Next Steps and Lessons for the Future

3

WARC-92 set the stage for the development of radiocommunication technologies and services for the next decade or more. Future world radiocommunication conferences will build on the agreements of WMC-92 in an attempt to bring high-quality communication services to people all around the world. In order to ensure the most effective participation of the United States at these future conferences, U.S. spectrum managers and policymakers must understand the context within which international decisions will be made, and the U.S. agencies primarily responsible for conference preparations and negotiations must adapt their cultures and structures to this new environment. The first test of the government's and the private sector's understanding of this new context will come in the implementation of WARC-92 decisions and their preparations for the next world radiocommunication conference to be held in the fall of 1993.

The consequences of ineffective U.S. participation in international telecommunications negotiations and rulemaking could be significant. The rules and regulations set at international fora, and U.S. responses to them, will substantially influence the development of new communications services and how well U.S. companies can compete in radiocommunication services and equipment worldwide. Economic, technical, and political factors must be integrated into a focused, long-term strategy for meeting U.S. radiocommunication needs. The lessons of WARC-92 can contribute to the realization of such a policy and strategy framework, and will enhance the effectiveness of future U.S. delegations and improve chances for U.S. "success" at future world radiocommunication conferences.

INTERNATIONAL ISSUES IN WARC-92 IMPLEMENTATION

WARC-92 represented neither the beginning nor the end of work for spectrum managers and entrepreneurs worldwide. Rather, it marked the end of one phase and the beginning of another. With WARC-92 agreements finalized, member countries of the International Telecommunication Union (ITU) must now decide individually how to implement the allocations agreed to at WARC-92+1

Foreign Allocations and Licensing

Like the United States, most countries usually accept the bulk of the international allocations and incorporate them into their domestic frequency tables. However, also like the United States, individual countries will exercise their right to adapt or ignore allocations they believe are not in their best interests or that will interfere with their existing uses of the spectrum. Because radiocommunication systems must be licensed in each country in which they plan to operate, a single country's refusal to license a service (or allocate spectrum for it) could jeopardize systems that are regional or global in nature, such as some broadcasting and mobile satellite services. At the least, one country's refusal (out of several countries in a given geographic area) to allocate a service or license a particular system will pose substantial engineering challenges. Service to neighboring countries, who have accepted the allocation and licensed the service provider, could be adversely affected.

Given the opposition expressed at WARC-92 toward some services, international acceptance of some proposed systems and services is still in doubt. At the conference, many countries, including the United States, indicated through footnotes to the allocation table that some services (using specific frequencies) would not be permitted to operate within their borders, or could not operate until after a specified date. The United States, for example, prohibited Broadcasting-Satellite Service-Sound (BSS-Sound) services from using L-band allocations in this country. Since Canada and Mexico have indicated that they will both use these frequencies, and since those uses will likely interfere with U.S. telemetry operations, coordination will be necessary in North America.

Sharing and Coordination

The development of sharing and coordination arrangements among new systems and between incumbent and new users of the spectrum will challenge U.S. Government and private sector negotiators. Other countries will try to protect their existing services and gain advantages in service, price, or technical sharing arrangements. As noted in chapter 1, footnotes to the international Table of Frequency Allocations in some cases limit how, when, and where a service can be offered. For example, 75 countries joined together in a footnote that limits the operation of low-Earth orbiting satellites (LEOS) in the 148-149.9 MHz band to secondary status (see chapter 2). This could constrain or preclude operation of LEOS services in those countries. In addition, limits on power, such as those imposed on LEOS systems operating above 1 GHz (big LEOS), may also make coordination of new services difficult. Because the systems are not yet operational, the power requirements and characteristics of these new services are not yet known, and the limits agreed to at WARC-92 may not be practical. Negotiating the technical details that will allow different services to share frequencies will be contentious, as shown by the debate in the United States over the provision of big and little LEOS services (see chapter 2).

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1 The agreements reached at WARC-92 will enter into force on Oct. 12, 1993, unless otherwise noted in the text of the Final Acts of WARC-92.

Trends Affecting International Implementation

In addition to the themes discussed in chapter 1, the Office of Technology Assessment (OTA) has previously identified several broader trends that are shaping the evolution of world radiocommunication technology, services, and policy.[2] These include: rapid technological advances, globalization of systems and services, increasing regionalism, privatization and deregulation, and shifting geopolitical power centers and alliances. Each of these trends will affect how WARC-92 decisions are implemented.

RADIO TECHNOLOGY IS ADVANCING RAPIDLY

The rapid development of new radio technologies and services have serious consequences for the implementation of WARC-92 allocations and regulatory decisions. First, the rapid changes and advances in technology make setting rules and standards for radiocommunications systems increasingly difficult. The decisions made at WUC-92 were necessarily made on the basis of today's technology, but some of these decisions will not come into full force for 10 to 15 years. During that time, the technical bases for the decisions or the technical parameters agreed to at WARC-92 are certain to change and become outmoded.

In an era where the product cycles for electronics are measured in months, not years, a rapid and flexible approach to standards-setting and manufacturing is vital to domestic and international economies, As rules and regulations continue to be negotiated both domestically and internationally, it will be important to not lock in technology solutions and systems that may be quickly superseded. Enough flexibility in the rules must be assured so that technology can continue to grow. A flexible approach will be extremely beneficial to U.S. companies-enabling them to take advantage of their radiocommunication expertise and research and development (R&D) strengths to quickly bring new technologies and services to market throughout the world. The United States explicitly recognized the benefits of such an approach in its proposals for generic Mobile-Satellite Service (MSS) and General-Satellite Service (GSS).

GLOBALIZATION OF RADIOCOMMUNICATION

As the world becomes increasingly reliant on information services to sustain economic growth and productivity, the importance of global telecommunication systems increases. Companies seek to be more closely connected with customers, suppliers, and partners around the world. Individuals increasingly depend on and expect reliable communications wherever they are. Telecommunication systems serving these needs must be global in scope. The LEOS systems now being developed by the United States and other countries are designed to meet such needs.

The trend toward globalism was not well-served by WARC-92. At the conference, countries and groups of countries doggedly fought to have their own positions advanced and their own services protected, despite the almost universal recognition that global allocations would better promote the development of new services and reap higher economic benefits for all.[3] Compromise on many of the issues facing WARC-92 delegates was notoriously difficult, and countries

[2] U.S. Congress, Office of Technolgy Assessment *The 1992 World Administrative Radio Conference: Issues for U.S. International Spectrum Policy,* OTA-BP-TCT-76 (Washington DC: U.S. Government Printing Office, November 1991), hereafter, "OTA, *WARC-92*." The government of Canada cited many of the same factors as the driving forces behind its recent reassessment of Canadian spectrum policy. See Canada, Department of Communication, *A Spectrum Policy Framework for Canada,* Cat. No. Co 22-120/1992 (Minister of Supply and Services, September 1992).

[3] The benefits of a single worldwide allocation for any new service, leading to a single standard would provide economies of scale for manufacturers, allowing equipment prices to be lower, It is possible that the benefits of this situation may unevenly benefit the countries of the world—all countries and consumers would benefit from lower prices, but the other benefits (increased revenues and profits) to manufacturers would accrue only to those developed countries actually making the equipment.

did not hesitate to insert country-specific footnotes that either exempted them from specific decisions or made unilateral decisions to promote their own national interests.

In large part, the blows to worldwide allocations were spurred by the increasing importance of regional ties in world affairs. In Europe, for example, the convergence of economic interests and the emergence of a unified approach to economic policy has made the European countries much more active in promoting their economic self-interest, especially in telecommunications. In order to protect their existing radiocommunication services and advance European technology worldwide, the Europeans have taken a strong stance promoting uniquely European proposals and requirements. They are no longer quite so willing to follow the American lead in technology, preferring instead to stake out their own g-round.

Similar alliances, formal or more informal, exist in many other regions of the world as well, including southeast Asia, and, to a lesser extent, Latin America and Africa. As a result, instead of global allocations, WARC-92 adopted differing regional allocations for many important services including BSS-Sound and high-definition television, MSS, and aeronautical public correspondence. Such divisions may make future negotiations more difficult, and global allocations harder to achieve.

PRIVATIZATION AND LIBERALIZATION

Reflecting the new connection of economics and telecommunications, perhaps the most important trend influencing the future of world radiocommunications is the increasing privatization of telecommunication services coupled with the increasing liberalization of markets and deregulation of telecommunication and radiocommunication industries. In the past, and to some extent, the present, one of the largest impediments to expanding the U.S. telecommunications presence abroad has been the monopolies and monopoly relations maintained by the government-controlled post, telegraph, and telephone administration (PTTs) around the world. As the sole supplier of telecommunications services and buyer of telecommunications hardware, these government institutions wielded tremendous economic and political power-power that was often used in concert with other foreign government policies to exclude U.S. companies from freely competing in many countries.

In recent years, however, in response to intense global competition in telecommunication equipment and services and user complaints about high costs and poor service, many countries have attempted to replace their traditional government telecommunication monopolies with more aggressive privately-owned companies and liberalized rules on provision of services and equipment. These trends represent a tremendous opportunity for U.S. companies to expand their markets and sales overseas. Combined with the increasing globalization of telecommunication services noted above, U.S. companies now have an opportunity to compete in countries they previously were excluded from.

The effects of liberalization and privatization also have led to a number of new players in world radiocommunications, and U.S. companies seeking to deploy their new WARC-approved services will face a different world than only a few years ago. Instead of one government ministry to deal with, U.S. companies may now be faced with a government ministry, a private national telecommunications company, and a plethora of competitors. Both potential support and opposition will be more diffuse, forcing American interests to be quicker to recognize potential allies and more agile in forming alliances with foreign national companies or even other foreign competitors-a trend already evident in the bidding for some foreign telephone system contracts. The implications of this trend are discussed in more detail below.

THE FUTURE OF THE ITU AND SPECTRUM POLICYMAKING

Another important factor affecting the implementation of WARC-92 agreements will be changes in the structure and functioning of the ITU. In June 1991, the Administrative Council of the ITU endorsed the recommendations of a High Level Committee (HLC) that had been established to examine the procedures and institutional structure of the ITU and recommend changes that would allow the organization to more effectively carry out its responsibilities.[4] As a result of the HLC deliberations, the Council called for a special Additional Plenipotentiary Conference (APP) to be held in December 1992 that would consider the recommendations outlined by the HLC. The Council also established a "Drafting Group' of experts from various ITU member governments to develop revisions to the ITU's Constitution and Convention based on the HLC recommendations.[5] This Drafting Group, which the United States participated in, finished drafting the revised text in March 1992, and the APP took place as scheduled over the last weeks of 1992. The United States generally supported the changes recommended by the HLC, since it participated actively in the work of the HLC and the formulation of the recommendations contained in the final report.

