EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF TELECOMMUNICATIONS MANAGEMENT
WASHINGTON, D.C. 20504

May 27, 1968

TO: Members, Panel No. 4 (INTELSAT - 1969 Planning) of the Ad Hoc Intra-Governmental Communication Satellite Policy Coordination Committee

The attached draft papers regarding INTELSAT Managership and Basic Structure specified in Memorandum No. 31 are being distributed directly to Panel Members at the request of Mr. Stephen Doyle.

Cole A. Armstrong
Deputy Director

Attachments:
a. Review of Questions Related to INTELSAT Management
b. INTELSAT: Future Basic Organizational Structure

ATTACHMENT A

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May 27, 1968

MEMORANDUM FOR MEMBERS OF PANEL 4(INTELSAT-1969 Planning) of the Ad Hoc Intra-Governmental Communications Satellite Policy Coordination Committee

Subject: Review of Questions Related to INTELSAT Manager

The agreement between the United States and other governments establishing Interim Arrangements for a global communications satellite system provides that Comsat "in accordance with specific determinations which may be made by the Committee" shall "act as the manager in the design, development, construction, establishment, operation and maintenance of the space segment."

The proposed Definitive Arrangements for INTELSAT, ICSC-28-40E W/9/67, ICSC-29-9E W/11/67, 3 October 1967, provide:

(a) As under the Interim Arrangements, a single entity would be designated to serve as Manager and that steps should be taken to insure international participation in the managerial function.

(b) That the Manager would continue to function subject to the general policies and specific determinations made by the governing body.

(c) That a contract would be continued by the governing body and the Manager defining clearly the scope of the Manager's activities, the line of authority, standards of performance and remuneration.

(d) That to provide continuity and make use of accumulated experience Comsat should be designated as Manager.

(e) That the agreements would provide that the entity serving as Manager could be changed if the assembly of members approved a change proposed by the governing body.

Need for Examination of Other Possible Management Arrangements

Certain members of INTELSAT have indicated a desire to examine other possible structures for providing system management different from that now existing in the relationship between ICSC and Comsat. However, regardless of changes which might be effected, it would appear essential, for the time being, to maintain a close working relationship between the Manager and the United States National Aeronautics and Space Administration. For the next several years the only source, and probably for the next decade the most cost effective source, of launch services for a global communication satellite system will continue to be NASA. The Communications Satellite Act of 1962 makes it a responsibility of NASA to support Comsat in the establishment of the global communications satellite system.

Further, since the United States is the largest single contributor to the volume of international communications and to the technology and has the largest stake in reliable, efficient and economical operations of the system, it is to the advantage of the United States to maintain the maximum opportunity to guide and support the activities of the Manager.

Areas of Competence Required of INTELSAT "Manager"

Before discussing the possible arrangements for managing development, deployment and operation of the space segment of the single global system on behalf of INTELSAT, the functions to be performed should be examined. These functions to be carried out by the Manager as the term "Manager" implies, include all the staff and system planning functions normally required of a major communications common carrier. Although the responsibility for policy decisions and the approval of system plans rests with the governing body, the Manager is required to interpret these decisions in terms of the foregoing functions. He is responsible and expected to carry out the study and analysis of the alternatives, make recommendations regarding choices to the governing body, and be prepared to put these decisions into action when they are made.

The most important capabilities may be described as follows:

1. A system planning capability for integrating engineering, operational, economic and social factors bearing on the global communications satellite system and coordinating the development, design and deployment of the satellites constituting the space segment of the single global system as a major component of an improved network.

2. An engineering capability covering the usual ranges of transmission; engineering economics; traffic engineering, in the sense of future estimating, capacity studies, etc.; specialized satellite engineering; contract analysis in connection with procurement; a substantial systems engineering capability; and, at the minimum, R&D capability and current experience adequate to make competent judgments of the work of others and, hopefully, to acquire some important patents for trading purposes.

3. A financial and accounting capability to handle the allocation of shares among the participants, estimate future capital and operating fund requirements, bill and collect funds from the members, and handle the disbursement of funds in the form of payrolls, payments to contractors, and any repayments to members.

4. A personnel capability for exercising the imagination and promotion necessary to recruit and retain a high caliber staff of a number of different disciplines with an adequate international nature to, as closely as possible, meet the desires of the members.

5. A legal capability adequate to operate in the international environment in terms of the restraints on the using entities that constitute the customers and handle the complex problems of contracting, patent and associated proprietary rights connected therewith, as well as all the usual legal requirements on any common carrier.

6. A customer relations and commercial capability of a very unusual nature. This group needs the technical capability of advising and counseling the carrier customers throughout the world in order to promote the use of satellite services and assist the carriers in making the most effective use of satellites. It can draw upon the engineering capability to a large extent, but the regular members of the customer relations department should have the technical and economic competence to conduct most of the relations with current and potential using entities.

The existing sources of the talents required to perform these many functions are the telecommunications operating entities of the advanced nations of the world. Comsat, after about five years of effort, has succeeded in building a reasonably competent organization that is still struggling with some inadequacies. None of the manufacturing, non-profit research or study organizations outside of the carriers have such a capability in being. The alternatives available in assembling this group of specialized skills to support a Manager are to continue to utilize Comsat under some specific arrangement or to build an entirely new organization which would take at least another five years to reach the level of competence which Comsat has attained.

Organizational Options

Within these limits, something of a spectrum of possibilities for performing the managerial functions can be found, starting with the present arrangement whereby the functions are performed as an integral part of Comsat's total activities. This spectrum might be defined as follows:

(a) Continuation of the present arrangement under which Comsat performs the management function as a responsibility of the Corporation as a whole with more specific delineation of the contractual undertakings with the governing body.

(b) The same as (a) but with the establishment of a separate major division of Comsat specifically responsible to the governing body for the management function and reporting only to the President and the Chairman of the Board of Comsat and with as much increased participation as is practical in the number of people nominated by the other members of the ICSC.

