. Semi-annually, Administrations shall exchange lists of notifications for that six month period.
5000.000	5250.000	Protocol 9 Aeronautical Radionavigation and Communications	26-Apr-96	26-Apr-96	No specified distance. Coordination required to avoid harmful interference.	Establishes procedures for coordination of frequencies and sets conditions for use. Attempts to provide equal access to all frequencies without any apriori channel plans. The band noted here is jointly coordinated by the FCC and FAA.	In June of each year recapitulative lists of assignments are to be exchanged. The FAA will serve as intermediary for the FCC in the submission of the U.S. annual list.
5925.000	6425.000	Earth Station	2-Jul-91	2-Feb-93	Depending on transmitter power and antenna diameter: can be one of four lines across the southern tier of States/ Equal Access.	Coordinate earth stations that are part of fixed satellite network(s) and with terrestrial fixed stations to avoid interference.	Twice each year-the second half of May and the second half of November. Also recapitulative lists every 18 months.
9000.000	9200.000	Protocol 9 Aeronautical Radionavigation and Communications	26-Apr-96	26-Apr-96	No specified distance. Coordination required to avoid harmful interference.	Establishes procedures for coordination of frequencies and sets conditions for use. Attempts to provide equal access to all frequencies without any apriori channel plans. The bands noted here are jointly coordinated by the FCC and FAA.	In June of each year recapitulative lists of assignments are to be exchanged. The FAA will serve as intermediary for the FCC in the submission of the U.S. annual list.

APPENDIX B

Indices to Canadian Agreements

U.S./CANADA AGREEMENTS

BROADCAST AGREEMENTS AND ARRANGEMENTS CURRENTLY IN EFFECT WITH CANADA

AM Radio (535-1605 kHz):

Agreement Between the Government of the United States of America and the Government of Canada Relating to the AM Broadcasting Service in the Medium Frequency Band. Signed: January 17, 1984.

AM Radio (1605-1705 kHz):

Interim Working Arrangement Between the Federal Communications Commission and the Department of Communications Relating to the AM Broadcasting Service in the Medium Frequency Band. Signed: February 28, 1991.

FM Radio (88-108 MHz):

Agreement Between the Government of Canada and the Government of the United States of America Relating to the FM Broadcasting Service, and its associated *Working Arrangement.* Signed: February 25, 1991; amended July 9, 1997.

Television (VHF & UHF and LPTV) 52-72MHz, 174-216 MHz, 470-806 MHz:

Agreement Between the Government of Canada and the Government of the United States of America Relating to the TV Broadcasting Service, and its associated *Working Arrangement.* Signed: January 5, 1994.

Digital Television (DTV):

Letter of Understanding Between the Federal Communications Commission of the United States of America and Industry Canada Related to the Use of the 54-72 MHz, 76-88 MHz, 174-216 MHz, and 470-806 MHz Bands for the Digital Television Broadcasting Service Along the Common Border. Signed: September 22, 2000.

Digital Audio Radio Service (DARS) (2320-2345 MHz):

Agreement Concerning the Coordination Between the U.S. Satellite Digital Audio Radio Service and Canadian Fixed Service and Mobile Aeronautical Telemetry Service in the Band 2320-2345 MHz. Diplomatic notes, dated August 25, 1998, and August 28, 1998, state intent to implement on interim basis pending conclusion of formalities necessary for binding agreement.

Canadian Terrestrial Digital Radio Broadcasting (T-DRB)/U.S. Aeronautical Telemetry (1435-1525 MHz):

Agreement on Coordination of Canadian Terrestrial Broadcasting at 1452-1492 MHz and U.S. Aeronautical Telemetry at 1435-1525 MHz. Diplomatic notes, dated August 25, 1998, and August 28, 1998 state intent to implement on interim basis pending conclusion of formalities necessary for binding agreement.

NON-BROADCAST AGREEMENTS AND ARRANGEMENTS CURRENTLY IN EFFECT WITH CANADA

The principal instrument governing the allocation and use of frequency bands by terrestrial non-broadcasting radiocommunications services along the common border is the *Agreement Concerning the Coordination and Use of Radio Frequencies Above Thirty Megacycles per Second, with Annex*, as amended (the Above 30 MHz Agreement). This Agreement was signed by the Government of Canada and the Government of the United States of America and entered into force on October 24, 1962. It has been amended several times and is currently undergoing further review. The Agreement itself is divided into six specific Arrangements which have numerous appendices. The six Arrangements are:

ARRANGEMENT A

Arrangement Between the Department of Transport and the Federal Communications Commission for the Exchange of Frequency Assignment Information and Engineering Comments on Proposed Assignments along the Canada-United States Borders in Certain Bands Above 30 Mc/s.

Attachments

Maritime Mobile Appendix 18 (156.8/162.0 MHz):
Revised Attachments A and B to Arrangement A.
Maritime Mobile Frequencies Appearing in Appendix 18 of the International Radio Regulations. Signed: June 8, 1973.

Maritime Mobile Vancouver/Seattle Area (156.55/156.72 MHz):
Attachment C to Arrangement A.
Frequency Usage for Vessel Traffic Systems in the General Vancouver/ Seattle Area. Signed: August 2, 1976.

West Coast VHF Maritime (156/174 MHz):
Revised Attachment D to Arrangement A.
Channeling Arrangement for the West Coast VHF Maritime Public Correspondence. Signed: February 20, 1984.

Maritime Public Safety Correspondence (157 MHz):
Attachment E to Arrangement A.
VHF Channeling arrangement for Parallel Mobile Public Correspondence on the Great Lakes and the St. Lawrence Seaway/ Agreement to Promote Safety on the Great Lakes by Means of Radio. Signed: December 29, 1978.

East Coast VHF Maritime (157.20/162.02 MHz):
Attachment F to Arrangement A.
Channeling Arrangement for the East Coast VHF Maritime Mobile Public Correspondence. Signed: December 29, 1978.

Railroad Radio (160-161 MHz):
Canadian Railroads Radio Frequency Assignment Plan for 30 kHz Narrow-Band Assignments. Signed: July 28, 1960.

Maritime Radio Beacons (285/325 kHz):
Memorandum of Understanding Concerning the Coordination of the Marine Radio Beacons of Canada and the United States. Signed: August 22, 1962.

Interim Arrangements and Understandings:

Land Mobile Services (896-901/935-940 MHz):
Signed: August 15, 1990.

Personal Communications Services (901-902/930-931/940-941 MHz):
Interim Arrangement for Narrowband PCS. Signed: September 22, 1994.

Point-to-Multipoint Services (928-929/952-953 MHz):
Signed: August 7, 1991.

Paging Frequencies:
Provision of Trans-Border Radio Paging Service by United States and Canadian Licensees to Subscribers Across the Border. Signed: June 25, 1971.

Paging (929-932 MHz):
Interim Arrangements on Paging Operations. Signed: January 11, 1994; August 14, 1992; April 20, 1988; February 10, 1987; and September 14, 1983.

Point-to-Point and Point-to-Multipoint Fixed Services (932-935/941-944 MHz):
Signed: September 19, 1994.

Personal Communications Services (1850-1990 MHz):
Interim Arrangement for Broadband PCS. Signed: November 14, 1994.

Multipoint Distribution Service (2500-2686 MHz): General FCC/DOC understanding Concerning the Coordination of the Band within 80 km of the Border (31 MDS channels). Agreement amended in 1997 to permit use of digital technology by MDS systems. Original agreement signed: March 23, 1989; amended agreement signed: December 5, 1997.

220-222 MHz Band: Interim Arrangement. Signed: December 21, 1999.

Local Multipoint Distribution Service 27.35-28.35, 29.1-29.25, 31.0-31.3 GHz.
Signed: December 20, 2000.

24 and 38 GHz Bands: Interim Arrangement on Broadband Wireless Systems in the Frequency Bands 24.25-24.45 GHz, 25.05-25.25 GHz, and 38.6-40.0 GHz. Signed: December 21, 1999.

Fixed and Mobile Services (4400/5000 MHz):
Signed: August 12, 1984.

Fixed and Mobile Services (17.7-23.6 GHz for specific band segments):
Interim Arrangement for Coordination of Fixed and Mobile Stations.
Signed: July 8, 1995.

Letters

Air/Ground Radio (454-459 MHz):
400 MHz Air/Ground Channel Designations and Frequency Assignments.
Signed: June 24, 1971.

Terrestrial Mobile Radio:
Cross-Border Operation. Signed: November 27, 1985.

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.

Interim Arrangements:

Aeronautical Mobile (R) Service (128-132 MHz):
Interim Arrangement on the Coordination and Use of 25 kHz Frequency Assignments in the Aeronautical Mobile (R) Service Sub-band 128.8125-132-0125 MHz. Signed: December 20, 1977.

Aeronautical Mobile (R) Service (136.5-137.0 MHz):
Interim Channeling Arrangement for the Aeronautical Mobile(R) Service Utilizing 25 kHz Channels for the Band 136-137 MHz. Signed: January 15, 1992.

ARRANGEMENT C

Arrangement for Frequency Coordination of Fixed Installation Radars.

ARRANGEMENT D

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

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.

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 to 890 MHz along the Canada-United States Border.

Cellular Radio (824-825/845-849/869-870/890-894 MHz):
Arrangement Concerning Cellular Radio Systems. Signed: January 8, 1990.

Interim Arrangements:

Land Mobile Services (821-824/866-869 MHz):
Signed: August 15, 1990.

Air/Ground Radio (849-851/894-896 MHz):
Signed: August 28, 1992.

Letters:

Land Mobile -Canadian Use (806-890 MHz):
Exchange of Letters Pertaining to the Land Mobile Radio Services Operating in the Band 806-890 MHz Concerning the Spectrum Made Available for Canadian Use East of 81 Degrees West Longitude. Signed: April 11, 1986.

Land Mobile-Sharing (806-890 MHz):
Exchange of Letters Pertaining to the Land Mobile Radio Service Operating in the Band 806-890 MHz Concerning the Sharing of Frequencies in Sector 2 of Sharing Zone 1. Signed: October 15, 1986.

All Mobile Frequencies:
Arrangement on Cross-Border Land Mobile Telephone Services.
Exchange of letters in which the terms of the 1952 U.S./Canada Convention were waived to permit the operation of the terrestrial mobile telephone radio units associated with common carriers of both countries to operate in either country without a permit. Signed: April 15, 1991.

SATELLITE SERVICES:

All Satellite News-Gathering (SNG) Frequencies: Understanding Concerning U.S./Canada Cross-Border Roaming of Satellite News-Gathering (SNG) Units.
Signed: August 1992.

Transborder Satellite Policies for Very Small Aperture Satellite (VSAT) Earth Stations: This series of letters exchanged between the FCC and Canada's Department of Communications (now Industry Canada) dated 1972, 1982, and 1989.

Mobile Satellite Terminal Cross-Border Roaming:
This exchange of letters dated May/April 1991.

Trilateral Arrangement Regarding the Use of the Geostationary Orbit Reached by Canada, Mexico and the United States:
This "working arrangement" was put on FCC Public Notice September 2, 1988.