In order to prepare for the APP, the State Department's Bureau of International Communications and Information Policy (CIP) formed a task force in December 1991 to develop U.S. positions and propose changes and/or modifications to the HLC recommendations. The meetings of this task force were held under the auspices of the national International Radio Consultative Committee (CCIR)/International Telegraph and Telephone Consultative Committee (CCITT) committees, the activities of which are also coordinated by the State Department. More than 60 representatives of the private sector and of the various Federal agencies involved in international spectrum matters participated in the work of this group. The task force submitted its final report in early December 1992, but has recently been reconvened to address how the United States should respond to the changes made at the APP.[6]

The APP adopted changes in three broad areas that will significantly influence the conduct of future ITU activities and world radiocommunication conferences.[7] First, ITU members adopted a new institutional structure that is intended to streamline decisionmaking and that gives greater emphasis to development efforts (see figure 3-l). Second, the APP laid the groundwork for expanding the role of the private sector in ITU activities, although many of the specifics of their participation in the new ITU remain to be worked out. Finally, the APP adopted a 2-year schedule for future WARCS, which have now been renamed ' 'world radiocommunication conferences. These new conferences will combine the traditional functions of WARCS for frequency allocation and revisions to the international radio regulations, with the functions of the CCIR's Plenary Assembly, which will form a separate part of the conference.

The most important, and potentially disruptive, of these changes is the conversion to a regular 2-year cycle of conferences. Because of the overlap in planning and preparation cycles, the 2-year schedule means that ITU members will be

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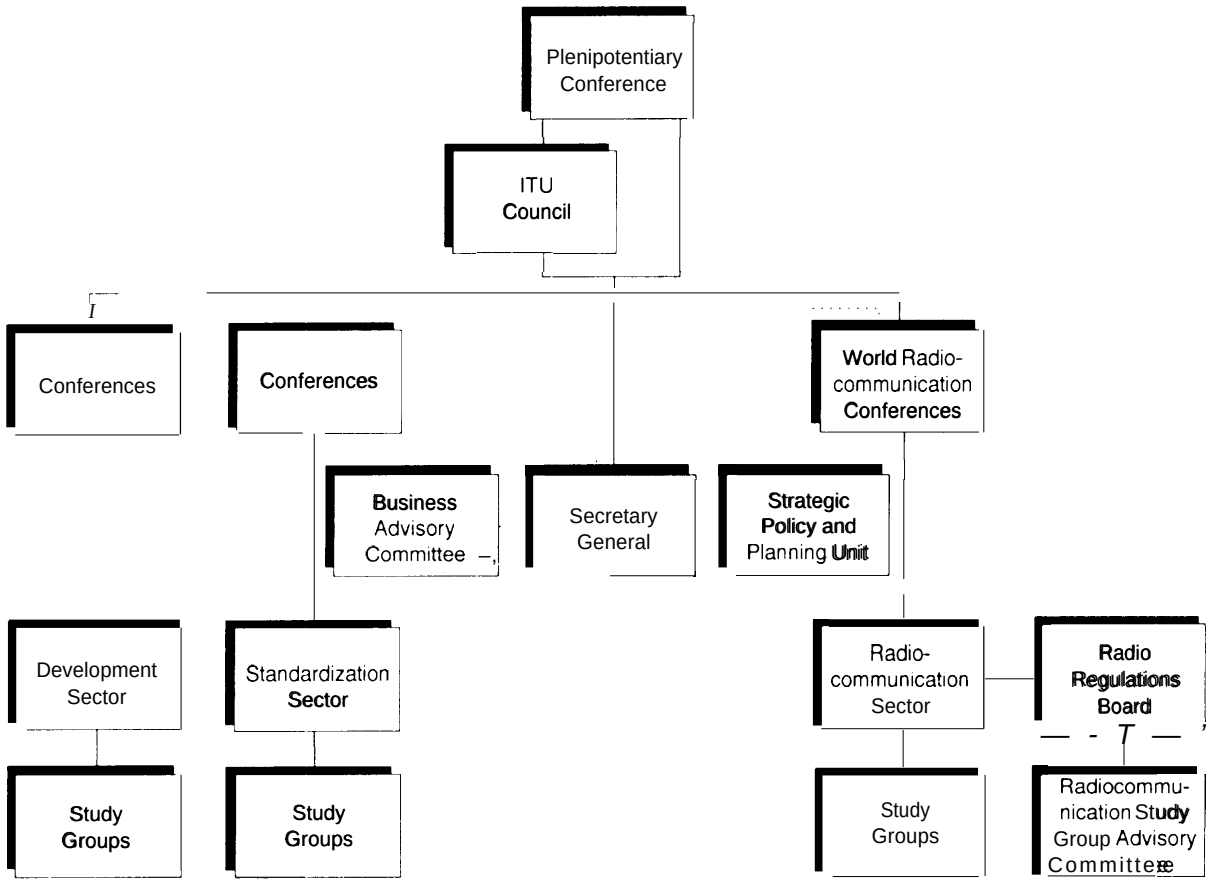
4 For further discussion of the HLC, see OTA, *WARC-92*, op. cit., footnote 2.

5 The proposed changes are being made to the ITU Constitution and Convention as approved by the 1989 Nice (France) Plenipotentiary Conference. However, this Constitution/Convention has not yet entered into force and ITU is still technically guided by the Nairobi Convention of 1982.

6 See ' 'Final Report of the CCITT and CCIR Joint Task Force, ' submitted to Ambassador Bradley P. Holmes, U.S. Coordinator and Director, U.S. Department of State, Bureau of Communications and Information Policy, Dec. 4, 1992.

7 For the complete text of the APP decisions, see International Telecommunication Union, *Final Acts of the Additional Plenipotentiary Conference* (Geneva, Dec. 22, 1992).

Figure 3-l—New Structure of the International Telecommunication Union Recommended by the High Level Committee



SOURCE: Office of Technology Assessment, 1993.

preparing for conferences constantly. In fact, each country will be preparing proposals for a conference at the same time that it is beginning planning for the following conference.

This change has important implications for how the United States prepares for future conferences. First, the 2-year schedule presents an opportunity for the United States to rationalize its budget and personnel approaches to world radiocommunication conference preparation. For those Federal agencies and private companies involved in the planning and preparation for these conferences, a 2-year cycle will put an enormous burden on both personnel and funding resources.[8] In the past, few, if any, resources were devoted exclusively to WARC preparations on an ongoing basis. In most cases, staff assigned to work on WARC preparations had other responsibilities that shared time and attention with WARC. Such an arrangement, while not necessarily ideal, was

[8] It should also be noted that few companies will have interests in each and every WARC that is held. Depending on the agenda for each conference, private sector interests will change, as will the relative participation of the various Federal Government agencies.

justifiable based on the sporadic nature of the WARCS, their varying agendas, and tight budgets. In the future, however, conference preparation and planning will require full-time attention on the part of all involved, but especially the Federal Communications Commission (FCC), National Telecommunication and Information Administration (NTIA), and the State Department. Adequate staff must be assigned to work on these issues, and enough finding must be secured to assure that these staff can do their jobs. In particular, enough money must be budgeted for travel and international bilateral/multilateral negotiations that lay the crucial groundwork for negotiating success.

The scheduling of regular conferences may also provide benefits in the U.S. radiocommunication policy process. Because of the continuous nature of the preparations, this schedule may force the United States to look forward more purposefully and identify longer-term requirements for domestic radio technologies and services. This, in turn, may also force the United States to develop more explicit strategies for pursuing these new goals, and could result in the development of a broader framework for identifying needs, prioritizing goals, and conducting negotiations—providing much-needed focus to the overall U.S. spectrum planning and management process.

It is too soon to assess the full range of impacts of ITU restructuring. The immediate changes in the structure of ITU will be dramatic, but the longer-term impacts on the mission, and the effectiveness of ITU in the face of new technologies, new players, and an increasingly privatized world are likely to be more subtle. As a result, U.S. policy toward ITU and its various organs and conferences is entering a period in which U.S. policymakers must be especially sensitive to the changes in the international telecommunication and radiocommunication arenas. Government policymakers and private sector representatives must continue to look ahead and share information with each other in order to best promote the competitive interests of the United States.

DOMESTIC CONTEXT FOR WARC-92 IMPLEMENTATION

The decisions made at WARC-92 will be implemented in a domestic context that is complex and contentious. Radiocommunication policymaking is a world of dealing, bargaining and negotiating, and as in any politically charged forum, deals can fall apart and on occasion are sabotaged. The domestic battles now being fought over WARC-92 spectrum allocations and service rules are characteristic of strategies often used ‘‘inside the Beltway’ ‘—maligning the character of the competition, disputing every claim, relying on assumptions and half-truths, manipulating the media and Congress.

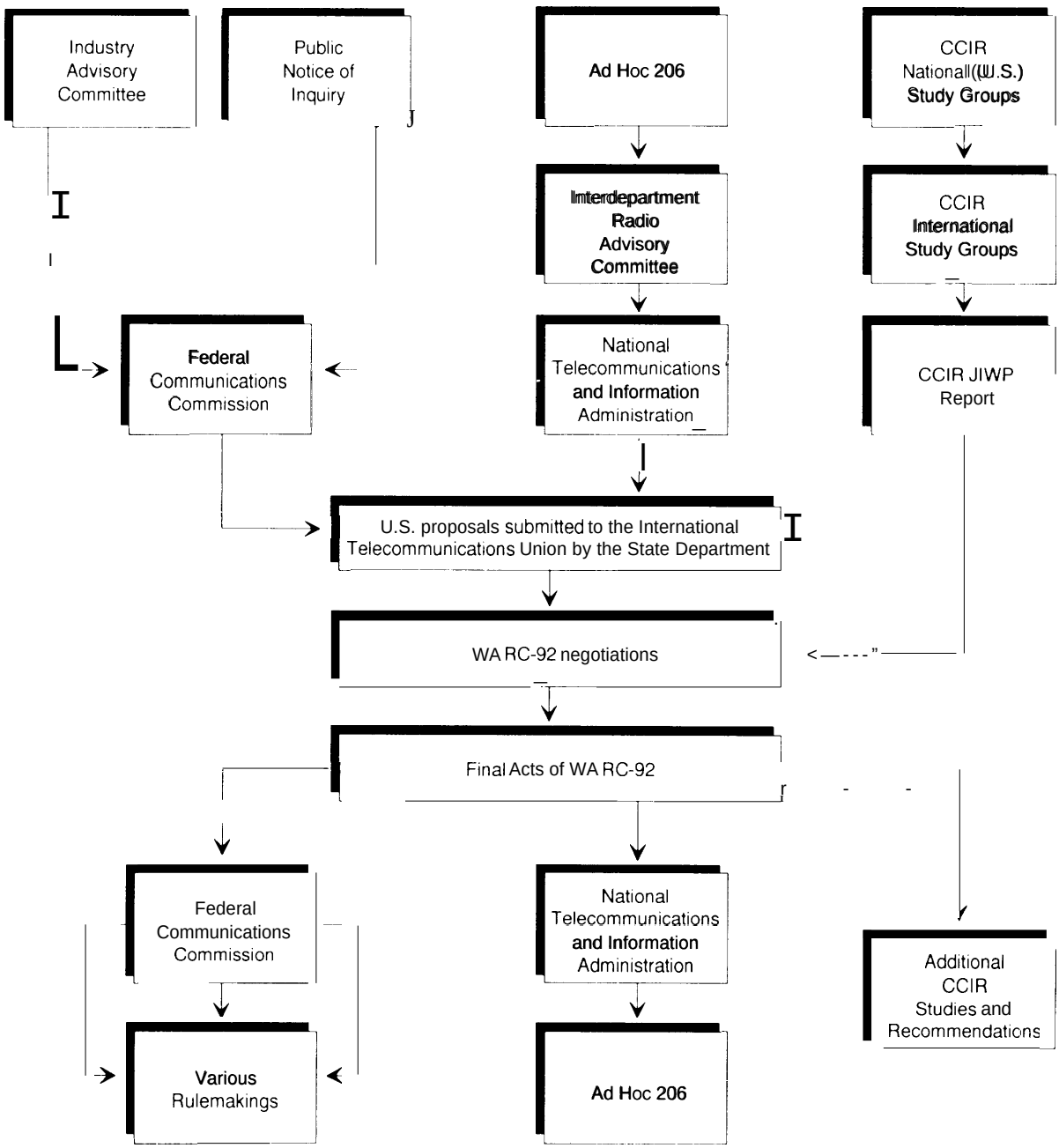
United States preparations for WARC-92 were concentrated in the FCC, NTIA and the State Department. The functions, processes, and issues involved in this 3-way division of responsibility have been previously discussed.[9] This section will examine the roles these agencies play in the implementation of the decisions made at WARC-92 and the larger role they play in developing U.S. radiocommunication policy.