(c) The same as (a) but with arrangements for the establishment of a separate subsidiary corporation of Comsat which might be located apart from Comsat in Washington or elsewhere in the United States to perform these functions.

(d) The establishment of an international agency somewhat after the pattern of the international financial institutions or some of the international joint ventures operating in Europe.

Continuation of the present arrangement as contemplated in (a) above would involve no change in the Comsat structure, in the relationships with the governing body (presently the ICSC) or the United States Government.

The establishment of a separate major division of Comsat could be accomplished by the Corporation with the details of any changed relationship to be worked out with the governing body with the minimum of disruption of present arrangements and activities. It would require some internal adjustment of Comsat organization, but would have the

advantage of more clearly divorcing Comsat's domestic common carrier and international representation rolls from its responsibilities as Manager for the governing body. It would still meet the need for easy loan of people with special skills between divisions.

The establishment of a separate subsidiary of Comsat would probably require some formal approval of the FCC, consultation with the Congress (perhaps legislation), and substantial rearrangement of the contractual relationships with the ICSC, equipment suppliers and NASA. Conceivably, a portion of the ownership of this Corporation might be made available to other participating governments to strengthen its international support and increase the sense of participation in the actual management of the global system by our partners in INTELSAT.

The Form of Possible "International Managers"

The only reasonable alternative providing complete separation from Comsat would be the establishment of a new international "joint venture" to perform the management function related to the space segment of the global communications satellite system and perform other communications satellite services as might be agreed to between the managers of INTELSAT. (Schemes for fragmenting the Manager's functions into a number of contracts with several organizations would be judged totally unacceptable.) The international joint venture would eliminate the

"conflict of interest" which some members of INTELSAT allege exists in Comsat's dual role as United States representative on the ICSC and Manager for INTELSAT. This would undoubtedly require the negotiation of some form of new international agreement which could trigger difficulties with the proponents of a stronger role for the ITU or could make the negotiation of the Definitive Arrangements more difficult.

Many effective international coordination and banking institutions exist both within the framework of the U.N. and outside its umbrella. One international organization with major operating responsibilities which provides a promising prototype is Uratom, the European Atomic Energy Community organized January 1, 1958, to create the conditions necessary to speed establ ishment and growth of nuclear industries in the European community. It is concerned with peaceful exploitation of nuclear energy including (a) a community research program, (b) coordination of public and private research activities, (c) dissemination of information, (d) establishment of adequate legal infrastructure for the development of the Community nuclear energy industry. It is governed by a five-member independent commission. It operates 4 major research centers with a 5-year allocation to these centers of $127 million. In 1965 it was, in addition, administering 20 R&D contracts to large scale private or public research activities. The total 5-year program of Euratom, 1963 through 1967, involved $425 million. Its research centers employ 2400 scientific and technical plus 716 supporting people (1965). It maintains

a large computer center including several IBM computers. Uratom had contributed to the development and installation of approximately 300 megawatts of nuclear power by 1965 and it is predicted that Europe will have approximately 14,000 megawatts by the mid-1970's.

Another prototype organization might be CERN, the European Council for Nuclear Research. CERN is not an agency of the Common Market as is Euratom but involves 13 European states including the U.K. Its purpose is "collaboration in fundamental research in sub-nuclear physics." It provides large scale nuclear physics equipment. It had a capital investment, as of 1965, of about $104 million; employed 2300 people; and was engaged in a wide program of nuclear energy research. CERN is not formally associated with any other international organization but is governed by a council made up of two members representing each member state.

Another organization of somewhat different characteristics , but also of interest, is the Eurochemic Company. This is a joint stock company with participation by both governments and private enterprise representing 13 member countries. The stock is held 80% by governments and 20% by private interests. Its purpose is to build and operate a plant or plants for repossessing fuel from European nuclear reactors and to promote and acquire technical and economic experience in the design, construction and operation of such plants. In 1965 it had a capital investment of about $37,750,000 and had a plant at Mol in Belgium employing 300 people.

Other international joint ventures that might be considered as prototypical of an organization to service the managerial function for INTELSAT if it were decided to establish a separate "international Manager," might be the European Launcher Development Organization (ELDO) and the European Space Research Organization (ESRO). These are both established under conventions which provide for European cooperation in fields of space research, science and technology. The difference between these organizations and those described above is that the space research activities are mainly carried on through the research laboratories already established by the individual member countries rather than through new unique facilities.

None of these organizations provide truly satisfactory models for the complex systems functions required of the Manager.

Regardless of the type of organization which might be evolved to serve the governing body as Manager for INTELSAT, it is necessary to repeat that,for the time being, there is only one source of the space knowhow and the launch capability required to establish the space segments of a global communications satellite system with satellites in a synchronous equatorial orbit, and that is the U.S. National Aeronautics and Space Administration.

Further, there is a real question whether under the Communications Satellite Act of 1962 NASA has authority to furnish "satellite launch and

associated services required for the establishment, operation and maintenance of the communications satellite system..." to other than the U.S. Communications Satellite Corporation.

Summary and Recommendations

Summarizing the foregoing, the options narrow down to (a) and (b) above; that is, either continuation of the status quo or establishment of a new major division of Comsat, reporting directly to the President of Comsat, and possibly even separated physically from the rest of Comsat. Time would not allow an arrangement which required starting from scratch to build competence in the fields of telecommunications management outlined above (five to ten years would be required, combined with unusual inducements to recruit and meld into a working organization the skills required); nor would time permit the Congressional procedures believed necessary to establish a separate subsidiary of Comsat to perform these functions; nor to amend the law to permit NASA to provide launch services to a subsidiary corporation or an international joint venture agency. Building a new organization outside of Comsat would be an immense and difficult task because of the world's shortage of people with the necessary experience and the relationships that most of such people have with the existing telecommunications organizations.

The United States should espouse the solution set forth in paragraph (b): the establishment of a new division of Comsat to be the Manager for INTELSAT.

