

Implications of WARC-92 for U.S. Radiocommunication Policymaking

Introduction

The U.S. process of preparing for WARCs is based on a democratic approach that guarantees participation by a broad range of interests. This process has been described as “loose,” “good and bad,” and having ‘no rules.’ Overall, the domestic preparations process for WARCs works relatively well in the current environment. However, the divided nature of the U.S. telecommunications policy process may not serve long-term U.S. spectrum interests nearly as well in the future, and may threaten the effectiveness of the United States at future WARCs.

Rapid advances in technology coupled with a more competitive international telecommunications environment will challenge the United States to adapt its conference preparation and negotiation strategies in order to remain successful in international policymaking. Such changes have already prompted the International Telecommunication Union (ITU) to take steps to improve its structure and processes in order to better meet the needs of its members. These same forces are increasing pressure on U.S. policymakers to integrate international radiocommunication policies with broader political and economic goals. A broader, more strategic approach to international radiocommunication policymaking will require increased speed, flexibility, and decisiveness in domestic decisionmaking. WARC preparations are a crucial element in the long-term development of radiocommunication services and policies, and should reflect the broader goals and priorities of overall U.S. telecommunications policy. It is not clear that this happened in the WARC-92 preparations. Some of the difficulties with the WARC preparations process reflect a more general lack of vision or coordination of long-term strategic international U.S. radiocommunications policy. Thus, the issues raised by WARC-92 preparations have significant implications for the entire U.S. radiocommunication policy process.¹

WARC Preparations: An Exercise in Democracy

The domestic approach to WARC preparation—in both the government and the private sector—is adversarial in nature, but ultimately results in some form of negotiated consensus. Competing private sector companies file comments with the Federal Communications Commission (FCC) in response to Notices of Inquiry (NOIs), and proponents and opponents of different systems, technologies, and proposals debate their positions in the Industry Advisory Committee (IAC). Federal agencies vie for spectrum to support their mission-related activities through the Interdepartment Radio Advisory Committee (IRAC), which advises the National Telecommunications and Information Administration (NTIA). In the negotiations between the FCC and NTIA, the interests of the private sector compete with the interests of the government. This competitive process is not necessarily neat, but it conforms to U.S. notions that every voice be heard, every opinion expressed. No single interest gains absolute control, and a rough balance of power is achieved. Diversity of interests is the strength of the U.S. process, and this freedom and variety should serve as the basis for any effort to improve the U.S. WARC preparations process.

However, while diversity is the strength of the process, it can also be a major weakness. Deregulation in the telecommunications industry has expanded the number and variety of radiocommunication interests in the United States. Companies and groups which normally compete (for spectrum and/or customers) are forced to work together to negotiate and support common WARC proposals that will serve broader national needs. Entrenched interests are often reluctant to compromise and consensus is sometimes impossible. As a result, negotiating the most contentious issues can be time-consuming and frustrating. These divisions are also reflected at conferences, where the timely and

¹For a more complete discussion of the issues, options, and strategies for improving domestic telecommunications policy coordination, see U.S. Congress, Office of Technology Assessment *Critical Connections: Communication for the Future*, OTA-CIT-407 (Washington, DC: U.S. Government Printing Office, January 1990).

effective execution of negotiating strategies maybe impeded when many individuals are involved representing a myriad of interests.

Government officials often criticize private sector interests for resisting compromise and delaying the development of proposals. Even when agreement is reached, it is not clear that compromises between competing factions reflect sound decisions that best serve U.S. interests. They may represent little more than a politically expedient solution—the least common denominator of agreement—rather than a thoughtful part of a broader conference strategy or well-defined policy goals. For the government agencies that must sort and consider the various proposals and compromises, making the final decisions is very difficult and time-consuming.

Critics charge that the preparation process, especially the development of private sector proposals, is made more difficult because of the lack of strong government leadership. Industry representatives, and some government policymakers, complain that when compromise and consensus cannot be reached, the government does not step in quickly enough to provide substantive policy direction and resolve specific disputes. These criticisms have been made before. Glen O. Robinson, Chairman of the U.S. WARC-79 delegation, in testimony said, “Of course, it is necessary to have some locus of final decision making; there must be someplace, wherein Truman’s words, the ‘buck stops.’”² Many participants involved in WARC-92 preparations have voiced similar complaints—that the process got bogged down in negotiation and compromise, and that decisions were often not made until the last minute. Some industry representatives, for example, would have liked more explicit FCC direction in the IAC. Such direction would not necessarily have stifled private sector views, but could have given more focus to the preparations process and the development of proposals.