Federal Government Agency Roles

In the United States, responsibility for implementing the decisions of WARC-92 will be divided between the FCC and NTIA (see figure 3-2). The FCC is implementing decisions that affect the private sector and nonfederal use of the spectrum, while NTIA is implementing the decisions that affect Federal Government use of radio frequencies. Together, the two agencies must work out the necessary arrangements in those areas of the spectrum where Federal Government and private sector users must share radio frequencies. The State Department provides input to the

[9] OTA, *WARC-92*, op. cit., footnote 2.

Figure 3-2-Steps in the Federal Government's Preparation for, and Implementation of, WARC-92 Agreements



NOTE: CCIR = International Radio Consultative Committee; JIWP = Joint Interim Working Party.
SOURCE: Office of Technology Assessment, 1993.

FCC and NTIA in matters with important international repercussions. In almost every case, the battle over access to the newly allocated frequencies is fierce, and U.S. spectrum managers face many difficult choices in reconciling new interests with existing users and in choosing between competing systems promising similar services.

In the past, the FCC and NTIA had longer times to work out the details of implementation. The decisions of WARC-92, however, are being implemented more quickly for a number of reasons. First, as noted below, the FCC had a number of proceedings dealing with WARC-92 already in progress. Folding the agreements reached at WARC-92 into these proceedings can be done quickly. Second, the private sector is pushing for rapid action on these proposals, fearing that foreign and domestic competitors may enter the race now that allocations have been established. They also want to begin offering services and start revenue flowing as quickly as possible.[10] The result is that many highly visible issues, such as personal communications service (PCS), big and little LEOS, and BSS-Sound are already being considered by the FCC.

FEDERAL COMMUNICATIONS COMMISSION

Implementation Issues

The FCC is the focus of much of the work now being done in the United States to implement the decisions made at WARC-92. In the past, the FCC usually initiated a single comprehensive proceeding to implement WARC decisions. In the case of WARC-92, however, the FCC already had several ongoing proceedings (begun prior to WARC-92) dealing with specific items that also appeared on the WARC-92 agenda.[11] Because of the important economic and competitive issues involved in several of these items, especially LEOS, the FCC is acting quickly to resolve those issues first, and holding less contentious issues for later action. These existing proceedings will provide the basic framework for FCC implementation of the W~C-92 agreements. Observers expect that the remainder of the allocations and implementation issues, including HF broadcasting, HDTV, and aeronautical public correspondence, will be dealt within one comprehensive proceeding. It will take several years for the FCC to adapt the WARC-92 decisions and allocations to fit national needs.

This incremental approach has both benefits and drawbacks. By considering a number of issues separately, the process may become fragmented at a time when a cohesive approach is needed. In many cases the frequencies to be considered in different proceedings overlap, but the services vying for the same bands might not be compatible. Many services, for example, are currently competing for frequencies in the 2 GHz band, including the existing users of the band (utilities, public safety agencies, and telephone companies), PCS, new space communication services (the responsibility of NTIA) and MSS.[12] It is not clear how these different proceedings will relate to each other. On the other hand, government officials point out that by separating the issues in this way, no one issue can hold up the consideration of the others. With the complex variety of issues decided by WARC-92, and the contentious nature of some of the issues, separating the items may be a better solution.

Challenges for the Future

The FCC, however, faces a number of problems that could hinder its ability to quickly and effectively implement WARC-92 decisions and

10 Fears of competition are often justified. Inmarsat, for example, immediately after WARC-92 concluded, announced its intention to use some of the new frequencies for future LEOS and/or geosynchronous satellite services.

11 These proceedings include proposals for emerging technologies, Personal communications services, little LEOS, big LEOS, and BSS-Sound.

12 Specifically, the bands involved are 1850-2010 MHz, 2110-2140 MHz, and 2160-2200 MHz, which all overlap to varying degrees between the FCC's Emerging Technologies proposal (for PCS), MSS allocations made at WARC-92, and the bands made available for Future Public Land Mobile Telecommunication Systems at WARC-92. See figure 2-4 in chapter 2.

that could undermine its long-term ability to effectively regulate the Nation's airwaves. First and foremost, the FCC has been put in the position of trying to do too much with too few resources. Funding at the FCC continues to suffer from past battles that took place between the agency and the Congress as a result of differences involving philosophy, approach, and specific FCC actions. As a result of chronically low funding levels, the FCC has weathered a siege of hiring freezes and staff shortages. Delays in beginning the negotiated rulemaking that will set regulations for the delivery of big LEOS services, for example, were attributed to staff shortages at the FCC. Had the agency's responsibilities remained static, these staff shortages might have been more easily dealt with, but they came at a time when the regulatory burden on the FCC was increasing. New radio technologies and services are being rapidly introduced, and the passage of the Cable Television Consumer Protection and Competition Act of 1992 has put even more pressure on the FCC's resources. [13]

As a result, the FCC's ability to effectively fulfill its mandate is hampered. By and large, the FCC can handle the day-to-day activities of regulating the Nation's telecommunications issues, albeit sometimes very slowly. However, lack of staff and funding constrain the Commission's ability to look forward and aggressively plan for the next generation of telecommunication services. "The handful of engineers and other technical specialists on [the FCC's] staff lack the resources to become deeply involved in technological planning and evaluation. Technology issues are taken over by parties battling for advantages in the marketplace, and the FCC just barely manages to referee these disputes."[14] brig-term planning is almost nonexistent in many areas, and in radiocommunications especially, the FCC has failed to develop a long-term strategy for managing the boom in wireless communications services. In short, the FCC has become primarily a reactive agency, with little ability to look forward.[15]

The second major constraint on FCC action is the litigious nature of American society. Almost every decision the FCC renders is challenged in court and often appealed numerous times. It is a sad fact that FCC decisions are often written with the expectation that they will end up in litigation.[16] While acknowledging the importance of overturning improper decisions, the consequences of this are to siphon staff time and resources away from aggressive (new) policymaking to defend past actions. Court battles also delay the introduction of new services for the American consumer, and cause uncertainty for equipment manufacturers and service providers alike. In an attempt to head off potential lawsuits in the implementation of WARC-92 decisions regarding big and little LEOS, the FCC used negotiated rulemakings that brought together all interested parties to work out acceptable compromises that could be written into FCC rules and regulations (see appendix E). This approach shows promise in some cases (like little LEOS), but its success in resolving more complicated and controversial issues has yet to be proven.

Options for Improving the FCC's Performance

In light of current Federal budget realities, Congress has several options to improve the functioning of the FCC. First, require structural

13 Public Law 102-385, Oct. 5, 1992.

14 W. Page Montgomery, ''1992 at the FCC: The Year of the Paradox,' *Business Communications Review,* vol. 22, No. 3, March 1992, pp. 32-33.

15 FCC staff often explain their lack of anticipatory action by claiming that there is nothing they can do until someone or some company formally petitions the FCC for action.

16 Recently, the FCC has attempted to find alternatives to it procedures that would reduce the chances fOr litigation and streamline the regulatory process. See box 2-B.

and/or procedural changes that would concentrate more resources on international radiocommunication issues. For example, more focused and coherent international radiocommunication policymaking might be promoted through the creation of a formal or informal internal policy development group.[17] Given cur-rent staffing shortages and increasing responsibilities, this option may be of limited effectiveness without additional funds. Increases in the number and types of radiocommunication services and the FCC's new role in regulating cable television will continue to press FCC staff and resources.

Second, increase funding for the FCC. This money could either be targeted for international radiocommunications or come in the form of an across-the-board increase in the FCC's appropriation. Additional funding would allow the FCC to hire more engineering and legal staff to better handle an already large workload. More staff would also make it possible to redeploy staff resources to concentrate on international matters-those with international experience would be able to focus their attention on international matters. Increased funding would also allow FCC staff to participate more effectively in bilateral and multilateral meetings held in foreign countries-a crucial consideration when preparing for an international meeting such as a WARC.

Such increases could be provided for by changing the way the FCC is funded. Proposals have been advanced in the past that would allow the FCC to fund its operations, at least partially, through fees that it would charge radio licensees, or from the money to be raised by spectrum auctions. The added revenues produced in this manner could contribute a significant amount of money to the FCC's operations.[18] A combination of appropriated funds and fee-based funds could improve the FCC's performance, while keeping present funding levels and congressional oversight intact.

However, simply "throwing" money at the FCC will not solve its problems. Rather it would be a first step in a long-term campaign to boost the agency's efficiency and policymaking abilities. Just as crucial is the attention given to the importance of international issues at high levels, a more coherent focus for international radio policymaking, and a more forward-thinking and aggressive approach to policy. Successful policymaking at the FCC will result from a combination of changes/improvements in structure, funding, and philosophy. Setting specific goals for future policy development and reorganization of the FCC, perhaps through legislation, and closely monitoring progress toward those goals will be necessary to achieve better policymaking results.

NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION

Implementation Issues

NTIA, like the FCC, is now developing procedures for implementing the decisions made at WARC-92, especially as they affect government radiocommunication services such as space research and operations. NTIA will coordinate its efforts closely with the FCC because many of the frequency bands allocated at WARC-92 are used by both private sector and government systems. NTIA's efforts, however, are not as visible as the FCC's, because most of the high-profile systems and services are those to be provided by the private sector, and hence are regulated by the FCC.

NTIA's efforts to implement WARC-92 agreements will be influenced by two separate, but

17 As OTA noted in the past, FCC international staff are spread throughout various bureaus and divisions. Bringing all these experts together in one formal office would be almost impossible, given internal FCC politics. For this reason, a formal group could be convened that allowed staff to retain their current positions.

18 For example, the Congressional Budget Office estimates that spectrum auctioning of licenses for consumer land-mobile communication services could generate between $1.3 and $5.7 billion over 3 years. U.S. Congress, Congressional Budget Office, *Auctioning Radio Spectrum Licenses,* March 1992.

hopefully complementary, activities. The primary focus for NTIA's activities will be the Interdepartment Radio Advisory Committee (IRAC), which has retained Ad Hoc 206, its forum for WARC-92 preparations, and changed its terms of reference to include implementation of WARC-92 allocations and decisions.[19] In this process NTIA will coordinate its implementation and spectrum management activities with the FCC through both informal staff contacts and the formal participation of the FCC as a liaison to IRAC. In addition to the specific implementation issues to be worked out in Ad Hoc 206, NTIA has also launched a Notice of Inquiry dealing with future U.S. spectrum requirements, including the implications of WARC-92.[20] Presumably, the work of IRAC will inform this proceeding and vice versa. The outcome of this inquiry will be a report on national spectrum requirements and technology trends affecting long-range planning for new radio services.

Challenges for the Future

The dual role played by NTIA in the domestic radiocommunication policy Process creates a significant problem in developing domestic and international radiocommunication policy. On one hand, NTIA is the executive branch advisor to the president on telecommunications policy. In this capacity, it should weigh all sides of the issues and present reasoned recommendations to the president. However, NTIA is also charged with the responsibility of managing the Federal Government's use of the spectrum. In this mission, it promotes the interests of the Federal Government spectrum users-a mission that often conflicts with its other mandate of providing rounded advice on telecommunications policy. In the past NTIA has seemingly put more weight on the government side of the equation. However, with the increased activism of the agency in the last several years, it has become more sensitive to the needs of the private sector and criticism that it is too "closed" to private sector input and cooperation. Steps have been taken to open NTIA activities to the public as much as possible.[21]

In addition to balancing its role as presidential advisor for all telecommunications issues against its advocacy for government spectrum users, NTIA must also confront the difficult task of balancing different agency needs and missions in the management of the Federal Government's use of the spectrum. As exemplified by the dispute over new allocations for HF broadcasting and the debate over use of the L-band, this task can often be highly contentious and political.

Options for Improving NTIA's Performance

While NTIA is trying to improve its performance relative to the private sector, its conflicting policy responsibilities have not been resolved and, indeed, cannot be resolved by the agency itself. Action must be taken by the Congress and the Administration to determine just what NTIA's role and responsibilities should be and take the necessary actions to implement that decision—whether it be in the form of legislation, a new executive order, or as part of a more comprehensive effort to revamp all U.S. radiocommunication policy.[22] The specific options for resolving these problems are discussed in more detail in chapter 1.

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19 Ad Hoc 206 is now chaired by an official from NTIA's Office of Spectrum Management. For a discussion of the role of IRAC and Ad Hoc 206 in the preparation of U.S. proposals, see OTA, *WARC-92*, op. cit., footnote 2.

20 U.S. Department of Commerce, National Telecommunications and Information Administration, "Current and Future Requirements for the Use of Radio Frequencies in the United States," Docket No. 920532-2132, June 1, 1992.

21 OTA *WARC-92*, op. cit., footnote 2.

22 In October 1992, Congress passed legislation that gives NTIA statutory authority (Public Law 102-538). This action effectively codified Executive Order 12,046, which had been the basis for NTIA's authority since 1978. Unfortunately, this legislation confirms the duality in ~'s mandate noted above.

STATE DEPARTMENT

Implementation Issues

The State Department is not directly involved in the implementation of WARC decisions in the United States. It does, however, provide input and coordination to the FCC and NTIA on international matters. In most cases, this involvement is through State Department coordination of and participation in bilateral and multilateral discussions with other countries about implementation of specific radiocommunication systems. The State Department also coordinates U.S. participation in the work of the CCIR and CCITT, the sections of the ITU that study telecommunications services and make technical recommendations on standards and system characteristics. The CCIR, especially, will play an important role in the implementation of WARC-92 decisions as a result of the conference's call for technical studies in many areas, including LEOS, future mobile services, space services, and BSS-Sound. The State Department is also active in coordinating U.S. activities with other international telecommunications organizations such as The Inter-American Telecommunications Conference (CITEL) and the European Community (EC).

Challenges for the Future

The State Department plays an uneasy role in the U.S. radiocommunication policy process. It is the official representative of the United States in all formal international telecommunications meetings, such as WARCS. It also plays an important role in selecting the head of the delegation and providing most of the administrative support during the conference.

However, the role of the State Department is constrained in several ways. The State Department plays no direct role in developing or implementing domestic radiocommunication policy (e.g., WARC decisions), and has no authority over the radiocommunication policies of other executive branch departments. The State Department's almost nonexistent role in the development and implementation of domestic telecommunication policy limits its effectiveness in international radiocommunication policymaking and negotiations. Although State Department spokespeople are technically experienced and politically knowledgeable, many foreign delegates know they have no power over domestic implementation of international decisions. This may inspire them to deal directly with domestic regulators (FCC and NTIA) in order to streamline negotiations.

The Bureau of International Communications and Information Policy (CIP), which is the focal point for telecommunications within the State Department, has a relatively small staff of telecommunication professionals, and no formal engineering staff to support them. Established in 1982, CIP is also a relatively new addition to the State Department structure and, as a result, does not enjoy the prestige, status, or power of other bureaus in the Department.[23]

This relatively low position reportedly caused problems at WARC-92. There was initially little cooperation from other parts of the State Department in the preconference phase of negotiations, and members of the delegation leadership were frustrated trying to get things done through the Department. In part to solve this problem, Gerald Helman, a former ambassador and the U.S. representative on the ITU's High Level Committee, was brought onto the delegation to provide a better liaison with State Department officials.

These initial difficulties between the State Department and the U.S. WARC-92 delegation leadership also point out a more fundamental concern that must be addressed-the lack of

23 As noted in chapter 1, the State Department is now considering a restructuring that would place CIP under the Bureau of Economic and Business Affairs. This change may affect CIP's ability to carry out its coordination functions for international policy, and further reduce its stature in the State Department.

high-level attention to telecommunications policy in the State Department, and a lack of appreciation of the importance of telecommunications for international trade and competitiveness. It is clear from the pre-conference phase of WARC-92 preparations that the State Department can play an important role in promoting U.S. radiocommunication policy around the world. During that period, but only after much prodding, U.S. embassy staffs supported U.S. pre-conference efforts by meeting with high-ranking telecommunication officials in ITU-member countries and explaining and promoting U.S. positions. Such international support will be crucial before future conferences in light of the restructuring of traditional alliances and the rise of regional blocks around the world. Despite the relative success of such efforts, however, there is currently little evidence to suggest that higher levels (above CIP) of the Department understand or appreciate this potential role.

Opt ions for Improving the State Department's Performance

Although many are critical of the historical role the State Department has played in past WARCS, and doubt its continued usefulness, other analysts believe that CIP and the State Department have an important role to play in negotiating international radiocommunication policy. As telecommunication becomes a more global industry, telecommunications policymaking will assume a more international character. As regional and worldwide communications systems develop and as geopolitical relations continue to evolve, the foreign policy aspects of U.S. international radiocommunications policymaking will become more important. The State Department, as the U.S. Government expert on foreign affairs, can play an important role not only in promoting U.S. interests abroad, but in formulating positions that have the best chances of acceptance in international fora—helping U.S. companies enter and successfully compete in new and existing markets. The State Department already has the basic framework in place-through its embassies-to make an effective impact on international telecommunications policy. Neither the FCC nor NTIA has this advantage. Those who believe that continued State Department involvement in the international telecommunications policy process would be beneficial have argued that restructuring and strengthening CIP would solve its past problems.

Strengthening CIP may require revising its mission and restructuring its staff. A clearer role in developing international telecommunication policy may be needed. CIP must make a serious case for itself within the State Department in order to show its relevance to the conduct of foreign policy. Most importantly, an overhaul of CIP would require a commitment from senior State Department leaders to integrate telecommunications issues with foreign policy considerations. Remodeling CIP would probably also require increased funding for travel and staff. The addition of a small engineering staff may help integrate ClP's role in international policy with its counterparts at the FCC and NTIA.

An alternative is to strip the State Department of its authority in telecommunications entirely, and move its fictions to another agency--either an existing one or a new agency for radio and telecommunication development. The specific options for restructuring are discussed in chapter 1. Given the uncertainties of the new ITU process, it is imperative that Congress decide what role the State Department should have in international telecommunications policymaking and representation. If action is not taken, CIP will continue to struggle in its present form. Congress can influence international telecommunications policy through CIP, but that leverage could be more effective.

One potential roadblock to the State Department increasing its role in the area of telecommunications is the division of responsibility between the State Department and the U.S. Trade Representative (USTR). The EC letter to Ambassador Baran (see the section on LEOS in chapter 2) requesting a meeting on LEOS licensing and

coordination raised two important public policy questions that have not yet been adequately addressed. The first issue is a fundamental question of what agency in the United States should be in charge of, or participate in, telecommunications meetings and negotiations that involve trade. Historically, the USTR has handled all negotiation between the United States and the EC. In this case (LEOS), the USTR did participate in the meetings, but not substantively. In the future, however, as trade and telecommunications issues become increasingly blurred, such an easy resolution may be hard to come by, and friction could develop between the State Department, NTIA, and the USTR. In order to avoid future turf wars, rights and responsibilities should be clearly outlined.

A parallel issue raised by the EC request is who does the United States deal with in Europe on telecommunications matters—the EC's telecommunications committee or European Radio Communication Office (ERO)? The divisions and uncertainties in the European telecommunications structure present an opportunity for the United States. And while the United States obviously has no direct input into how the various roles and responsibilities ultimately are divided, a careful study should be made and steps taken to ensure the best interests of the United States.