Proposed Instructions to U.S. Representative on ICSC

In regard to the "Manager" under the Definitive Arrangements, it is the U.S. position that Comsat is the only suitable entity that is available. Comsat is free to work out with the governing body satisfactory contractual arrangements for performing these functions for INTELSAT. There is no U.S. objection to an agreement that specifies practical and reasonable use of foreign personnel or the establishment of a separate department or division within Comsat for the purpose.

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May 27, 1968

MEMORANDUM FOR MEMBERS OF PANEL 4 (INTELSAT-1969 Planning) of the Ad Hoc Intra-Governmental Communications Satellite Policy Coordination Committee

Subject: INTELSAT: Future Basic Organizational Structure

This paper, prepared at the request of Panel 4, deals with the question of INTELSAT's basic structure under the "Definitive Arrangements." Excluded from this study because they have been assigned for other papers, are the matters of the future functional scope of INTELSAT (its authority to provide such services as aeronautical, marine, etc.); its management structure; the relationship of investment, use, voting strength, and eligibility for membership; and the relationship between ITU and INTELSAT.

The principal focus of this paper will be on the relationship of INTELSAT to the space segment. (Earth stations wherever located are, and will continue to be, within the exclusive national jurisdiction of the country in which they are situated.) The specific questions to be addressed in this paper are whether there ought to be a single global commercial space segment owned by INTELSAT; and if not, the extent to which individual nations, or groups of nations, ought to be permitted under the Definitive Arrangements to own and operate their own commercial

communication satellites. The latter alternative leads to further questions; namely, whether these space segments should be oriented geographically (regional, domestic) or functionally (broadcast distribution, point-to-point, aeronautical, etc.). Finally, in order to make the study complete, the relationship between INTELSAT and geographical or functional systems outside of INTELSAT should be examined.

In approaching the foregoing questions, it should be noted that in its Definitive Arrangements paper, the United States is charting a course for the indefinite future. If the tremendous strides that have been made in communication satellite technology during the past ten years are an accurate barometer of future developments, then any definition of United States policy should be sufficiently broad and flexible to permit unforeseen future developments in the state of the art to be integrated without undue delay. Any definition of United States policy regarding commercial communications satellites ought, also, to take into account the systems nature of communications, recognizing that communications satellites are simply one part of a system, the other elements being, principally, terrestrial cables and microwave facilities.

PRESENT NATIONAL POLICY

The starting point of any discussion involving organization of the space segment should be the national policy objectives established in the Satellite Act and related documents. Those objectives are stated clearly in Section 102 of the Communications Satellite Act:

DECLARATION OF POLICY AND PURPOSE

SEC. 102. (a) The Congress hereby declares that it is the policy of the United States to establish, in conjunction and in cooperation with other countries, as expeditiously as practicable a commercial communications satellite system, as part of an improved global communications network, which will be responsive to public needs and national objectives, which will serve the communication needs of the United States and other countries, and which will contribute to world peace and understanding.

(b) The new and expanded telecommunication services are to be made available as promptly as possible and are to be extended to provide global coverage at the earliest practicable date. In effectuating this program, care and attention will be directed toward providing such services to economically less developed countries and areas as well as those more highly developed, toward efficient and economical use of the electromagnetic frequency spectrum, and toward the reflection of the benefits of this new technology in both quality of services and charges for such services.

(c) In order to facilitate this development and to provide for the widest possible participation by private enterprise, United States participation in the global system shall be in the form of a private corporation, subject to appropriate governmental regulation. It is the intent of Congress that all authorized users shall have nondiscriminatory access to the system; that maximum competition be maintained in the provision of equipment and services utilized by the system; that the corporation created under this Act be so organized and operated as to maintain and strengthen competition in the provision of communications services to the public; and that the activities of the corporation created under this Act and of the persons or companies participating in the ownership of the corporation shall be consistent with the Federal antitrust laws.

(d) It is not the intent of Congress by this Act to preclude the use of the communications satellite system for domestic communication services where consistent with the provisions of this Act nor to preclude the creation of additional communications satellite systems, if required to meet unique governmental needs or if otherwise required in the national interest.

In addition to the foregoing statement of national policy, it might be well to consider, also, the circumstances which led to that policy, as well as the one underlying the International Agreement of 1964 which established the Interim Arrangements.

In the negotiation of the Interim Agreement and in the proposed Definitive Arrangements which have been tabled for international consideration by the United States, the objective of fair and equitable use of communications satellite resources by all interested nations has been of paramount concern, because the two sine qua nons of satellite communications, frequency bandwidth and equatorial space, are international resources of special concern to all nations. In 1959, at the Administrative Radio Conference at Geneva, this concern was strongly manifested by the developing nations. Their views were unmistakable that the "first come, first served" principle which has governed the worldwide use of the frequency spectrum had worked to the major disadvantage of the "less developed" countries -- those nations which up until World War II were in a colonial status. Those new nations found, when they sought to obtain allocations from the ITU in the high frequency segment of the radio spectrum, immediately after World War II that those frequencies had largely been pre-empted by the major powers. They were seriously concerned that as communications satellite technology began to develop the same situation should not occur in the frequency ranges suitable for communication satellites.

FUTURE NATIONAL POLICY

In the Administrative Radio Conference of 1963 the United States, as the only power capable of exploiting communications satellites, sought to allay that concern by stating that it had no intention of pre-empting the frequency bands allocated for space communications, and as a logical corollary the United States led in the development of the International Agreement of 1964, and in the creation of INTELSAT. Even though sixty-two nations have now become members of INTELSAT, there is still the distinct possibility that if the United States and Canada go forward with their domestic programs tenuously related to INTELSAT, they can be accused, once again, of pre-empting the spectrum. This can lead to another Space Conference called by the ITU in the very near future to reserve spectrum space for countries other than those in North America.

It would seem, for these political reasons as well as for the very sound reason that satellites offer the best, and sometimes the only, mode of communicating directly and reliably with many foreign countries, that United States policy ought to be to continue its firm support of INTELSAT and to refrain from any action which would create the appearance of undermining that support.