Fixed Services/BSS (17.7-23.6 GHz):
Coordination of Broadcast Satellite and Fixed Services Operating in the Bands 17.7-19.7 GHz and 21.2-23.6 GHz. Signed: February 29, 1992.

Multilateral Arrangement, including Canada:
Memorandum of Understanding for Intersystem Coordination of Certain Geostationary Mobile Satellite Systems operating in the bands 1525-1544 MHz, 1545-1559 MHz, 1626.5-1645.5 MHz, and 1646.5-1660.5 MHz. This was signed in Mexico City and it facilitates the operation of the American Mobile Satellite Corporation, Inc. (AMSC) system of the U.S. Signed: June 19, 1996.

APPENDIX C

Indices to Mexican Agreements

U.S./MEXICO AGREEMENTS
BROADCAST AGREEMENTS CURRENTLY IN EFFECT
WITH MEXICO

AM Radio (535-1605 kHz):

Agreement Between the Government of the United States of America and the Government of the United Mexican States Relating to the AM Broadcasting Service in the Medium Frequency Band. Signed: August 28, 1986.

AM Radio (1605-1705 kHz):

Agreement Between the Government of the United States of America and the Government of the United Mexican States For the Use of the Band 1605-1705 kHz in the AM Broadcasting Service. Signed: August 11, 1992.

FM Radio (88-108 MHz):

Agreement Between the Government of the United States of America and the Government of the United Mexican States Relating to the FM Broadcasting Service in the Band 88-108 MHz. Signed: August 11, 1992.

VHF-TV Channels 2-13 (52-72 MHz and 174-216 MHz)

United States-Mexico VHF Television Agreement. Signed: April 18, 1962.

Low Power VHF-TV (52-72 mHz and 174-216 MHz):

Agreement Between the Governments of the United Mexican States and the United States of America Relating to the Assignment of Low Power Television Stations Along the Border. Signed: September 14, 1988.

UHF-TV Channels 14-69 (470-806 MHz):

Agreement Relating to Assignments and Usage of Television Broadcasting Channels in the Frequency Range 470-806 MHz (Channels 14-69) Along the United States-Mexico Border. Signed: June 18, 1982

Low Power UHF TV (470-806 MHz):
Agreement Amending the Agreement Relating to Assignments and Usage of Television Broadcasting Channels in the Frequency Range 470-806 MHz (Channels 14-69) Along the United States-Mexico Border. Signed: June 18, 1982.

Digital Television (DTV):

Memorandum of Understanding Between the Federal Communications Commission of the United States of America and the Secretaria de Comunicaciones Y Transportes of the United Mexican States Related to the Use of the 54-72 MHz, 76-88 MHz, 174-216 MHz, and 470-806 MHz Bands for the Digital Television Broadcasting Service Along the Common Border. Signed: July 22, 1998.

Digital Audio Radio Service (DARS) (2320-2345):

Agreement Between the Government of the United States of America and the Government of the United Mexican States Concerning the Use of the 2310-2360 MHz band. This agreements governs the operation of U.S. and Mexican DARS and shared with terrestrial services. Signed: July 24, 2000.

NON-BROADCAST AGREEMENTS AND PROTOCOLS CURRENTLY IN EFFECT WITH MEXICO

There are seven non-broadcasting agreements in effect between the U.S. and Mexico that concern spectrum use: (1) the Framework Agreement concerning terrestrial non-broadcasting radiocommunications services (signed at Williamsburg 1994); (2) an agreement concerning multipoint distribution services (signed at Queretaro 1992, and amended 1998); (3) an agreement concerning the use of radio frequencies for firefighting and other emergency relief efforts (signed 1998); and (4) four agreements concerning satellite services. These Agreements and their associated adjuncts are summarized below.

1. *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 Radiocommunications Services Along the Common Border* (The Framework Agreement with its associated Protocols).

   The Framework Agreement was established to ensure the equitable use of frequency bands by terrestrial non-broadcasting radiocommunications services in the common border area. The allocation of bands for specific radio services and the conditions for their use are set forth in Protocols which are attached as annexes to the Framework Agreement. This agreement was signed 16 June 1994, in Williamsburg, VA. It entered into force on 2 June 1995. The eleven Protocols are as follows:

   Land Mobile Service (220-222 MHz):

   Protocol 1

   Protocol Concerning the Allocation and Use of the Channels in the 220-222 MHz Band for the Land Mobile Services Along the Common Border. It establishes a common plan for the use of this band within a 120 km distance on each side of the border. This band has been allocated in the U.S. for use by the Specialized Mobile Radio Service (SMRS).

   Land Mobile Service (470-512 MHz):

   Protocol 2

   Protocol Concerning the Use of the 470-512 MHz Band for Land Mobile Services Along the Common Border. This band is allocated to both land mobile and (television) broadcasting services. This protocol recognizes the differing levels of requirements for these services in the two countries and establishes a requirement to coordinate assignments made for stations within 150 km of the common border (a greater distance may be agreed for assignments near the Pacific coast).

Land Mobile Service (806-824/851-869 and 896-901/935-940 MHz):

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. This Protocol establishes a common plan for the use of frequencies for Land Mobile services which include Public Safety Mutual Aid and SMRS within a 110 km distance from the border. The channels are evenly divided as specified in Appendices.

Special Coordination Procedure

Special Coordination Procedure for the Use of Certain Frequencies in the Bands 806-824 MHz and 851-869 MHz for Land Mobile Services. This SCP, signed November 8, 2000, allows licensees on either side of the border to develop their own sharing arrangements and to operate at higher power levels than normally permitted under the existing agreement for this band.

Cellular Systems (824-849/869-894 MHz):

Protocol 4

Protocol Concerning the Use of the 824-849/869-894 MHz Bands for Public Radiocommunications Services Using Cellular Systems Along the Common Border. This Protocol establishes the technical parameters for cellular systems in these bands and a requirement for coordination within a 72 km distance from the common border. Coordination occurs directly between the carriers licensed in each country and the conclusions are subject to approval by each administration.

Air-to-Ground Services (849-851/894-896 MHz):

Protocol 5

Protocol Concerning the Use of the 849-851/894-896 MHz Bands for Public Air-to-Ground Radio Services. This Protocol establishes a common plan for the use of frequencies within a 885 km distance from the common border for Public Air-to-Ground Radio Service. The spectrum is divided into 10 channel blocks and each specific site is coordinated. Channel blocks are assigned to specific sites. Sites not already specified require individual coordination.

Fixed Point-to-Multipoint Services (932.0-932.5/ 941.0-941.5 MHz):

Protocol 6

Protocol Concerning the Allotment and Use of the 932.0-932.5/941.0-941.5 MHz Bands for Fixed Point-to-Multipoint Services Along the Common Border. This Protocol establishes an allotment plan for the use of the channels within a 113 km distance from the common border for fixed point-to-multipoint radiocommunications stations.

The next two Protocols are also associated with the aforementioned framework Agreement but were signed in Washington, D.C., on May 16, 1995, and entered into force on that same date:

Broadband PCS (1850-1990 MHz):

Protocol 7

Protocol Concerning the Use of the Band 1850-1990 MHz for Personal Communications Services Along the Common Border. This Protocol establishes a common plan for the equitable use of the band for Broadband PCS within a 72 km distance from the common border. The band 1910-1930 MHz is reserved for low power unlicensed PCS. All PCS systems must be coordinated with any existing fixed point-to-point stations. The Protocol provides protection for existing fixed point-to-point operations within 120 km from the common border. However, the countries agree that no new fixed systems will be authorized in the band. Use in the border area is based on equal access. Operator-to-operator agreements are permitted (as with the cellular protocol) but subject to review/approval of the administrations.

Narrowband PCS (901-902/930-931/940-941 MHz):

Protocol 8

Protocol Concerning the Allocation and Use of the Bands 901-902 MHz 930-931 MHz and 940-941 MHz for Personal Communications Services Along the Common Border. This Protocol establishes a common plan for the equitable use of these bands for Narrowband PCS Systems within a distance of 120 km from the common border. The Agreement establishes a channel plan that includes 15 paired channels and 9 unpaired channels per administration. Where operators agree to share channel, such arrangements are to be submitted to administrations for review.

The next two Protocols are also associated with the aforementioned framework Agreement but were signed in Morelia, Mexico, on April 26, 1996, and entered into force on that same date:

Fixed Point-toPoint Services (932.5-935/941.5-944 MHz):

Protocol 10

Protocol Concerning the Allotment and Use of the 932.5-935/941.5-944 MHz Bands for Fixed Point-to-Point Services Along the Common Border. This Protocol establishes an allotment plan for the use of the channels Within a 60 km distance from the common border for fixed point-to-point radiocommunication stations.

Aeronautical Radionavigation and Communications:

Protocol 9

Protocol Concerning the Use of the Bands Allocated to the Aeronautical Radionavigation and Aeronautical Communications Services Along the Common Border. This Protocol establishes a procedure for the coordination of frequency assignments in various identified frequency bands for the aeronautical radionavigation and aeronautical

communications services along the common border. It allows each administration to use all the channels in each frequency band, provided it does not cause harmful interference to stations in the other country.

The next Protocol is also associated with the aforementioned framework Agreement but was signed in Washington, D.C., on February 27, 1997, and entered into force on that same date:

Paging Services (929-930/931-932 MHz):

Protocol 11

Protocol Concerning the Use of the 929-930 MHz and 931-932 MHz Bands for Paging Services Along the Common Border. This Protocol establishes a common plan for the equitable use of the band for one way paging within a 120 km distance from the common border. It identifies priority channels for each administration. Twelve channels are designated as shared. The Protocol also allows for operators in both countries to form joint operating partnerships to expand service areas and avoid transborder conflicts.

OTHER AGREEMENTS

Agreement Between the Government of the United States of America and the Government of the United Mexican States Concerning the Assignment of Frequencies and Usage of the 2500-2686 MHz Band Along the United States-Mexico Border.

The purpose of this agreement is to establish a procedure for the assignment of channels and use of the 2500-2686 MHz band for point-to-multi-point distribution services within 80 kilometers of the common border. The 31 channels, each having a 6 MHz bandwidth, are divided into 8 groups (labeled A through H). Assignment of these groups is based on specific coordination criteria, and excluding the locations specified in the Annexes, the groups are available for use by both administrations. This agreement was signed on August 11, 1992, in Queretaro, Mexico. It entered into force on July 2, 1993. The agreement was amended to cover digital systems through an exchange of diplomatic notes dated October 1, 1998, and October 23, 1998.

Memorandum of Understanding Between the Department of Agriculture Forest Service and the Federal Communications Commission of the United States of America and the Secretaria de Comunicaciones Y Transportes of the United Mexican States for the Use of Radio Frequencies, Coordination and Cooperation for Emergency Purposes.

This agreement reserves certain radio frequencies for firefighting and other emergency use in the border area, significantly improving the ability of both the U.S. and Mexico to protect lives and property along the U.S.-Mexico border. The agreement also encourages parties to minimize use of these frequencies outside of the border area and includes procedures for coordinating frequency use and addressing any interference that may occur. The agreement also establishes a program that will allow Mexico to use certain U.S. radio equipment. Signed: December 9, 1998.