WARC-92: LESSONS FOR THE FUTURE

Conference Preparations

PRIORITY-SETTING AND GOVERNMENT POLICY LEADERSHIP

Because of the limited, and increasingly congested, nature of the radio frequency spectrum, setting priorities for its use is critical to ensuring the effective and efficient development of radio technologies and services in the long-term. Policies must be developed, with appropriate input from the private sector, that promote the development of new technologies and that also protect vital public safety and defense interests. WARC proposals and positions, because they help set the international context for all radiocommunication development and use, are thus critically important in this regard. Unfortunately, both before and after WARC-92, the government has been consistently criticized, by both members of the private sector and the government itself, for its lack of leadership in developing U.S. proposals and positions for the conference.

Two primary factors contributed to this lack of leadership. First, as noted in chapter one, the U.S. approach to spectrum policymaking and WARC preparation is based primarily on a democratic, market-driven model that tends to be reactive rather than forward-looking. And while this approach allowed the United States to produce decisions (WARC proposals) on time, it is less clear that those decisions were (and are) in the best long-term interests of the country. The apparent success in setting WARC-92 proposals quickly obscures the fact that long-range strategic planning on the same issues is almost nonexistent.

One incident in particular from WARC-92 illustrates the impacts that a lack of focused leadership and inadequate priority-setting can have. During the preparations for the conference, a conflict developed over the U.S. position with regard to the use of the L-band. Here, two clear policy issues clashed—support for big LEOS versus support for the future Global Navigation Satellite System (see chapter 2). The United States found itself in the politically difficult position of supporting two different uses for the same frequency band--one a private sector use backed by powerful companies promising billions of dollars in revenue and the other an international system for improving air safety and navigation that was already partially planned and coordinated. No policy determination was made to support one use/system or the other. Rather, the U.S. delegation tried to finesse its position to support both proposals, despite evidence that the systems could not share the same frequencies. The conflict will continue as the United States and other nations try to reconcile the decisions of the conference regarding these two services.

The second factor underlying the lack of focused government leadership is the divided structure of the radiocommunication policy process. Each of the agencies involved in the WARC preparation process has its own priorities. The FCC is concerned with promoting the interests of the domestic radiocommunication industry and U.S. radio service users. NTIA's primary concern is to protect the Federal Government users of the spectrum, while also promoting the competitiveness of U.S. companies overseas. The State Department, based on its mandate for advancing foreign policy, is most concerned with negotiating the best deal once positions are set. Unfortunately, these three perspectives and the differing missions of the various Federal agencies can often give rise to divergent policy directions and conflicts over the 'best' policy alternative. More to the point, there is currently no effective mechanism that stands above the agencies that can mediate such policy-oriented disputes when they arise.

But the deeper problems created by a divided policy structure and lack of leadership may be more subtle and far more serious. As noted in chapter two, during the consideration of additional allocations for HF broadcasting, a conflict developed between private broadcasters and U.S. Information Agency (USIA)/Voice of America (VOA), who wanted additional allocations and other government agencies, who opposed further allocations for broadcasting in the band, noting its extensive use for drug interdiction activities. In many respects this situation mirrored preparations prior to WARC-79. In both cases, VOA lost its case in the traditional preparation process of IRAC, and appealed the decision to the National Security Council (NSC). Before WARC-79, NSC accepted VOA's position. In 1992, however, NSC did not rule on VOA's request until after the conference had ended, effectively nullifying the appeal.[24]

The issue of whether VOA was justified in its request is not the crucial issue. The more fundamental questions involve the policymaking and appeals processes-are they fair and adequate, are they adhered to, and, ultimately, do the decisions made reflect the best interests of the American public? Because of the different interpretations of events leading up to WARC-92 and because much of the negotiations over HF broadcasting spectrum took place in the closed proceedings of IRAC, it is difficult to determine what really happened, and when. It is clear that a policy process is in place, but what is less clear is how closely and fairly formal procedures were followed, and how much each side took advantage of the process. Some government and private sector representatives from the HF broadcasting community believe that they did not get a fair hearing of their requirements in the U.S. preparatory activities, leading some to claim that a policy "deal' was struck between the FCC, NTIA, and other government users. They similarly feel that the appeals process was not handled in an aboveboard manner by those involved. They point to this instance as part of a more general problem in the way the IRAC/Ad Hoc 206 process works-a process they view as biased against broadcasting interests specifically and against smaller, less powerful agencies in general.

NTIA rejects this view. Agency officials maintain that there is no bias in the IRAC policymaking process, and that in the case of HF broadcasting, proper appeal procedures were followed.[25] They point out that VOA was actively involved in

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24 NSC subsequently rejected the VOA position.

25 In cases where a disagreement exists, the normal procedure is for the issue to be passed to progressively higher levels for resolution. Thus the debate (in the IRAC preparation process) over additional frequencies for HF broadcasting moved from Working Group A of Ad Hoe 206 to the full membership of Ad Hoc 206, to the full IRAC, to NTIA, where a policy decision was made, and finally to the National Security Council. While this process is well-understood, it is also possible that both sides can use the process to their own advantage. There is evidence that both sides manipulated parts of the process in order to advance their negotiating strategies.

the IRAC process, and that the FCC, which participates in the proceedings of the IRAC through a liaison, did support VOA's and private broadcasters' position. As a result of the preparation and appeals process, NTIA decided that the existing uses of the band were more important than VOA's planned uses, and consequently made a policy decision not to support VOA's requests.

Complicating the analysis of this situation is the secrecy that tends to shroud the deliberations of IRAC and its preparations of Federal Government positions.[26] Because many of the government's uses of radio frequencies support classified activities, IRAC meetings have historically been closed to the public. This contributes to an impression that hidden agendas are being pursued and protected under the veil of ''national security.'' This perception is reinforced by a belief that government users may not always fully document their use of the spectrum to the public.[27] FCC staff, who represent "the public,' do attend IRAC meetings, but it is unclear how forcefully they articulate private sector interests in such meetings or how much information they can pass on to private sector representatives. Some commenters have noted that the FCC liaison is an effective force within IRAC, well able to represent the interests of the private sector. Other private sector commenters, however, are not convinced that the FCC always represents them as forcefully as it could.

Since IRAC meetings are mostly closed to the public, such claims and beliefs are difficult to evaluate. In the case of HF broadcasting, there is no way to discern at what level the decision was actually made, who made it, what policy dimensions were considered, and how carefully private sector concerns were addressed. There is no way to check what information was provided by the existing users of the band, and there was no open discussion at the policy level of which agency mission was most important in this case-the public diplomacy mission of the VOA and others, or the use of the frequencies to support drug interdiction efforts. However, it should not be assumed that because VOA did not have all its requests granted that the process is biased. On the other hand, the fact that VOA did get some of what it wanted does not prove the fairness of the process either.

On a more general level, secrecy leads to an impression that government frequency use information is not being shared. Some believe that it may not even exist. Again, because of the closed nature of the proceedings, an objective analysis of such claims is difficult. The agencies participating in IRAC negotiations maintain that they do share information, and that inadequate frequency data is also a problem with the FCC. Executive branch officials also point out that at certain points, internal debate at the FCC is **just as** closed from public view as is the IRAC process—at some point, (public) inputs must be closed off and a decision made. While this is true, the workings of IRAC are generally more difficult to analyze--it is still unclear what inputs are made and how they are considered. Decisionmaking may need to be closed off, but accountability must also be built into the system to the extent possible. A way must also be found to insure the accuracy and completeness of both government and private sector frequency data, and to provide adequate access to it for those with legitimate needs. Basing policy

26 NTIA has taken steps t. open the IRAC process so that its activities are more accessible to the public. This includes a public presentation period at the beginning of each IRAC meeting. For further discussion of NTIA's plans, see U.S. Department of Commerce, National Telecommunications and Information Admiistration, *U.S. Spectrum Management Policy: Agenda for the Future,* NTIA *Special* Publication 91-23 (Washington DC: U.S. Government Printing Office, February 1991).

27 The extent to which government spectrum users must disclose and describe such use is unclear. NTIA official.s maintain that they require users to support their proposals. What constitutes adequate support in this context is not defined. Especially in cases affecting national security uses of the spectrum, even NTIA officials may not Imow exactly where where, or how extensively a given frequency or band of frequencies is used.

decisions on flimsy or anecdotal data is no way to formulate good public policy.

In general, critics of the IRAC process complain that few high-level, open policy determinations were made that could have guided the WARC-92 preparation process, and solved major disputes like HF broadcasting. Instead of being guided by policy goals and accepted priorities, the overall approach to WARC-92 preparations was topic-oriented and ostensibly consensus-driven, both within the Federal Government's IRAC proceedings and in the FCC's Industry Advisory Committee. Unfortunately, this approach does not necessarily ensure that the best proposals are put forward, only those that are supported by the strongest (politically and/or financially) proponents and the best lawyers and consultants. This may lead to cases in which the "little guy" gets trampled-their concerns expressed but discounted. In such cases, consensus can become in practice little more than a rubber stamp for the wishes of the most powerful.

The HF broadcasting case also highlights the tension between NTIA's mission as Federal Government spectrum manager and its role as presidential advisor on telecommunications-it must walk a fine line between what the Federal agencies (as represented in IRAC) want, and what is good for the country as a whole. Policies and decisions involving Federal Government spectrum use, based on the consensus of the Federal users involved, may not reflect the larger public interest. In such cases, it is possible that the spectrum manager mission supersedes its advisory role, and private sector interests may lose out to Federal Government interests. The outcome of the HF debate provides little evidence either way. HF broadcasting interests did get additional allocations, but they did not get as much as they wanted. From this broadest perspective, regardless of how the decision was made, claims of bias toward Federal agencies are not supported; neither are claims that private sector interests were well-represented and fairly considered.

The overarching question becomes: Who is making U.S. Government communication policy? Based on what principles and concerns? In lieu of guiding policy directives from above, it appears that Federal policy is often developed out of the consensus-based process of IRAC. This, in and of itself, is not necessarily improper, but with such a heavy concentration of defense-related interests serving on that committee and a lack of clear policy guidance, it is unclear if the workings of IRAC represent a ''level playing field' on which all agencies can get a fair hearing of their needs and in which the best interests of the public are served.[28] It is also not clear that IRAC has the authority or is at the appropriate (high-enough) level to deal with fundamental questions of policy-especially since IRAC is chartered in only an advisory capacity to NTIA, which is formally charged with developing policy and managing the radio spectrum.[29] The appeals process for IRAC decisions is well-defined, if time-consuming. It should be noted, however, that an effective appeals process does not compensate for or justify a poor policy-development process.

