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INTRODUCTION

Two broad trends are evident today in international satellite telecommunications. The first is a trend towards greater international regulation of the natural resources involved, the radio frequency spectrum and the geostationary satellite orbit. The second is a trend towards international and regional groupings in the provision of communications services among countries. Other articles in this volume discuss various aspects of one or the other of these trends, such as the 1985/1988 Space WARC, and regional satellite developments in Europe. Consequently, no attempt is made here to analyze the two trends fully. The principal point of this paper is to analyze their interrelationship and to demonstrate that the two trends are divergent and often contradictory.

While attempting to exercise greater control over scarce resources, the International Telecommunications Union (ITU) continues to recognize only nation states as the relevant actors to be regulated. By contrast, the actual provision of service is becoming increasingly organized on an international or regional basis. Consequently, the actual users of the regulated resources are often not individual states but groupings of states. The regulatory regime has not yet adequately recognized or adjusted itself to these new institutional configurations.

THE INTERNATIONAL REGULATORY TREND

The basic issue that has always confronted the ITU has been how to apportion a relatively scarce natural resource—the radio frequency spectrum—among competing nations with divergent service requirements.

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This problem antedates the advent of communications satellites and the resulting issues concerning the use of another scarce resource—the geostationary synchronous orbit (GSO). The regulatory orientation of the ITU is almost exclusively towards those nation states that constitute its membership. These are the actors whose conduct it regulates and these are the entities who are granted the right to use the natural resources in question. This is but a reflection of the general view of the international community as being made up of individual member states.

The ITU has traditionally taken a *laissez-faire* approach to regulation, although that approach has been gradually evolving over the past decade to involve more planning.[1] The traditional approach has consisted essentially of two steps. First, the member states decide, in general radio conferences, to "allocate" the radio frequency spectrum among different communications services. Such decisions are not, of course, exclusively technical, but are also based on political and economic factors.[2] Second, since the allocations are made to services and not to individual states, it is then necessary to determine which member states have a right to establish communications services within these allocations. This has traditionally been done on a first-come, first-served basis, by means of an elaborate notification and registration process with the International Frequency Registration Board (IFRB), one of the organs of the ITU.[3] This traditional approach was first applied to space communications systems at the 1971 WARC.[4]

The traditional first-come, first-served approach has come increasingly under attack, particularly by the Third World countries which now constitute the great majority of the ITU membership, as unfairly depriving them of access to the natural resources because of their "latecomer" status.[5] Although, as indicated above, the 1971 Space WARC generally adopted the first-come, first-served approach, it also created an elaborate process of prior mutual consultation between ITU members in an effort to accommodate later entrants, and adopted resolutions emphasizing the need for equitable access.[6] Moreover, even the first-come, first-served approach as applied by the 1971 WARC did not grant any permanent right to the use of an orbital location; rather, the right depended on the specific technical characteristics of the particular satellite registered, and if those characteristics changed, the user would lose his priority status. Because satellite technology is evolving rapidly and satellites are frequently replaced by more advanced models, the practical result is that the priorities afforded by the first-come, first-served approach are quite limited in time.

The 1977 WARC went a step further in protecting latecomers by adopting a plan for the broadcasting satellite service, applicable worldwide except for the Western Hemisphere, in which each ITU member was allotted specific orbital locations and associated frequencies which it could

use in providing broadcasting satellite services.[7] In a sense, this was not a total break with the past since, particularly in Europe, detailed plans for high frequency (HF) broadcasting had been in force for some time. Moreover, the potential use of satellites for international direct broadcasting to home receivers raised cultural and political issues not found to the same degree in the more traditional international communications services which now go via satellite-telephone, data, relay, and television transmitted through government controlled national "gateways."[8]

Subsequent to 1977, the issue has been whether a plan along the lines of the 1977 Broadcasting Plan should be adopted for the fixed communications satellite services described above. This was a chief focus of debate at the 1979 WARC: whether to retain the traditional approach or adopt some form of centralized planning in which the GSO would be parcelled out to ITU members. The outcome was a decision to hold a two-part conference in 1985 and 1988; first, to agree on which services are to be planned and the planning principles that should be applied to the use of the GSO, and second, to adopt detailed procedures to implement the adopted principles.[9]