Agreement Between the Government of the United States of America and the Government of the United Mexican States Regarding an Earth Station Coordination Procedure.

This agreement covers band 5925-6425 MHz and was signed July 2, 1991, in Chestertown, MD. It entered into force on February 2, 1993. It establishes a procedure for coordinating the

operation of earth stations that are part of one or more fixed-satellite service networks with terrestrial fixed stations in the same band.

Agreement Between the Government of the United States of America and the Government of the United Mexican States on the Use of the 17.7-17.8 GHz Band.
This agreement was signed June 23, 1993, in Washington, DC. It establishes sharing conditions for use of the band to facilitate operation of the fixed- and broadcasting-satellite services on both sides of the common border.

Wireless Communications Service (WCS) (2305-2330 MHZ and 2345-2360 MHz) Agreement between the Government of the United States of America and the Government of the United Mexican States concerning the use of the 2310-2360 MHz band.
This agreement designates part of the band for U.S. DARS, part of the band for Mexican DARS, and part solely for terrestrial services. Terrestrial services are subject to certain restrictions on pdf level. Signed: July 24, 2000.

Memorandum of Understanding for Intersystem Coordination of Certain Geostationary Mobile Satellite Systems operating in the bands 1525-1544 MHz, 1545-1559 MHz, 1626.5-1645.5 MHz, and 1646.5-1660.5 MHz.
This was signed in Mexico City and it facilitates the operation of the AMSC system of the U.S. Signed: June 19, 1996.

The Agreement Between the Government of the United States of America and the Government of the United Mexican States Concerning the Transmission and Reception of Signals from Satellites for the Provision of Satellite Services to Users in the United States of America and the United Mexican States.
This agreement establishes the conditions relating to use in both countries of satellites licensed in the United States and Mexico. Associated with the Agreement are the three following Protocols. Signed: April 28, 1996.

DIRECT-TO-HOME SATELLITE SERVICES:

Protocol Concerning the Transmission and Reception of Signals from Satellites for the Provision of Direct-to-Home Satellite Services in the United States of America and the United Mexican States. Signed: November 8, 1996. Entered into force November 11, 1996.

This Protocol applies to the use of the following frequency bands (in GHz):

Uplink Frequencies	Downlink Frequencies
For DTH-FSS services:	
5.925-6.425	3.7-4.2
6.725-7.025	4.5-4.8
12.75-13.25	10.70-10.95
	11.20-11.45
13.75-14.0	11.45-11.70
	10.95-11.20
14.0-14.50	11.70-12.20
For BSS services:	
17.30-17.80	12.20-12.70

FIXED SATELLITE SERVICES:

Protocol Concerning the Transmission and Reception of Signals from Satellites for the Provision of Fixed-Satellite Services in the United States of America and the United Mexican States. Signed: October 16, 1997. (This protocol does not include services as defined in DTH Protocol, signed November 8, 1996.)

This Protocol applies to the use of the following frequency bands (in GHz):

Uplink Frequencies	Downlink Frequencies
5.925-6.425	3.70-4.20
6.725-7.025	4.50-4.80
12.75-13.25	10.70-10.95
	11.20-11.45
13.75-14.00	11.45-11.70
	10.95-11.20
14.00-14.50	11.70-12.20
17.30-17.80	12.20-12.70
27.50-30.00	17.70-20.20

MOBILE-SATELLITE SERVICES:

Protocol Concerning Transmission and Reception of Signals from Satellites for the Provision of Mobile-Satellite Services and Associated Feeder Links in the United States of America and the United Mexican States. Signed: December 21, 1998.

This Protocol applies to the use of the following frequency bands:

Uplink Frequencies	**Downlink Frequencies**
148-150.05 MHz	137-138 MHz
399.95-400.05 MHz	400.15-401 MHz
1610-1626.5 MHz	1613.8-1626.5 MHz
	2483.5-2500 MHz
1990-2025 MHz	2165-2200 MHz
14-14.5 GHz	No MSS allocation
MSS Inter-Satellite Links:	
23-23.55 GHz	
MSS Feeder Links:	
5.091-5.250 GHz	6.700-7.075 GHz
12.750-13.250 GHz	10.700-10.950 GHz
	11.2-11.450 GHz
29.1-29.5 GHz	19.3-19.7 GHz

APPENDIX D

High Level Consultative Commission 1996 Communiqué and 1996, 1998-1999, and 2000 Work Plans for Mexico

May 3, 1996

JOINT PRESS RELEASE
U.S. DEPARTMENT OF STATE
U.S. DEPARTMENT OF COMMERCE
FEDERAL COMMUNICATIONS COMMISSION

UNITED STATES-MEXICO
HIGH LEVEL CONSULTATIVE COMMISSION ON TELECOMMICATIONS
MORELIA, MEXICO APRIL 25-26, 1996

Last Friday the United States and Mexico concluded a very successful fifth meeting of the High Level Consultative Commission on Telecommunications in Morelia, Mexico. The meeting concluded with the signing of a communique, two protocols and work program for next year. Two days after the signing ceremony, negotiations were completed and the U.S. Ambassador to the United Mexican States, James R. Jones, signed an Agreement Concerning the Transmission and Reception of Signals from Satellites for the Provision of Satellite Services to Users in the U.S. and Mexico which promises important opportunities for U.S. businesses, consumers and programmers.

One of the protocols that was signed at Morelia concerned the use along the U.S./Mexico border of fifteen frequency bands allocated to the aeronautical radionavigation and aeronautical communications services. This protocol will allow the FAA to coordinate the use of frequencies in these bands, that are critical to the safety of commercial air traffic, with its counterpart (SENEAM) in Mexico. The other protocol that was signed concerned the use of selected frequency bands above 900 MHz by fixed point-to-point services.

The United States was represented at the meeting by Vonya B. McCann, United States Coordinator for International Communications and Information Policy, Department of State, Larry Irving, Assistant Secretary of Commerce for Communications and Information, National Telecommunications and Information Administration, and Don Gips, Deputy Chief of the International Bureau of the Federal Communications Commission. Undersecretary of Communications and Technological Development, Lic. Carlos Casasus Lopez Hermosa, represented the Government of Mexico.

At the Morelia meeting, the U.S. and Mexico governments discussed technical, regulatory and international communications and information policy issues. Issues that were discussed included the ITU Policy Forum, the Western Hemisphere Senior Telecommunications Officials Meeting, and structural changes taking place in international telecommunications organizations. The U.S. and Mexico also discussed new technology and communication services being introduced and the necessity to work together to implement them in a compatible manner. The results of these discussions

were reflected in a Work Program adopted for 1996-1997 which will follow through on the discussions that took place at Morelia.

Further information is contained in the "Morelia Communique", attached to this release.

For additional information or copies* of the documents mentioned, please contact:

Department of State: William H. Jahn, at (202) 647-2123

Department of Commerce: Nancy Eskenazi, at (202) 482-1864

Federal Communications Commission: Thomas Walsh at (202) 418-2118.

*Copies of the Morelia Communique, the US/Mexico Work Program, the Satellite Agreement and Protocols have also been placed on file at the FCC International Bureau Reference Room located on the first floor of 2000 M Street, N.W.

-FCC-

Fifth Meeting of the United States - Mexico
High Level Consultative Commission on Telecommunications

Morelia, Michoacan. 25-26 April 1996

Morelia Communique

The United States - Mexico High Level Consultative Commission on Telecommunications (HLCC) concluded, on this day, its Fifth Meeting in Morelia, Michoacan.

Issues of great importance to both countries concerning telecommunications were addressed at the meeting, highlighting the fact that these meetings have moved the relations of the two countries closer, both on the bilateral level and within the international context -- and in the latter sense, coordination of both countries' work in the Intentional Telecommunication Union (ITU) and Inter-American Telecommunication Commission (CITEL) fora was effected.

The Mexican delegation was led by Mr. Carlos Casasus L6pez-Hermosa Subsecretario de Comunicaciones y Desarrollo Tecnologico, with the participation of Messrs. Jose Antonio Padilla Longoria, Coordinador de Relaciones Internacionales; Luis Miguel Alvarez Alonso, Director General de Redes y Radiocomunicacion; Enrique Melrose Aguilar, Director General de Administracion del Espectro; and Federico Gonzalez Luna Bueno, Director General de Sistemas de Difusion, all of them from the Secretariat of Communications and Transport.

The United States Delegation was headed by Ambassador Vonya B. McCann, U.S. Coordinator, International Communications and Information Policy of the Department of State; also participating were Mr. Larry Irving, Assistant Secretary for Communications and Information of the Department of Commerce, and representing Chairman Reed Hundt of the Federal Communications Commission was Mr. Don Gips, Deputy Chief of the International Bureau.

The results achieved pursuant to the 1984 - 1995 Work Program were reviewed at this meeting. In this regard, the results obtained were very satisfactory and were reflected in the signing of the four operative agreements, referred to as Protocols, that are annexed to the Framework Agreement signed at the Fourth Meeting of the HLCC in Williamsburg, Virginia. These results will be reported to the thirteenth meeting of the United States Mexico Binational Commission that will meet in Mexico City in May.

The work carried out pursuant to the Work Program established at the Fourth Meeting led to the signing of the following documents:

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

- Protocol on the Use of the 901-902 MHz, 931-932 MHz, 940-941 MHz Bands, for Personal Communications Services Along the Common Border;

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

- Protocol on the Use of Bands Allocated to the Aeronautical Radionavigation Service and Aeronautical Communications Services Along the Common Border.

During the meeting, both countries exchanged views on important telecommunications issues including, among others, broadcasting, radiocommunications, and spectrum planning.

At the same time, both Delegations agreed to a telecommunications Work Program for 1996 1997, that is attached to this Communique and includes the basic issues related to satellites, broadcasting, radiocommunications, training, and international matters. The Delegations agreed that the Working Groups will continue to examine the key telecommunications issues that require cooperation and specific agreements.

It is important to point out that the work of the HLCC in 1996 - 1997 will take place during a period of great development in the telecommunications sector, within an environment of new telecommunications laws in both countries.

Additionally, it was recognized that the technological developments that are taking place on a global level in the field of telecommunications, such as low earth orbit satellite systems, personal communications systems, direct-to-home television, advanced television, and more, will require greater consideration by this HLCC. This issue will be the subject of future HLCC discussions.

Both Administrations reaffirmed their desire to continue working in a coordinated manner at CITEL and the ITU. In particular, both countries agreed to intensify efforts to reach a successful Conclusion to the World Telecommunication Policy Forum in October.

Finally, the Delegation of the United States agreed to host the next meeting of the HLCC.

Signed at Morelia, Michoacan, on April 26, 1996.

Vonya B. McCann	C. Casasus
Ambassador **VONYA B. McCANN** United States Coordinator, International Communications and Information Policy, United States Department of State	Licenciado **CARLOS CASASUS LOPEZ-HERMOSA** Subsecretario de Comunicaciones y Desarrollo Tecnoloaico Secretaria de Comunicaciones y Transportes.