The solutions suggested by members of the private sector to these problems vary, but represent a range of increased government activism. Some suggest that the government could exert stronger direction within the existing division of responsibility. Others believe that a closer partnership between government and nongovernment interests would

allow policymakers to better define goals and priorities and lead to a more effective process. Still others maintain that in order to bring the needed amount of discipline and direction to the preparation process (as well as to the larger spectrum policymaking process) a single authority for domestic and international spectrum policymaking should be created.

overall, the government agencies involved (FCC, NTIA, State Department) have been either unable or unwilling to take strong policy stands in the absence of clearly developed or stated objectives. Government policymakers appear to have been content to follow the lead of the private sector in many cases rather than take an active policy role themselves. This lack of aggressive leadership often conflicts with the need for incisive international decisionmaking, and is due to several factors (discussed below). New approaches are needed in the preparations process—and during conferences—that accommodate the need for decisive action with the need to ensure effective public and private participation.

Implications for International Radiocommunication Policy

The difficulties uncovered in the WARC-92 preparations process may have serious consequences for the development of broader U.S. international spectrum policy. These concerns derive from several basic problems with the U.S. radiocommunication policy process. First, the system is fragmented. In the absence of a single agency or focal point for policy development, coordination mechanisms for strategic long-range policy development in radiocommunications are inadequate. Further, there is no overarching vision or plan to guide U.S. spectrum policy; that is, goals and priorities are not being cooperatively set by the Federal agencies responsible with sufficient input from the private sector. Finally, there has been a lack of commitment to international spectrum issues at high levels of the Federal Government that could encourage a more aggressive and integrated policy development process. However, recent efforts, especially in the FCC and NTIA, indicate heightened awareness of both domestic and international spectrum issues. How long this attention will continue is uncertain and

²Glen O. Robinson quoted in U.S. Congress, *Office of Technology Assessment, Radiofrequency Use and Management*, OTA-CIT-163 (Washington, DC: U.S. Government Printing Office, January 1982), p. 45. Robinson goes on to argue that such power should rest with the State Department.

may depend on the interests of the senior government policymakers involved.

System Is Fragmented

The division of responsibility for international spectrum issues between three Federal Government agencies complicates both the WARC preparations process and the development of overall international radiocommunication policy. In the WARC preparations process, which deals with fairly well-defined issues, the problems of divided responsibility have been worked out relatively well over time. Each of the agencies involved has long-established internal procedures for WARC preparations, and mechanisms exist that allow the coordination of proposals between agencies to take place. These interagency coordination mechanisms, however, are generally less well-defined than the agencies' internal procedures, and consist primarily of assigning liaisons to other agencies-establishing a path through which communication and coordination can take place-and reviewing and responding to various draft proposals.³ Beyond that, the substance of coordination is murky. No guidelines exist that describe what interagency coordination will entail, and no explicit rules outline each agencies' responsibilities vis-à-vis the others. Furthermore, there is no mandate that relevant information be made available or even what types of information should be shared. This situation makes accountability very difficult to judge and creates an atmosphere that is best described as "clubby." In this context, what makes these mechanisms work is the experience and personal relationships that individuals have developed over many years of working together, both in and out of the government.