At one end of the range of possibilities now being considered is the adoption of an *a priori* plan, in which each ITU member would be assigned specific locations and frequencies for its exclusive use in establishing its own communications systems. In this way, its proponents believe, each ITU member would be assured access to the scarce natural resource. At the other end of the range would be the continuation of the present approach. Between these two extremes are other methods, including shorter term *a priori* plans, regional plans, and mechanisms for periodic review and incorporation of countries' needs. While it is difficult to predict the outcome, it seems likely that, at a minimum, there will be some movement away from the present approach in the direction of a greater degree of planning.

All of the above alternatives retain a nearly exclusive orientation toward the ITU's individual member states, based on the fact that, until recently, communications services have been provided by individual states normally subject to the ITU's jurisdiction.

THE INTERNATIONAL PROVISION OF COMMUNICATIONS SERVICES

Until the advent of communications satellites in the mid-1960s, international communications were carried by HF radio and undersea cables. Neither means required any elaborate institutional arrangements above the bilateral level. The characteristics of communications satellites, however, led to different arrangements. By its nature, a satellite in geosynchronous

orbit is visible from one-third of the earth's surface, and thus many countries could communicate with each other via the same satellite. Consequently some form of multilateral arrangement was necessary. Moreover, as early as 1961, the UN General Assembly adopted a resolution concerning the peaceful uses of outer space, urging that the benefits of the new technology be made available to all countries.[10] These considerations laid the basis for the international provision of communications satellite services as reflected in the establishment in 1964 of the International Telecommunications Satellite Organization (INTELSAT).[11]

In the following two decades, INTELSAT has grown to 108 member states, and, through its satellites, carries more than two-thirds of all intercontinental communications services: telephone, television, telex and other data services. It also provides domestic communications services to more than twenty countries. Of equal importance, INTELSAT has evolved elaborate mechanisms for planning, technical and operational coordination and consultation, and decision-making.

INTELSAT is governed by two international agreements: the agreement setting forth the basic provisions, principles and structure of the organization, signed by governments through their foreign ministries,[12] and an operating agreement setting forth more detailed financial and technical provisions and signed by the governments or their designated telecommunications entities.[13] In most cases, these signatories are the ministries of communications of the countries concerned, but in some cases they are quasi-public or private entities under varying degrees of governmental control or supervision.

INTELSAT's structure contains three representative organs which reflect this distinction between political and technical representation. First, the Assembly of Parties, which meets every two years, is composed of all states party to the Agreement and is primarily concerned with "those aspects of INTELSAT which are primarily of interest to the Parties as sovereign States."[14] Decisions are taken on a one-country, one-vote basis, and the principal representation is provided by the foreign ministries.

Second, the Meeting of Signatories, which meets annually, is composed of all the signatories to the Operating Agreement, and is primarily concerned with financial, technical, and program matters of a general nature.[15] It is empowered to take certain specified decisions of a general nature in these areas, such as raising the capital ceiling and establishing general principles for utilization charges. Decisions are taken on a one-country, one-vote basis, and representation is provided by the signatories, for the most part, communications ministries. Thus, it is more technically and operationally oriented than the Assembly of Parties.

Third, the Board of Governors, which meets at least four times a year, is the organ with the basic responsibility to take decisions covering the

design, development, establishment, operation and maintenance of the space segment.[16] It is composed of governors representing signatories with a certain minimum investment share, singly or in combination, and, with certain limitations, governors representing at least five or more signatories. Decisions are taken by weighted vote, each governor casting a vote equivalent to his signatory's investment share. The representatives of the signatories to the Board of Governors are officials concerned, in their home countries, with the operation and management of the satellite system, and they generally have a management, technical, or financial background. The Board, in turn, is assisted by several advisory committees covering technical, financial, and planning matters, and these groups are comprised of specialists from their respective signatory organizations.