UNITED STATES AND MEXICO
HIGH LEVEL CONSULTATIVE COMMISSION
ON TELECOMMUNICATIONS

WORK PROGRAM FOR 1998-1999

I. TELECOMMUNICATIONS COORDINATION

A. SATELLITES

1) Continue development and implementation of procedures to facilitate the coordination of earth stations in the 2, 4, 6 and 7-8 GHz bands in accordance with No. S9.15 of the International Telecommunication Union Radio Regulations.

2) Facilitate satellite network coordination in accordance with the International Telecommunication Union Radio Regulations and existing agreements between the Administrations.

3) Reach an understanding on the introduction and implementation of Digital Audio Radio Satellite service in the 2310-2360 MHz band.

4) Continue to exchange information on the regulation of Satellite News Gathering (SNG) transportable earth stations and conclude negotiations in order to sign a protocol for SNG cross border operation, as appropriate, on their proposed respective satellite systems, on a temporary basis.

5) In accordance with Article XIV-D of the INTELSAT Agreement, the two countries will enter into joint consultation, as appropriate, on their proposed respective satellite systems.

B. BROADCASTING

1) Interference Cases -

   a) Continue efforts to resolve cases of harmful interference with a goal of eliminating harmful interference.

   b) Continue to discuss technical criteria for the coordination of TV channel 6 with FM channels and proposals for handling such issues.

2) AM Radio -

a) Finalize verification of databases of AM stations in the 535-1605 KHz band.

b) Exchange information on the AM expansion band (1605-1705 KHz) in both countries.

3) Initiate discussions for development of a new UHF/VHF television agreement.

4) Exchange information and discuss the introduction of Terrestrial Digital Audio Broadcasting, for the purpose of establishing the basis for the signing of a Memorandum of Understanding enabling both Administrations to develop their services.

5) Exchange information related to technical standards and regulations with regard to competitive alternatives to conventional broadcasting including cable television, direct broadcasting satellite, and digital audio broadcasting.

C. RADIOCOMMUNICATIONS

1) Establish procedures for implementing cross border point-to-point microwave links.

2) Conclude an MOU concerning radio frequencies used for emergency purposes; cooperating to find replacement frequencies for assignments on the emergency frequencies.

3) Begin discussions on further revising the Agreement governing the 2500-2686 MHz band with the purpose of expanding the Agreement to cover two-way use and the 2686-2690 MHz band.

4) Initiate discussions concerning the possibility of establishing one or more protocols on the coordinated use of the following bands, recognizing the different service types in each country and, where applicable, the increased capacity which is the result of reduced channel spacing:

- 138-144 MHz
- 148-150 MHz
- 150-162 MHz
- 162-174 MHz
- 380-400 MHz
- 406.1-420 MHz
- 450-470 MHz

5) Exchange information relative to the introduction of Local Multipoint Distribution Services in each Country within the bands 27.5 - 31.3 GHz.

6) Exchange information relative to the introduction of new services and applications using frequency bands above 30 GHz.

7) Exchange information and explore how to address the use of non-licensed devices/systems including those using spread spectrum modulation techniques and considering cross-border telecommunications applications.

8) Continue the exchange of information and begin discussions on modern communications systems for land transportation (for example, "Intelligent Vehicle Highway Systems").

D. EXCHANGE OF INFORMATION BY ELECTRONIC MEANS

1) Continue the development of a common procedure for the electronic exchange of data between Mexico and the United States on a regular basis in support of agreements and protocols on coordination.

2) Begin to discuss and coordinate efforts to increase mutual access to information on telecommunications regulatory and policy matters through electronic networks such as the INTERNET.

E. WORKING GROUP FOR THE PLANNING OF RADIO SPECTRUM

Continue to hold meetings of the Working Group for the Planning of Radio Spectrum (WGPR) to discuss spectrum use and new services and technologies.

II. MIXED COMMISSION

Consider which decisions, among those adopted by the Mixed Commission, need to be formalized between both countries.

III. INTERNATIONAL AFFAIRS

A. INTERNATIONAL TELECOMMUNICATION UNION ACTIVITIES

1) Coordinate and share information for the 1999 International Telecommunication Union (ITU) Council meeting.

2) Coordinate and share information on preparations and contributions for the 1998 ITU Plenipotentiary and the 2000 World Radiocommunication Conference.

3) Coordinate and share information on preparations and contributions for the focus group that was established by the 1998 World Telecommunications Policy Forum.

B. CITEL, APEC and OECD

1) Coordinate preparations and contributions for CITEL, APEC and OECD meetings including proposals regarding the expansion of telecommunication training programs in CITEL.

2) Discuss and coordinate efforts to encourage CITEL (in particular COM/CITEL) and APEC to better advance work being done in these organizations to strengthen competition and liberalization in markets in the Americas and the Asian-Pacific regions by promoting work on interconnection, universal service and mutual recognition agreements.

C. SUMMIT OF THE AMERICAS

Exchange views and coordinate efforts with regard to hemispheric implementation of telecommunications-related provisions of the Summit of the Americas Plan of Action, specifically the mandate that CITEL develop best practices guidelines on universal service and interconnection as well the development of a mutual recognition agreement.

IV. EXCHANGE OF INFORMATION ON REGULATORY AND OTHER TELECOMMUNICATIONS ISSUES

A. INTERNATIONAL COMPETITION, INTERCONNECTION AND UNIVERSAL SERVICE

Regulatory experts will regularly exchange views, information and plans for developing regulations that affect competition on the U.S.-Mexico route in order to promote pro-competitive interconnection, increased forms of resale, universal service, lower prices for consumers, prevent anti-competitive activities and finding solutions to bypass and other issues of mutual concern.

B. GLOBAL INFORMATION INFRASTRUCTURE

Continue discussions on bilateral cooperation in developing the Global Information Infrastructure. Discuss applications of telecommunications to education, health, the environment, interconnection of libraries, and global electronic commerce as well as other advanced services.

C. OTHER EXCHANGES

Continue to exchange information on other legislative, regulatory, and policy issues in telecommunications, trends in technology, licensing, and operational

aspects of telecommunications services, including experimental authorization and news services.

Adopted at the High Level Telecommunications Authorities meeting, September 11, 1998, Washington D.C.

UNITED STATES AND MEXICO
HIGH-LEVEL CONSULTATIVE COMMISSION ON TELECOMMUNICATIONS

WORK PROGRAM FOR 2000

I. TELECOMMUNICATIONS COORDINATION

A. SATELLITES

1. Continue development and establishment of procedures to facilitate the coordination of earth stations in the 2, 4, 6, 7, and 8 GHz bands in accordance with No. S9.15 of the International Telecommunication Union Radio Regulations.

2. Facilitate satellite coordination in accordance with the International Telecommunication Union Radio Regulations and existing agreements between the Administrations.

   a. Encourage, in particular, operating agreements between L Band operators in the Mobile Satellite Service and the coordination of new satellite networks in this band.

3. Conclude the Bilateral Agreement for the Shared Use of the 2310-2360 MHz Frequency Band, with a view to introducing and implementing the Digital Audio Radio Satellite Service (DARS) and protecting the terrestrial services of both countries.

4. Continue to exchange information on the regulation of Satellite News Gathering (SNG) transportable earth stations and conclude negotiations in order to sign a bilateral protocol for SNG cross-border operation on their respective satellite systems.

5. In accordance with Article XIV-D of the INTELSAT Agreement, the two countries will enter into joint consultations, as appropriate, on their proposed respective satellite systems.

6. Begin discussions to develop procedures to facilitate satellite earth station licensing of antennas less than 1.2 meters in diameter in the 12/14 GHz (Ku band) frequency band.

B. BROADCASTING

1. Interference Cases

   a. Continue efforts to resolve cases of harmful interference with the goal of eliminating such interference.

   b. Continue to discuss technical criteria for the coordination of TV channels 6 with FM channels and proposals for handling such issues.

2. AM Radio

   a. Finalize verification of databases of AM stations in the 535-1605 KHz band according to a program to be agreed upon by April 3 and completed by October 31, 2000.

3. Television

a. Initiate discussions for development of a new television Agreement.

b. Discuss the use of the 698-806 MHz band (TV channels 52-69).

c. Begin discussions to review and modify existing VHF and UHF agreements to address low power television service.

d. Begin discussions regarding new classes of television stations in the U.S. and Mexico.

4. Exchange information and discuss the introduction of Terrestrial Digital Audio Broadcasting, for the purpose of establishing the basis for the signing of a Memorandum of Understanding enabling both Administrations to develop their services.

5. Exchange information related to technical standards and regulations with regard to competitive alternatives to conventional broadcasting including cable television, direct satellite broadcasting, and digital audio broadcasting.

C. RADIOCOMMUNICATIONS

1. Establish procedures for implementing cross-border point-to-point microwave links.

a. Establish a procedure that will allow both Administrations to consider and decide jointly on authorization for cross boundary links.

b. Identify all of the bands that will be included in the coordination procedure, indicating the end points of each of the bands; all looking toward formulating an administrative arrangement.

c. Exchange information and discuss establishing a database on the cross-border microwave links authorized by both countries.

2. Conclude procedures for implementing the Memorandum of Understanding concerning the use of radio frequencies for emergency cases, and continue cooperating in seeking alternative frequencies for relocating current assignments on emergency frequencies.

Principal actions:

a. Updating information: NIFC 2000 Manual, and contact points in case of emergency;

b. Continue identifying stations requiring modification of their operating parameters, or replacement of frequencies;

c. Establish mechanisms to identify unauthorized stations and to close them down.

3. Continue discussions on further revising the Agreement governing the 2500-2686 MHz band with the purpose of expanding the Agreement to cover two-way use and the 2150-2162 MHz and 2686-2690 MHz bands.

4 Initiate discussions concerning the possibility of establishing one or more protocols on the coordinated use of the following bands, or portions thereof, recognizing the different service types in each country and, where applicable, the increased number of channels which is the result of reduced channel bandwidth and spacing.

In accordance with the priorities of both countries, bands requiring coordination will continue to be identified, including the following principal bands:

- 138-144 MHz;
- 148-174 MHz;
- 380-400 MHz;
- 406.1-420 MHz;
- 450-470 MHz.

5. Exchange information relative to the introduction of Local Multipoint Distribution Services in each country within the bands 27.5-31.3 GHz.

6. Exchange information relative to the introduction of new services and applications using frequency bands above 30 GHz.

7. Exchange information and explore how to address the use of non-licensed devices/systems including those using spread spectrum modulation techniques and considering cross-border telecommunications applications.

8. Continue the exchange of information and begin discussions on modern communications systems for land transportation (for example, "Intelligent Vehicle Highway Systems").

9. Propose specific actions for resolving cases of harmful interference, to ensure compliance with the commitments undertaken by both countries in agreements, treaties, protocols and Memoranda of Understanding.

10. Exchange views and experiences on how to address the so-called "gray market" on both sides of the border, including unauthorized satellite receivers.

D. EXCHANGE OF INFORMATION BY ELECTRONIC MEANS

1. Continue the development of a common procedure for the electronic exchange of data between Mexico and the United States on a regular basis in support of agreements and protocols on coordination.

2. Begin to discuss and coordinate efforts to increase mutual access to information on telecommunications regulatory and policy matters through electronic networks such as the Internet.