THE BASIC GLOBAL SYSTEM

Support of the global system should take the form of joint participation in the development of a total system (domestic, as well as international) in such a way that all users, large and small, can meet their communications needs at minimum cost. One objection which has been made to this approach

is that it penalizes large users like the United States. This, of course, assumes that one country will use only a relatively few satellites; for example, of the three operational INTELSAT IV satellites being planned, it is argued that the United States will use the Atlantic and Pacific satellites heavily, but will have virtually no use for the Indian Ocean satellite. Therefore, the argument goes, the relatively higher cost of utilizing the Indian Ocean satellite should be borne by the countries using it, and not by the United States. Of course, this assumption will be seriously undercut if an earth station is constructed on Guam to work with the Indian Ocean satellite. Secondly, this approach completely overlooks the fact that there will be some use of all global satellites by the United States either through one or more neighboring entities or its own earth terminals.

There may come a time in the not-too-distant future when INTELSAT will be so firmly entrenched that any nation, including the United States, with the communications requirements and physical capability can develop its own commercial communications satellite system, largely as it sees fit. Until that time is reached, however, a maximum effort should be made to pool all facilities, conserve spectrum space, and to achieve the best service at the lowest cost for all members of INTELSAT. In other words,

United States policy ought to have the objective of minimizing the total number of space segments and earth terminals in the commercial system.

Since a given earth station antenna can work with only one satellite at a time, unit circuit costs are minimized by maximizing the number of circuits working through a single antenna. This can be accomplished by maximizing the area covered through a given satellite. Therefore, for the present at least, new communications requirements should be met by increasing capacity of the satellites in use. This means that if a large capacity satellite can serve the domestic needs of Canada and the United States, as well as carry regional traffic between Canada, the United States and Latin America, this approach, everything else being equal, is far more preferable than one which would contemplate the United States, Canada, and some Latin American countries having separate satellites and earth terminals to serve their own domestic needs. This leads directly to the conclusion that for the present, at least, INTELSAT ought to provide the space segment for all commercial communication satellite service.

The same argument that is made for a minimum number of satellites internationally supports the proposition that a satellite system ought to serve as many purposes as possible and be integrated into the terrestrial networks in such a way as to provide the most efficient transmission means at the least cost.

As we have pointed out above, the radio frequency spectrum is a limited international resource of critical importance to most nations. The use of a particular orbital location by a communications satellite can affect the use by many nations of their own terrestrial microwave facilities, as well as effectively preclude them from operating communications satellites from orbital positions which they might deem most desirable for the purposes of meeting their own requirements. Hence, it is necessary that some international organization like the ITU be responsible for the regulation of spectrum and orbital space. The degree to which the ITU will control the spectrum will depend on the extent to which the smaller nations will consider their interests to be threatened by the larger countries. Maximum use of INTELSAT facilities by the United States would tend to go far in mitigating this fear.

INCREMENTAL SATELLITES

Even though it is desirable for economic reasons to maximize the number of points that can be reached directly from any given earth terminal location and also to maximize the capacity of the space segment, it will soon be necessary, either because of large TV growth or an increase in point-to-point demand, to establish additional satellites at different orbital positions than those designed for intercontinental service. These will tend to be, unless artificial restraints are imposed, primarily special purpose INTELSAT satellites to serve the special needs of those nations produce large volumes of traffic. Of course, the users of the special purpose satellites would

provide themselves with the necessary additional earth terminals, and since those satellites would not be limited to domestic service but serve international needs as well, the cost burden can be spread broadly. The satellites oriented for United States and Canadian domestic service would be in this special purpose class, would be a part of the global system, and should be designed to utilize the orbital space and the spectrum as efficiently as possible.

From the standpoint of system engineering for maximum overall economy to all users, a proposal to add a satellite, or satellites, over and above the basic three-satellite configuration triad seems justifiable only when all of the following questions can be answered in the affirmative:

1. Is there an unfilled service demand?
2. Do the existing space segments lack the capability to fill the demand?
3. Do the limitations of the technology, spectrum allocations, or other factors prevent the replacement on a one-for-one basis of present satellites with larger ones that would be capable of meeting the unfilled demand?
4. Does the separate subsystem made up of the additional satellite and associated earth terminals offer some substantial advantage not achievable in the existing system?
5. Is it clear that the separate subsystem does not impose penalties on INTELSAT?
6. Is it clear that the proposed separate subsystem does not significantly foreclose future options for INTELSAT?

If we accept these principles, it seems clearly to the advantage of everyone for the global system to be engineered, planned, operated and managed, insofar as the space segment is concerned, as a single system. The necessary engineering and management work should be done by professional communications people who are experienced in developing and expanding

~~making a~~ very large interconnected communication networks.

OWNERSHIP OF THE SPACE SEGMENT

The question of ownership of the space segment of satellite systems probably has caused more confusion than any other aspect. Under the Interim Arrangements investment is in, and ownership is said to be of, a specific, but undivided, share of the space segment of the global system. Ownership would have been directly proportional to use had the estimates of individual usage which were made in 1964 turned out to be accurate. No profits were not contemplated nor were dividends considered appropriate. Funds remaining after expenses were to be returned to the contributors in proportion to their contributions. This would have been equivalent to each user amortizing its own investment in the form of a depreciation account which would be used to pay for further investments occasioned by growth and obsolescence. This simple "wash operation" has been complicated somewhat by the fact that use has not been related directly to ownership, but this problem should tend to diminish when a majority of INTELSAT members have earth stations in service by the end of 1969.

The technical nature of a communications satellite system leads logically the undivided ownership principle, because communication satellites are most advantageously procured as a package with undesignated individual units. In this format, it would seem difficult to find a truly equitable way to divide up the ownership. If ownership was related to particular elements of the space segment, many difficult questions might arise. For example, how would spare satellites, either in orbit or on the

ground, be owned? If a satellite is shifted from one part of the world to another as a step in the economical growth of the total system, what would be the accounting for ownership? How would the provisions for insurance against launch failure be handled?