While these coordination mechanisms are relatively effective vis-à-vis the specific issues of WARC-92, at the broader levels of strategic and long-term policy development, the fragmented nature of the system is much more problematic. The three Federal agencies that have jurisdiction over international spectrum matters (FCC, NTIA, State

Department), each have their own interests and priorities. Adequate mechanisms do not exist at the policy level to bridge divided responsibilities, and forge common goals. The result is that despite the enormous importance of telecommunications to the domestic economy and in international activities, the United States has no central authority or focus for international telecommunication or radiocommunication policy development. The inadequacies of such an arrangement have long been clear:

There is no high-level agency within the Government to resolve conflicts arising among governmental interests, much less those arising between governmental and nongovernmental interests. Government policy and administrative development have not kept pace with technical and industrial development in communications.⁴

OTA echoed these comments in 1990:

Although all agencies now have to be more cognizant of international developments, the fragmented nature of the agencies means that no one agency is equipped to fully present a coherent and clear-cut U.S. communications policy perspective.⁵

Finally, this divided policy process has long been recognized as hampering the development of international spectrum policy in the United States:

The existing split in responsibility whereby the regulation of private communications resides in the Commission and Government communications (titularly) in the President fosters a deplorable lack of accountability aggravated by recourse to the cloak of security. The dichotomy precludes effective overall telecommunications planning. At present there is solely the avenue of coordination and compromise, a hopeless device when authoritative leadership is lacking.⁶

In terms of WARC preparations, this means that no individual or agency is accountable for ensuring that the proposals advanced for the WARC support the broader goals of U.S. policy. Because of the essentially reactive nature of WARC preparations, no conscious attempt was made to link WARC proposals to an already established, more long-term

³"Well-defined" as used here is a relative term. To those involved, the processes are very well-defined, having been in place and familiar to them for many years. However, to the outside observer, there are few explicit rules that govern the process and no formal guides that outline the substance of coordination- i.e., what information should be exchanged.

⁴"Commission T. Investigate Utilization of Radio Frequencies Allocated to the Government," Report to the Senate Committee on Interstate and Foreign Commerce, Report No. 1854, July 18, 1958, p. 3.

⁵OTA, *Critical Connections*, op. cit., footnote 1, p. 366.

⁶Additional views of Edward L. Bowles in "Allocation of TV Channels," Report of the Ad Hoc Advisory Committee on Allocations to the Committee on Interstate and Foreign Commerce, U.S. Senate, 85th Cong., 2d sess., Committee Print, Mar. 14, 1958, p. 12.

strategic policy. This is not a failure of the WARC process, however, because a long-term framework for making spectrum decisions or developing long-term radiocommunication policy does not exist in the United States.

Instead, formal coordination mechanisms and the development of unified policy have been replaced by interagency coordination and cooperation that is heavily dependent on the goodwill and personalities of the individuals involved (see below). “Unfortunately, accomplishing such coordination is difficult when faced with disputes among agencies, competing demands for high-level attention, time pressures, and often inadequate resources.”

There have been several attempts in the past to coordinate U.S. international telecommunication policy development, including radiocommunications, but most have been short-lived. In the early 1980s, for example, a group made up of senior staff from the NTIA, FCC, and State Department—the “troika”—attempted to coordinate telecommunications policy issues. The troika was not a formal, institutionalized group, but it did hold regular meetings and address ongoing policy issues, including international matters. Although the regular meetings of the troika eventually faded, meetings between high-level staff continued on an ad hoc basis. The next major effort to coordinate international telecommunications policy came in 1984 when a Senior Interagency Group was formed to examine international telecommunications policy issues. It was abolished approximately 5 years later. Another attempt to establish a more formal process was made in late 1989, when Ambassador Bradley Holmes, director of the State Department’s Bureau of International Communications and Information Policy (CIP), set up regular meetings with FCC chairman Alfred C. Sikes and NTIA Administrator Janice Obuchowski to discuss international issues that involve all three agencies. The meetings were scheduled quarterly, and were to be supplemented by informal contact among key aides. The impact of these meetings on WARC preparations is unclear.

There is a growing sense that the United States is fast approaching a point at which its fragmented system may inhibit the development of coherent radiocommunication policy and ultimately reduce the effectiveness of the preparations process for international conferences such as the WARC. Multiple layers of decisionmaking slow U.S. responsiveness, confuse negotiation strategies, and provide additional opportunities for domestic (and foreign) interests to play off the agencies against each other. The multitude of players and a democratic decision-making process also confuses foreign officials and delegates who do not understand the U.S. processor the pressures it responds to.

