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I. INTRODUCTION

IMT-2000. The International Telecommunications Union's ("ITU") buzzword of the moment for third-generation mobile services. This past Spring, IMT-2000 was one of the key items on the 2000 World Radiocommunication Conference ("WRC-2000" or the "Conference") agenda. The crux of the issue—a choice of two frequency bands for use by IMT-2000 systems. The Conference resulted in a myriad of compromises leaving each of the many regional factions equally happy—possibly a first for the ITU.¹


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2 The ITU is the United Nations' agency that is responsible for coordinating the development of a global telecommunications network. The ITU develops international regulations concerning all uses of the frequency spectrum, which member nations implement through national legislation and regulations. The ITU also develops common international standards for the interconnection of telecommunications systems on a global basis. See INT'L TELECOMM. UNION, INT'L MONETARY FUND, DIRECTORY OF ECONOMIC, COMMODITY AND DEVELOPMENT ORGANIZATIONS, at http://www.imf.org/exter-

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3 The World Radiocommunication Conference ("WRC") is the international meeting held every two to three years where the telecommunications administrations of ITU member countries decide on the shared use of frequency spectrum that allows the deployment or growth of all forms of radiocommunication services (e.g., television and radio broadcasting, mobile telephony, space services). At the WRC, administrations amend the Radio Regulations, which "constitute an international treaty on Radiocommunication covering the use of the radio-frequency spectrum by radiocommunication services." WRC-2000, INT'L TELECOMM. UNION, at http://www.itu.int/brcconf/wrc-2000/about/index.html (last updated Feb. 7, 2000). The role of the WRC is to: revise the Radio Regulations and any associated Frequency Assignment and Allotment Plans, address any radiocommunication matter of [a] worldwide character, [review and] instruct the Radio Regulations Board and the Radiocommunication Bureau . . . and determine Questions for study by the Radiocommunication Assembly and its Study Groups in preparation for future Radiocommunications Conferences.

This survey article will examine the international and domestic dynamics leading up to the Conference, how the United States, by holding a domestic mini-WRC just prior to the Conference, was able to sway the Conference with a middle ground position, and how the Conference resulted in an acceptable agreement on the identification of frequency bands to be utilized for IMT-2000.\footnote{See Press Release, Int’l Telecomm. Union, ITU Gives Final Approval to IMT-2000 Radio Interface Specifications, at http://www.itu.int/newsroom/press/releases/2000/10.html (May 8, 2000) ("The decision[,] which was taken unanimously[,] was hailed by all participants.").}

II. BACKGROUND

IMT-2000 is the ITU terminology for the family of standards that comprise third-generation mobile services. For over ten years the ITU has struggled with crafting these technical standards to allow the operation of third-generation systems and to determine the amount of spectrum that is required under the auspices of the ITU Technical Study Groups.\footnote{Robert W. Jones, Global Goals, Global Challenges at WRC-2000, at http://www.itu.int/newarchive/wrc2000/preskit/Conference_Overview.html (last visited Nov. 6, 2000) (stating that previous WRC identification of spectrum for IMT-2000 was insufficient because it did not accurately estimate the explosion of mobile services or “the growing demand for megabit data rates”); Lynette Luna, FCC Mulls Allocating More Spectrum for 3G, RADIO COMM. REP., Aug. 31, 1998, at 3 (noting ITU’s decision in 1997 to re-examine the issue of additional spectrum for IMT-2000 at WRC 2000); see WRC-2000, Int’l Telecomm. Union, Highlights: Final Countdown to the Final Acts, at http://www.itu.int/newswire/wrc2000/releases/index.html (May 26–29, 2000) (describing the administration of IMT-2000 issues in Committee 5 “Working Group 5A” as being dictated by an “iron hand”).} At World Radiocommunications Conferences, once the technical spectrum requirements are decided in the study groups, the general Conference is left with the key political question of what is the optimal “global” spectrum for the operation of these mobile systems.\footnote{See Int’l Telecomm. Union, Scope of the ITU-R Conference Preparatory Meeting, at http://www.itu.int/brsg/cpm/scope.html (last updated Mar. 2, 2000) (noting that technical issues are resolved before the WRC to allow the conference to focus on the more delicate political issues surrounding spectrum allocation).}

In the early 1990s, it was recognized that an initial identification of spectrum would be required for these systems early on. Accordingly, while the study groups continued their work, the 1992 World Administrative Radiocommunication Conference\footnote{See Cory Peichel, From Watson to W-CDMA: How wireless technologies evolved; Special Focus: Technology Information, COMM NEWS, May 1998, at 62 (noting divergent allocations).} gave the conference “WARC-92” set aside through an “identification” 230 MHz of spectrum for IMT-2000 in each of the three ITU regions of the world.\footnote{See WRC-2000, Int’l Telecomm. Union, The Main Results, Additional Spectrum for IMT-2000 Third Generation Mobile Systems, at http://www.itu.int/btconf/wrc-2000/about/index-html (last visited Oct. 7, 2000) (explaining WARC-92 allocation).} While the WARC-92 initially identified a global spectrum for IMT-2000, this failed to result in a global use of this spectrum. The United States and several other countries determined that they had other needs in the identified bands so that the identified bands were not allocated domestically to third-generation-type services.\footnote{See id. (noting that in 1993, the Federal Communications Commission ("FCC") allocated the 1.9 GHz band to be auctioned off for PCS).} For example, the United States allocated the 1900 MHz band to personal communications services ("PCS").\footnote{Jeffrey Silva, 3G WRC Policy Dispute Erupts, RADIO COMM. REP., July 5, 1999, at 1 (citing U.S. draft proposal that states that WARC 1992 identifications (i.e., Footnote S5.388) “do not constitute an allocation and lack definition and regulatory purpose”).} Shortly after this action, the United States came under severe criticism from various international factions, most notably the European Union (“EU”), for what critics argue is a nonconforming use of the IMT-2000 bands. The EU has consistently taken the position that the 1992 initial identification was equivalent to an allocation of spectrum.\footnote{Lynette Luna, FCC Mulls Allocating More Spectrum for 3G, RADIO COMM. REP., Aug. 31, 1998, at 3 (noting European operators’ concern over inconsistency with U.S. spectrum allocation and “potential problems associated with roaming with the United States in 3G bands”).} However, the United States has correctly argued that position is legally flawed because the term “identification” has no legal status in the ITU Radio Regulations.\footnote{David R. Sidall, Debate Swirls Around IMT-2000, RADIO COMM. REP., Sept. 21, 2000, at 20 (noting a sense of urgency outside the United States over the identification of additional spectrum for third generation ("3G")).} The use of the 1992 IMT-2000 bands for nonconforming uses created great concern by many nations in the lead period to WRC-2000 who were once again afraid that there would not be a global identification of spectrum.\footnote{See Press Release, Int’l Telecomm. Union, ITU Gives Final Approval to IMT-2000 Radio Interface Specifications, at http://www.itu.int/newsroom/press/releases/2000/10.html (May 8, 2000) ("The decision[,] which was taken unanimously[,] was hailed by all participants.")} This tension would greatly influence the ability of the United States to reach a consensus domestic position on IMT-2000 early in the
WRC-2000 preparation process.\(^{14}\)

It was soon apparent that the initial identification of spectrum would be insufficient to satisfy the spectrum requirements for IMT-2000 systems. Over the next few years preceding the Conference, the ITU-R Study Groups\(^{15}\) focusing on IMT-2000 determined that a minimum of an additional 160 MHz of spectrum was required for these third-generation systems in order to satisfy global IMT-2000 needs through 2010.\(^{16}\) Study Group 8/1\(^{17}\) determined that the most suitable bands for IMT-2000 were the 1710–1855 MHz band (the “1.7 GHz band”), the 2500–2690 MHz band (the “2.5 GHz band”) and the 2700–2900 MHz (the “2.8 GHz band”).\(^{18}\) As discussed below, the current usage of these bands by individual countries greatly influenced the results of the WRC-2000. One consensus band was going to be hard to find. Each of the proposed bands had advocates and adversaries, depending on the current operational use of the band in a specific country or region.\(^{19}\)

The 1.7 GHz band is allocated to mobile and fixed service on a primary basis under the ITU Radio Regulations.\(^{20}\) Accordingly, no change to the Table of Allocations was necessary to identify a spectrum to IMT-2000.\(^{21}\) However, the identification of this band had some very fierce and politically powerful opponents, most notably, the western Europeans and the U.S. Department of Defense (“DOD”).\(^{22}\) As discussed in greater detail below, the western Europeans had already allocated the 1.7 GHz band to second-generation mobile systems and did not foresee evolution of these systems to third generation.\(^{23}\) Further, the western Europeans had no plans to relocate the cur-

\(^{14}\) One fear of the incumbent operators in the bands proposed for identification for IMT-2000 was that the Europeans and other advocates would argue that continued operation of their systems in these bands would be inconsistent with the ITU Radio Regulations. See Jeffrey Silva, *U.S. may be shifting 3G spectrum stance*, Radio Comm. Rep., Nov. 15, 1999, at 1 (noting industry’s concern over the public policy question of nonconforming uses).