While it is possible that future satellites might be designed for the specialized requirements of the specific areas that they are to serve, there are actually very few communications requirements that might require such specialized design, because the satellite repeater, or transponder, in any satellite is a relatively simple device. Its basic function is to accept energy from an incoming signal, amplify it, and translate it without distortion to a carrier at a different frequency than the incoming signal. Even though the relative energy levels of the incoming and outgoing signals are a function of the size and noise termperature desired in the earth terminal receiver, it has been demonstrated that for point-to-point communications considerations of spectrum efficiency and geostationary orbit utilization efficiency require general use of large, low temperature, and low side lobe antennas in the earth terminal. Hence, it seems unlikely that very substantial variations in the design energy levels will take place even where special purpose satellites are involved. When pencil beam satellites become economically feasible, and a particular beam pattern can be designed for a specific geographical area, it may well

be possible to develop steerable beam satellites which are not limited to use in many different parts of the world. Thus, even though the global system may be composed in the not-too-distant future of basic and special purpose satellites, good engineering and economic practice seems to dictate that planning should continue to be on a global basis.

DIRECT BROADCAST SATELLITES

It should be noted that satellites designed for direct broadcast to home receivers or other small-antenna arrangements would be not precluded by the above considerations. Satellite broadcast systems require a high power output from the satellite in order to produce a high power flux density at the surface of the earth in order that the receiver antenna can collect enough energy to override the noise that it receives from a multiplicity of sources and still give a good clear signal. Such systems can operate in the same environment as a point-to-point systems, if the frequencies involved are different for the two systems. As long as such systems do not require more than a few hundred channels in a given area the satellites can be widely spaced in orbit to avoid interference. Thus, the two types of systems can coexist very effectively with the transponders for the broadcast system either carried by special satellites or by a few of the satellites operating in the point-to-point system. In choosing between the two it seems that the latter would be the better choice in view of the fact that basic launch costs are quite high, compared with the incremental launch costs incurred as weight increases.

BASIC INTELSAT ORGANIZATION

It has been suggested that INTELSAT ought to be basically structured to coordinate spectrum and orbital use on a global basis; and that new regional organizations ought to be created to establish commercial communications satellite systems for particular regions. It is hard to find any advantage that this presents over the INTELSAT arrangement suggested in the United States paper on Definitive Arrangements. It would give up, or make more difficult of attainment, the economic advantages of joint R&D as well as of combined use of spares, both in orbit and on the ground. It would be highly unstable because as traffic grows smaller groups of users would probably withdraw from the larger regional association, to establish a smaller one to serve only themselves, retaining as much as possible of the proceeds of via-routings. This would materially disturb the unit costs in the larger regional association. One of the results of this could be that we in the United States might find ourselves in the position of having to provide an uneconomically large number of earth terminals in order to be able to connect with all the systems that would come about. In one sense such a procedure would amount to handing the cable technology a substantial and unwarranted economic advantage.

Rate Structure for the Space Segment

Under the Interim Arrangements a uniform satellite utilization charge has been adopted by INTELSAT on a global basis. If identical satellites are used in different parts of the world, it seems obvious that unit costs

would be lower in the satellite carrying the most circuits. It is contended that if these satellites have different operating costs, the nation, or nations, using the lower cost satellites should not be required to pay a share of the higher cost satellite that it may not use at all. The present INTELSAT user charge is said to constitute a form of subsidy paid by one user, particularly the United States, for the benefit of the smaller countries.

Under the United States proposals for the Definitive Arrangements the subject of rates for space segment units of utilization can be viewed very simply. Assume, for example, that the U.S. usage actually amounts to 80% of the total capacity of the entire commercial space segment, including all satellites carrying international traffic as well as intra-North American traffic. The United States would put up 80% of the capital required to establish the entire space segment; also it would pay to INTELSAT 80% of the annual operating costs for this same space segment. It would be using 80% of the total number of available units of utilization. The United States would, in effect, have an indefeasible right of use of this 80% of the space segment, which would actually be distributed unevenly among the different satellites in order to match the traffic needs. No payment would be required for monthly or annual use of a unit of utilization insofar as INTELSAT is concerned, and this right of use would be absolute, not subject to termination by INTELSAT without the consent of the United States.

Assuming that Comsat is the U.S. representative to INTELSAT, (Also, for simplicity, assume that Comsat would provide circuits only to U.S. common carriers.) it would procure indefeasible right of use for a particular number of units of utilization in the international satellites and presumably, although not necessarily, all the units of utilization in the satellites used for U.S. domestic traffic. Comsat could establish any sort of rate structure on which agreement could be reached with the FCC and its customers, alone. This structure could be based on complete averaging; relative costs of different parts of the total structure; or established on a relative "value of service" concept. The only requirement would be that Comsat's total revenues would need to be great enough to cover amortization of the capital it had contributed to INTELSAT and had invested in the United States earth terminals of the international subsystem, plus the cost of capital it had invested, and its annual operating expenses. The rate structure, insofar as the U.S. is concerned, would be left under the control of the FCC.

Thus, it would appear that thinking in terms of ownership of certain indefeasible rights of use rather than in terms of specific hardware ownership would provide a more realistic and useful result. This principle is one that currently governs the participation of international carriers in the operation of submarine cables. The holder of an indefeasible right of use to a specific part of a cable system (a number of telephone channels or a percentage of the total system capacity) has been considered for domestic

rate purposes to "own" his portion of the system and in international operations to "control" it to the extent that it is separable from the total system.