Despite the problems with the fragmented U.S. system, however, many observers believe that a rigidly centralized domestic spectrum management system would be worse. With policy authority concentrated in one agency or person (a telecommunications “czar”), the development of policy could be made more efficient, but could also reduce the amount of private sector and industry input into the process. Critics of such a solution in both the private sector and government fear that this approach would make the preparations process more bureaucratic, less open, and perhaps even more secretive than it is now.

No Coordinated U.S. Radiocommunication Policy

The United States process for formulating telecommunication policy has long been criticized for lacking focus, direction, and coordination.⁸ OTA has previously identified the lack of coordinated policymaking as a serious impediment for the United States in the near term:

The lack of a coherent and coordinated national process for making communication policy is likely to severely hinder efforts to develop and execute an appropriate strategy for dealing with the myriad of communication policy issues that will emerge as the United States takes its place in an increasingly global information economy.⁹

⁸U.S. Department of Commerce, National Telecommunications and Information Administration *NTIA Telecom 2000*, NTIA Special Publication 88-21 (Washington, DC: U.S. Government Printing Office, October 1988), p. 179. See also OTA, *Critical Connections*, op. cit., footnote 1.

⁹For a discussion of such issues, see Henry Geller, *The Federal Structure for Telecommunications Policy* (Washington DC: The Benton Foundation, 1989); OTA, *Critical Connections*, op. cit., footnote 1; OTA, *Radiofrequency Use and Management*, op. cit., footnote 2; and *NTIA Telecom 2000*, op. cit., footnote 7, ch. 9.

⁹OTA, *Critical Connections*, op. cit., footnote 1, p. 361.

Because this issue has not been adequately addressed in the past, many of the problems of international radiocommunication policy development still exist today. Beyond responding to specific WARC issues, broad goals are few and ill-defined. No single vision guided U.S. policy development in preparation for WARC-92, and there is no long-term plan that incorporates and integrates domestic spectrum needs and policy with international spectrum policy. In its report to the ITU, the Advisory Group on Telecommunication Policy notes:

It is to be expected that in the future governments will need to incorporate telecommunication policy directly into a cross-sectoral, long-term socio-economic strategy for new technologies, within a framework of economic and social growth. In some countries governments are already seriously studying this issue.¹⁰

Government policymakers generally agree that more long-term strategic planning is needed for spectrum, but do not want to concretely “plan” for future spectrum use and development. In pointing out the difficulty of centralized planning, they maintain that it is virtually impossible to develop a plan that specifies what bands will be used for what purposes when future needs, technologies, and applications are unknown. The present strategy of responding to evolving uses ensures that the system is flexible enough to adapt to new technologies and services. Specific planning, they fear, would destroy this flexibility and force the United States to commit to applications and systems that might not be efficient or needed in the long term. This view reflects long-held U.S. opposition in international spectrum policymaking to a priori planning of the radio frequency spectrum. While there is merit in this position, especially given the diverse nature of the U.S. radiocommunications industry, it does not mean that the present market-driven system is meeting all needs in a timely fashion. Legislation that has been proposed in the Congress to shift some frequencies from Federal Government use to commercial and public use indicates, in fact, that the U.S. market-driven system does have problems.¹¹

It is important to note that coordinated and focused spectrum policy development does not necessarily imply centralized spectrum planning.

Philosophical opposition to government planning does not necessarily preclude the setting of long-term priorities and goals and developing strategies to achieve those goals, including strategies for WARCs. Between a rigid spectrum “plan” and a completely market-driven system, it may be possible to develop a flexible framework that allows radio technology and system development to respond in a timely way to market forces, while at the same time marshaling those forces in the context of a longer range, more comprehensive framework for developing radio-communication policy and services. A cooperative partnership with the private sector to establish some general direction to the process and define some basic goals and priorities could satisfy private sector calls for more direction and aggressive government involvement without putting government policymakers in the position of spectrum “planner.”

Finally, from an international perspective, the proposed regularization of the ITU WARC schedule affords the United States an opportunity to revisit the issue of more formal spectrum planning. An ongoing series of conferences, conducted at regular intervals, may allow the United States to develop plans and coordinate resources in a more effective manner. Efforts to develop strategic goals and objectives for WARC preparations should be an integral part of the long-range planning process for spectrum use. Goals and priorities must be established, and resources allocated to ensure that government and industry representatives working on ITU or WARC preparations have the funds, time and staff necessary to prepare U.S. positions in an effective and timely manner.