E. WORKING GROUP FOR THE PLANNING OF THE RADIO SPECTRUM

1. Continue to hold meetings of the Working Group for the Planning of the Radio Spectrum (WGPR) to discuss spectrum use and new services and techniques.

2. The work of this group will be advanced, and the following actions will be carried out:

   a. Establish a work mechanism;

   b. Define specific tasks;

   c. Develop a plan of action, indicating times for obtaining results.

II. JOINT COMMISSION (CMERAR)

Detect in a timely fashion and resolve cases of harmful interference. Consider which decisions, among those adopted by the Commission, need to be formalized by both countries.

III. INTERNATIONAL AFFAIRS

A. INTERNATIONAL TELECOMMUNICATION UNION ACTIVITIES

1. Coordinate preparations for participation in the 2000 Council meeting.

2. Coordinate preparations and participation in the 2000 World Radiocommunication Conference.

3. Coordinate preparations for participation in the ITU World Standardization Conference to be held in October 2000.

B. CITEL, APEC, AND OECD

1. Coordinate preparations and contributions for CITEL, APEC and OECD meetings, including proposals regarding the expansion of telecommunication training programs in CITEL.

2. Discuss and coordinate efforts to encourage CITEL (in particular COM/CITEL) and APEC to better advance work being done in these organizations to strengthen competition and liberalization in markets in the Americas and the Asian-Pacific regions in order to promote work on interconnection, universal service, and mutual recognition agreements.

3. Coordinate efforts to promote participation at the highest level of officials of both countries in the Fourth APEC Ministerial Meeting, TELMIN 4, to be held in May 2000 in Cancun, Mexico.

C. SUMMIT OF THE AMERICAS

Exchange views and coordinate efforts with regard to hemispheric implementation of telecommunications-related provisions of the Summit of the Americas Plan of Action, including the mandate that CITEL develop best practices guidelines on universal service and interconnection as well as the development of a mutual recognition agreement.

IV. REGULATORY AND OTHER TELECOMMUNICATIONS ISSUES

A. INTERNATIONAL COMPETITION, INTERCONNECTION, AND UNIVERSAL SERVICE

1. Hold meetings with a view to implementing the following actions:

    a. Exchange views on plans for developing regulations that affect competition on the U.S.-Mexico route.

    b. Engage in dialogue on progress and challenges, and on the problems affecting competing telecommunications markets, with a view to finding solutions that benefit the users of both countries.

2. The principal topics that could be addressed are as follows:

    a. Pro-competitive interconnection

    b. Forms of resale

    c. Basic technical plans

    d. Universal service

    e. Affordable rates for consumers

    f. Quality control

    g. Settlement rates

    h. Compliance with regulations

    i. Prevention of anticompetitive activities, including monopolistic Practices

    j. Seeking solutions for "bypass"

B. GLOBAL INFORMATION INFRASTRUCTURE

Continue bilateral cooperation in developing the Global Information Infrastructure. Discuss applications of telecommunications to education, health, the environment, interconnection of libraries, and global electronic commerce as well as other advanced services.

Exchange views on the regulation or deregulation of services provided through the Internet, as well as the treatment of Internet Access Providers (IAPs).

C. OTHER EXCHANGES

Continue to exchange information on other legislative, regulatory, and policy issues in telecommunications, trends in technology, licensing, and operational aspects of telecommunication services, including experimental authorization and new services.

Ratified at the Bilateral Meeting of the High Level Authorities on Telecommunications Mexico City, July 24, 2000.

FOR THE UNITED STATES OF AMERICA:

Malcolm R. Lee

Ari Q. Fitzgerald

FOR THE UNITED MEXICAN STATES:

Jorge Silberstein Tenenbaum

Jorge Nicolín Fischer

APPENDIX E

International Bureau Public Notices on Technical Coordination

NEWS

Federal Communications Commission
445 12th Street, S.W.
Washington, D. C. 20554

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FOR IMMEDIATE RELEASE:
January 10, 2001

NEWS MEDIA CONTACT:
Maureen Peratino at (202) 418-0506

U.S. AND CANADA REACH AGREEMENT REGARDING SHARING IN THE 27 GHz, 29 GHz AND 31 GHz BANDS ALONG THE U.S./CANADA BORDER

The Federal Communications Commission, the National Telecommunications and Information Administration and Industry Canada have signed an interim Arrangement setting forth sharing requirements along the U.S.-Canada border for the U.S. Local Multipoint Distribution Service, the Canadian Local Multipoint Communications Service and certain other services in the 27.35-28.35 GHz (27 GHz), 29.1-29.25 GHz (29 GHz) and 31.0-31.3 GHz (31 GHz) frequency bands. This Arrangement will benefit the public by clearly defining border area coordination requirements. Such clear requirements will help prevent cross-border interference and will encourage prompt implementation of new services, such as high speed internet access and high speed data that are expected to be offered in these bands.

- FCC -

International Bureau contact: Thomas Lucey at (202) 418-2161.
Wireless Telecommunications Bureau contact: Michael Pollak at (202) 418-1682.

PUBLIC NOTICE

FEDERAL COMMUNICATIONS COMMISSION
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WASHINGTON, D.C. 20554
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Released: November 9, 2000

U.S. AND MEXICO REACH SPECIAL COORDINATION PROCEDURE ARRANGEMENT CONCERNING THE USE OF FREQUENCIES IN THE 806-824/851-869 MHz BANDS

The Federal Communications Commission and the Mexican Comision Federal de Telecomunicaciones (COFETEL) have signed a Special Coordination Procedure for the use of Certain Frequencies in the Bands 806-824 MHz and 851-869 MHz for Land Mobile Services (SCP). This arrangement permits special coordination of operations subject to the existing 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). The SCP serves the public interest by providing additional flexibility for licensees and promoting efficient spectrum use in border areas.

The Protocol designates certain frequencies in the border area for primary use by either the United States or Mexico and states that frequencies allotted for primary use by one country may also be used on a secondary basis by the other country provided that a power flux density (PFD) limit at the border is met. The SCP recognizes that licensees on either side of the border may enter into business arrangements that permit special operations. Under the SCP, each agency may authorize licensees to operate on frequencies allotted on a primary basis to the other country, using the PFD levels required for the operation of its services. To operate pursuant to the SCP licensees must: (1) have their names and the specific frequencies involved added to the SCP annex; (2) file a copy of the business arrangement with their respective agencies; and (3) reach an operating agreement for each proposed station before beginning operations. Licensees may only use the SCP to promote efficient operation of their own systems and may not offer service in the other country.

This arrangement was reached as part of an on-going Commission effort to negotiate sharing agreements with Canada and Mexico that will promote efficient spectrum use in border areas. The initial SCP annex covers operations on specified frequencies by the U.S. licensees Nextel of California, Inc. and Nextel License Holdings 2, Inc. and by the Mexican concessionaires Servicios de Radiocomunicacion Movil de Mexico, S.A. de C.V., and Sistemas de Comunicaciones Troncales, S. A. de C.V. Additional licensees and frequencies may be added to the SCP annex upon the request of interested parties and approval by both agencies.

The full text of the Arrangement has been placed on file at the International Bureau Reference Room CY-A257, located on the Courtyard level of 445 12th St. S.W., Washington, D.C. Copies are also available from the International Transcription Service at (202) 857-3800 and can be downloaded from the FCC's International Bureau internet site at http://www.fcc.gov/ib/pnd/agree.

- FCC -

International Bureau contact: Charlene Lagerwerff at (202) 418-1349.
Wireless Telecommunications Bureau contact: Ronald Netro at (202) 418-0608.

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445 12th Street, S.W.
Washington, D. C. 20554

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Fax-On-Demand 202 / 418-2830
Internet: http://www.fcc.gov
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FOR IMMEDIATE RELEASE:
September 29, 2000

News Media contact:
Rosemary Kimball at (202) 418-0511

U.S. AND CANADA REACH AGREEMENT ON IMPLEMENTING DIGITAL TELEVISION SERVICE ALONG THE U.S./CANADA BORDER

Washington, DC -- William E. Kennard, chairman of the Federal Communications Commission (FCC), and Michael Binder, Industry Canada Assistant Deputy Minister, have signed a Letter of Understanding (LOU) regarding the introduction of digital television (DTV) service along the United States/Canada border. The signing of this LOU represents the culmination of four years of discussions between the FCC and Industry Canada that focused on establishing an allocation plan to make way for the transition to digital television service

The LOU covers DTV operations within 400 kilometers on either side of the U.S.-Canadian border. The LOU contains a table of mutually acceptable DTV channel allotments for each country and the procedures each country will use in notifying and evaluating proposed DTV facilities. The DTV allotments were developed through rulemaking proceedings and are located in bands currently assigned to the television service. An LOU between the U.S. and Canada was necessary because the prior agreement, which will remain in effect, only covers analog television service.

Some television stations have been provided DTV allotments in spectrum that the U.S. plans to recover for non-broadcast use, including commercial mobile and public safety operations, following the transition to DTV (i.e., channels 52-69). Canada is also considering a similar change in spectrum use. Accordingly, the LOU provides that both Administrations will continue to review the allotment tables and to try to accommodate such stations. The FCC and Industry Canada are also working towards a future agreement that will specifically address non-broadcast services in these bands. Until such a separate agreement is reached, the LOU provides that non-broadcast services in these bands must protect DTV and analog TV stations.

Chairman Kennard remarked that "the signing of the LOU is another step towards implementation of digital television. The LOU also paves the way for the introduction of public safety and other non-broadcast operations on channels 60-69 as the deployment of DTV services progresses. I look forward to continuing discussions with our friends in Canada to ensure the rapid deployment of these innovative and important services."

The full text of the LOU has been placed on file at the International Bureau Reference Room CY-A257, located on the Courtyard level of 445 12th St. S.W., Washington, D.C. Copies

are also available from the International Transcription Service at (202) 857-3800 and can be downloaded from the FCC's International Bureau internet site at http://www.fcc.gov/ib/pnd/agree.

- FCC -

International Bureau contact: Thomas Lucey at (202) 418-2161
Office of Engineering and Technology contact: Bruce Franca at (202) 418-2470
Wireless Telecommunications Bureau contact: Ronald Netro at (202) 418-0608

FEDERAL COMMUNICATIONS COMMISSION United States Department of State

July 26, 2000

JOINT PRESS RELEASE

U.S. DEPARTMENT OF STATE
FEDERAL COMMUNICATIONS COMMISSION

AGREEMENT SIGNED WITH MEXICO FOR SATELLITE DIGITAL AUDIO SERVICE (DARS) AND WIRELESS COMMUNICATIONS SERVICES (WCS) USE OF THE 2310-2360 MHz BAND

The United States and Mexico have reached an agreement delineating provisions for the coordination and use of frequencies by Satellite Digital Audio Radio Services (DARS) and Terrestrial Services including the Wireless Communications Services (WCS) in the border area. The Agreement covers the use of the band 2310-2360 MHz. The Agreement has been in the process of negotiation for the past two years and its signing is a major step toward establishing long term stability for DARS, WCS and other terrestrial systems operating in the border area. Furthermore, it provides a reference upon which future service developments in the border area may be based.