THE DEFINITIVE ARRANGEMENTS

The U.S. proposal on Definitive Arrangements was deliberately silent on the subject of ownership because ownership is really not very meaningful when applied to communication satellites. It was thought better to concentrate on what might normally be thought of as the attributes of ownership. Developments since the paper was tabled would appear to make it desirable to change it in that respect and to include statements similar to those in the Interim Arrangements regarding a consortium with ownership in undivided shares proportional to use made of the space segment in total. It might be well to include the concept that this ownership leads to indefeasible right of use of a percentage of the total number of units of utilization, and also the concept that each member would pay a percentage of the monthly or annual operating costs of INTELSAT equal to the percentage use it makes of the space segment and that no specific charge should be added by INTELSAT for individual units of utilization. Under this concept there would be no profit, no payment of interest on the capital contributions made, and the question of what to charge to the users of its units of utilization would become something for each member to determine for itself.

The only aspect of this proposal that might seem to be unfair would be the failure to pay a return on the capital contributions made by nonusing members. However such payments would be very small since the nonusing

members make very small contributions, and this would create an incentive for such members to use the space segment more quickly.

UNITED STATES DOMESTIC SERVICE

The above discussion reinforces the concept that the United States should obtain domestic communications satellite service by utilizing INTELSAT satellites, subject to whatever arrangements are defined in 1969. The purchase of indefeasible right of use of the units of utilization in the domestic space segment can be implemented by providing all of the capital to cover the cost of these units and payment of the part of the annual operating costs equal to the percentage of the total represented by the ratio of the units of satellite utilization devoted to domestic service to the total units in the space segment. Comsat should put up this capital, pay the annual operating expenses, and work out tariff arrangements with the FCC for resale of the service which would, of course, include the earth terminal portion.

There is no question of sovereignty or legality involved. The United States would not be giving up ownership or sovereignty of a part of its domestic system because its right of use of the units of utilization is indefeasible. In addition, there would certainly be no difficulty in keeping the telemetering an attitude and position control of the satellites within the U.S.

The only other significant attribute of ownership and control of the facilities providing domestic services would be the assurance that additional facilities could be obtained when desired. The provisions of the proposed Definitive Arrangements relative to the right of any nation to go ahead and provide for itself in the event that INTELSAT was unwilling or unable to do so would be adequate protection in that respect. It might even be desirable to extend that proposal to read that any nation, for its domestic purposes, or any group of nations, for any purpose, would have the right to provide satellite service desired in the event that INTELSAT did not promptly respond to its requirements. This is not to say that INTELSAT has to put up an extra satellite whenever requrested, but merely provide the desired units of utilization in some way.

It is suggested that the changes discussed above be proposed in the near future as an amendment to the U.S. proposal for Definitive Arrangements. The exact words can easily be worked out if the principle is agreed upon.

In summary then, the following points can be made:

1. The basic structure of INTELSAT ought to be an international consortium, or partnership of nations, each having an indefeasible right of use in the space segment of a global commercial communications satellite system. The quantum of ownership would be directly proportional to that nation's use of the entire global system. Capital and operating costs are to be shared proportionately, and no investment above 0.05% will be permitted except on a user basis.

2. The foregoing is completely consistent and in furtherance of the national policy concepts set out in Section 102 of the Communications Satellite Act: It takes into account the needs of the developing countries; it permits expeditious development, and efficient use, of the system; it reflects the benefits of this new technology; and it permits effective and economical use of the electromagnetic frequency spectrum.

3. It meets the concern expressed by the developing countries in 1959 and 1963 regarding monopolization of the spectrum by the United States and the other developed countries.

4. Maximum economies of scale are to be achieved by combining as many circuit requirements as possible in minimum number of satellites and earth stations. At this stage in the communications satellite art the broadest territorial coverage ought to be sought, and as many different services as possible provided in a single system.

5. At this time it does not seem possible to define any regional system in a way which would not undercut INTELSAT by deriving it of critically needed revenue. Until such a definition of "regional" systems can be developed, all international communication satellite requirements ought to be met through INTELSAT. Even though "regional" systems would have a serious adverse impact on INTELSAT, direct broadcast and aeronautical and

marine navigational satellites might be operated in a separate system, depending on the special political and technical conditions which may pertain to the specific proposal.

6. The United States ought to obtain service for the domestic pilot program from INTELSAT. This would be the best vote of confidence INTELSAT could receive, and would tend to eliminate diplomatic pressure for launch assistance by other nations.

Mr O'Connell

Washington Roundup

First Test

Defense Secretary Melvin R. Laird's **honeymoon with Congress comes to an abrupt end this week** when he presents his revised version of the Fiscal 1970 defense budget before the House Armed Services Committee. Congress expects the Laird program to translate into hardware commitments the present ambiguous nature of East-West relations, the domestic fiscal squeeze and uncertainty over how President Nixon will handle the uncomfortable Vietnam talk-and-fight legacy of the Johnson Administration.

Whether Laird can integrate these factors into a convincing Pentagon policy for his former congressional colleague remains to be seen. They still remember him as an intense political partisan and are waiting to be convinced that he has risen to the "statesman" category in less than two months. Laird's recent policy clashes with President Nixon, while admittedly minor, have put some members of Congress on guard. Further complicating Laird's position is an incipient **upsurge in inter-service rivalries in the Pentagon,** a factor that may enhance congressional suspicion of the motivation behind many new weapons proposals.

Minor Decisions

Four-week international telecommunications satellite (Intelsat) conference **will adjourn Mar. 21 without deciding the major controversial issue: the structure of the Intelsat organization.**

The delegations from 96 nations will resume the conference in about six months to answer such key questions as: Should Intelsat have control over the "parking slots" in the synchronous orbits? What degree of dominance should U.S. Communications Satellite Corp. have? Should Comsat be replaced as manager and when?

Most other issues, including procurement policy, will be resolved this week. U.S. Ambassador Leonard H. Marks, chairman of the conference, said last week he was "pleased" with accomplishments. Marks volunteered that the USSR and 29 other non-Intelsat consortium members attending as observers have **"acted in exemplary fashion, spoken directly to the point and with every intention to advance the progress of the conference."**

Senate Commerce Committee has been organized, after some delay, basically along the lines followed during the 90th Congress. **Sen. Warren G. Magnuson (D.-Wash.), the committee chairman, last week appointed himself chairman of his aviation subcommittee.** The move forestalled what had promised to become a lively scramble for the vacancy created by the November defeat of Sen. A. S. Mike Monroney (D.-Okla.) (AW&ST Feb. 17, p. 15).