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28 As of February 1992, the membership of IRAC consisted of: the Departments of Agriculture, Commerce, Energy, Health and Human Services, Interior, Justice, State, Treasury, Veterans Affairs, Air Force, Army, Coast Guard, National Aeronautics and Space Administration, Navy, Nationat Science Foundation, U.S. Information Agency, U.S. Postal Service, Federal Emergency Management Agency, General Services Administration, Federat Aviation Administration, and a liaison from the Federal Communications Commission. The Defense Information Systems Agency, National Communications System, and National Security Agency participate only as observers. IRAC is chaired by unofficial from NTLA's Office of Spectrum Management.

29 NTIA has noted this tension itself: ''Since the IRAC chairman is the Deputy Associate Administrator of [the Office of Spectrum Management] and most of the subcommittee chairmen are also NTIA employees, it may appear to some that NTIA decisions are actually made by IRAC or vice versa. The advisory role of IRAC and the decisionmaking role of NTIA should be clarified and the ability of the IRAC to develop independent policy proposals emphasized. " NTIA, op. cit., footnote 26, p. 22.

PREPARATION OF OFFICIAL PROPOSALS AND NEGOTIATING POSITIONS

Despite some problems, initial U.S. preparations for WARC-92 went well. The official proposals were developed on time (with some exceptions) and were among the first to be submitted to ITU. However, once that process was completed, the development of negotiating positions and strategies (based on the formal proposals that were submitted to ITU for WARC-92) became difficult. Several factors combined to make this happen. First, the multitude of private sector and government views were very difficult to blend. A broad range of interests, a large number of participants, and the lack of government leadership noted above are cited by most observers as contributing factors.

Second, an almost universal complaint heard from both private sector and government delegates and analysts was that the official U.S. delegation was chosen and officially named much too late in the preparation process. This complaint has been made a number of times in the past. Critics argue that the delegation must be picked and announced well in advance of the conference if the United States is to develop effective positions and if the members of the delegation are to learn to cooperate. Although an informal core of industry and government representatives had been preparing for WARC-92 well before the conference, uncertainty about the makeup of the delegation and the government's efforts to preserve the secrecy of U.S. positions, made the drafting and elaboration of fallback positions and negotiating strategies difficult.

These problems led some observers, foreign delegates, and U.S. delegates to complain that developing formal and final U.S. negotiating positions took too long. The result was a lack of firm positions and strategies that made early preconference diplomacy very awkward. The unsettled form of U.S. positions had the further effect that, in many international bilateral and multilateral meetings (such as the CITEL meeting held in Washington, DC in May of 1991), the United States could not forcefully push (renegotiate) its views because they were not set. Some delegates believe that having more time to "sell" the U.S. positions, for example BSS-Sound and HF, would have produced better results at the WARC.

While more time to lobby for U.S. positions could have helped promote U.S. interests, the U.S. process could not have worked much faster. The timeline for WARC-92 was set by the ITU at its June 1990 Administrative Council meeting, and the United States was one of the first countries in the world to submit its proposals, which were some of the most detailed and comprehensive presented to the conference.

Another complaint about how proposal and position development was handled involves information on other countries' proposals and positions. Critics complain that foreign positions were not adequately considered in the preparation process.[30] Preconference meetings between countries were a good source of information, but critics charge that such information was not integrated into the preparation of U.S. positions and strategies. One example these critics cite is the U.S. proposal for BSS-Sound/digital audio broadcasting. In this case, existing domestic use of the L-band outweighed international opinion; going into the conference, worldwide support for the U.S. S-band proposal was almost nonexistent, while strong support existed for L-band and other S-band allocations. The result of the U.S. prepara-

30 See Cements of the Institute of Electrical and Electronics Engineers before the National Telecommunications and Information Administration, Notice of Inquiry in the matter of Current *and Future Requirements for the Use of Radio Frequencies in the United States,* Docket No. 920532-2132, released June 1, 1992.

tion process, however, left the United States with little flexibility at WARC-92.[31]

While this may be true, such charges may also be a matter of perception. In any case they point out the tension in balancing domestic needs and requirements with international concerns. In some cases, the United States will have an overriding interest in protecting its existing services, like aeronautical telemetry, just as other countries do. Attributing this decision to a lack of flexibility or sensitivity to international concerns is not necessarily accurate.

Since good preparation is the key to a successful conference, an examination should be made of ways to allow U.S. representatives to negotiate more effectively before the conference, while still promoting the democratic ideals of participation that characterize the U.S. process. Some analysts note that the root of U.S. inflexibility lies in the nature of its preparation process. This process, which is the result of long, and often contentious debate, results in positions that are often very rigid—there is no time or will to review the issues again. This can force U.S. delegates to negotiate from difficult and inflexible positions—a situation that closely resembles the Conference of European Postal and Telecommunications Administrations (CEPT) negotiating style, according to some U.S. delegates. These analysts suggest that starting from a position that is not quite so set and specific may have benefits in allowing delegates more room to negotiate. Starting with more flexibility could lead to better outcomes in the long run.

An inevitable tension arises between making decisions that allow U.S. interests to advocate U.S. proposals and closing off debate too early. With adequate time and resources, the U.S. process works well. In cases such as WARC-92, where deadlines were short, the process works less well. In entering an era in which conferences will occur every 2 years, it becomes more important to reach decisions in a timely fashion. Ways must be found to speed the process while at the same time allowing all voices to be heard.

Preconference Negotiating

EXTENSIVE PRECONFERENCE NEGOTIATION IS CRUCIAL

One clear lesson from WARC-92 is the importance of extensive and open (as much as possible) talks with other countries prior to the opening of the conference. Such talks, either informally between staff, or in more formal bi- or multilateral meetings give countries an opportunity to present their positions and gauge support and/or opposition to them, get information on other countries proposals, and begin to find areas of common ground on which to cooperate or areas of disagreement that will require negotiation and support-building. Such contacts are a crucial forerunner to the conference itself, and represent an important opportunity to refine positions and gather intelligence for future negotiations. Although the United States did conduct meetings prior to WARC-92 in an attempt to inform other countries of our positions and concerns and gauge potential support or opposition, many delegates feel that more extensive prenegotiation would have been beneficial.

Delegates and observers had several complaints about the way in which preconference meetings were handled. Some observers have complained that in some cases, the key spokespeople for the United States did not participate in the bilateral talks that were held with many countries. Government and private sector analysts have noted that such participation by experts is crucial in the early stages of WARC prenegotiation because it informs other countries what the U.S. positions are and provides crucial early feedback that should allow U.S. negotiators to further

[31] A similar problem confronted the European countries prior to WARC-92. Their telemetry operations used frequencies in the 2300 MHz range, making it impossible for them to support the U.S. position. Each side's position was made inflexible by existing uses. In the last clays of the conference, however, some European countries did break ranks and support the L-band allocation proposals.

refine and develop positions and strategies that have a better chance of success at the conference itself. Such meetings also provide an opportunity for private sector representatives to explain (sell) their systems in great detail, including an explanation of how such new systems would be implemented, how they might affect existing radio services, and what benefits would come from using the new systems and services.

Several factors contributed to this problem. First is the fact that the official delegation was named so late in the preparation process. The individuals who would later become spokesmen for the United States had not even been officially named to the delegation, In a few cases, the people who did make these trips were not the most knowledgeable about the subjects to be discussed and were not the ones who later represented the United States at WARC-92. Another reason for this is a matter of time: U.S. experts and government spokespeople were needed in the United States to help develop policies and positions, but at the same time, they were also needed to participate in bi- and multilateral discussions abroad.

Finally, a lack of travel funds hindered the participation of some key individuals at early meetings. The FCC, for example, which should have been represented on any meetings with foreign representatives, was able to send only one or two representatives because of limited travel funds and other work commitments, and these were often not the FCC staffers who were expert on the topics, who were involved in the preparation of proposals and (fallback) positions, and who became delegates to WARC-92. These choices deprived the United States of building or strengthening relationships with foreign delegates and prevented in-depth (more technical) discussions on some topics prior to the conference.

Another complaint heard about the conduct of preconference negotiations is that at least two potentially important trips (one a trilateral meeting with the United Kingdom and Russia in Moscow and another a tour of a number of countries in Africa) were canceled at the last minute. Explanations as to why the trips were canceled have been vague, although turmoil in the former USSR has been blamed for the cancellation of the Moscow trip. Meetings were rescheduled with some of these countries.

Some delegates have also complained about the distribution of the bilateral meetings held before the conference. There was apparently a heavy concentration of meetings with CEPT representatives, but less contact with other potentially important countries. In retrospect, Ambassador Baran has stated that, given CEPT's reluctance to compromise, he thinks time would have been better spent working with other countries. The expansion of work with the CITEL countries may provide a useful forum in this regard.

In addition to the bilateral and multilateral meetings scheduled as part of WARC preparations, CCIR activities provide an important forum for explaining U.S. views and systems. U.S. (government and private sector) representatives were active in the work of CCIR study groups. These study groups, which meet periodically over a number of years, consider specific allocation/regulation topics, and develop (technical) recommendations on WARC agenda items. These recommendations provide crucial input to the work of the conference, and often carry great weight in the deliberations. The work of CCIR in preparation for WARC-92 culminated in a Joint Interim Working Party meeting in March 1991. The product of this meeting was a voluminous report that contained all the technical recommendations to WARC-92 concerning frequency requirements and suitable allocations for the various services under consideration, frequency sharing and interference criteria, and other technical recommendations.[32]

32 For a more in-depth discussion of role of the CCIR and its study groups in WARC preparations, see OTA, *WARC-92*, op. cit., footnote 2.

Several observers have noted the important, if underrated, opportunity such meetings offer for developing support for U.S. proposals. Because the United States is one of the world's leaders in developing radiocommunications technology, and because membership in the study groups is more open to private sector input and more limited (in numbers) than that of the WARCs, U.S. companies play a leading role in the technical studies undertaken in CCIR. Thus, the United States (through the papers it develops for the study group topics) can have a significant impact on the recommendations developed by CCIR and hence on the work of the WARC itself. Some observers believe that more extensive and effective work in the CCIR fora before the WARCs leads to more successful outcomes for the United States at the conferences. In addition, the activities of the study groups not only offer important opportunities for building support for U.S. proposals, but also expose U.S. representatives to other countries' ideas-allowing the United States to take better account of them in our formal proposals. Given these benefits, the activities of CCIR should continue to be an important focus of pre-WARC negotiations.

THE NEED FOR NEW ALLIES

The increasing power of Europe as represented by the CEPT coalition has important implications for future preconference negotiation strategies. U.S. experts in international spectrum policy recognize that Europe will be the single most powerful force in the ITU for some time. Prior to WARC-92, meetings that were held between the United States and CEPT were not very productive. Each side attributed this to the other's lack of willingness to compromise. Preconference negotiations suffered because of this, and, as a result, WARC-92 deliberations were made more difficult because few issues could be resolved before the conference.