\(^{16}\) **Josef F. Huber, WMTS Forum—Vinos from the UMTS Forum,** at http://www.itu.int/newarchive/ (Sept. 2000) (noting Study Group 8/1’s 1999 determination that an additional 160 MHz of spectrum should be identified globally).


\(^{18}\) The Conference also ultimately identified the 806–960 MHz band, but this is not considered additional spectrum. See William Sweet, *Cell Phones Answer Internet Call*, IEEE Spectrum, at http://www.spectrum.ieee.org/publicfeature/aug00/wire.html (Aug. 2000).


\(^{21}\) The Table of Allocations is part of the larger Radio Regulations. IMT-2000 is a mobile system. Accordingly, in order to identify a frequency band for this type of system, a mobile service allocation is required. See WRC-2000, **Int'l Telecomm. Union, at http://www.itu.int/brcconf/wrc-2000/about/index.html** (last visited Oct. 27, 2000) (affirming treaty status).

\(^{22}\) Ambassador Gail S. Schoettler, *Fighting for our air waves*, The Denver Post, Mar. 5, 2000, at G3 (noting competition between equipment manufacturers, service providers, broadcasters and the military for the identification of certain frequency bands).

rent operating mobile systems from this band to allow third-generation systems into this band. Accordingly, this band was unacceptable from their point of view.  

The DOD also held significant concerns over the identification of the 1.7 GHz band. However, the DOD's concerns focused on the defense-related communications systems that were planned, as well as operating in, the 1.7 GHz band that it had around the globe. The DOD became entrenched early on and would not move to these systems.

Despite this opposition, several other countries, such as the Inter-American Telecommunications Commission (“CITEL”) nations discussed below, where such spectrum was clear, felt that the 1.7 GHz band was the most suitable place for identification of spectrum for IMT-2000. This band was essentially "clear" spectrum in those countries—realizing that many current users want to utilize 1.7 GHz for third-generation mobile systems. The 2.5 GHz band also was very controversial. Like the 1.7 GHz band, this band was already allocated under the ITU Radio Regulations to mobile and other services, such as the fixed service, the broadcasting satellite service and the mobile satellite service (“MSS”). This additional allocation made it very attractive to the MSS community, which predicted the identification of MSS spectrum for IMT-2000 as a key to their hope of recovering international competitiveness. The Europeans, through the European Conference of Posts and Telecommunications Administrations (“CEPT”), also determined that this band was the key to obtaining a global band for IMT-2000. Traditionally, this band had only been used by a burgeoning system called Multipoint Multichannel Distribution Systems (“MMDS”), a one-way cable alternative. However, in the year or two before the Conference, the regulatory landscape had changed and MMDS was poised to be a two-way broadband solution to competitive local access in many countries. Accordingly, these interests became fiercely involved in protecting their investments in these bands. The Europeans, on the other hand, believed that the

28 U.S. Sees Spectrum Proposal as "Bridge" at Upcoming Conference, Comm. Daily, Mar. 20, 2000, available at 2000 WL 4694742 ("Most of the countries in the Americas have the 1700 band clear of other uses. It's an empty band." (quoting Ambassador Schoeteter)).
31 The European Conference of Posts and Telecommunications Administrations ("CEPT") is the regional standards-setting body for Europe. THE EUROPEAN CONFERENCE OF POSTS AND TELECOMM. ADMINISTRATIONS, WHAT IS THE CEPT?, at http://www.org/docs/presentation.htm (last visited Nov. 6, 2000).
33 HARRY NEWTON, NEWTON'S TELECOM DICTIONARY 527 (15th ed. 2000) ("MMDS is a way of distributing cable television signals, through microwave, from a single transmission point to multiple receiving points... The microwave signal is received by an antenna on the subscriber's home, then sent down coaxial cable to a box atop the customer's TV set. The box decodes and decompresses the digital signal."); U.S. OFFERS DRAFT PLAN FOR NEXT-GENERATION SPECTRUM SERVICES, COMM. DAILY, Feb. 18, 2000 (stating that the 2.5 GHz band is used by MMDS and Improved Mobile Telephone Service ("IMTS") operators).
34 See Christopher Whitley, Editorial, "Fixed wireless won't move unless carriers tout plusses," ELECTRONIC ENGINEERING TIMES, Nov. 8, 1999, at 83 (citing MMDS' acceptance as a replacement for broadband wireline connections to subscribers); OPTUS VISION TELEPHONE SUPPLIER IN BROADBAND WIRELESS ALLIANCE, EXCHANGE, Feb. 14, 1997, available at 2000 WL 22239465 (reporting on two companies development of fixed two-way broadband wireless communications systems using spectrum allocated for the MMDS after receiving FCC authorization).
35 Patrick Mannion, New consortium, startup provide fresh options and disputes—Fixed wireless nets surge ahead, ELECTRONIC ENGINEERING TIMES, July 17, 2000, available at 2000 WL 22239465 ("Each [WorldCom and Sprint] has spent more than $1 billion to buy five MMDS companies apiece, in a
existing users could be transitioned out for third-generation mobile systems.\textsuperscript{36}

The final band, the 2.8 GHz band, was not allocated for the mobile service.\textsuperscript{37} Accordingly, it was the most controversial at the onset because it would require a change in the ITU Radio Regulations, a treaty, to identify the band for IMT-2000.\textsuperscript{38} Compounding this band’s unsuitability for IMT-2000 was the use of this band by the United States’ Federal Aviation Administration (“FAA”) and the U.S. Weather Service.\textsuperscript{39} For this reason, this band was not favored by many countries for identification for IMT-2000 and was taken off the table early in the Conference.\textsuperscript{40}

### III. PRELIMINARIES

#### A. The Impact of Divergent Interests

One dynamic that only recently began impacting the WRC on a global basis is the increasing importance of industry participation.\textsuperscript{41} Only in the past few years has industry participated actively in the WRC process on numerous delegations.\textsuperscript{42} As more and more markets liberalize, it is likely that industry will continue to increase in power in determining the outcome of the WRCs, both as members and member delegations.\textsuperscript{43}

In general, four key industry groups were repre-
sented on numerous delegations and as members. The first and most vocal were the equipment manufacturers, including Nokia, Nortel, Ericsson, Qualcomm, Motorola, Lucent and a handful of others. A second important industry constituency represented were the mobile service providers, such as British Telecom, France Telecom, BellSouth, BellAtlantic, Sprint and others. An equally vocal constituency were the MSS providers such as ICO and GlobalStar. Finally, the normally quiet fixed-service operators were present through WorldCom, Inc., Sprint and the Wireless Communications Industry Association International. Each of these factions played a key role in shaping the outcome of the Conference and what bands, if any, would be identified for IMT-2000.

First, equipment manufacturers felt that they had the most to gain from successfully identifying global spectrum for IMT-2000 systems. A uniform global standard would arguably make it easier for the manufacturers to make cheaper equipment that would operate around the world. For the MSS providers, it was one of the last few chances they had to become viable systems. Over the past few years, the MSS industry had watched its brethren either go into bankruptcy or fail (such as ICO and Iridium respectively). The remaining MSS entities felt that the identification of MSS spectrum for IMT-2000 would ensure that they would have a role in what they believed was likely to be the next major boom in telecommunications.

What concerned mobile service providers most was not the actual spectrum that was to be identified for IMT-2000 but whether a spectrum would be identified for these systems at all. Failure to do so would likely negatively impact the ability of these operators to expand globally. Of secondary importance, though, was the ability of the

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44 Industry can participate not only as part of a delegation but also can join the ITU as small "m" members of the ITU. Accordingly, they may have greater influence in the study group process and in nontreaty making conferences, such as the CPM. See INT'L TELECOMM. UNION, SECTOR MEMBERSHIP PARTICIPATION, at http://www.itu.int/members/sectmem/participation.html (last updated Mar. 27, 2000) (explaining difference between ITU Members, or large "M" members, and ITU Sector Members, or small "m" members, and noting that "Sector Members of the Radiocommunication Sector may participate in all the technical, operational and regulatory work in the preparatory phase leading up to a World Radiocommunication Conference").

45 See Jeffrey Silva, Wireless Coalition Turns to Congress for 3G Support, RADIO COMM. REP., Apr. 17, 2000, at 17 (noting that these manufacturers' strident lobbying reached back to the pre-WRC stage when they formed the Wireless Spectrum Coalition to pressure the White House and the U.S. Congress to secure 3G spectrum identifications at WRC-2000).

46 See id. (noting mobile service providers such as AT&T Wireless, BellSouth, BellAtlantic and Sprint also were members of the Wireless Spectrum Coalition).


48 The Wireless Communications Association International ("WCIA") represents both MDM systems and also ITFS providers. See Lynette Luna, Incumbent Not Eager to Share 3G Bands, RADIO COMM. REP., Sept. 11, 2000, at 1 ("ITFS are systems run by educational and religious organizations [that] operate [at] the 2.5 GHz band.").