Against the Tide

Thomas O. Paine, whose impressive performance as acting head of the National Aeronautics and Space Administration got him the full-time job despite his nominal allegiance to the Democratic party (AW&ST Mar. 10, p. 278), did not wait long to assert himself. While Nixon was asking all government agencies and departments to review the Johnson budget for Fiscal 1970 and suggest cuts, **Paine went in with a proposed increase. He argued for about $170 million more than Johnson had approved,** primarily for advanced work in lunar exploration and manned space stations (see p. 22). The Budget Bureau's recommendation will be made to the White House Mar. 18.

Astronaut Exit

Meanwhile, astronaut unhappiness was reflected in the formal resignation of the most experienced in the the corps, Navy Capt. Walter M. Schirra, Jr., a veteran of Mercury, Gemini and Apollo. Schirra, frustrated by prospects of an inactive future with NASA, **refused to change his mind even with the offer of the rank of rear admiral.** Instead, he will become president and chief executive officer of a heavy equipment leasing service, the Regency Corp., of Denver, Colo.

His resignation (AW&ST Feb. 17, p. 23) probably will be followed by others, including some of the older astronauts. One experienced member of the 50-man corps, in his early 40s, complained about the lack of a primary assignment and was offered command of an Apollo Applications flight in August, 1972. **Schirra summed up the discontent by saying: "I don't want to be a half-astronaut."**

—Washington Staff

For Mr T.D. O'connell

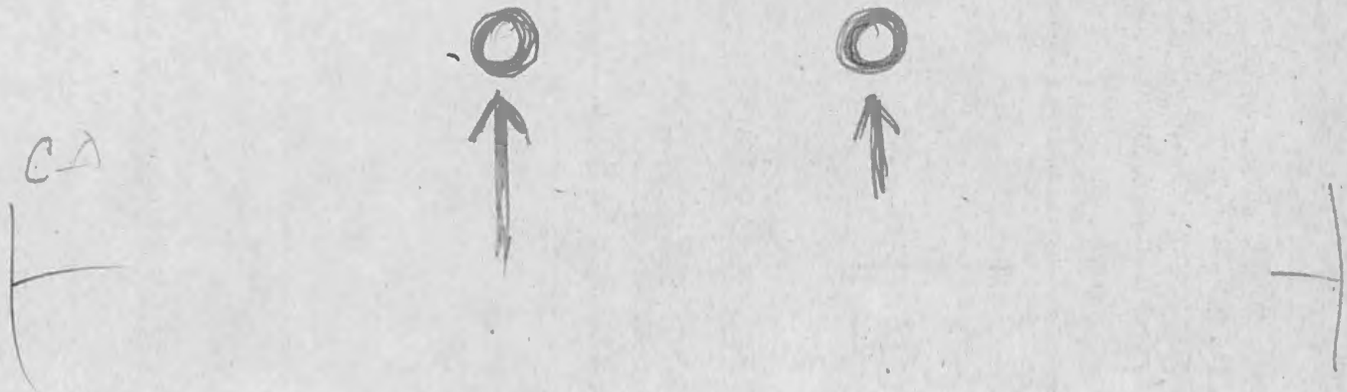
Reading.

THE UNITED STATES OF AMERICA

POLICY ON

THE FUTURE OF

THE INTERNATIONAL TELECOMMUNICATIONS SATELLITE CONSORTIUM
(INTELSAT)



(OUTLINE)

INTRODUCTION - Purpose and Scope

BACKGROUND - Interim Arrangement and Efforts toward Definitive Arrangement

- Progress of INTELSAT - A Summary

  Growth of Membership

  Development, Deployment and Operation of the Global System

  United States contributions to INTELSAT

- United States Policy on Satellite Communications

  Communications Satellite Act of 1962

  President's Message to the Congress (August 14, 1967)

- Overall Concept of the International Telecommunications Satellite Consortium (INTELSAT)

  Institutional Framework

  Operational Framework (Single Global System)

  Unitized Approach to Implementation

- U. S. Proposal for Definitive Arrangements

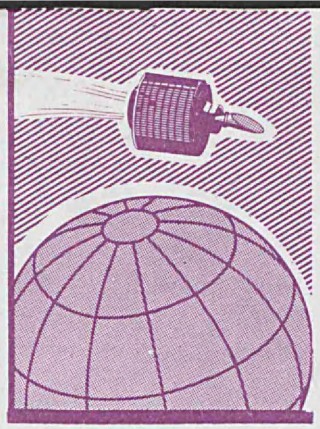
  Summary -- Reference attachment Draft
  Intergovernmental and Operating Agreements

  Guidelines for Implementation

  Rationale for Key Policy issues

  Justification for U. S. View on "Vital" issues
  - -- Nature of the Organization and Legal Personality
  - -- Internationalization of the Organization, particularly the Manager
  - -- Role of Assembly
  - -- Designation of COMSAT as Manager
  - -- Impact of Regional Systems on the Single Global System

SUMMARY



PLENIPOTENTIARY CONFERENCE ON DEFINITIVE ARRANGEMENTS FOR THE INTERNATIONAL TELECOMMUNICATIONS SATELLITE CONSORTIUM

Washington, D.C., February - March 1969

Com. I/83
March 14, 1969

TECHNICAL CONSULTATION FOR SEPARATE DOMESTIC SYSTEMS
(Submitted by Canada, the Federal Republic of Germany, India and Mexico)

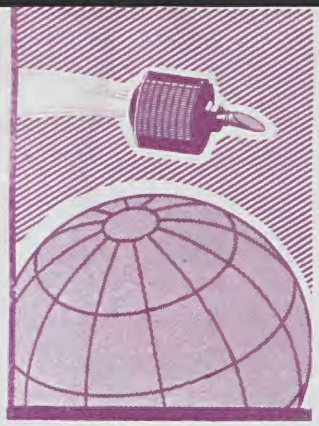
Countries establishing or participating in the establishment of satellite systems should follow the agreements, regulations and procedures of the International Telecommunication Union when assigning radio frequencies and in determining the related technical standards. In the case of domestic satellite systems for public telecommunication purposes, the radio frequency plans and their related technical standards are very similar to those which INTELSAT follows in providing international public telecommunications services, its primary role. Technical consultation between the country or countries establishing the separate system and the Organization could facilitate the later coordinating role of the ITU.

