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The dependence in the United States, both by government and by commercial entities on the use of satellites for telecommunication services has grown dramatically during the last ten years. This paper examines the legal and political implications of the 1985 World Administrative Radio Conference (WARC) for Space Services. That conference will not only debate important policy issues; it will also adopt legally binding international norms which will have world-wide effect.

In 1985 the 155 members of the International Telecommunication Union (ITU) will gather at the WARC to address questions relating to the efficiency and allocation of radio frequencies and the geostationary orbit.¹ The United States and other members of the ITU are committed by treaty to work within that organization to develop standards and regulations for the use of the radio spectrum and of the geostationary orbit. Once ratified by member states, those standards and regulations become legally binding.

Because of the practical and legal consequences of ITU decisions, it is very important that we be fully aware of and fully prepared for efforts to change the ground rules to which we have agreed in the past. That is not to say that all change is undesirable. It is, however, to say that change in this forum may have profound implications for us in both the commercial and national security areas. ITU negotiations are not simply passing political debates.

There are several key factors which distinguish specialized agencies such as the International Telecommunication Union from many other agencies of the United Nations. Until recently, the ITU has made its decisions based primarily on technical considerations, and it has articulated those decisions in technical jargon. In recent years, with the growing sophistication and involvement of a larger number of developing countries, ITU decisions have been increasingly motivated by a variety of political as well as technical goals. This fact has sometimes been slow to surface, principally because the jargon of the debate and the jargon of the decisions largely remains a technical one. However, the motivations and the goals of many of the delegations are increasingly political. It should also be noted, of course, that developing countries have always viewed the ITU as a political organization, which has in the past been dominated by industrialized nations.

The negotiation of the mandate of the 1985 WARC, as well as the opening salvos of public posturing and preparation for it, are solid evidence that the world of overt politics has in fact come to the ITU, and to the procedures which decide our vital radio frequency allotments and our rules for use of the geostationary orbit. Regardless of whether that is good or bad, it is happening and we have to deal with it.

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+ The views expressed in this article are those of the author and not necessarily those of his employer.

¹International Telecommunications Convention, Dec. 9, 1932, 49 Stat. 2391, T.S. No. 867, 151 L.N.T.S. 5, superseded by 28 U.S.T. 2497, T.I.A.S. No. 8572 (Oct. 25, 1973). [Subsequent revisions enacted by the 1982 Plenipotentiary Conference in Nairobi have yet to be ratified by the United States.]

The mandate of the conference is to guarantee in practice equitable access to the geostationary orbit. To clarify what that really means, we have to review the reasons why the conference is being held in the first place, and that needs to be done on several levels. During the last five years the number and variety of satellite programs in heavily developed and industrialized countries has rapidly expanded. A growing concern has been expressed by a number of developing countries that all or most of the desirable or even the acceptable orbital slots available may be occupied by the time the developing countries are ready and can afford to operate satellites of their own. Arguing, without any real challenge, that all countries should have a reasonable opportunity to share in the use of this international resource, the proponents of the '85 WARC concluded that a new specific formula or regulatory scheme needs to be developed to ensure that late-comers to the satellite game will still have a suitable place to go. The facts are self-evident that some countries do not need satellite communication services now, but may later, and that some countries cannot afford such services now, but may be able to later.

Whether orbital resources for such countries should be ensured as a matter of right or as a matter of good political sense, it would still appear reasonable to make some such arrangements. The critically important question, of course, is how to do so. It is argued by some that the easiest and most obvious way is simply to assign specific slots and frequencies to each country and to prohibit anyone else from using them. Although this approach could be an effective guarantee, it represents an horrendously inefficient and costly approach in terms of scarce resource utilization. As such, it runs the risk, at least in the long-run, not only of being technically inadequate but also of being politically unstable.

On the other hand, in 1977 the countries in Europe, Africa and Asia adopted just such a plan to govern their use of the geostationary orbit and of twelve Gigahertz direct broadcasting satellites.² The United States and the rest of North and South America, has refused to go along with that approach, and it appears clear that time has validated that decision. Region 2, the ITU grouping which consists of North and South America, is now preparing for its own direct broadcast satellite conference, which will be held in the summer of 1983, and virtually everyone, developed and developing countries alike, is searching for a more flexible and more efficient formula than that which was adopted in 1977. Indeed, it is increasingly common to hear reports from European, Asian and African administrations that in retrospect the '77 plan may not have been based on optimum assumptions after all. In essence, the problem arises from the fact that in order to assign orbital slots one has to decide first such things as how far apart they are going to be. To calculate how far apart they are going to be, one has to adopt, among other things, some specific assumptions about the state of technology at a particular time.

Unlike a priori plans, however, technology seldom stands still. In the case of the 1977 direct broadcast satellite plan, the result is that 1975 technology is now inbedded in what one might accurately refer to as procedural concrete which dictates that all direct broadcast satellites in Europe, Africa and Asia have to be six degrees apart and have to use a certain extremely high power level in order to provide adequate and desirable reception into home receivers. Those parameters are now fixed in the European plan and

²Final Acts of the 1977 World Broadcasting Satellite Administrative Radio Conference, subsequently incorporated as Appendix 30 of the ITU Radio Regulations (1982).

that plan is extremely difficult to change without, in essence, starting from scratch. The result is that very significant and technologically unnecessary limitations exist on the number of TV channels that are available from satellite transmission and on the ways that those channels can be used. It would be extremely difficult, for example, to develop a new regional or sub-regional beam from a single orbital position in Europe or the Middle East or in Africa. If several countries now decide they wish to cooperate to build a single satellite platform and to share programming from it, the '77 plan would effectively preclude that joint effort without some fundamental and complex changes.