Some of the same underlying considerations that led to the creation of INTELSAT have also led to the establishment of other international and regional organizations, some modeled after INTELSAT. On the international level there is the International Maritime Satellite Organization (INMARSAT),[17] a sister organization to INTELSAT responsible for maritime communications services, and Intersputnik,[18] an international satellite system established by the Soviet Union. On the regional level, there are European organizations and satellite systems such as EUTELSAT and the European Communications Satellite (ECS),[19] ARABSAT, composed of more than twenty Arab states, and the PALAPA system providing service to the five ASEAN states.[20] This increasing trend towards regional systems is also based on other factors: certain common regional and political interests, a desire by various countries to promote the growth of their aerospace industries, and the economies of scale which result from sharing the very high costs of establishing satellite systems.

It would not, however, be entirely accurate to say that the trend is entirely in the direction of both international and regional systems. There has also been a proliferation of domestic satellite systems established by individual countries either to supplement terrestrial networks (as by the United States, Canada, and France, for example) or to provide communications services where none previously existed (as by Brazil, Australia, and Mexico). It should be noted that some of these systems are also being used for transborder or regional services. The growing tendency towards proliferation of different satellite systems, both domestic and regional, raises a series of basic policy issues concerning the future relationship of such systems with each other and with the INTELSAT system. These issues, however, are distinct from, even though related to, the main focus of this paper and will not be addressed here.

RELATIONSHIP BETWEEN THE TWO TRENDS

The ITU trend toward greater regulatory control, leading to the 1985/1988 Space WARC, involves regulation of the conduct of individual member states, but international communications increasingly are provided by groups of states. This inconsistency could lead to serious anomalies. For example, how would the services provided by INTELSAT be affected if the ITU were to adopt an *a priori* plan which distributed the GSO and associated frequencies only to members of the ITU? Would INTELSAT have to "sublease" the many orbital locations it needs from those ITU members holding them? Alternatively, if the 1985/1988 Conference does not adopt an *a priori* plan but rather, say, short term plans adopted at periodic planning conferences, what would INTELSAT's role be at such conferences and how would the service requirements of its members be accommodated? It is easier, of course, to raise these questions than to provide answers, but an effort needs to be made to identify and address the problems. We can begin by outlining some of the present interrelationships between these two divergent trends.

First, because the detailed ITU regulatory regime applies to the use of the GSO, international organizations must observe the various ITU rules, and practical accommodations must be devised, such as those that currently exist between the ITU and INTELSAT. For example, the INTELSAT system provides international communications services to more than 130 countries. The facilities providing these services must comply with the ITU rules, to which the INTELSAT members are individually bound, and yet it is the organization itself which, by its charter, has the responsibility for planning, providing and operating the facilities, which includes selecting the orbital locations, frequencies, and other operating characteristics of the satellites.[21] These practical realities have been reflected in INTELSAT's adoption of a procedure whereby it is deemed to act on behalf of its members in conducting intersystem coordination with other countries under the ITU rules, and in complying with the ITU's notification and registration procedures. In the second case, because the ITU recognizes only member states, INTELSAT has authorized the United States Government to act on its behalf as a "post-office" in the filing process. In the case of coordination, INTELSAT itself conducts the complex and elaborate consultations, and this role is accepted by the other parties involved in the coordination (whether or not INTELSAT members) as well as by the ITU itself. While these practical arrangements suffice under the present ITU regime, and would undoubtedly suffice if that regime were to continue largely unchanged, it is not at all clear that they would be adequate under other more planned arrangements that the ITU might adopt at the 1985/1988 Space WARC.

Second, the INTELSAT and INMARSAT organizations, and some of the regional organizations as well, already perform some of the functions and meet some of the needs that the ITU is seeking to address at the upcoming Conference. The developing countries objective in moving away from the first-come, first-served approach and towards *a priori* planning stems from a desire not be frozen out of the use of the GSO and to be assured that their communications requirements will be met. The INTELSAT and INMARSAT processes seek to meet these needs: their various mechanisms and types of meetings seek to assess the precise requirements of their members for international service (and for domestic service if they so desire) to determine the most efficient and economical satellite facilities to meet those requirements, and to provide non-discriminatory access to the facilities for members and non-members alike. For example, there are annual meetings of traffic experts from all countries using the INTELSAT system to forecast traffic requirements for the following years, and the INTELSAT Board of Governors, on the basis of detailed technical, planning and financial analyses by its various standing advisory subcommittees decides what precise types of spacecraft to purchase that will best meet these requirements. In this sense, international organizations such as INTELSAT and INMARSAT provide "common user" facilities which may constitute an effective alternative to *a priori* planning.