Personal Relationships Drive Preparations

The WARC preparation process depends on the power of individual personalities and the interpersonal relationships among major players. While formal mechanisms do exist through which coordination takes place, individual experience and personality are the most important determinants of effective coordination in the WARC process. The process works because the individuals involved have a commitment to work cooperatively, not because rigid procedures necessarily force them to. In short, the mechanisms for coordinating WARC

¹⁰International Telecommunication Union, “The Changing Telecommunication Environment,” Report of the Advisory Group on Telecommunication Policy, February 1989, p. 3.

¹¹See the Emerging Telecommunications Technologies Act of 1991 (H.R. 531, H.R. 1407, and S. 218).

proposals work because the people involved make them work.

When participants “play by the rules,” the process works smoothly, but when individuals will not compromise or cooperate, government officials and private sector representatives complain that the process cannot work because people do not understand what they are doing. It is not clear that if the current players were replaced, the system would continue to work as well. Some analysts maintain that changing the individuals involved would not harm the process, that company and/or agency perspectives and goals would still be adequately communicated and addressed. While this may be true to some extent, the individual experience gained through many years of involvement in the process will not be easily replaced. The individuals involved and the personal relationships they have forged are more important than the procedures they follow or the formal institutional arrangements that exist.

In WARC-92 preparations, the individuals involved got along well, and cooperation among agencies was good. Several factors contributed to this cooperative atmosphere. First, the individuals involved have, in many cases, been participating in WARC preparations for many years. Relationships and a basis for understanding each other have been formed over a long period of time. Second, a great deal of crosspollination occurs between the three Federal telecommunication policy agencies and between the government agencies and the private sector. Many State Department staff, for example, came from the FCC. This fosters an understanding of how the process works, what individuals’ roles require, and what pressures are put on their colleagues. The private sector also benefits from government experience. Many of the consultants and lawyers representing industry came from government and understand how the process works and what is important. These good relations—especially among the heads of NTIA, FCC, and CIP—represent

a tremendous opportunity to reform the international spectrum policy process in this country. U.S. policymakers must capitalize on the current spirit of cooperation in order to ensure the long-term effectiveness and responsiveness of U.S. international spectrum policy.

Despite the relative success of the WARC-92 preparations, however, the current dependence on individuals and personal relationships for guiding the WARC process may ultimately undermine long-term U.S. interests. First, the mechanisms for coordinating international policy may prove inadequate in the near future. The successor failure of the preparations process depends on people working together, within the government and between the government and the private sector. Changes in personnel as staff retires or transfers, and shifts in emphasis or philosophy may threaten future cooperation; current collegial relations may vanish and battles over responsibilities and roles could recur.¹² Especially troubling is the aging of current government spectrum policymakers and radiocommunication industry representatives. The cadre of spectrum policymakers in this country is small, and many of the most experienced U.S. international radiocommunication experts will retire in the next 5 to 10 years. Few young people have entered the field, and fewer are being trained by the government agencies to replace these retiring staff.¹³ The lack of experienced younger staff could reduce U.S. effectiveness in international negotiations as inexperienced spectrum policymakers assume more important roles. This problem is especially critical because the international spectrum policy process is built on personal involvement and individual memory rather than on formal mechanisms and institutional memory. Without these individuals, the (little) continuity and the direction in U.S. international spectrum policy could be lost.¹⁴

Second, in the absence of larger policy goals and more involved high-level oversight, a danger exists

¹²At the higher levels of the three agencies, such battles have occurred in the past, and personality conflicts—e.g., at the 1989 Nice Plenipotentiary—have caused problems.

¹³NTIA recognizes the seriousness of this problem in an appendix to its report: “The need for the training of personnel is more critical today than it was when the earlier NTIA/OTP [Office of Telecommunications Policy] training program started, because of the increased complexity of managing the spectrum and the aging of current agency staffs, with few replacements entering this field.” U.S. Department of Commerce, National Telecommunications and Information Administration *U.S. Spectrum Management Policy: Agenda for the Future*, NTIA Special Publication 91-23 (Washington, DC: U.S. Government Printing Office, February 1991), p. H-3.