The Agreement was signed for the United States by Malcolm R. Lee, United States Coordinator, International Communications and Information Policy of the Department of State, and Ari Q. Fitzgerald, Deputy Chief of the International Bureau, FCC on behalf of Chairman William E. Kennard. Signing for Mexico were Jorge Silberstein Tenenbaum, Under Secretary of Communications of the Secretariat of Communications and Transportation (SCT) and Jorge Nicolin Fischer, Chairman of the Federal Telecommunications Commission (COFETEL). The signing took place at SCT Headquarters in Mexico City. The negotiating team included representatives of the State Department and FCC's International and Wireless Telecommunications Bureaus.

State's Malcolm Lee remarked, "This agreement will benefit both U.S. and Mexican consumers. It is a significant step forward in the introduction of new nationwide radio programming with compact disc quality sound. The agreement stands as a positive example of U.S. and Mexican bilateral cooperation in the area of radio spectrum management."

This agreement, complementing arrangements already in place with Canada, permits operation of U.S. DARS systems in a portion of the 2310-2360 MHz band (S-band). "The agreement provides the U.S. with the ability to offer U.S. consumers high quality audio services directly from the satellite, while safeguarding the operation of existing and future terrestrial services authorized in the S-band," said FCC Chairman William E. Kennard.

The United States has licensed two satellite DARS providers. The two licensees, Sirius Satellite Radio and XM Satellite Radio plan to provide satellite-based nationwide radio service on a subscription basis. Both companies plan to offer service next year. The Agreement affords Sirius and XM the opportunity

to fulfill the promise of satellite DARS in the United States by providing continuous, nationwide radio programming with compact disc quality sound. Satellite DARS has the potential to increase the variety of programming available to the listening public and offer niche programming to listeners with special interests. In addition, satellite DARS has the technological potential to provide a wide range of audio programming options to areas of the country that have historically been underserved by terrestrial radio.

The Wireless Communications Service (WCS) was created in 1997 by the Commission to provide licensees of spectrum in the 2305-2320 and 2345-2360 MHz bands with broad flexibility in the types of services that they could offer. Permitted services extend to any fixed, mobile, radiolocation or broadcast-satellite (sound), consistent with the services for which this spectrum is allocated. WCS licenses for these bands, which are for 52 Major Economic and 12 Regional Economic Areas, were initially assigned in 1997 through the use of competitive bidding processes. Uses of this spectrum include point-to-point and point-to-multipoint fixed microwave links, fixed and mobile telephone and internet access, high-speed two-way data, and video distribution services. Other services may well be developed and implemented considering the flexibility that the rules provide to the WCS licensees.

The Agreement identifies certain band segments across the full border for each country's satellite DARS and establishes levels of protection to be provided to and from terrestrial users within those designated satellite bands. The Agreement also identifies band segments that are solely for use by terrestrial services and sets protection levels for their compatible cross-border coexistence. For satellite DARS, the U.S. is permitted to operate satellites in the bands 2320-2324.2 MHz, 2328.3-2332.5 MHz, 2332.5-2336.225 MHz and 2341.285-2345 MHz; while Mexico can operate satellites in the 2317-2320 MHz, 2324.25-2328.25 MHz, 2336.75-2340.75 MHz and 2350-2353 MHz bands. Use of DARS terrestrial repeaters by U.S. operators is permitted in the 2324.3-2328.3 MHz and 2336.225-2341.285 MHz bands with applied protection limits to Mexican satellite services, while Mexican DARS repeaters may be deployed in any of the four bands identified above for their satellites using protection levels set for terrestrial operations. Bands that are identified strictly for non-DARS terrestrial use are 2310-2317 MHz, 2345-2350 MHz and 2353-2360 MHz. The Agreement allows for operators in both countries to enter into joint operating arrangements to expand service areas and avoid transborder conflicts. The FCC and SCT are to be notified of such arrangements, which are subject to review and approval by the respective agencies.

The principal provisions of the new Agreement are:

- Each Administration shall have designated bands for its own national satellite licensing plans.

  The satellite signal/service of each country's licensee(s) is protected at the border against use by the other country's terrestrial users.

- Satellite transmissions by either country's DARS licensees are limited to maximum power flux density (pfd) values to permit terrestrial users on the other side of the border to continue operating with an agreed level of protection from satellite signals at the border.

- Satellite DARS operations may include repeaters to fill in, but not extend, their service areas.

- The satellite DARS service of one country may not be offered for sale in the territory of the other country.

- Terrestrial stations in both DARS and non-DARS bands are permitted to operate at pfd levels defined in the Agreement without any further bilateral measures required. If a licensee seeks to operate at

levels higher than those specified in the Agreement, a coordination process has been created to permit consideration of such requests by the other Administration.

- Existing terrestrial operations not in compliance with applicable pfd limits in the Agreement will be allowed to continue operations on a temporary basis but may be required to modify their technical parameters to meet the relevant pfd limits based on timetables specified in the Agreement

The texts signed Monday remove a number of administrative barriers that had restricted the advancement of new DARS and WCS implementation by the Commission and the licensees during the negotiations interval. Thus, the development of both the satellite and terrestrial services can now proceed in a timely and efficient manner. Separate from the Agreement, each Administration agreed to remove its outstanding objection to the other Administration's pending satellite notifications, and to notify the International Telecommunication Union accordingly.

At the same ceremony the United States and Mexico also signed a joint work program setting forth major spectrum and telecommunications issues that the two governments plan to address this year. The work program resulted from collaborative efforts taken at the U.S.-Mexico High Level Consultative Commission on Telecommunications.

The full text of the DARS agreement has been placed on file at the Commission Reference Center located on the Courtyard (CY) Level of 445 12th St., S.W. and will be available on the FCC website as soon as an approved electronic version can be finalized. Copies are available from International Transcription Service at (202) 857-3800.

For further information, contact Larry Olson in the Planning and Negotiations Division of the International Bureau at (202) 418-2150 or Ron Netro, Wireless Telecommunications Bureau at (202) 418-1310. The contact at the Department of State is William H. Grigsby at (202) 647-2723

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Federal Communications Commission
445 12th Street, S.W.
Washington, D. C. 20554

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FOR IMMEDIATE RELEASE
July 26, 2000

NEWS MEDIA CONTACT
Maureen Peratino 202-418-0506

STATEMENT OF FCC CHAIRMAN WILLIAM E. KENNARD REGARDING MEXICO DARS AGREEMENT SIGNING

This agreement, which reflects over two years of very hard work, will enable satellite digital audio radio services (DARS) and terrestrial wireless services to operate freely in the border area between Mexico and the United States.

It is critical to the long-term viability of DARS, WCS and other communications systems in both countries. The interference concerns presented were challenging, and staff and industry from both countries are to be commended for forging this agreement despite the many obstacles.

- FCC -

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FOR IMMEDIATE RELEASE:
January 21, 2000

NEWS MEDIA CONTACT:
Rosemary Kimball at (202) 418-0511

U.S. AND CANADA REACH AGREEMENT REGARDING SHARING IN THE 24 GHz AND 39 GHz BANDS ALONG THE U.S./CANADA BORDER

The Federal Communications Commission and Industry Canada have signed an interim Arrangement setting forth sharing requirements for broadband wireless systems along the U.S.-Canada border in the 24.25-24.45 GHz, 25.05-25.25 GHz and 38.6-40.0 GHz frequency bands. This Arrangement benefits the public by clearly defining border area coordination requirements for these segments of the 24 GHz and 39 GHz bands. Such clear requirements will encourage prompt implementation of new services, such as high speed internet access, high speed data, and local exchange services, that are expected to be offered in these flexible use bands. In addition, the Arrangement will assist bidders in evaluating service areas along the border in the upcoming 24 GHz and 39 GHz auctions.

Under this Arrangement, coordination of broadband wireless systems will be carried out by the licensees for the service areas on either side of the border. The Arrangement encourages licensees on both sides of the border to develop their own cross-border sharing agreements and includes a list of service areas that may be needed to coordinate with each other. This innovative approach will give greater flexibility to licensees and allow more efficient marketplace solutions to be developed. If licensees develop their own sharing agreement, that agreement governs and the specific coordination provisions contained in the Arrangement will not apply. In the absence of a licensee sharing agreement, certain "power flux density" (pfd) levels are specified and different coordination requirements are imposed depending on the pfd level involved. For operations below a certain pfd level, no coordination is required.

In commenting on the Arrangement, Donald Abelson, Chief of the International Bureau stated: "This Arrangement gives licensees the flexibility to develop their own border sharing agreements and will encourage quick development of the 24 and 39 GHz bands." This Arrangement was reached as part of an on-going Commission effort to negotiate agreements with Canada and Mexico that will promote efficient spectrum use in border areas.

The full text of the Arrangement has been placed on file at the International Bureau Reference Room CY-A257, located on the Courtyard level of 445 12th St. S.W. Copies are also available from the International Transcription Service at (202) 857-3800 and can be downloaded from the FCC's International Bureau internet site at http://www.fcc.gov/ib/pnd/agree.

- FCC -

International Bureau contact: Sam Tropea at (202) 418-2115.
Wireless Telecommunications Bureau contact: Michael Pollak at (202) 418-1682.

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Washington, D. C. 20554

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FOR IMMEDIATE RELEASE:
January 21, 2000

NEWS MEDIA CONTACT:
Rosemary Kimball at (202) 418-0511

U.S. AND CANADA REACH AGREEMENT REGARDING USE OF THE 220-222 MHz BAND ALONG THE U.S./CANADA BORDER

Non-Nationwide Phase I 220 MHz Licensees Near Border Must Construct and Place into Operation Base Stations by January 21, 2001

The Federal Communications Commission, the National Telecommunications and Information Administration, and Industry Canada have signed an interim sharing Arrangement regarding use of the 220-222 MHz band along the U.S.-Canada border. The Arrangement will resolve long-standing uncertainty regarding use of this band in the border area. In addition, by significantly reducing the amount of cross-border coordination required, the Arrangement will allow quick implementation of new services expected to be offered in the band. U.S. licensees along the border whose construction deadlines had previously been delayed pending completion of a U.S.-Canada agreement will now be required to complete construction and commence operation by January 21, 2001.

The Arrangement governs operations in the 220-222 MHz band within 120 kilometers of the U.S.-Canada border. The Arrangement identifies 200 channel pairs within this band and allots each channel pair for primary use by the United States or Canada, or for shared use. Frequencies allotted for primary use by one country may also be used on a secondary basis by the other country provided certain conditions are met. The Arrangement also provides antenna height and power restrictions, and there are special sharing arrangements for certain geographic areas and for low power stations. In addition, the Arrangement provides that, to the extent possible, certain specified channels will be available for implementation of Intelligent Transportation Systems/Intelligent Vehicle Highway System and Public Safety and Mutual Aid services. Beyond 120 kilometers from the border, both countries have full and unrestricted use of all channels in the band.