It is worth noting that, while any organization such as INTELSAT tends to acquire an identity separate and distinct from that of its members, the organization itself has no communications requirements; the organization seeks to meet the requirements *of its members.* Thus, there should be no conflict between the interests of a given country in, say, INTELSAT and the ITU. Admittedly countries do not always speak with a single voice. A government may have to reflect a range of diverse and often contradictory interests, and, moreover, the issue of an *a priori* plan for the GSO has been viewed by many developing countries as a desirable political goal quite apart from technical or other practical considerations.

If international organizations are not regarded at the 1985 Conference as an effective substitute for an *a priori* plan, though, one needs to return to the question of what role such international organizations will play in the regulatory system eventually adopted. The purpose here is not to propose any solutions, but rather to identify the problem and sketch out several possible ways of approaching it.

If an *a priori* plan were to be adopted, international organizations could be accomodated in various ways. First, certain international organizations could be placed in the same category as member states and allotted specific orbital locations, associated frequencies and coverage areas. This approach would reflect most accurately the present day realities, even though it would also constitute a substantial departure from the present ITU regula-

tory approach. Moreover, the approach would require a determination of which international and/or regional organizations the ITU should recognize. This definitional problem, however, would be no more difficult than those involved in the other planning approaches proposed. One possibility would be to recognize in the plan only those international organizations which themselves operate communications satellite systems. The rationale for this limitation is that such organizations with a direct responsibility for operating a system should be appropriately recognized. Moreover, there would be very few international organizations which would fall into this category; such organizations as UNESCO or OECD would not qualify.

Finally, under this approach it would be necessary to define the types of communications services the recognized international organizations would provide at particular orbital locations; for example, a given location may be most desirable for providing international service, while another may be most useful in providing domestic or maritime service. Given the wide range of services that can be provided by a satellite at a single location, and the ability of international organizations to provide a range of these services, it cannot simply be assumed that international organizations should be limited to specific locations exclusively for international use.

An alternate way to accommodate international organizations under an *a priori* plan would be to have a single ITU administration designated as the "agent" representing a particular international organization. For example, the orbital location 332.5° East longitude could be assigned to a particular ITU member with the provision that that member represent INTELSAT. A variation on this approach would be for the specific orbital location to be assigned to all the members of, say, INTELSAT, for use *by* the organization. There is, of course, a certain artificial element to these procedural devices, but such devices may prove of some value should there be an unwillingness to utilize the more direct approach described above. While such approaches would be a continuation of the present arrangement described above, it would also require, of course, that the 1985/1988 Conferences identify those specific orbital slots to be used by a recognized international organization. As noted earlier, this would be a difficult task, and is part of the larger problem that any *a priori* plan poses; that is, how to decide which locations, associated frequencies and coverages should be assigned to particular countries and for what services.

A third possibility might be that an *a priori* plan could be adopted that does not explicitly address the question of how the requirements of international organizations would be satisfied. Under such an approach, orbital locations would be assigned solely to member states, and it would be left to the member states and the international organizations concerned to work out arrangements by which the organizations could use particular

slots. This approach, while requiring the least departure from the present ITU regulatory regime, suffers from the greatest failure to recognize present day realities. Moreover, INTELSAT currently has registered on behalf of its members approximately sixteen locations. How, as a practical matter, would the 1985/1988 Space WARC give adequate recognition to the services being provided by the INTELSAT satellites at those locations?

If a long-term *a priori* plan is not adopted, the problems are less severe but remain nonetheless. If a shorter term plan were adopted, it would still be necessary to decide how the communications requirements currently met by international organizations would be satisfied. If a shorter term plan were combined with a process of periodic conferences or similar mechanisms to adjust needs and resources, or if such processes were adopted without a plan, it would be necessary to decide what role international organizations should play in that process. Moreover, there is the separate problem of how the views of international organizations would be adequately recognized in an ITU conference such as the 1985 Space WARC, which itself was organized to establish a plan and/or process.