If, in light of these constraints, one assumes that assignment of all the orbital slots and channels at a particular time is not a desirable approach to adopt, we are still faced with the challenge of answering the question how to insure that countries who first develop their satellite systems in the 1990's or beyond, will still have a fair shot at an acceptable orbital slot. There are many different planning approaches that are under very active study and active development right now in the United States, in the ITU, and in a number of other organizations. The answer with respect to how North and South American broadcasting satellites will be planned will emerge sometime in mid-'83. The answer with respect to other telecommunication satellites, principally the fixed satellite service, will be addressed at the 1985 WARC.

A great deal of work is going on in order to identify and assess alternatives. To understand what is likely to happen, however, it is important to look back and attempt to understand what the initial and current motivations for this conference are. What are the self-interests involved and the goals that the participants are trying to accomplish? It is not unduly cynical to say that there are at least two fundamental levels. One, as described above, is a goal to insure that all states have a reasonable opportunity to share in the use of the orbit when they desire and are able to use it to provide satellite services. It is the central, purported goal of the conference.

Perhaps equally significant, although certainly not so universally endorsed, is the goal of obtaining national assignment of orbital slots regardless of any intent or need to use them for the essential purpose of obtaining some property or economic right or bargaining leverage which does not now exist. It has been suggested by some that because the geostationary orbit is in international territory it should be considered the property of all states and, in turn, should be sub-divided as a property right among them. A logical extension of that theory, of course, is that equal portions of the orbital arc should be assigned to each country on the basis of sovereign equality. Few have gone that far, judging that position to be politically counter-productive. However, it is quite commonly suggested by spokesmen from at least several developing countries that they should have the right through lease, sale or barter to gain revenue from the use by others of the geostationary orbit.

We are confronted in the 1985 WARC with a serious, broadly-based, and unavoidable attempt to use the ITU's procedures and machinery for purposes which will have much more to do with economic and political ambitions than they do with technical or operating efficiency. This injection of political ambitions into the conference is at variance, if not in outright contradiction of the basic goals of the ITU, at least as expressed in the past, which may be defined as maximizing capacity and efficiency of use of the scarce natural resources of the geostationary orbit and the radio spectrum, and avoiding harmful interference, as increasing numbers of users emerge. Those two fundamental goals of the ITU, have very little to do with the current efforts to try and create a new property right in the geostationary orbit.

Put in its most stark terms, we are confronted with a proposition which could result in the United States Government, in carriers and in users being precluded from or having to pay greatly enhanced prices in order to use orbital and spectrum resources which are not actually needed at that time by anyone else. This possibility is particularly disturbing, because the added constraints and added costs would not arise from any additions of new service or new value by those who would be requesting concessions. Such added costs and constraints would arise simply from a political decision that what is now a free good, that is, the natural resource found beyond the jurisdiction of any state, should be sub-divided into feasible and exclusive national rights.

The national self interest on both sides of this question are fairly self-evident, and there is no need to be reticent about identifying them. At the risk of over-simplification, it is fair to suggest that some countries, particularly those with little or no prospect of operating a significant number of their own satellites, may well consider it in their advantage to establish a new regulatory scheme which gives them a right to obtain revenue or other benefit from other countries due to their use of an international resource. After all, it would cost them nothing, could gain some advantage, and would probably be quite popular at home. On the other hand, as the world's most extensive user of the geostationary orbit, the United States could obviously be a big loser in a decision to charge in the future for what is now free. We should, therefore, pay close attention to the implicit, as well as to the explicit consequences, of this debate.

There are several solutions to this dilemma of divergent interests; however each solution has its own particular drawbacks. In the 1977 plan, assignment of an orbital slot and of frequency channels from that slot, implicitly conveyed the right to prohibit use of that slot and that channel by any other country without the assignee's consent or without a fundamental modification of the plan. Perhaps we need to examine more closely the feasibility of a formula in which a country could be guaranteed access to an acceptable slot or slots when it actually intends to use that orbital slot. However, the formula should be one in which such a guarantee does not convey any right to preclude, limit, charge for or otherwise influence use of that orbital position and frequency channel by others until it is actually needed by the assignee. That kind of approach poses its own practical problems of enforcement. How in fact can the international community reasonably ensure that a country would vacate an assigned slot when the assignee is actually ready to use it. In fact, if a country, company or regional group made an investment and put up a satellite in a slot not assigned or allocated to it, it would simply have to build in the flexibility to move that satellite if the country that was the assignee decided that they were going to put up one of their own. In addition, means could certainly be found to reserve only a minimum number of slots and channels, leaving the rest open to meet actual future requirements.

In the past when there has been detailed planning, the common assumption has been that if you are going to plan, you must plan every resource. Every slot must be assigned and every possible channel must be made available for use. Such proposals appear to be generated more as a demonstration of engineering expertise than as a reasonable basis for ensuring the efficient use of a scarce resource. In the mandate for the '83 Region 2 conference, the ITU said that a plan should be developed which will guarantee to each administration a minimum of four TV channels. There are now proposals circulating which, for example, illustrate how each administration could be given twelve, fourteen, sixteen or more TV channels. The question obviously arises

whether it makes any sense at all to assign to each country, regardless of population or geographic size, ten-to-twenty TV channels for satellite broadcasting. As long as we are going to be making political judgments, then we must be bold enough to find an acceptable approach which will permit a real guarantee of access without imposing all the extreme disadvantages that saturation planning would involve.

In short, the United States appears to be faced with yet another significant political as well as technological challenge. On the one hand, the demand for universal access to the orbit to meet actual communications needs appears to be both reasonable and irresistibly appealing. On the other hand, the demand for effective establishment of an artificial commodities market in orbital resources poses major problems which we must neither treat nor accept lightly. Our challenge in this matter is to find the solution to the problem of guaranteed access for others without creating equal or greater problems for ourselves.