In commenting on the Arrangement, International Bureau Chief Donald Abelson stated, "This Arrangement builds on the strong cooperative relationship between the U.S. and Canada and encourages prompt provision of new services to the citizens on both sides of the border while protecting licensees and consumers from cross-border interference." This Arrangement was reached as part of an on-going Commission effort

to negotiate sharing agreements with Canada and Mexico that will promote efficient spectrum use in border areas.

In 1995, the Commission extended the construction deadline for non-nationwide Phase I 220 MHz licenses that were located north of Line A,[1] near the Canadian border, due to the uncertainties surrounding the future of these licenses prior to reaching an agreement with Canada.[2] The construction period was extended until twelve months after an agreement was reached between the United States and Canada on sharing the 220-222 MHz band.[3] Now that the Arrangement has been realized, any non-nationwide Phase I 220 MHz licensee with a base station authorized at a location north of Line A must construct its base station and place it into operation, or commence service, on all authorized channels by January 21, 2001.[4] The authorization of a licensee that does not construct its base station and place it into operation, or commence service, by January 21, 2001, cancels automatically on that date and must be returned to the Commission.[5]

The full text of the Arrangement has been placed on file at the International Bureau Reference Room CY-A257, located on the Courtyard level of 445 12th St. S.W., Washington, D.C. Copies are also available from the International Transcription Service at (202) 857-3800 and can be downloaded from the FCC's International Bureau internet site at http://www.fcc.gov/ib/pnd/agree.

- FCC -

International Bureau contact: Henry Straube at (202) 418-2144.
Wireless Telecommunications Bureau contact: Ron Netro at (202) 418-0608.

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1 *See* 47 C.F.R. § 90.7. Line A is an imaginary line within the United States, approximately paralleling the U.S.-Canadian border, north of which Commission coordination with Canadian authorities in the assignment of frequencies is generally required. It begins in Aberdeen, Washington, running by great circle arc to the intersection of 48°N., 120°W., then along parallel 48°N., to the intersection of 95°W., thence by great circle arc through the southernmost point of Duluth, Minn., then 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, Maine, thence by great circle arc through the southernmost point of Searsport, Maine, at which point it terminates.

2 *See* Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service, PR Docket No. 89-552, Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, GN Docket No. 93-252, Implementation of Section 309(j) of the Communications Act – Competitive Bidding, 220-222 MHz, PP Docket No. 93-253, *Second Memorandum Opinion and Order and Third Notice of Proposed Rulemaking*, 11 FCC Rcd. 188, 284-85, ¶¶ 197-198 (1995).

3 *See* 47 C.F.R. § 90.757(b).

4 *Id.*

5 *Id.*

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Report IN 98-73 INTERNATIONAL ACTION December 22, 1998

UNITED STATES AND MEXICO SIGN AGREEMENT ON MOBILE SATELLITE SERVICES

On Monday December 21, 1998 in Mexico City, the United States and Mexican Governments signed the Protocol Concerning the Transmission and Reception of Signals From Satellites for the Provision of Mobile-Satellite Services and Associated Feeder Links in the United States of America and the United Mexican States. This Mobile-Satellite Service (MSS) Protocol is the third Protocol signed under the U.S.-Mexican Satellite Services Agreement of April 1996. In November 1996, the United States and Mexico concluded the Protocol on direct-to-home (DTH) satellite services and in October 1997, the United States and Mexico concluded the Protocol on Fixed-Satellite Services.

The Protocol will allow U.S. and Mexican satellites to provide mobile-satellite services, like low-earth orbit satellite systems, into both countries, using MSS, and associated feeder link, frequency bands. Under its WTO Agreement on Basic Telecommunications Services Mexico committed to allow access to its market for the provision of mobile satellite services beginning in 2002. The Protocol enables U.S. licensed MSS providers to access the Mexican market immediately.

The Protocol further demonstrates the commitment that the United States and Mexico share in enhancing satellite competition in our national markets through the introduction of new services provided by U.S. and Mexican satellites.

- FCC -

News Media contact:David Fiske (202) 418-0500
International Bureau contact: Jennifer Gilsenan (202) 418-0420

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1919 - M Street, N.W.
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Report No. IN 98- 72 INTERNATIONAL ACTION December 18, 1998

U.S. AND MEXICO REACH UNDERSTANDING ON THE USE OF FREQUENCIES FOR FIRE-FIGHTING AND OTHER EMERGENCY RELIEF EFFORTS ALONG THE U.S.-MEXICO BORDER AREA

The United States and Mexico have reached an agreement on the use of radio frequencies for firefighting and other emergency relief efforts along the U.S.-Mexico border. The agreement is in the form of a Memorandum of Understanding (MOU) between the Federal Communications Commission, the Department of Agriculture (USDA) Forest Service and the Secretaría de Comunicaciones y Transportes (SCT) of the United Mexican States. The Understanding reserves certain radio frequencies for emergency use in the border area and encourages the parties to minimize non-emergency use of these frequencies outside of the border area. The Understanding also includes procedures for coordinating frequency use and addressing any interference that may occur. In addition, the Understanding establishes a program that will allow Mexico to use certain U.S. radio equipment.

This MOU represents a critical step in advancing the cause of public safety. Stephen M. Jenkins, Chief, Incident Communications of the U.S. Forest Service at the National Interagency Fire Center, stated: "Fire-fighter and public safety is the first priority in every fire management activity [and] this Understanding ... is a major step toward providing this service." FCC Chairman William E. Kennard stated that this Understanding "will significantly improve the ability of both the U.S. and Mexico to protect lives and property along the U.S.-Mexico border."

The full text of the Understanding has been placed on file at the International Bureau Reference Room located on the first floor of 2000 M St. N.W. Copies are also available from the International Transcription Service at (202) 857-3800 and can be downloaded from the FCC's International Bureau internet site at http://www.fcc.gov/ib/pnd/agree.

- FCC -

News Media contact: Rosemary Kimball at (202) 418-0500; TTY at (202) 418-2155
Wireless Telecommunications Bureau contact: Michael Pollak at (202) 418-1682
International Bureau contact: Tom Lucey at (202) 418-2161

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Federal Communications Commission
1919 - M Street, N.W.
Washington, D. C. 20554

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Report No. IN 98- 68 INTERNATIONAL ACTION December 15, 1998

U.S. AND MEXICO REACH AGREEMENT ON THE USE OF DIGITAL MDS AND ITFS SYSTEMS ALONG THE U.S./MEXICO BORDER

The United States and Mexico have reached agreement on the operation of digital Multipoint Distribution Service (MDS) and Instructional Television Fixed Service (ITFS) systems along the U.S.-Mexico border area. These video distribution services provide a form of wireless cable, with the MDS service available on a subscription basis and the ITFS service for use within educational institutions. Under this agreement, the existing *Agreement Between the Government of the United States of America and the Government of the United Mexican States Concerning the Assignment of Frequencies and Usage of the 2500-2686 MHz Band Along the United States-Mexico Border,* signed August 11, 1992, which covers analog MDS and ITFS systems, will be amended to also cover digital systems. The amendments provide notification and coordination procedures for digital MDS and ITFS systems and threshold technical parameters for such systems.

The new agreement will allow MDS operators, educational institutions and the public to enjoy the benefits of digital technology, including improved quality, greater diversity of services and more efficient spectrum use. In commenting on the agreement, Andrew Kreig, President and CEO of the Wireless Communications Association International (WCA) stated, "We're delighted at the news, which will allow the benefits of advanced digital wireless services to be enjoyed by residents, students, businesses and other users on the border, encouraging their growth and prosperity ... for the benefit of all." FCC Chairman William E. Kennard stated that "this agreement represents a major step forward in the cooperative efforts of Mexico and the U.S. to bring the benefits of digital services to consumers quickly."

The amendments were adopted through an exchange of diplomatic notes and will enter into force after both parties indicate that they have complied with any national legislative requirements, a process that is expected to be completed within the next month. Information on the amended agreement has been placed on file at the International Bureau Reference Room located on the first floor of 2000 M St. N.W. Copies are also available from the International Transcription Service at (202) 857-3800 and can be downloaded from the FCC's International Bureau internet site at http://www.fcc.gov/ib/pnd/agree.

News Media contact: Rosemary Kimball at (202) 418-0500; TTY at (202) 418-2155
International Bureau contact: Steve Selwyn at (202) 418-2160.
Mass Media Bureau contact: Keith Larson at (202) 418-2600

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Report No. IN 98-50 INTERNATIONAL ACTION September 3, 1998

THE UNITED STATES AND CANADA AGREE ON CONDITIONS FOR IMPLEMENTATION OF U.S. SATELLITE DIGITAL AUDIO RADIO SERVICES (DARS) AND CANADIAN TERRESTRIAL DIGITAL RADIO BROADCAST SERVICES (T-DRB) ALONG THE U.S./CANADA BORDER AREA

The United States and Canada have agreed on technical conditions for implementation of Terrestrial Digital Radio Broadcasting (T-DRB) services in Canada in the 1452-1492 MHz band and Satellite Digital Audio Radio Services (DARS) in the United States in the 2320-2345 MHz band. As a result, T-DRB service can be implemented immediately, and the launch of DARS can occur after a transition period. Coordination discussions regarding DARS are continuing with countries other than Canada.

These agreed upon conditions are the result of negotiations that took place over several years and involved complex inter-service frequency sharing considerations unique to the U.S. and Canada in these two bands. Although these bands are used for different services in Canada and the U.S., new applications of digital technology will be introduced by Canadian and U.S. providers. It is important to note that the continued operation of U.S. aeronautical telemetry stations was a paramount concern in these discussions. Looking to the future, FCC Chairman William E. Kennard, stated, "This successful negotiation will provide U.S.consumers access to innovative CD quality audio programming and will promote new communications services using innovative satellite-delivered digital technologies."

U.S. Ambassador Vonya McCann and Canadian Assistant Deputy Minister Michael Binder exchanged letters that will allow both countries to begin to implement by September 1, 1998 the technical conditions for the introduction of these new digital sound broadcasting services on either side of the border. Both the United States and Canada have pledged to work swiftly to convert these technical conditions into binding international agreements.

In the interim both countries will implement these mutually agreeable conditions on an interim basis, beginning on September 1, 1998. Details of the conditions are available on the FCC internet site for the International Bureau (http//www.fcc.gov/ib).

For further information, contact Ronald Repasi, (202) 418-0768, Rosalee Chiara (202) 418-0754 or Larry Olson at (202) 418-2142, of the International Bureau.

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Report No. IN 98-42 INTERNATIONAL ACTION July 31, 1998

U.S. AND MEXICO REACH AGREEMENT FOR IMPLEMENTING DIGITAL TELEVISION SERVICE ALONG THE U.S./MEXICO BORDER, APPROVING ALL STATIONS SLATED TO BEGIN SERVICE IN NOVEMBER 1998 AND MAY 1999

The FCC and Mexico's Secretariat of Communications and Transportation (SCT) have signed a Memorandum of Understanding (MOU) that establishes procedures for implementing digital television (DTV) service along the United States/Mexico border and approves all five DTV stations in the U.S./Mexico border area slated to begin service in November 1998 and May 1999. The MOU was signed by FCC Chairman William E. Kennard and SCT Undersecretary of Communications Jorge Nicolin. As stated by Chairman Kennard, "this MOU represents a major step forward in the cooperative efforts of Mexico and the U.S. to bring the benefits of DTV to consumers quickly, and clears the way for the imminent roll-out of DTV in the Top 10 U.S. markets."