Certain elements of the present system could provide the basis to permit international organizations to play a direct role in whatever processes were adopted. First, the ITU already recognizes international organizations as eligible to participate in an advisory capacity and as observers in the work of radio conferences and the two ITU international consultative committees dealing with radio and with telephony and telegraphy: the Consultative Committee on International Radio (CCIR) and the Consultative Committee on International Telegraph and Telephone (CCITT). And second, INTELSAT's role is recognized when it acts for its members in the negotiations and consultations with other ITU members that take place to solve intersystem coordination difficulties. Based on the ITU's present accommodations of INTELSAT, it should be possible to develop arrangements whereby certain international organizations are able to participate adequately, in their own right and on behalf of their members, in whatever processes or mechanisms are eventually adopted. This would assure that the organizations' provision of communications services is recognized by the ITU.

CONCLUSION

The purpose of this paper has been to demonstrate that the ITU regulatory regime does not take into account the way in which international telecommunications via satellite are actually provided. Some means must be found to do so. While several alternatives have been suggested, these suggestions are by no means exclusive. The important point is that the problem be

recognized and that all concerned begin consideration of possible solutions.

NOTES

1 *See, e.g.*, Robinson, *Regulating International Airwaves: The 1979 WARC*, 21 VA. J. INT'L L. 1, 27, 42-52 (discussion of WARC-79's debate over planning versus market allocation).

2 *Id.* at 13-14.

3 *See generally* D. LEIVE, INTERNATIONAL TELECOMMUNICATIONS AND INTERNATIONAL LAW: THE REGULATION OF THE RADIO SPECTRUM 89-105 (1970).

4 *See* ITU, FINAL ACTS OF THE WORLD ADMINISTRATIVE RADIO CONFERENCE (1971) at 168 ("Complete notices shall be considered by the Board in the order of their receipt.").

5 *See, e.g., id.* Resolution No. SPA2-1.

6 *See* ITU, *supra* note 4, at 155-82, 311-12.

7 *See* C. CHRISTOL, THE MODERN INTERNATIONAL LAW OF OUTER SPACE 569, 572 (1982).

8 *See* Chayes and Laskins, *Direct Broadcasting from Satellites, A Report of the Panel on International Telecommunications Policy*, 7 STUD. IN TRANSNAT'L LEGAL POL'Y 1, 7-11 (1975).

9 *See* ITU, WORLD ADMINISTRATIVE RADIO CONFERENCE Res. 3 (1979); ITU, FINAL ACTS OF PLENIPOTENTIARY CONFERENCE (1982). (The dates for the first and second sessions were postponed to July, 1985 and September 1987).

10 *See* U.N. G.A. 1721 (XVI), [1961] U.N.Y.B. at 33.

11 Agreement with other governments establishing interim arrangements for a global commercial communications satellite system with Special Agreement and Supplementary Agreement on Arbitration, Aug. 20, 1964 and June 4, 1965, 15 U.S.T. 1705, T.I.A.S. No. 5646.

12 Agreement relating to the International Telecommunications Satellite Organization, Aug. 20, 1971, 23 U.S.T. 3813, T.I.A.S. No. 7532 [hereinafter referred to as INTELSAT Agreement].

13 Operating agreement relating to the International Telecommunications Satellite Organization, Aug. 20, 1971, 23 U.S.T. 4091, T.I.A.S. No. 7532. [hereinafter referred to as INTELSAT Operating Agreement].

14 *See* INTELSAT Agreement, *supra* note 12, at art. VII(b).

15 *See generally id.* at art. VIII.

16 *See generally id.* at arts. IX-X.

17 *See* Convention on the International Maritime Satellite Organization [INMARSAT], Sept. 3, 1976, 31 U.S.T. 1, T.I.A.S. No. 9605. *See generally* CHRISTOL, *supra* note 7, at 393-96.

18 *See generally* N. MATTE, AEROSPACE LAW - TELECOMMUNICATIONS SATELLITES 141-45 (1982).

19 *See generally id.* at 153-57.

20 *See generally id.* at 157-60.

21 *See* INTELSAT Agreement, *supra* note 12.