52 Id. Indeed, MSS providers translated this sense of urgency into their advocacy for additional bands for the satellite component of IMT-2000. See FCC Seeks Comments as it Moves on New Wireless Service, MOBILE COMM. REP., Sept. 7, 1998, available at 1998 WL 10705887 (quoting MSS provider as stating "there will be no IMT-2000 without the satellite component").

53 See Lynette Luna, FCC Mulls Allocating More Spectrum for 3G, MOBILE COMM. REP., Aug. 31, 1998, at 3 (noting U.S. operators concern that current spectrum allocations will not be enough to handle the introduction of 3G services).

spectrum to be “global.” A global identification (i.e., all countries using the same frequency band for IMT-2000) would likely reduce the cost of equipment to deploy these systems.

For the first time, the fixed service providers were key participants in the WRC process. In the past, companies like WorldCom, Inc., Sprint Corp. and Bell South, Inc. had primarily participated in the technical study groups, if at all. At WRC-2000, these companies came to ensure that their interests were protected. For the MMDS operators, like WorldCom, Inc. and Sprint Corp., they came to protect the 2.5 GHz band from sole identification. For operators like Bell Atlantic, it was to ensure that sufficient spectrum was identified for IMT-2000. The participation of these companies directly influenced the development of the U.S. proposal for the Conference.

B. The Beginning: Conference Preparation

Since the WRC is a treaty negotiation, the key to the Conference is the input provided by the members of the ITU. This input takes the form of proposals. The formation of these proposals and whether they are a single member's contribution or part of a proposal that also is supported by a regional body, such as CEPT, CITEL or Asia Pacific Telecommunity (“APT”), heavily influences the likelihood of success of the proposal. Arguably, the more members that sign onto a proposal, the more influential it is likely to be.

The first major period for unveiling proposals is the Conference Preparatory Meeting (“CPM”) that is held approximately six months before the Conference. The purpose of the CPM is to craft a report that will be presented to the Conference and that provides guidance on the potential outcome of the Conference with a focus on the technical differences (hence, leaving the more political issues to be resolved at the WRC).

The 1999 CPM all but avoided the crux of the IMT-2000 controversy, namely, which spectrum
would be identified for IMT-2000.\(^{60}\) Instead, the members focused on the amount of spectrum, and the pros and cons of identifying certain bands.\(^{70}\) This was particularly odd because many countries came with proposals on bands.\(^{71}\) A likely reason for specific frequency bands not being discussed was that the United States, a key country in the ITU, submitted a proposal to further study the bands.\(^{72}\) It appeared to many observers that the CPM was unwilling to address this issue until the United States was able to introduce its own proposal, or else the ultimate outcome of the Conference would not take hold.\(^{73}\) In the back of the mind of many delegations was the importance of the U.S. market to the creation of a viable third-generation standard.\(^{74}\) This position angered many other countries that believed that the need for global spectrum for IMT-2000 was the prime issue for the Conference to resolve.\(^{75}\)

Despite avoiding the identification of spectrum, the CPM was very notable for the role of industry, what are termed small “m” members of the ITU.\(^{76}\) During the CPM, unlike at WRC, the members of the ITU are able to speak on the floor of the meeting, input documents and the like.\(^{77}\) In order to help move the CPM toward adopting a firm stance on the identification of spectrum for IMT-2000,\(^{78}\) the equipment manufacturers worked closely together to force the identification of spectrum at WRC-2000 by providing support for such identification in the CPM Report.\(^{79}\)

Specifically, the CPM Report urged WRC to do the following:

- identify 160 MHz of additional spectrum for the terrestrial component of IMT-2000, in addition to what is used for second-genera-

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\(^{70}\) Id. at 13–19 (reflecting Members’ focus on the large-scale, less specific spectrum issue).


\(^{73}\) See Ambassador Gail S. Schoettler, Recommendations to Improve United States Participation in the World Radiocommunications Conferences, § 3.3, at http://www.ntia.doc.gov/oshome/wrc/wrcrecommendations.htm (June 27, 2000) (“The United States is seen as global leader in any negotiation of this kind. Consequently, other countries seek our involvement in their own issues and expect [the U.S.] to be fully prepared and to provide leadership in solving problems and developing compromises.”).


tion cellular mobile systems;80
- make available additional spectrum where there exists a reasonable chance to achieve a common frequency plan worldwide;81
- identify spectrum to fulfill the requirement of twice 67 MHz (two separate bands of 67 MHz, one for the satellite uplink and one for the downlink) for the satellite component of IMT-2000;82
- set forth potential candidate bands for additional IMT-2000 terrestrial spectrum;83 and
- consider using High Altitude Platform Stations ("HAPS") for providing IMT-2000.84

C. The United States, After a Slow Start, Takes the Bull by the Horns

The United States attempted to formulate a position on IMT-2000 for the two years preceding the Conference.85 Unfortunately, because of the divergent interests, both governmental and industry,86 no single band could be agreed on, let alone the specific language for the footnotes, prior to the CPM.87

In order to handle this, the United States initially took an opposing, if not negative, position on the identification of spectrum for IMT-2000.88 This approach, while attractive to some participants, including the DOD and the MMDS industry,89 was extremely unattractive to the mobile service proponents.90 In addition, even the MMDS industry recognized that such an approach was unrealistic.91 This recognition ultimately resulted in the compromise position that was crafted just four short months prior to the Conference.92 However, before discussing this process in greater detail, it is important to take a step back and look at the long process leading up to this pivotal event—the United States "mini-WRC."

The United States' preparatory process for WRCs is a multilayered approach. There are two preparation processes occurring concurrently. On one hand, the National Telecommunications and Information Administration ("NTIA") of the U.S. Department of Commerce coordinates a government position for the WRC.93 Simultaneously, the

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81 Id. at 7-9.
82 Id. at 6.
83 Id. at 13-19.
84 Id. at 19. The discussion of HAPS is beyond the scope of this article.
86 See Jeffrey Silva, Wireless Coalition Turns to Congress for 3G Support, RADIO COMM. REP., Apr. 17, 2000, at 17 (noting the White House's reluctance to identify bands for 3G services because the candidate bands (1.7 GHz and 2.5 GHz) are occupied by government and private sector service providers, and noting equipment manufacturers and service providers' vigorous lobbying of Congress and the White House).
87 See BATTLE LINE FORMING FOR 3G SPECTRUM, TELECOM PRICING BULL., Nov. 30, 1999, at No. 51 ("The USA does not have a spectrum proposal at this point... We're not agreed what the IMT-2000 proposal will be on the radio side." (quoting the head of the U.S. delegation to the CPM, Frank Williams)).
89 See Jeffrey Silva, U.S. FACES CHALLENGES ON GLOBAL 3G POSITION, RADIO COMM. REP., Feb. 21, 2000, at 3 (noting the use and protection of the 1.7 GHz band by the DOD, and the 2.5 GHz band by Sprint and WorldCom for MMDS).
90 See id. (noting mobile phone carriers and manufacturers' desire for U.S. identification and pursuit of additional global spectrum for 3G services).
91 Jeffrey Silva, Wireless Coalition Turns to Congress for 3G Support, RADIO COMM. REP., Apr. 17, 2000, at 17 (citing Sprint's membership in the Wireless Spectrum Coalition supporting additional identification of frequency for IMT-2000).
93 NTIA is responsible for managing the radio frequency spectrum used by federal agencies in satisfying their legislatively assigned missions. Specifically, NTIA processes requests from federal agencies for frequency assignments; provides Executive Branch leadership in coordinating both current and future spectrum requirements for federal government users; and develops and promotes positions at the ITU and other treaty organizations. NTIA addresses spectrum management in the context of the WRC through the Interdependent Radio Advisory Committee and its subcommittee, the Radio Conference Subcommittee. NAT'L TELECOMM. AND INFO. ADMIN., INTERDEPENDENT RADIO ADVISORY COMMITTEE ("IRAC"), FUNCTIONS AND RESPONSIBILITIES, at http://www.ntia.doc.gov/osmhome/iracdefn.html (last visited Oct. 28, 2000); see also NAT'L TELECOMM. AND INFO. ADMIN., INTERDEPENDENT RADIO ADVISORY COMMITTEE ("IRAC"): RADIO CONFERENCE SUBCOMMITTEE ("RCS"), at http://www.ntia.doc.gov/osmhome/wrc99pre/ntia.htm#_Radio_Conference_Subcommittee (last visited Oct. 28, 2000).
Federal Communications Commission ("FCC") coordinates the U.S. industry position through both a Notice of Inquiry process and the creation of an Industry Advisory Group. Once these positions are determined, the U.S. Department of State has the responsibility of pulling these two views together to come up with a U.S. proposal to the Conference.

As of the CPM, the United States was torn on positions. In fact, its unofficial view just prior to the Conference was to argue that no global identification of spectrum for IMT-2000 was necessary. This approach upset all those involved in the process, including: the regulators felt that they might be steamrolled; the DOD was worried that other countries might put the 1.7 GHz band into play; the MDDS and Instructional Television Fixed Service ("ITFS") operators also were concerned that by failing to identify a spectrum, the Europeans could force the Conference to adopt 2.5 GHz as the primary expansion band for IMT-2000; the equipment manufacturers felt that the U.S. was providing no guidance for global development of third-generation mobile systems; and the mobile service providers were afraid that there would be insufficient spectrum for third-generation mobile systems.