In order for the United States to most effectively address the new power of the European countries, many analysts believe that more regular meetings with the Europeans will be necessary for U.S. spectrum managers to monitor European views and directions, and to gauge their future positions and assess their response to U.S. proposals. This approach will allow U.S. representatives to gather intelligence on European goals and to more easily cooperate with them on issues of mutual interest. The important advantage of early talks and greater cooperation (than was evident prior to WARC-92) with CEPT is that conference negotiations could be easier, and the United States would gain a strong ally that could help in defeating proposals from other blocks of countries. The new ITU conference schedule will also force more regular meetings between the United States and Europe as they prepare for conferences every 2 years, providing increased opportunities for cooperation.

Although the power of CEPT was clearly evident at WARC-92, it did not ensure success on all issues. Many countries were put off by the lack of flexibility on the part of the Europeans (and the United States) and their unwillingness to compromise or negotiate on some issues. Reportedly, even some European delegates were unhappy about the lack of flexibility CEPT showed. Delegates from both the United States and CEPT. countries recognize that such a lack of willingness to compromise made the work of WARC-92 much more difficult. This recognition provides an important opening for the United States to work with CEPT to resolve disputes before both sides become too committed to them and incapable or unwilling to compromise.

As a complementary approach, in order to counter the power of CEPT countries, Western Hemisphere countries are seeking to build the strength and unity of CITEL. CITEL has long been an underused resource in harmonizing Western Hemisphere telecommunications views, but before WARC-92 serious efforts were made

to bring North and South American interests together.[33] CITEL countries did meet several times as a group at WARC-92, but no substantive agreements or common views could be developed, in large part because of infighting between member countries (including the United States) for control of the agenda of the group and the outcomes on various issues.

Despite its relative ineffectiveness at WARC-92, CITEL remains an important potential source of support for the United States in the future. Historically, it has been held back by a lack of status, a lack of recognition of its importance by CITEL member governments, and a consequent lack of adequate funding to produce meaningful results. Gradually, these factors are changing. There is a growing recognition of the importance and promise of CITEL among both U.S. and foreign government officials. If the promise is to become reality, however, this recognition must be backed up by renewed efforts to compromise and increased funding.

It is unlikely that CITEL will become another CEPT--a collection of countries with common positions that cannot be changed easily. The telecommunication interests, economies, and political structures of CITEL member countries are too diverse to promote that level of collaboration. Rather, CITEL members see it as a way to improve coordination and cooperation between themselves, and exploit common interests where possible.

The United States will also have to engage in more extensive preconference negotiations and meetings outside the developed countries. Building on the alliances developed before and during WARC-92, a new program of extensive outreach to the developing countries of Asia, and especially Africa, could pay important benefits at future ITU conferences.

RESOURCE CONSTRAINTS HAMPERED NEGOTIATIONS

One of the most serious limitation on preconference negotiations was lack of resources. Many delegates have noted that the meetings held prior to WARC-92 were hampered because key government spokespeople often could not make the trips. Lack of adequate travel funds was the primary factor limiting more active participation of government representatives. As a result, there were a few occasions on which some matters could not be discussed because they were too technical for those U.S. representatives present. The seriousness of this limitation is open to question.

The State Department, through its Office of Internationa1 Conferences, controls (some of) the funds that pay for U.S. participation in all international conferences, including WARC-92. Funds from this office are used to pay for the administrative costs of U.S. attendance at the conference (computers, office rental, supplies, etc.), and to pay for the head and the vice-chairs of the delegation, along with two or three support staff. Beyond those individuals, the question of who the State Department will pay for is always hotly contested. The Office of International Conferences has limited funds, and each Federal agency—including CIP--vies for additional staff. The agencies must cover remaining staff costs out of their own travel budgets.

While State Department funding is used to pay the administrative expenses of the conferences, travel funds for preconference meetings usually come out of individual agency budgets. For agencies such as the FCC, which has operated on a chronically tight budget for many years, this meant that its representation on bilateral talks was often limited to one or two people or none. Agencies with larger budgets, such as the National Aeronautics and Space Administration, had

33 Several meetings were held by CITEL in preparation for WARC-92. The goal of these meetings was to generate common views that CITEL members could use as a guide in developing their own country's WARC-92 proposals, Although this goal was not achieved, the meetings were extremely valuable achieving the broader objective of increasing the cooperation and unity of the countries of the Western Hemisphere. See OTA, *WARC-92*, op. cit., footnote 2.

fewer difficulties. The State Department also has funds to send U.S. Government representatives to meetings of CCIR at which bilateral meetings could also be conducted. This way of "piggy-backing" one meeting on another allowed the United States to send issue experts from agencies that could not afford the costs themselves.

The funding for future world radiocommunication conferences must be rationalized. The sporadic nature of past conferences made them very difficult to budget for—travel budgets varied wildly from year to year. The regular schedule of conferences planned for the future will make setting travel budgets easier. However, the funds to support the continuous series of bilateral preparation meetings and the funds for the conferences themselves must match this ambitious new schedule.

BUILDING BROADER SUPPORT FOR U.S. PROPOSALS

In addition to the targeted prenegotiation that takes place before WARCs, a number of delegates and observers have identified the importance of long-running U.S. efforts that have helped build support for the United States. The best example of such efforts is the United States Telecommunication Training Institute (USTTI), which provides technical training to spectrum managers and technicians from developing countries. A number of WARC-92 delegates from other countries were graduates from this program. Although it is not possible to assess the direct impacts of this program and U.S. training of foreign nationals generally on the support for U.S. proposals, many delegates believe that the exposure to U.S. ideas and technology that these students receive is important in building a broad base of support for future U.S. radiocommunication policies.

CONFERENCE MANAGEMENT

Head of Delegation

The head of delegation's job is to have U.S. proposals adopted at WARC-92. Because of the generally late selection of heads of delegation, Ambassador Baran played almost no role in the development of U.S. proposals. As is the normal process, proposals were developed in concert by the FCC (for private sector issues) and NTIA (for Federal Government issues). His primary function, therefore, was as a negotiator--conducting preliminary/exploratory negotiations with foreign countries before the conference, and working during the conference to resolve the most difficult issues that could not be resolved in lower-level working groups. The Ambassador was also responsible for the day-to-day and strategic management of the delegation at the conference itself.

RADIOCOMMUNICATIONS EXPERT?

One of the criticisms heard during the preparation for WARC-92 was that Ambassador Baran was not a radiocommunications expert, nor even particularly knowledgeable about international telecommunications. Some believe that the head of delegation should be well-versed in radiocommunications, which would eliminate the need for time-consuming education (essentially on-the-job training) of an ambassador prior to the conference. Others believe, however, that the most important skills for a head of delegation involve leadership, international experience, negotiation skills, and an understanding of politics. They point out that an intelligent individual can learn the issues and surround him/herself with experts to filter and explain technical details that arise. Ambassador Baran fell into this latter category and, by most accounts, did a good job in familiarizing himself with the issues.

These divergent views are not irreconcilable. WARC-92 was an extremely wide-ranging conference. It addressed many technologies, services, and issues, a number of which were leftover from previous conferences. A single individual would have difficulty mastering all the topics that were discussed at WARC-92 in such a short period of

time.[34] Past WARCs, with the exception of the general WARCs such as WARC-79, concentrated on narrower topics such as mobile services or HF broadcasting or satellite communications. In such cases, it may be possible for an individual to understand the range of issues addressed by the conference. Because future world radiocommunication conferences are expected to be more limited in scope, it may be possible to find a head of delegation who is well-versed in international negotiation and knowledgeable of the issues.

TERM OF APPOINTMENT

One problem identified by observers critical of U.S. WARC preparations in the past is that the U.S. head of delegation, who receives temporary ambassador status (but does not get paid by the government), is chosen too late in the preparation process. The reason for this is that there is a 6-month limit on the terms of temporary ambassadors. Before WARC-92, Ambassador Baran was selected, and began working in late 1990, although he was not formally sworn in until August 1991.

The length of a head of delegation's term complicates the management of preconference meetings and preliminary negotiations. Although Ambassador Baran began (unofficially) working on WARC-92 issues roughly 1 year before the conference, some preparation activities and meetings had been scheduled and were taking place before he started. The result was that U.S. representatives were participating in many meetings around the world covering a number of topics—a confusing array that sometimes conflicted with directions the Ambassador was trying to take. Individuals sometimes had to be 'grounded" in order to have the preparations work at home be rationalized with the need for meetings abroad.

To solve such problems, some have suggested that the ambassadorship should be a fixed-term appointment-perhaps 4 or 6 years. Consequently, the position of head of delegation is most often mentioned in connection with a permanent agency to coordinate U.S. planning and preparations for international radiocommunications conferences (see chapter 1). Among WARC-92 delegates and observers, opinion is split over whether the United States should have a permanent head of delegation, and, if so, what requirements and responsibilities should go with the post. Such a position could, if properly conceived and set up provide a valuable focus for future WARC preparations. A permanent head of delegation could bring consistency to delegation management and the preconference negotiations that form an important part of WARC outcomes. A longer appointment could also provide continuity to U.S. conference activities-preparation, negotiations, and implementation-and would allow an individual to build experience that is not lost when the conference ends. On a broader scale, a longer freed-term appointment could provide continuity to U.S. negotiating efforts before, during, and after WARCs—building trust and relationships among foreign heads.

Among those who oppose establishing a conference preparation agency and/or a more permanent head of delegation, many believe that the current system works the way it is—' 'if it ain't broke, don't fix it. " Many observers believe that a permanent (or fixed-term) head of delegation is not needed since continuity is provided in the members of the delegation itself. Other analysts warn that appointing a more permanent head of delegation could be difficult politically because such a move could create a power center in addition (opposition) to the FCC/NTIA/State Department troika. The officials in charge of conference preparation at these agencies could see the creation of such a post as a threat to their power. The creation of such a position would also further diffuse the policymaking procedures that are in place. Some fear the dislocations that would

34 Several observers have pointed out that some individuals on both the U.S. and foreign delegations were well-versed in most, if not tall, of the important issues discussed at WARC-92—experience gained over many years of participation in ITU activities.

result from changing the existing power structures and balances, and believe that changing the relations of NTIA, the FCC, and the State Department will result in less effective preparation. Such dislocations, however, would likely be short-term, and would dissipate after a settling-in period.

If a freed-term appointment is adopted, an examination must be made of what role the head of delegation is expected to play—what rights and responsibilities will the individual have? In making this analysis, a number of factors will have to be considered. What type of background should the head of delegation have? As noted, many have argued that the head should be someone with radiocommunication experience. Others argue that diplomacy and international negotiating skills are more important at the top level. If a freed-term appointment is not made, it may be easier for a diplomat to learn the technology and issues and tap the experience and expertise of good (technical) advisors. On the other hand, an individual well-versed in radiocommunication policy would know the issues better. If a longer-term appointment is made, the question becomes somewhat moot; over the course of the term, the appointee could better learn all aspects of the job.