¹⁴The problem is less serious in the private sector, which is better able to attract and keep qualified young spectrum engineers and managers. Other countries also are aggressively bringing along young staff. Japan, for example, often sends large delegations to conferences, many of whom are young staffers whose primary role is to observe and learn.

that instead of national policies or even agency/departmental policies, that individuals may project their own goals and values into the process. These goals, although based on years of experience, may nonetheless be very narrowly focused and take inadequate account of all perspectives. Stronger, more formalized arrangements to coordinate international policies may need to be imposed to ensure that adequate and ongoing cooperation occurs in the long term.¹⁵

Little High-Level Commitment

The domestic process of preparing for WARCs suffers from a lack of high-level attention and inspired policy guidance. Spectrum issues must be addressed at a high enough level in the government and industry to ensure that radiocommunication policy is clearly linked to policy goals guiding trade and other economic, social, and political objectives. High-level coordination between FCC, NTIA, and the State Department would provide leadership, direction, and coordination for WARC preparations and for the development of broader radiocommunication policies. But more fundamental change may be needed. Some analysts, for example, maintain that the United States suffers from the absence of a permanent Head of Delegation who could represent the United States at all major international radiocommunication conferences, build long-term relationships and alliances with other delegates, and who could provide continuity to U.S. delegations across WARCs. Officials at NTIA, FCC, and the State Department do not have the necessary position to accomplish this objective. Some have suggested that the United States should establish a position similar to the U.S. trade representative to address international telecommunications matters.

Recent government initiatives indicate that spectrum issues have become more important than in the past, and U.S. agencies are beginning to tackle them more aggressively. NTIA's recent report on spectrum management, for example, indicates that the Federal Government is beginning to take the issues of spectrum management more seriously, and is

beginning to think more strategically about the radio frequency spectrum as an important competitive resource.¹⁶ The FCC has also responded to the increased importance of spectrum issues through its ongoing study on the creation of a spectrum reserve for new technologies and services.

Resource Constraints

The lack of high-level support for ongoing international spectrum activities translates into shortages of funds and personnel. One of the critical problems with domestic and international spectrum decisionmaking is a serious shortage of qualified personnel to manage spectrum resources and develop policy.¹⁷ Because of their small numbers, staff at both the FCC and NTIA are stretched thin. At the FCC, for example, when an international conference such as WARC-92 takes place, FCC staff must add WARC issues to their existing duties. Not only does this take time away from "official" duties, it also gives inadequate time to the new, but equally important and more time-consuming, task of preparing for the conference.¹⁸ Although the work is getting done, more staff devoted to conference preparation and international activities in general could help ease the agencies' workloads, speed decisionmaking, and contribute to a higher quality of policymaking.

Inadequate funding for FCC, NTIA, and State Department international spectrum activities hurts the U.S. preparations process in several ways. First, lack of funds means that these agencies cannot start preparing for international conferences early enough. Preparation times are compressed, with the result that a lot gets done at the last minute and some things may not get done at all. Second, many personnel problems are the direct result of inadequate funding. Without adequate funding, government agencies cannot attract, train, and keep qualified young spectrum engineers and managers. Third, lack of travel funds curtails preconference activities that are crucial for building alliances with other countries and developing conference strategies. If the United States is to be successful at future conferences,

¹⁵More formalized coordination of domestic spectrum policymaking was recommended in NTIA, *U.S. Spectrum Management Policy*, 13, p. 51.

¹⁶*Ibid.*, p. 13.

¹⁷The shortage is especially acute among minorities and women. Few are involved in international spectrum policymaking.

¹⁸More time-consuming in the sense that much of the preparation process entails engaging in bilateral and multilateral talks with foreign administrations. This usually means frequent travel, and often for extended periods of time.

representatives from U.S. Government agencies must have adequate time and money to develop new alliances and cultivate existing relationships. Without such preconference work, the United States may seriously threaten its effectiveness when decisions are made at conferences.