At about this juncture, Gail Schoettler was appointed as the U.S. Ambassador to the WRC. The Ambassador realized that a position needed to be staked out or the United States would be in an indefensible position at the Conference. Accordingly, she created a group of fifteen stakeholders in the process (both government and industry), co-chaired by the FCC and NTIA, who would meet for approximately one month to develop a position ("Group of 15"). This group involved a pre-U.S. delegation engaged in a post-FCC preparatory process—an untied concept.

The first meetings of the group were very contentious. At first, the DOD, the Equipment Manufacturers and the Cellular Service Providers

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batted heads. DOD kept up its argument that no spectrum be introduced; the mobile interests argued that both the 1.7 GHz and the 2.5 GHz bands be put forward. The MMDS and ITFS interests surprised the group by introducing a proposal whereby the 1.7 GHz and 2.5 GHz bands would be identified for possible use by IMT-2000, leaving implementation of those bands for IMT-2000 to be a country-by-country decision. This strategic move changed the course of the negotiations in the United States and ultimately, the entire WRC. Initially, the DOD objected to this approach. They were afraid this approach would force the use of the 1.7 GHz band for IMT-2000. In order to satisfy these concerns, the language of the footnote and the accompanying resolution were crafted in such a manner to ensure that use of any spectrum for IMT-2000 was discretionary, and to be left to the administration's individual requirements and decisions.

Another stumbling block was the identification of spectrum for MSS. In the United States, the two frequency bands that the MSS industry wanted to use for the satellite component of IMT-2000 (the 2500–2520 MHz and the 2670–2690 MHz bands) were not allocated for use by the MSS. The MMDS and ITFS advocates wanted to ensure that identifying spectrum for MSS would not preclude any U.S. actions on this issue. Once again, the Group of 15 was able to reach consensus on this issue by providing for utmost flexibility on the proposal.

Despite the band's removal, the group's meeting remained contentious over the remaining issues. See Jeffrey Silva, U.S. faces challenges on global 3G position, Radio Comm. Rep., Feb. 21, 2000, at 3 (noting that only two bands (1.7 GHz and 2.5 GHz) were recommended in the consensus recommendations reached by the Group of 15, and describing the stakeholders (i.e., manufacturers and providers) and government officials as "warring").

See id. (describing U.S. spectrum stakeholders (i.e., manufacturers and providers) and government officials (i.e., DOD) as "warring," and noting conflict between manufacturers and providers with the DOD over identifying and reallocating the 1.7 GHz band for commercial 3G use); see also Jeffrey Silva, Industry-government group to craft WRC-2000 recommendations, Radio Comm. Rep., Jan. 24, 2000, at 10 (elaborating on industry-DOD conflict).

Jeffrey Silva, Industry-government group to craft WRC-2000 recommendations, Radio Comm. Rep., Jan. 24, 2000, at 10. Silva noted that in time leading up to the Group of 15 meetings, government spectrum users resisted spectrum identification because they did not want to be "booted off their spectrum [1.7 GHz], even with a promise of possible relocation and compensation." Id. They also resisted listing frequency bands, including the 1.7 GHz and 2.5 GHz bands, that the wireless industry targeted for possible identification going into the Group of 15 meeting. Id. See also Jeffrey Silva, Rohde: Hunt for 3G spectrum to dominate 2000 agenda, Radio Comm. Rep., Dec. 6, 1999, at 3 (explaining tension between industry and DOD in the period leading up to the Group of 15 meetings and DOD's general opposition to additional spectrum identification).

See Jeffrey Silva, U.S. faces challenges on global 3G position, Radio Comm. Rep., Feb. 21, 2000, at 3 (stating that the Group of 15 recommended both the 1.7 GHz and 2.5 GHz bands for identification). Silva also quoted the Wireless Communications Association's president as saying, "the compromise provides commendable flexibility for individual countries to make the key spectrum allocation determinations that will best provide advanced services" Id.


See Int'l Telecomm. Union, Proposal for Agenda 1.6.1, 10, 14–16, at http://www.itu.int/brcconf/wrc-2000/about/index-html (Feb. 22, 2000) (modifying Article S5, Footnote S5,888 so as to state that the 1.7 GHz and 2.5 GHz bands are only "identified," not "intended," for use by IMT-2000 and that the administrations are not required to give IMT-2000 use "priority" over other uses).

Jeffrey Silva, Industry Pushes Clinton Administration to Secure More 3G Spectrum, Radio Comm. Rep., Aug. 9, 1999, at 6 (outlining conflict prior to Group of 15 meetings between incumbent 2 GHz licensees (MMDS and ITFS operators) and the MSS operators seeking to acquire that spectrum and have the incumbents relocated); Jeffrey Silva, Industry-government group to craft WRC-2000 recommendations, Radio Comm. Rep., Jan. 24, 2000, at 10 (describing the satellite industry as a big factor in the 3G spectrum equation and noting the satellite industry's aggressive advocacy for the identification of additional spectrum for the satellite component of IMT-2000); Sarah Parkes, Battle Lines Drawn for WRC-2000, Global Wireless, Jan. 1, 2000, at 1 (establishing just prior to the Group of 15 meetings that MSS issues were considered important issues by industry and government and were seen as being potentially "contentious" at WRC-2000).


Id. at 4, 10–12 (allowing administrations flexibility in
Another goal of some of the U.S. industry was to ensure that by identifying spectrum for IMT-2000, no administration was tied to this technology or standard.117 Accordingly, to ensure that there was flexibility, the U.S. proposal specifically provided that the identified spectrum was for "IMT-2000 and other advanced communications applications."118 Although this worked to satisfy much of the U.S. industry, it would, as discussed below, create tension during the final days of the Conference.119

Ultimately, after some careful negotiations, the Group of 15 agreed to the final U.S. proposal to WRC. This proposal identified two bands for possible identification to the IMT-2000—the 1.7 GHz and the 2.5 GHz.120 However, the U.S. proposal specifically provided for flexibility in allowing countries the ability to do what they want, including not identifying any spectrum domestically for IMT-2000.121 The proposal specifically included the following:

- A flexible approach that identified the 2.5 GHz band for IMT-2000 and other advanced communications applications.122 It also identified portions of the 2.5 GHz band (the 2500–2520/2670–2690 MHz) for the satellite component of IMT-2000.123

- The 2.5 GHz band was not identified as an extension band on a stand-alone basis; to the contrary, the U.S. proposal identified several bands for IMT-2000 and other advanced communications applications, including the 1.7 GHz band.124 By identifying several bands and adding flexible language, the proposal ensured that all administration interests are accommodated in the relevant frequency bands.125

- The 2.5 GHz band included primary worldwide allocations for fixed and mobile services. The 2500–2520/2670–2690 MHz portions of the band also have a primary worldwide allocation to the mobile-satellite service effective January 1, 2005.126

- Recognized that in the United States, and many other countries, the 2.5 GHz band is already used or planned to be used for a myriad of applications, including IMT-2000, MMDS, instructional television fixed ser-

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121 See Int’l Telecomm. Union, Proposal for Agenda Item 1.6.1, 1, 4, 14–16, at http://www.fcc.gov/ib/wrc00/ (Feb. 22, 2000) (proposing that administrations be allowed to select portions of bands based on their technological, regulatory and market demands).

122 Id. at 1 (explaining that the term “advanced communications applications” includes IMT-2000 and allows for the “inevitable technology changes”).

123 Id. at 4, 12–17.

124 Id. at 4–10 (identifying all or portions of the bands—698–960 MHz, 1525–1559 MHz, 1610–1660.5 MHz, 1710–2025 MHz, 2110–2200 MHz and 2483.5–2690 MHz—for use by administrations seeking to implement advanced communications applications).

125 See id. at 1, 4, 14–16 (proposing flexibility for administrations).

126 See id. at 16 n.8.
vices (provided by educational and religious organizations), and other forms of wireless access and broadcast applications.\textsuperscript{127} It is also expected that MSS applications will be developed for the 2500–2520/2670–2690 MHz bands.\textsuperscript{128}

- Ensured that administrations retain the flexibility to utilize the 2.5 GHz band for the applications they best see fit, while also providing administrations with notice that other or similar administrations around the world may utilize this band or portions thereof for satellite and terrestrial IMT-2000 and other advanced communications applications.\textsuperscript{129}

- Recognized that in the proposals submitted to the Conference, no single band, including the 2.5 GHz band, has global support for identification for IMT-2000. This is because the candidate bands in many countries are heavily encumbered by other uses.\textsuperscript{130}

- Recognized that because of existing uses, the studies from many administrations would need to be conducted and evaluated to determine the suitability of this band for IMT-2000 and other advanced communications applications, as well as how such systems might be implemented.\textsuperscript{131}

- Recognized that the proposal, with its flexible approach, best accommodates the various interests of all of the Union's members with respect to the 2500–2690 MHz band, and the possible implementation of IMT-2000 terrestrial and satellite components and other advanced communications applications.\textsuperscript{132}

With the tentative agreement of the U.S. industry and government, Ambassador Schoettler went to work in trying to sell the U.S. proposal internationally.\textsuperscript{133} The Ambassador set out to visit with many different countries and regions, including CITEL and the Middle Eastern countries.\textsuperscript{134} All in all, there was a somewhat positive reception of the U.S. proposal. As discussed below, some countries, such as the CITEL members, while disappointed that the United States was not supporting solely the 1.7 GHz band, were pleased to see that the United States at least had what they considered a position on IMT-2000.\textsuperscript{135} Other countries, such as several Middle Eastern countries, felt that at least by providing flexibility in the proposal, they would not be forced to identify spectrum for IMT-2000.\textsuperscript{136} Accordingly, the United States, while seeking support for its position, was unable to obtain definitive pre-WRC-2000 support.\textsuperscript{137}

D. Regional Preparations

The United States was the not the only major administration preparing for the Conference.