The MOU provides an expedited notification process through which most authorized DTV stations can begin operation within 15 days of notification to the other country. In addition, the MOU specifies that no further notification is needed for the five U.S. television stations in Los Angeles which have voluntarily committed to begin DTV operation by November 1, 1998, or which are required to begin DTV operations by May 1, 1999. The FCC has required stations affiliated with ABC, CBS, Fox and NBC to build their digital facilities in the 10 largest television markets by May 1, 1999. In addition, 24 stations in the Top 10 markets have committed to begin operations by November 1, 1998. Los Angeles is the only Top 10 market located within the U.S./Mexico border zone.

"This MOU, in conjunction with recent notification approvals from Canada, means that the 42 U.S. television stations in the Top 10 markets that are expected to begin DTV operations in the next three to nine months can do so without having to wait for further approval from either Mexico or Canada," added Chairman Kennard.

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The MOU, which covers DTV operations in the area extending 275 kilometers on either side of the U.S./Mexico common border, contains the following major provisions:

1. A list of mutually acceptable second channel DTV allotments for each country.

2. Procedures to be used for notifying each administration of plans to implement DTV service relative to an allotment.

3. The methods to be used by each administration in evaluating the acceptability of proposed DTV facilities.

The first part of the MOU describes the procedures for notifying DTV facilities that are intended to be brought into service, along with tables listing distance separation requirements where DTV facilities are involved. The MOU appendices contain: (1) lists of NTSC channel allotments and second channel DTV allotments for each country, (2) a list of the technical parameters to be included in notifications, (3) the methodology to be used in evaluating proposed DTV facilities, and (4) lists of each country's accepted DTV facilities. This MOU supersedes an earlier MOU, signed April 2, 1997, in which the U.S. and Mexico agreed to work together to develop a list of second channels for DTV.

The full text of the Memorandum of Understanding has been placed on file at the International Bureau Reference Room located on the first floor of 2000 M St. N.W. Copies are available from International Transcription Service at (202) 857-3800 and can be downloaded from the FCC's International Bureau internet site at http://www.fcc.gov/ib/pnd/agree.

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News Media contact: Rosemary Kimball at (202) 418-0500.
International Bureau contact: Larry Olson at (202) 418-2142.
Office of Engineering and Technology contact: Bruce Franca at (202) 418-2470.

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Report No. IN 97-39 INTERNATIONAL ACTION December 19, 1997

UNDERSTANDING REACHED BETWEEN FCC AND INDUSTRY CANADA TO ALLOW USE OF DIGITAL MULTIPOINT DISTRIBUTION SERVICE (MDS) SYSTEMS ALONG THE U.S./CANADA BORDER AREA

The FCC and Industry Canada have finalized an Understanding that permits the use of digital technology by Multipoint Distribution Service (MDS) systems along the U.S./Canada border area. The *General FCC/Industry Canada Understanding Concerning the Coordination of the 2500-2686 MHz Band Within 80 km (50 miles) of the United States of America/Canada Border* maintains the previous requirements for analog systems but extends the scope of the earlier agreement by establishing allocation parameters for digital systems within the border area. The revision was required to facilitate implementation of digital systems for MDS and other services operating in the band along the U.S.-Canada border. The new Understanding supersedes a prior Understanding bearing the same title which was dated March 23, 1989 and which had limited use of the band to analog systems.

In commenting on the Understanding, International Bureau Chief Regina Keeney stated, "this Understanding will enable MDS services to utilize digital techniques to deliver increased quality and services and to make more efficient use of spectrum in the border area."

The Understanding sets forth the technical parameters and threshold criteria for avoiding coordination between digital stations and the current analog stations, as well as between digital stations. Additionally, in light of the limited record for the application of digital technology in this band, provision is made for the revision of the protection ratios for digital systems when more extensive performance data becomes available. Those operators in the U.S.-Canada border area who have been precluded from using digital systems may now submit applications to do.

The full text of the Understanding has been placed on file at the International Bureau Reference Room located on the first floor of 2000 M St. N.W and is also accessible through the FCC/IB Website. Copies can also be obtained through the Commission contractor, International Transcription Service, at (202) 857-3800. For further information, contact Henry Straube, Planning and Negotiations Division, International Bureau at (202) 418-2150 or Keith Larson, Mass Media Bureau at (202) 418-2600.

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IN Report No. 97-34 INTERNATIONAL ACTION October 17, 1997

INTERNATIONAL BUREAU ANNOUNCES SIGNING OF FIXED-SATELLITE SERVICES PROTOCOL WITH MEXICO

On Thursday, October 16 in Mexico City, the United States and Mexican Governments signed the Protocol Concerning the Transmission and Reception of Signals From Satellites for the Provision of Fixed-Satellite Services in the United States of America and the United Mexican States. This Fixed-Satellite Service (FSS) Protocol is the second Protocol signed under the U.S-Mexican Satellite Services Agreement of April 1996. In November 1996, the United States and Mexico concluded the Protocol on direct-to-home (DTH) satellite services.

The Protocol will allow U.S. and Mexican satellites to provide fixed-satellite services into both countries, using FSS frequency bands (including the C-, Ku-, and Ka-bands). Under the Protocol U.S. satellites may provide international fixed-satellite services to and from Mexico immediately and domestic fixed-satellite services within Mexico on the earlier date of January 1, 1999 (three years earlier than Mexico committed to under the February 1997 WTO Agreement on Basic Telecommunications Services), or the date on which the Morelos II replacement satellite becomes operational. Under last year's Protocol on DTH services, U.S. satellites may provide the cable headend as of next month.

The Protocol further demonstrates the commitment that the United States and Mexico share in enhancing satellite competition in our national markets through the introduction of new services provided by U.S. and Mexican satellites.

The parties expect to commence discussion shortly on a third Protocol, to address mobile-satellite services.

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News Media contact: Meribeth McCarrick at (202) 418-0256.
International Bureau contact: Jennifer Gilsenan at (202) 418-0757.

APPENDIX F

Notifications Data Tables

Quarterly Productivity Report for

Notifications Branch FY-1995

Service	Quarter 1	Quarter 2	Quarter 3	Quarter 4
AM Notifications Canada & Mexico	542	265	328	426
ITU AM Registrations	253	285	142	216
Bilateral FM Notifications	171	1219	324	274
Bilateral TV Notifications	15	105	28	24
HF Broadcasting Notifications	1003	1003	1003	1003
Automated COSER System Performance	2678	3891	7272	2750
ITU Notices for Mobile Services	1254	3405	2211	371
Mexican Microwave Coordinations	34	191	78	44
Number of Space Items Handled	1660	1250	1740	1270
Space Notifications & Coordinations	50	85	62	123
Total	7660	11699	13188	6501

Quarterly Productivity Report for

Notifications Branch FY-1996

Service	Quarter 1	Quarter 2	Quarter 3	Quarter 4
AM Notifications Canada & Mexico	251	211	558	622
ITU AM Registrations	261	247	274	211
Bilateral FM Notifications	103	85	194	215
Bilateral TV Notifications	128	58	36	14
HF Broadcasting Notifications	1003	1003	1003	1003
Automated COSER System Performance	3824	4523	4074	3182
ITU Notices for Mobile Services	35	441	295	392
Mexican Microwave Coordinations	62	49	16	895
Number of Space Items Handled	1118	1646	1915	2015
Space Notifications & Coordinations	193	98	195	73
Total	6978	8361	8560	8622

Quarterly Productivity Report for
Notifications Branch
FY-1997

Service	Quarter 1	Quarter 2	Quarter 3	Quarter 4
AM Notifications Canada & Mexico	230	372	208	221
ITU AM Registrations	228	237	227	386
Bilateral FM Notifications	71	250	413	474
Bilateral TV Notifications	19	228	260	292
HF Broadcasting Notifications	1003	1016	1006	1010
Automated COSER System Performance	2787	3505	2975	3028
ITU Notices for Mobile Services	235	284	290	280
Mexican Microwave Coordinations	172	34	20	15
Number of Space Items Handled	2045	1892	2170	2361
Space Notifications & Coordinations	195	57	59	41
Total	6985	7875	7628	8108

Quarterly Productivity Report for
Notifications Branch
FY-1998

Service	Quarter 1	Quarter 2	Quarter 3	Quarter 4
AM Notifications Canada & Mexico	383	278	227	212
ITU AM Registrations	376	373	496	265
Bilateral FM Notifications	267	343	257	422
Bilateral TV Notifications	70	54	72	94
HF Broadcasting Notifications	1015	1017	1021	1025
Automated COSER System Performance	3067	3337	3037	3411
ITU Notices for Mobile Services	57	56	131	78
Mexican Microwave Coordinations	3	2	10	2
Number of Space Items Handled	2607	3021	1106	3401
Space Notifications & Coordinations	45	28	65	14
Total	7890	8509	6422	8924

Quarterly Productivity Report for
Notifications Branch
FY-1999

Service	Quarter 1	Quarter 2	Quarter 3	Quarter 4
AM Notifications Canada & Mexico	200	232	212	572
ITU AM Registrations	327	296	238	217
Bilateral FM Notifications	208	246	283	260
Bilateral TV Notifications	42	100	67	82
HF Broadcasting Notifications	1038	1040	1047	1050
Automated COSER System Performance	3668	2669	2950	4536
ITU Notices for Mobile Services	63	7	20	0
Mexican Microwave Coordinations	0	0	0	2
Number of Space Items Handled	2545	3264	2550	3582
Space Notifications & Coordinations	66	21	50	5
Total	8157	7875	7417	10,306

Quarterly Productivity Report for
Notifications Branch
FY-2000

Service	Quarter 1	Quarter 2	Quarter 3	Quarter 4
AM Notifications Canada & Mexico	108	91	95	138
ITU AM Registrations	288	146	162	221
Bilateral FM Notifications	183	246	251	294
Bilateral TV Notifications	96	108	140	116
HF Broadcasting Notifications	1052	1055	1057	1059
Automated COSER System Performance	3579	3594	5045	3312
ITU Notices for Mobile Services	0	0	1500	896
Mexican Microwave Coordinations	0	2	10	12
Number of Space Items Handled	2709	3168	2630	3407
Space Notifications & Coordinations	124	23	89	423
Total	8139	8433	10,979	9,878

Quarterly Productivity Report for
Notifications Branch
FY-2001

Service	Quarter 1	Quarter 2	Quarter 3	Quarter 4
AM Notifications Canada & Mexico	82	237	182	
ITU AM Registrations	267	396	185	
Bilateral FM Notifications	278	206	116	
Bilateral TV Notifications	218	130	182	
HF Broadcasting Notifications	1061	1065	1065	
Automated COSER System Performance	3329	3767	3500	
ITU Notices for Mobile Services	0	0	1025	
Mexican Microwave Coordinations	4	6	10	
Number of Space Items Handled	2387	3397	2830	
Space Notifications & Coordinations	101	6	20	
Total	7727	9210	12,115	