Government Frequency Data Is Inadequate

The lack of coordinated policymaking is complicated by the lack of adequate information from the government agencies themselves regarding spectrum use, another problem that goes back decades. In 1959 hearings on spectrum allocation, one witness stated:

... although all the non-Government [civilian] users present information of use and justification for what they request in the spectrum, similar information is not submitted with respect to the [Federal] Government use of the spectrum which might indicate how the entire natural resource could best be utilized. The [Federal] Government users are not required to justify before Congress, public opinion, or any impartial body, their use of frequencies . . . and there is certainly an inability on the part of non-Government users to obtain the information regarding Government usage which is pertinent to any resolution of the problems.¹⁹

Today, the situation remains unchanged. Many in the private sector complain that it is difficult for them to apply for new services or propose new positions for the U.S. internationally **when they do not have adequate** information about government spectrum use.²⁰ In preparing for a WARC, such information is crucial for both the FCC and the private sector—inadequate information severely limits their ability to develop effective proposals.

Summary and Implications

WARC-92 represents a significant opportunity for the United States to capitalize on its technological leadership, influence world opinion, and guide negotiations on spectrum allocations. It also represents a challenge for the United States to protect the gains that U.S. innovation and research and develop-

ment have provided. Changes in domestic priorities and the international scene offer an opportunity for individual agencies to reassess their conference preparation processes. Proposed changes in the ITU, especially, provide the United States with an opportunity to reevaluate how international telecommunications policy is made and how government agencies and industry prepare for international conferences. A regular conference schedule would help regularize planning for future conferences and would make the preparations process less subject to the “fits and starts” of the past. The FCC has already taken a step in this direction with the establishment of Office of International Communications. More cooperation and continuous institutionalized leadership would serve to smooth out the bumps and plan U.S. preparations for the long term.

The fundamental problem with domestic WARC preparations is that roles and functions are not specifically defined. Processes are not always well understood, and while a structure for coordination between the NTIA, FCC, and State Department exists, it is highly dependent on the abilities and personal relationships of the individuals involved. In order to rationalize the process and lessen its dependence on the individuals involved, many have called for a clarification of the roles of the three agencies regarding international activities and negotiations possibly by modifying Executive Order 12,046 and/or by restructuring the agencies themselves in a more rational and complementary manner. The objectives of such a restructuring would be to provide formal mechanisms for coordination of policy, including specific recommendations for resolving conflicts, and promote increased high-level interaction by the heads of the various agencies in order to build a common vision to guide U.S. policy overseas and to guide the actions of U.S. delegations at international conferences. Some analysts believe that merely clarifying roles is not enough, and have called for the creation of a single agency to oversee telecommunications policy and

¹⁹Harold E. Fellows, testimony at hearings before a Subcommittee of the House Committee on Interstate and Foreign Commerce, on Allocation of Radio Spectrum Between Federal Government Users and Non-Federal Government Users, 86th Cong., 1st sess., June 8 and 9, 1959, p. 36.

²⁰One of the stronger themes that appeared in OTA'S workshop on WARC-92 was the inadequacy of data on government (and commercial) spectrum use. Many of the participants, both government and private sector, recognized easy and timely access to such information as a prerequisite to better spectrum management overall. For a detailed discussion of the problems of access to government spectrum information and proposals for opening up the government process, see NTIA, *U.S. Spectrum Management Policy*, op. cit., footnote 13. The report makes many recommendations for improving access to information and statistics on government use of the spectrum. NTIA has already begun to implement many of the proposed changes, and expects to begin others in the next several years.

development in this country.²¹ Some industry participants in the WARC-92 process have called for a similar agency or office that would coordinate international spectrum policy, including WARC preparations.

Improving the WARC preparations process will entail serious tradeoffs. Centralizing authority could make the process more efficient, but could also jeopardize the free exchange and representation of

ideas. Instituting formal voting arrangement among private sector participants might produce decisions more quickly, but the process of attracting and brokering votes could make the outcome highly political. Improving existing coordination procedures seems most realistic in the present and short term, but such incremental changes may have limited effects. More serious study of such problems and options is needed.

²¹NTIA *Telecom 2000*, op. cit., footnote 7, ch. 9; @her, Op. Cit., footnote 8.