\textsuperscript{129} See id. at 3-4 (stating U.S. technology-neutral policy that will allow non-IMT-2000 uses to evolve toward IMT-200 and clarifying that administrations may use identified spectrum for nonconforming uses).

\textsuperscript{130} See id. at 15 (recognizing varying levels of incumbent investment as an obstacle to global support for a single band).

\textsuperscript{131} See id. at 2-3 (noting need for studies of selected bands and outlining areas to be studied); Battle Line Forming for 3G Spectrum, Telecomm Pricing Bull., Nov. 30, 1999, no. 51, available at 1999 WL 13383409 (outlining areas to be studied).


\textsuperscript{133} See Ambassador Gail S. Schoettler, Recommendations to Improve United States Participation in the World Radiocommunications Conferences, at http://www.itu.int/bconf/wrc-2000/about/index-html (June 27, 2000) (recounting pre-Conference outreach among other nations).

\textsuperscript{134} See id. (citing specific countries visited).


\textsuperscript{136} See U.S. Remains Optimistic on Compromise at WRC, Comm. Daily, Apr. 10, 2000, available at 2000 WL 4694992 (citing Arab countries as part of larger bloc of countries stating identification of additional spectrum is unnecessary); Di-anne Hammer, U.S. wants multiple bands for 3G spectrum allocation, Global Wireless, May 1, 2000, at 4 (citing Ambassador Schoettler's perception, after traveling the Middle East, that the Arab countries were leaning to the U.S.' multiband position, thereby indicating that the Middle East was willing to support a multiband proposal to avoid choosing the fixed European or CITEL proposals); U.S. Remains Optimistic on Compromise at WRC, Comm. Daily, Apr. 10, 2000, available at 2000 WL 4694992 (citing Ambassador Schoettler that Middle East countries are conflicted on multiband issue and may be willing to compromise).

WRC-2000 set the stage for a dramatic amount of pre-Conference planning and coordination among the regions of the world. In fact, this preplanning coordination made it seem unlikely to the casual observer that the United States proposal would ultimately carry the Conference.\textsuperscript{138} Below is a brief overview of some of the key regional preparations for the Conference.

1. \textit{CEPT}

Understanding regional preparation and strategy is critical to understanding the larger WRC process.\textsuperscript{139} Europe is by far the most organized and disciplined region, and therefore the most formidable when advocating an opposing view.\textsuperscript{140} CEPT is comprised of forty-three countries that CEPT must ceaselessly work to keep together whenever a coalition is formed.\textsuperscript{141} The greatest source of difficulty and dissent from within CEPT usually comes from the Russians and their former Soviet partners.\textsuperscript{142} The Russians often adopt different positions than their CEPT counterparts and advocate them vehemently.\textsuperscript{143}

As noted above, the Europeans are the most disciplined regional body in the WRC.\textsuperscript{144} The Europeans farm out the development of their positions, known as European Common Proposals ("ECP"), to different countries in CEPT.\textsuperscript{145} A proposal must garner the support of at least ten CEPT countries and have no more than six countries opposed in order for it to become an ECP.\textsuperscript{146} Once approved, every CEPT member is expected to support the final ECP.\textsuperscript{147} This discipline is complemented by CEPT’s vigilant attendance of pre-Conference meetings on the regional and individual country levels.\textsuperscript{148}

“CEPT was well prepared for WRC-2000 and effectively developed a consensus-based set of proposals for the identification of additional spectrum for the terrestrial component of IMT-2000.”\textsuperscript{149} This pre-Conference organization may have been fostered by CEPT’s endorsement of the Conference agenda’s determination that the terrestrial component of IMT-2000 should be given priority over the satellite component.\textsuperscript{150} CEPT’s organization also may have been aided by its strong support for the CPM Report’s estimates on the total spectrum requirements for the terrestrial element of IMT-2000.\textsuperscript{151} Based on this framework of findings, CEPT issued a set of proposals that would seal off from other use spectrum currently identified for terrestrial IMT-2000, identify additional bands for terrestrial IMT-2000 and implement identified spectrum so as to promote international harmonization.\textsuperscript{152}

The principle of insuring stability in the identification of spectrum for terrestrial IMT-2000 emerged again in CEPT’s proposal when it recommended fulfilling the CPM requirement of 160 MHz of spectrum by introducing a resolution and a footnote identifying the band 2500–2690 MHz for use by IMT-2000 systems.\textsuperscript{153} CEPT linked the stability of spectrum identification with the larger goals of standardization and harmonization.\textsuperscript{154}

While CEPT’s identification of the band 2500–2690 MHz provided additional spectrum for the terrestrial component of IMT-2000, CEPT’s


\textsuperscript{140} See id. at 5 (explaining the European delegation’s organization).

\textsuperscript{141} See id.

\textsuperscript{142} See id. (explaining European-Russian dynamic).

\textsuperscript{143} Id.

\textsuperscript{144} Id.

\textsuperscript{145} Id. (describing Europe’s pre-Conference preparation).

\textsuperscript{146} Id.

\textsuperscript{147} Id.

\textsuperscript{148} See id.

\textsuperscript{149} INT’L TELECOMM. UNION, EUROPEAN COMMON PROPOSALS FOR THE WORK OF THE CONFERENCE, at http://www.itu.int/brcconf/wrc-2000/about/index-html (Jan. 21, 2000) ("CEPT [is] the first WRC regional organization (before APT and CITEL) to introduce their initial proposals for terrestrial IMT-2000 to the Plenary Meeting."); see also Ambassador Gail S. Schoettler, \textit{Recommendations to Improve United States Participation in the World Radiocommunications Conferences}, 5, at http://www.itu.int/brcconf/wrc-2000/about/index-html (June 27, 2000) ("Europe is probably the most organized region.").


\textsuperscript{151} See id. at 5 (expressing support for the CPM report finding that an additional 160 MHz of spectrum in every region of the world will be necessary to meet IMT-2000 demand by the year 2010).

\textsuperscript{152} See id. at 4–6 (outlining proposal).

\textsuperscript{153} See id. at 6–8.

\textsuperscript{154} Id. at 5.
second proposal also suggested two new resolutions. The first proposal actually threatened the fulfillment of the 160 MHz requirement by identifying spectrum for the satellite component of IMT-2000. Despite CEPT’s initial endorsement of terrestrial priority, CEPT’s first resolution identified the bands 2500–2520 MHz and 2670–2690 MHz for use by the satellite component of IMT-2000. However, it provided that use of the band could transfer to the terrestrial component of IMT-2000 if market developments dictated. In its second proposed resolution, CEPT sought to further protect against failing to meet the 160 MHz requirement (perhaps in light of its first proposed resolution) by requesting a study of the band 2700–2900 MHz for terrestrial IMT-2000 use.

2. CITEL

CITEL, because of the United States’ hesitancy in staking out an advance position, moved ahead before the 1999 CPM to take a position on IMT-2000. Specifically, it tentatively agreed to adopt the 1.7 GHz band for IMT-2000 at CITEL’s December meeting in San Diego, but agreed to give the United States until the March CITEL meeting in Argentina to present its own proposal.

In March, the United States introduced its proposal. It was not well received. To the contrary, it was met with misunderstanding by many of the CITEL countries. Accordingly, the majority of CITEL countries supported modifying footnote S5.388 to identify the band 1710–1885 MHz for IMT-2000 use on a global basis. The stated rationale for the selection of this frequency range was its existing use by first- and second-generation mobile systems. While major mobile market countries Brazil and the United States did not sign onto the identification, CITEL maintained that it still reflected the interests of many CITEL member countries that have made a significant investment in cellular and PCS services, and would prefer to see a market-led evolution from first- and second-generation systems to IMT-2000. CITEL also cited the frequency band’s contiguous location next to spectrum already identified for IMT-2000 as an additional advantage to the identification. In supporting this identification, CITEL noted that when coupled with the opportunity for existing pre-IMT-2000 systems to evolve to IMT-2000, spectrum identification on adjacent bands would “facilitate a cost-effective expansion” toward IMT-2000 use that “increases the possibility of [spectrum] harmonization with other regions.”