Should the position be full- or part-time? Conferences separated by many years may only have required a part-time position in the early stages of preparation. With ITU considering holding world radiocommunication conferences every 2 years, a full-time position may be more appropriate.

Should the position be filled by a private sector or government representative? Since the position would likely be a presidential appointee, either is possible. Some private sector observers believe that the only way the private sector can be fairly represented is with a private sector head of delegation. A head of delegation chosen from the government, they argue further, would be too enmeshed in the institutional battles of the agencies involved. Government interests, of course, would rather see one of their own in the position. It may also be difficult to convince private sector individuals to serve 4 years and then leave (if the post is nonsucceeding).

A related question is whether or not the head of delegation necessarily needs to be an ambassador. At WARC-92, some heads of other delegations were ambassadors, some were not. Some maintain that naming an ambassador for WARCS is overkill, that the connotations of the term take it out of the more technical realm of the WARC and contribute to the political nature of the negotiations. Others believe that the rank of ambassador conveys an important level of status that is useful in negotiations and that it underscores the U.S. appreciation of and commitment to the WARC process.

H Divisions of Responsibility

The division of responsibility for domestic spectrum policy and the problems it creates have been previously discussed.[35] The problems of a divided structure were also evident at WARC-92. Foreign delegates reportedly had a difficult time deciphering the U.S. delegation and were confused by who was in charge of U.S. policy on specific topics. Several factors contributed to the complexity of the U.S. delegation. First, the delegation itself was large. There were multiple layers of leadership, including the head of delegation, six vice-chairs, the official U.S. spokesperson for each major committee, a spokesperson for each subcommittee and working group, official delegates, the support staff, and the observers. In addition, delegates were assigned as liaisons to specific countries or observer groups on major issues. This structure was overlaid by the distinctions between FCC, NTIA, State Department, and private sector representatives. To some foreign delegates the U.S. Government delegates may

35 OTA, *WARC-92*, op. cit., footnote 2.

have seemed indistinguishable, but the more savvy delegates know that responsibility for implementing WARC-92 decisions will be divided between the FCC and NTIA, and they would prefer to negotiate with those who are likely to be involved in actual implementation. One simple solution that has been suggested is to publish a list of U.S. delegates and spokespeople for the various issues, and distribute it to foreign delegates at the beginning of future conferences.

In addition to contributing to foreign confusion, the divided nature of the delegation also led to questions among U.S. delegates about who was in charge-institutionally and personally. Reflecting the overall lack of focus at home, no one agency took the lead at the WARC. And while Ambassador Baran was in overall charge of the management of the delegation at the conference, he did not lead negotiations on most of the issues.[36]

The hierarchical structure and large size of the delegation also caused some communication problems in the delegation itself. Although the delegation leadership held daily meetings to discuss strategy, and full delegation meetings were held every other day, many delegates thought that communication between the delegation leadership and the delegates was poor—that information was passed up to delegation leaders, but information from the leadership was not passed down. Several members of the delegation complained that there were too many layers of management, and that they were never sure what the leadership was doing.

Execution of Negotiating Strategies

There is some question over how flexible the United States was at WARC-92 and how flexible the United States should be in WARCs generally. As with the evaluation of outcomes, perceptions of ''flexibility' are highly variable and depend on the individuals and issues involved. Critics complain that before and during WARC-92 negotiations in Spain, the United States took a very hard line on many issues and refused to really negotiate. This is reflected in comments that the United States did not really try to accommodate foreign positions in its proposals or preconference negotiations and spent more time on selling U.S. positions rather than negotiating a solution.

Members of the delegation leadership maintain that the United States was flexible on all but a few issues. The truth lies somewhere in between. As is usually the case in international negotiations, the United States was more willing--more flexible-to negotiate on some issues than on others. Different issues had different degrees of flexibility attached to them based on the outcomes of the initial preparations process and the way that (fallback) positions were written.

Several U.S. and foreign delegates have noted that a lack of flexibility in some U.S. positions often left the United States isolated on important allocation issues. To foreign observers, the U.S. delegation and its leadership often appeared to be held hostage to previously established positions and decisions. In order to (substantially) deviate from formally established U.S. positions and strategies, the U.S. delegation was required to constantly communicate with the home team for instructions and approvals. This added time to the negotiation process and frustrated some foreign delegates, who saw the United States as effectively unable to participate in on-the-spot decisionmaking that occurs throughout the conference, especially in the closing days.

Some analysts and observers, from both the United States and foreign countries, have noted that the United States was just as inflexible on some issues as U.S. representatives charge CEPT was. The reasons for this perception vary. Some

[36] Interestingly, Ambassador Baran has made similar Cements about the European block. CEPT, although presenting a coherent block at WARC-92, did have internal divisions and negotiating through them was quite difficult. There was uncertainty as to who controlled individual nation's positions—the delegates of the country itself, or CEPT leaders. Usually, CEPT positions won out.

attribute it to the slow preparation of positions and the late formal naming of the U.S. delegation and head of delegation. They point out that even late in 1991, the U.S. delegation had not been named and U.S. positions were still closely held—making preliminary negotiations between the United States and other countries extremely difficult, and by some accounts, not very productive. U.S. negotiators, however, rightly point out that certain U.S. positions had been set as a result of difficult domestic processes that concluded such inflexible positions were necessary and justified in order to protect and promote U.S. interests. They further note that a certain amount of secrecy is necessary to successful negotiations. Whatever the case may be, this inflexibility certainly contributed to the difficulty of negotiations at WARC-92.

Lack of flexibility maybe most directly related to our open, democratic form of policy development. Proposals and positions are so hard-fought in the preparations process that it can be very difficult to modify positions rapidly enough to effectively negotiate at international conferences such as WARC-92. Too many interests have to be considered and consulted to allow reaction times as quick as some delegates would have liked. Other delegations reportedly had more flexibility to make decisions without such consultations. Changes may be required in the instructions given to the delegation that would allow U.S. negotiators greater latitude in future negotiations.

Another reason given for the lack of flexibility on the part of U.S. negotiators is that hard-line positions were part of the U.S. negotiating strategy. According to some accounts, the inflexibility of the U.S. delegation was not a problem, rather it was a deliberately conceived part of a strategic framework designed to achieve the greatest possible success for U.S. proposals. Staking out positions early and refusing to compromise may in fact have forced some countries to move further toward U.S. positions than they would have under a scenario of mutual cooperation, but the opposite may also be true. Some countries, especially CEPT countries, may have become less willing to negotiate in the face of U.S. determination.

One solution to these problems is to invest the delegation with greater power and flexibility to negotiate, and to make the head of delegation ultimately responsible for the outcomes. This model is closer to that of several countries, including the United Kingdom. Such a solution, of course, has its advantages and disadvantages. The advantages are that the ability of the delegation to negotiate quickly is improved and that lines of authority and responsibility are clear. In the context of a new era of world radiocommunication conferences, change and flexibility will become more important. It may also be possible that with more narrowly focused conferences, the issues will be simpler to manage and the necessity of consulting extensively with the home team reduced. Giving the delegation more power alarms some analysts, however, who fear that such power could be abused. Changes in positions or negotiating strategies, for example, could be made without consulting all the affected parties or by ignoring the positions of some interests (see below). While such abuses will always be possible, the benefits of added flexibility and speed in negotiations may make the risk(s) worthwhile.

Because it is not possible to compare the advantages and disadvantages of each approach under real-world conditions in this case, it is difficult to judge whether or not inflexibility was the most appropriate or effective strategy for the United States to pursue. Did U.S. inflexibility hurt us in negotiations or in any way work to the detriment of the United States vis-a-vis the final outcomes? Could outcomes have been improved? Or were such strong stances necessary to achieve the goals and needs identified in the domestic preparation process? It is easy to believe on a theoretical level that greater flexibility would have better served U.S. interests in the negotiations both before and at the conference. The reality, however, may be that such a hard-line approach was best, and, obviously, U.S. negotia-

tors perceived it to be so (although others strongly disagree). Unfortunately, there is no way to objectively assess what *could* have happened if things had been different. The more relevant point is whether or not such absolute positions were necessary and how such positions were determined. The domestic preparation process again appears as a crucial element in the success or failure of U.S. proposals to WARC-92. It is these processes, and the structures and ideology underlying them, that must be carefully examined. In cases where the United States feels it must stake out an inflexible, and often isolated, position, it becomes critically important to carefully assess the reasons, benefits, and disadvantages of such an approach. As noted throughout this report, it is unclear to what extent such evaluations were made.

The larger policy/management question that arises is who has ultimate control of the delegation's actions. Prior to arriving at WARCs, the U.S. head of delegation is given a set of instructions drafted by the State Department in consultation with the FCC and NTIA that serve as the blueprint for how negotiations should be conducted. These instructions set out objectives and goals and list priorities and outcomes the United States could not accept under any conditions. Such a document, however, cannot possibly foresee all the twists and turns negotiations take. As a result, the delegation leadership must have some degree of flexibility to make decisions on-site. Substantial deviations from accepted U.S. positions are traditionally cleared through consultations with the U.S. home team. The issue is how much discretionary negotiating power the delegation should have vis-a-vis the home team and the agencies. The uneasy balance of power between the delegation and the home team blurs the lines of authority and obscures responsibility—confusing both foreign and U.S. delegates. Who is ultimately responsible for the conduct and outcomes of negotiations, the head of delegation, the home team expert on specific topics, or the broader collection of home team representatives?

One example from WARC-92 illustrates the problem. In discussions over MSS, as noted previously, a major U.S. concern was preserving the 1435-1525 MHz band for aeronautical telemetry uses. At WARC-92, however, conference delegates decided to allocate portions of this band to BSS-Sound (1452-1492 MHz) and MSS (1492-1525 MHz—for Region 2 only). The United States was forced to insert a footnote (722B) to protect aeronautical telemetry interests. The strength of the wording of the footnote, however, was the subject of hot debate between private sector interests, who wanted to leave open the possibility of future (MSS) uses of the band, and Defense Department/NTIA interests, who believed that strong language was needed to keep unwanted services out. Following the original U.S. position, the delegation drafted language that was very strict, and sent it to the U.S. home team for comment and approval. The home team concluded that the language was too uncompromising and sent draft language back to the delegation that NTIA/Defense Department believed was not strong enough. In the end, the delegation stuck to the original U.S. position, and the harsher version of the footnote became the official footnote. Opinions differ as to what the real effect of this wording will be.

In this case, the original delegation instructions for the issue were followed to the letter, a decision made by the delegation itself in spite of new instructions from the home team. Several questions arise: Does the delegation or the head of delegation have the authority to ignore the home team's instructions? Who made the policy decision that the footnote should be so harsh? Was adequate consideration given to private sector concerns? Is the private sector at a disadvantage once WARCs start in terms of influencing subsequent policy decisions?