CITEL’s second proposal was a No Change (“NOC”) recommendation for the 2.7 GHz band. The proposal also called for further study of possible interference issues on the 2.7 GHz band, noting in the conclusion of the CPM Report that the sharing of frequency bands between public safety radars and IMT-200 systems is only feasible when explicitly confirmed by ITU-R.

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155 Id. at 16 (proposing Resolution TTT that would identify the 2500–2520 MHz and 2670–2690 MHz bands primarily for the satellite component of IMT-2000, and secondarily for the terrestrial component).
156 Id. at 16.
157 Id.
158 Id. at 13 (proposing Resolution ZZZ requesting, inter alia, further study of the feasibility of sharing in the band 2700–2900 MHz between incumbent aeronautical radio-navigation service and proposed mobile service).
160 See U.S. Sees Spectrum Proposal as “Bridge” at Upcoming Conference, Comm. Daily, Mar. 20, 2000, available at 2000 WL 4694742 (noting CITEL support for 1.7 GHz band and the U.S. request that final CITEL decisions on the proposals be postponed until the March CITEL meeting in Argentina).
163 See id. (identifying the preferred band of Latin American countries, the 1.7 GHz band).
165 See id. at 33 (noting the introduction of GSM-1800 in Europe and elsewhere in the band 1710–1785/1805–1880 MHz, and PCS in the Americas in the 1850–1990 MHz band).
166 See id. at 2 (noting positions of all CITEL member states).
167 See id. at 33 (expressing preference and capability for the evolution of pre-IMT-2000 mobile systems to IMT-2000 on the same frequency band).
168 See id. at 32–33.
169 Id. (noting ability to increase harmonization and the possibility of cost-effective spectrum evolution).
170 See id. at 36.
sharing studies.\footnote{See id. (citing WRC-2000, INT’L. TELECOMM. UNION, CONFERENCE PREPARATORY MEETING FOR WRC-2000: THE REQUIREMENT FOR GLOBAL ADDITIONAL SPECTRUM FOR IMT-2000 11-12, at http://www.itu.int/search/index.asp (Nov. 12, 1999)).} While public safety concerns seemed effective in garnering more support from member countries for this second proposal rather than CITEL’s first proposal, significant players such as Canada and Brazil did not join to support this measure.\footnote{See id. at 2.} This was indicative of the challenges CITEL’s organizational problems presented the body in its attempts to form both a cohesive regional unit and consistent proposals.\footnote{See Ambassador Gail S. Schoettler, Recommendations to Improve United States Participation in the World Radiocommunications Conferences, 5, at http://www.itu.int/brcconf/wrc-2000/about/index-html (May 25, 2000) (identifying the 1.7 GHz and 2.5 GHz bands for the terrestrial component of IMT-2000).} 

3. APT

APT took an approach very similar to the United States. It proposed identifying both the 2.5 GHz and the 1.7 GHz bands.\footnote{See id. at 47 (proposing identification of spectrum through additional footnotes to Article 5 of the Radio Regulations).} However, it did so in separate footnotes.\footnote{See id. at 47.} This was a point that appeared to have been impacted from discussions with the Europeans,\footnote{See Toshio Aritake, At WRC Meeting, Japan Will Be Promoting Multi-Band 3G Plan, Official Says, BNA Rec., LAW & ECON., May 12, 2000, at A-4 (noting Japan’s urgency for identification fostered by its shrinking spectrum supply and advanced progress toward 3G).} and the very real demand in countries, such as Japan, for new IMT-2000 spectrum in the very near term.\footnote{See id. See.} From a regulatory perspective, this would mean that someone referring to the Table of Allocations might not be aware that a particular frequency band was one of several potential bands available for use for IMT-2000.\footnote{See id. (citing WRC-2000, INT’L. TELECOMM. UNION, CONFERENCE PREPARATORY MEETING FOR WRC-2000: THE REQUIREMENT FOR GLOBAL ADDITIONAL SPECTRUM FOR IMT-2000 11-12, at http://www.itu.int/search/index.asp (Nov. 12, 1999)).} 

In addition, its proposal retained the language in the footnotes added to the Radio Regulations at WARC-92.\footnote{See Asia-Pacific Telecommunity, Common Proposals for the Work of the Conference 53–54, at http://www.itu.int/brcconf/wrc-2000/about/index-html (May 25, 2000) (identifying the 1.7 GHz and 2.5 GHz bands for the terrestrial component of IMT-2000).} This approach seemed to argue for a more binding nature of the identification than the U.S. approach.\footnote{See id. (reasoning that “[i]mplementation of IMT-2000 in the bands identified in the Radio Regulations at WARC-92 is already planned in many countries, including the transitional arrangement of existing services” and that it is “therefore essential to maintain the existing provisions within the Radio Regulations relating to the frequency bands”); Telephony, COMM. DAILY, May 22, 2000, available at 2000 WL 4695360 (noting that regulators gave more interpretive weight to Radio Regulations and their footnotes than the resolutions).} In addition, APT proposed a resolution regarding the implementation of IMT-2000 in the spectrum identified elsewhere in the proposal.\footnote{See Asia-Pacific Telecommunity, Common Proposals for the Work of the Conference 53–54, at http://www.itu.int/brcconf/wrc-2000/about/index-html (May 25, 2000) (proposing no change ("NOC") for the portions of the 1885–2200 MHz band allocated at WARC-92 and as laid out at the time in Article 55 of the Table of Allocations and associated footnote for the 1885–2200 MHz band).} The resolution emphasized the importance of facilitating the global roaming essential to lowering costs and creating economies of scale for manufacturers.\footnote{See id. (explaining the Arab and African countries’ leadership on the BSS issue); BSS Replanning Process Cleared at WRC, Other Issues Remain, COMM. DAILY, May 16, 2000, available at 2000 WL 4695300 (noting Arab nations’ support for European multiband proposal that included 2.5 GHz band).} It focused on giving administrations flexibility to foster compatibility between existing and future frequency arrangements, as well as arranging smooth transitions between services.

4. The Arab Block

The Arabs also have recently begun to form a disciplined and organized coalition.\footnote{See Ambassador Gail S. Schoettler, Recommendations to Improve United States Participation in the World Radiocommunications Conferences, 5, at http://www.itu.int/brcconf/wrc-2000/about/index-html (May 27, 2000) (noting the Arab bloc’s organizational level).} They developed several proposals, although the primary proposal was on the replanning of the Broadcasting Satellite Service ("BSS").\footnote{See Sarah Parkes, Battle Lines Drawn for WRC-2000, GLOBAL WIRELESS, Jan. 1, 2000, at 1 (explaining the Arab and African countries’ leadership on the BSS issue); BSS Replanning Process Cleared at WRC, Other Issues Remain, COMM. DAILY, May 16, 2000, available at 2000 WL 4695300 (noting Arab nations’ support for European multiband proposal that included 2.5 GHz band).} While the Arab Group maintained its discipline throughout the
WRC-2000 process, there was dissent among the members on the details of many issues. The Arabs, in terms of IMT-2000, believed that no additional spectrum should be identified. However, this position appeared to be up for trade several times during the Conference when the BSS replanning issue was at a logjam.

5. Africa

The countries from the African region are still attempting to form a regional organization. The African countries held a conference in Abidjan, Ivory Coast prior to the WRC-2000 to study the WRC issues in preparation for the Conference. Like many delegations from the developing areas of the world, they are sensitive toward their lack of trained people and financial resources, which prevents their full involvement in the WRC process. Like other developing area delegations, they lack money or influence. In addition, there are substantial cultural and language differences between North Africa and Sub-Saharan Africa, and between Francophone and Anglophone African countries. Despite all of these differences, the African countries view themselves as a large block that is still coming together to address their considerable group needs. In doing so at WRC-2000, the African nations generally felt that additional spectrum was not necessary at this time to be identified for IMT-2000. This position would be a driving factor as the Conference waned on and they knew that some spectrum would have to be identified.

6. Former Soviet States

Russia led the group of former Soviet States. This was particularly interesting since the Russians and the other former Soviet States are a part of CEPT. However, on the issue of IMT-2000, these administrations split from the CEPT position.

The Russians took the most conservative position by generally opposing any identification of bands for IMT-2000. Central to the Russian position was the assertion that the allocation of targeted spectrum to first- and second-generation services is such that many administrations are unwilling to disrupt existing investment by reallocating spectrum for IMT-2000, thus causing administrations to develop their own national policies independent of the ITU and thereby frustrating the goal of international harmonization. The Russians argued for deferral of consideration of the identification of additional frequency bands

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186 See U.S. Remains Optimistic on Compromise at WRC, COMM. DAILY, Apr. 10, 2000, available at 2000 WL 4694992 (citing Arab countries as part of a larger bloc of countries stating identification of additional spectrum as unnecessary).
187 See BSS Replanning Process Cleared at WRC, Other Issues Remain, COMM. DAILY, May 16, 2000, available at 2000 WL 4695300 (noting Arabs’ willingness to deal when it is in their own interest).
189 Id.
190 Id. at 5, 42-45 (examining the relationship between developing countries and the larger international telecommunications community).
191 Id.
192 Id. at 5.
193 Id.
198 See Ambassador Gail S. Schoettler, Recommendations to Improve United States Participation in the World Radiocommunications Conferences, 4-6, at http://www.itu.int/brconf/wrc-2000/about/index-html (June 27, 2000) (refuting claim that additional spectrum is necessary for IMT-2000); see also U.S. Remains Optimistic on Compromise at WRC, COMM. DAILY, Apr. 10, 2000, available at 2000 WL 4694992 (citing Russia as part of larger bloc of countries stating identification of additional spectrum as unnecessary).
199 See Ambassador Gail S. Schoettler, Recommendations to Improve United States Participation in the World Radiocommunications Conferences, 4-6, at http://www.itu.int/brconf/wrc-2000/about/index-html (June 27, 2000) (claiming that premature allocation of spectrum for IMT-2000 may conflict with existing investment in current generation mobile services and threaten the overall mobile market goal of harmonization).
to WRC-03, with further study of the issue until that time. This position was strongly repeated throughout the Conference and may have been a key reason that countries were willing to step back from a single-band identification approach.

IV. THE CONFERENCE

A. The United States Sets the Tenor

Prior to the Conference, there was much apprehension that the United States would not bring a proposal supporting the identification of any spectrum for IMT-2000 to the Conference. Even though Ambassador Schoettler had spent a few months selling this proposal abroad before the Conference, it did not seem to the rest of the world that this was a done deal. Accordingly, there was a sense of relief when the United States arrived with its compromise position for consideration by the Conference.

It is interesting that despite the formation of the deep regional alliances formed prior to the Conference, the United States, by finding a compromise position in its own country that generally satisfied all interests, was able to sway all the regions of the world to adopt a flexible, multiple-band approach to the identification of spectrum to IMT-2000 without having any international support for its proposal. What was particularly unique, however, was that the United States did not unveil its WRC proposal until just prior to the Conference.

The most relieved delegations were those of the CEPT countries (with the exception of the countries comprising the former Soviet Republics) and several key APT countries, such as Japan and Korea. These countries desperately needed to have spectrum identified for IMT-2000. In their view, it was imperative to have common bands used for IMT-2000. Specifically, the manufacturers and a few key operators lobbied extensively as both individual members and as members of

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200 See id. (proposing further study of the need for additional spectrum and the economic consequences of identifying such).


202 Jeffrey Silva, Wireless Coalition Turns to Congress for 3G Support, Radio Comm. Rep., Apr. 17, 2000, at 17 (noting uncertainty over Clinton administration’s spectrum policy was such that industry requested Congress to put pressure on the administration).


delegations, to ensure that what they considered sufficient spectrum was identified for IMT-2000. The concept of whether a single global band for IMT-2000 is necessary is very controversial. Advocates have continually argued that technology mandates the creation of a single frequency band. But with the development of cheap technology for multiband phones and software enhancements, the validity of this premise is questionable.

The Conference began with a slow, noncontroversial start as each of the members who had proposals introduced them to the working group. Mr. Jamieson only allowed points of clarification to be discussed at first. It was evident that the Chair was aware that if he allowed the working group to break away into discussions on the proposals so early in the Conference, chaos would ensue.

Once the proposals were introduced, the Chairman met with key members of various delegations to best gauge how to proceed. Participants included representatives of each of the major regional groups, such as APT and CITEL, as well as representatives from the United States.

B. The Initial Compromise

Early in the Conference, Mr. Jamieson recognized the need to establish clear ground rules for the negotiations. His initial meetings with the relevant delegations led him to encapsulate, in a guideline document, portions of the major proposals introduced in the first few days of the Conference. This document provided:

1. Identification of frequency bands through appropriate provisions at this conference to satisfy the requirement of additional spectrum for the IMT-2000 terrestrial component, recognizing that the CPM Report concludes that spectrum to the order of 160 MHz, beyond that identified already for initial IMT-2000 bands in RR 55.388 and beyond the spectrum used in the three Regions for first- and second-generation mobile systems, will be needed to meet the projected requirements of IMT-2000.

2. Spectrum identified for IMT-2000 should be identified globally, in order to maximize harmonized use, to the greatest extent possible. It is desirable to identify a limited number of contiguous global bands.

3. To meet the requirements of individual administration avoiding heavier and costlier handsets unpalatable to the consumer.

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211 See Sarah Parkes, Battle Lines Drawn for WRC2000, Global Wireless, Jan. 1, 2000, at 1 (noting that the Universal Mobile Telecommunications System ("UMTS") Forum, the 188-member organization charged with harmonizing Europe's regional 3G deployment, as leading the charge for identification of additional bands); Ambassador Gail S. Schoettler, Recommendations to Improve United States Participation in the World Radiocommunications Conferences, 7, at http://www.itu.int/brconf/wrc-2000/about/index.html (June 27, 2000) (relating the high level of industry participation in WRC process); Europeans Said to Be Heading Toward U.S. 3G Position, COMM. DAILY, May 10, 2000, available at 2000 WL 4695255 (noting Members of Congress' urging of the U.S. delegation to reject any WRC proposal that does not provide sufficient flexibility); see also Jeffrey Silva, Wireless Coalition Turns to Congress for 3G Support, Radio COMM. REP., Apr. 17, 2000, at 17 (establishing manufacturers and operators extensive lobbying efforts).


213 See id. (citing experts' claims that frequency shifting technology will make handsets costlier and heavier).

214 See id. (noting CEPT and New Zealand WRC delegate leaders' recognition that affordable frequency shifting technology can be placed in handsets to handle global roaming); WRC-2000, INT'L TELECOMM. UNION, SPECTRUM FOR THIRD GENERATION IMT-2000 SYSTEMS, at http://www.itu.int/brconf/wrc-2000/index.html (last visited Oct. 7, 2000) (explaining that software-defined radio, not circuitry built into the handset, will be used to provide multifrequency, thereby
tions, flexibility must be afforded in a number of areas:

• in order to identify sufficient spectrum for those countries implementing IMT-2000, whilst also taking account of the requirements of those countries not having a need for additional spectrum for IMT-2000 at this time;
• flexibility in the timing of availability and use of the bands identified for IMT-2000, in order to meet particular market demand and other national considerations;
• the opportunity for administrations to determine, at a national level, how much spectrum to make available for IMT-2000 from within the identified bands;
• to allow administrations to develop their own transition plans, tailored to meet their specific deployment of existing systems; [and]
• the ability for the identified bands to be used by all services allocated in those bands.

4. The particular needs of developing countries must be met.
5. To identify additional spectrum for IMT-2000 within current bands allocated to the mobile service.
6. To take into account the substantial work already done in ITU-R, as endorsed by the Radiocommunication Assembly 2000, on IMT-2000, as well as the ability of administrations to deploy other technologies in the bands identified.222

In order to address all the various issues, Mr. Jamieson broke Committee 5A into sub-working groups that, among other issues, addressed the terrestrial and satellite components of IMT-2000.223 These working groups were given strict timelines by which they were required to complete their work. Similarly, Mr. Jamieson’s working group also was provided with a strict timeline.224 This lack of time to fully flesh out issues resulted in some agreement by fire. Specifically, many terms that were not yet agreed to moved up to the next level working group where the Chair would take it on face value that this was the agreed upon position.224 Many delegates would complain throughout this process that they were having items pushed down their throat that they would not have supported in an output document if they knew these issues would not be revisited.225

C. The Middle

The Conference continued in a most contentious manner. Even with laid out ground rules, fighting continued over the very details that would add teeth to the guidelines issued by Mr. Jamieson.226

Throughout the Conference, the Russians continued to take a hard-line position. The Russian Federation (the “Federation”) generally opposed amendment of the Radio Regulations, as laid out in Agenda Item 1.6.1, on the grounds that the ITU-R calculations unreliably estimated the additional spectrum that will be necessary by 2010.227 They claimed the calculations were prospective, and therefore could not accurately account for future market developments and possible spectrum relief by emerging wideband data transmission services (i.e., IP telephony).228 To overcome this inadequacy, the Federation proposed further studies focusing on the shared use of spectrum, international harmonization, the process and cost of reallocating services currently on IMT-2000 targeted bands, and the impact of reallocation on market evolution.229 The Federation buttressed this delayed approach by warning of the individual nations’ ability and “inalienable right” to develop national allocation policies when confronted with premature and unfavorable international agreements.230

225 See id. (noting delegates’ unhappiness with process and fear that all the review of proposals would be lost once a proposal received preliminary approval).
228 See id.
229 See id. at 4–6.
230 See id. at 5.
The CEPT nations, on the other hand, continued to maneuver in such a manner that would force the Conference to prioritize the 2.5 GHz band, if not single it out for global use for IMT-2000.\textsuperscript{231} The CITEL administrations, however, countered these efforts by continuing to move the 1.7 GHz band forward as the priority or sole band for IMT-2000.\textsuperscript{232} APT was concerned to a large extent with keeping the original footnote language that was adopted at WARC-92.\textsuperscript{233}

It was in this environment that the United States' efforts at working with undecided administrations, such as the Africans and Arabs, began to pay off.\textsuperscript{234} Ambassador Schoettler made it a cornerstone of her efforts to meet both formally and informally with each delegation to discuss issues of concern to both administrations.\textsuperscript{235} Further, her staff formulated a very successful country outreach program.\textsuperscript{236} Under this program, each member of the United States delegation (whether industry or governmental) had a delegation that they were responsible for meeting and staying in contact with during the Conference.\textsuperscript{237} In this manner, the United States always was able to have contact with each delegation, and the other delegations felt connected to the United States.

A tactical move by Mr. Jamieson also was to ensure that the adopted language for the terrestrial component be made applicable to the other relevant components. Accordingly, the major debates over language occurred in the confines of the territorial working groups. This did not mean that debates did not rage during the working group meetings.

For example, a major stumbling block during the course of the Conference was the United States' insistence that the spectrum identified for IMT-2000 also be identified to "other advanced communications applications."\textsuperscript{238} Many of the other delegations, especially the European delegations, ascribed evil motives to the United States—arguing that the United States had a potentially secret technology it was planning to deploy in the very bands being identified for IMT-2000.\textsuperscript{239} Support only came from a handful of countries, such as Israel and South Africa.\textsuperscript{240} Hours of floor debate ensued over this issue.\textsuperscript{241} Ultimately, a compromise was reached on this sador’s emphasis on meeting with other delegations).


\textsuperscript{233} See ASIA-PACIFIC TELECOMMUNITY, COMMON PROPOSALS FOR THE WORK OF THE CONFERENCE 49, at http://www.itu.int/bconf/wrc-2000/index.html (May 25, 2000) (explaining that the APT preferred leaving the WARC-92 footnote language untouched and using new footnotes to identify additional spectrum because it would provide the identification's clearer authority among regulators than if they were combined in one footnote or expressed in a resolution).


\textsuperscript{235} See Ambassador Gail S. Schoettler, Recommendations to Improve United States Participation in the World Radiocommunications Conferences, 8–10, at http://www.itu.int/bconf/wrc-2000/about/index.html (June 27, 2000) (stating the Ambas-
position whereby the possibility of use of the spectrum for other advanced communications applications was recognized in the accompanying resolution, but not in the actual footnote language.242

Another critical issue was the priority given to the MSS component in comparison to the terrestrial component of IMT-2000.243 Ultimately, MSS was to be given priority for use of the identified spectrum until 2010, at which point the spectrum would revert back to terrestrial use.

Many other critical issues were still unresolved by the time the package of IMT-2000 footnotes and resolutions were sent up to the Chairman of Working Group 5A, Mr. Jamieson. This working group was structured to consider requirements of existing future services in the bands. Quite a bit of language that some delegations considered critical was still in square brackets. However, the Chairman of Working Group 5A limited debate and moved the documents up to the next level. Accordingly, more debate was raised on the outstanding issues in Working Group 5.

V. THE RESULT

The final acts of the Conference reflect an outcome that is essentially unprecedented in the history of the WRC.244 However, up until the last few days of the Conference, it was still not a done deal.245

One key sticking point of the Conference in the final days was whether the WRC-2000 footnotes that identified IMT-2000 spectrum would have priority over the existing 1992 IMT-2000 footnotes.246 Several delegations, including the United States, argued fervently that the language in the 1992 footnotes should be aligned to be the same as the WRC-2000 footnotes247 or this would be inconsistent with the equality concept embodied in Mr. Jamieson’s negotiating paper. The 1992 footnotes provided:

The bands 1885–2025 MHz and 2110–2200 MHz are intended for use, on a worldwide basis, by administrations wishing to implement International Mobile Telecommunications-2000 (IMT-2000). Such use does not preclude the use of these bands by other services to which they are allocated. The bands should be made available for IMT-2000 in accordance with Resolution 212.248

This almost brought the Conference to a standstill.249 Ultimately the Conference determined that the 1992 footnotes would remain intact.250

Another major issue that arose at the end of the Conference was how to best take into account the needs of the developing countries. In order to accommodate these needs, specific language was included in the accompanying resolution.251

At the end of the Conference, both the 1.7 GHz

opposition to merging the footnotes).248

See id. (noting adoption of the compromise in the resolution).


See Far-Reaching Agreements at World Radiocommunications Conference, Comm. Standards News, July 24, 2000, available at 2000 WL 14663892 (stating “the WRC-2000 was hailed as a success because of its ability to come to grips with key and ever more complex issues”).

245 See WRC-2000, Int’l Telecomm. Union, Highlights, Final Countdown to the Final Acts, at http://www.itu.int/newsroom/wrc2000/releases/index.html (May 26–29, 2000) (noting Chairperson of Committee 5, who warned near the conclusion of the Conference that if debate were reopened, it could take another three weeks to reach the same point).


247 See id. (noting United States and CITEL for single footnote covering similarly identified bands, and European
and the 2.5 GHz bands were identified for use for IMT-2000 through a footnote in the Radio Regulations, as well as through accompanying resolutions. The resolution expressly provides for administrations to have flexibility to implement IMT-2000 in any of the identified bands or any other band, or not at all. In addition, the resolution calls for future studies on a myriad of issues. The resolution also encapsulates additional items that the United States had wanted addressed at the Conference. Specifically, it addresses the evolution of existing mobile communication systems to IMT-2000. It also expressly notes the regulatory parity between the WRC footnotes in 1992 and the WRC-2000 footnotes.

VI. THE IMPACT OF THE WRC ON WHERE ARE WE TODAY

The one clear outcome of WRC-2000 is that many countries, most notably the Europeans, will continue to push to have spectrum “identified” for certain uses. For example, the 2003 WRC Agenda is set to consider the identification of spectrum for both multimedia applications and fourth-generation mobile systems. This effort may result in a push for spectrum “identification” to become a recognized term with regulatory meaning. Although no formal efforts have been made on this part, the informal process of continuing to have spectrum “identified” for different uses makes this a de facto reality. Such actions are already under way by the CEPT countries in the ITU and other fora.

Another key area that is still under resolution is how the footnotes and resolutions adopted at WRC-2000 will be implemented. ITU-R Working Party 8F (“WP 8F”) has been tasked with this effort. In order to best address the work in WP 8F, many of the regional groups are working together to address the issues that have arisen. For example, CITEL has formed a working group just to coordinate regional positions for this process.
Further, it is anticipated that the role of regional alliances will only expand. Although the United States was able to make a difference at the Conference, it is unclear that without firm alliances in the future, it will continue to make such progress. It is important to remember that numbers count at the WRC. Accordingly, more support will lead to a stronger proposal.

VII. LESSONS LEARNED FOR THE UNITED STATES’ PROCESS

As the United States and the rest of the world begin preparations for the WRC-2003, we will see a very changed process. Ambassador Schoettler, in the waning days of her appointment, issued a set of suggestions to improve the United States’ preparation process for the WRC. Because of her success at WRC-2000, it is likely that her suggestions may have more credence than those given by others in the recent past. Many members of the U.S. delegation who participated on the IMT-2000 issue believe the success of the United States was owed partially to her forcing the United States to have a firm position entering the Conference, as well as her country outreach program.

Specifically, some of the key recommendations that the Ambassador (with input from her delegation) made included:

- continuing to have staff assigned to the WRC Ambassador early and from several agencies;
- working within regional organizations to obtain support for U.S. positions;
- forming issue groups within the U.S. delegation to formulate proposals and fallback positions;
- having a large delegation;
- having an extensive international outreach program both before and during the Conference; and
- having an effective media strategy, with active participation by the WRC Ambassador.

At this time, the U.S. has just begun the preparatory process by examining lessons learned at WRC-2000 and how the process can be improved. It is unclear what, if any, changes will be included. In addition, with a new leader in the White House, it may be even more difficult to change the WRC process.

However, a key issue that is omitted from Ambassador Schoettler’s report is the need to find a moderate ground. It is only because of this moderate approach that took into the account all players, that the Conference was able to provide direction to facilitate technological development.

VIII. CONCLUSION

The WRC-2000 introduced a new concept into the WRC process—an approach whereby each participant obtains the outcome they want through a moderate approach. By accepting an approach that did not preclude the use of the bands by other systems on the spectrum identified for IMT-2000, many countries that otherwise would not have accepted the position of the Conference were able to do so.

updated Nov. 2, 2000) (noting organization of the Working Group on Terrestrial Wireless Access to develop "recommendations and resolutions for the harmonization of spectrum usage; prepare guidelines for the implementation of systems and services; provide information on different technologies and services," including Personal Communications Services and IMT-2000).


See Schoettler’s work nixes need for full-time position, RADIO COMM. REP., June 12, 2000, at 20 (reporting FCC Commissioner Harold Furchgott-Roth’s respect for Ambassador Schoettler’s “fine work” led to his assertion that a permanent, full-time Ambassador to the WRC is not required).


Id. at 24 (providing WRC-2000 delegate feedback in favor of outreach initiative and early preparation).