The following Article is recommended for inclusion in the Agreement.

"Article ____

When a State, party to this Agreement, is planning to establish or participate in the establishment of satellites for domestic public telecommunications services, independently of the Organization, it shall discuss with the Organization the technical compatibility between such proposed satellites and the Space Segment, existing and proposed, of the Organization. The discussions shall be such as to facilitate the later coordination, through the ITU, of radio frequencies and orbit positions. For the purpose of these discussions, the State shall provide, for the consideration of the Governing Body, technical details in the manner prescribed by the Governing Body. The Governing Body, in reviewing the plans, shall take into account the proposed use of the radio frequency spectrum and orbital space and the proposed mechanisms and techniques for control of the satellites, and the Governing Body may make such recommendations as it sees fit."

* * *



PLENIPOTENTIARY CONFERENCE ON DEFINITIVE ARRANGEMENTS FOR THE INTERNATIONAL TELECOMMUNICATIONS SATELLITE CONSORTIUM

Washington, D.C., February - March 1969

Com I/72
March 14, 1969

STATEMENT BY THE REPRESENTATIVE OF MALAYSIA IN COMMITTEE I
THURSDAY, MARCH 13, 1969

In regard to Item IX on the Agenda, "Rights and Obligations of Members," Malaysia would like to associate its views entirely with those just expressed by the Delegation of tne USA. Malaysia, however, would like to take this opportunity in amplifying certain points in detail.

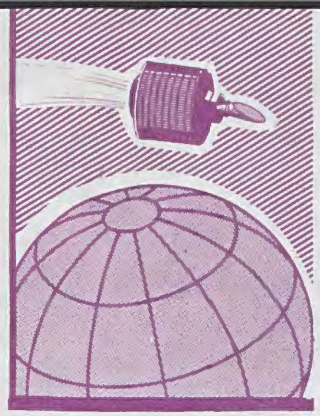
First, I would like to deal with the question of regional satellites. If a few countries feel that the existing and planned Intelsat satellites do not exactly meet their particular needs, these countries could make a request to the Governing Body of Intelsat to launch and provide such a satellite. If the Governing Body agrees to do so and to finance such a satellite from Intelsat funds and to charge for its utilization according to the principles laid down in Intelsat, some delegations may think that this is the kind of regional satellite system we have been talking about. Nothing can be further from the truth. This is not a regional system at all, although it may serve only a narrow region of the world. This is part of our global system. Regional satellite systems therefore can only exist outside Intelsat!

Now I would like to discuss the concept of competition. What do we mean by competition? Do we mean cheapness of the circuits provided by Intelsat as against those provided by an outside regional system? It is true, as the Delegation of France has pointed out, that for a small number of member countries with very small capacity requirements, it is possible to derive overall cheap circuits (embracing space segment and ground segment costs) using a high power satellite and small ground stations. Now suppose such a regional system is set up. Are we really concerned that the overall price of the circuits in tnis regional system should be lower or higher than the overall price of circuits in tne Intelsat system? I submit, Mr. Chairman, that this is not the case. What we as Intelsat members are concerned with is that should the regional system serve the same countries already served by Intelsat satellites, then the regional system which must be outside Intelsat, will take away the traffic that rightly belongs to Intelsat. This is the meaning of competition. The regional and Intelsat systems compete in traffic, not in cheapness of circuits. The statement that regional systems should be economically compatible with the Intelsat system is a fallacy.

It seems to me, Mr. Chairman, that we must all oblige ourselves not to set up regional systems in competition with the Intelsat system. I do recognize, however, that should a case arise whereby the Governing Body fails to act upon the request of a few countries, the obligation of those countries are discharged and the countries concerned may set up regional systems in accordance with paragraphs 603 and 604 of the ICSC Report. Therefore, the paragraphs 602, 603 and 604 of the ICSC Report, taken together, appear to satisfy tne principles I subscribe to.

In regard to Domestic Satellites, I agree with tne statement made by the Delegation of Canada. Satellites for national security purposes should not be financed and launched by Intelsat, but may be launched by countries concerned, subject to the same coordination procedures as to the use of frequency spectrum and orbital space as in the case of domestic satellites.

* * *



PLENIPOTENTIARY CONFERENCE ON DEFINITIVE ARRANGEMENTS FOR THE INTERNATIONAL TELECOMMUNICATIONS SATELLITE CONSORTIUM

Washington, D.C., February - March 1969

Com. I/82
March 14, 1969

GOVERNING BODY
MEMBERSHIP AND VOTING ARRANGEMENTS
(Submitted by the United Kingdom Delegation)

The United Kingdom's position on these questions is firmly rooted in the principle that initial investment shares should be related as closely as is practicable to actual immediate past use, and should subsequently be regularly adjusted to maintain this relationship--say at intervals not greater than two years. It accepts the need to modify the strict application of this principle so as to provide for a small minimum investment share for each Signatory (0.05%) and so as to take account of demonstrable, substantial changes in a Signatory's use which are due to occur not more than six months after an initial or a subsequent periodic adjustment of shares.

This arrangement is the only one, in the United Kingdom view, which will ensure equity and non-discrimination amongst all Signatories, and for the same reasons it follows that voting shares in the Governing Body should equal investment shares and that membership of the Governing Body should be based on investment shares.

Membership of the Governing Body should be open to any Signatory, or group of Signatories, having an investment share of not less than an amount to be defined; the minimum amount being defined in such a way as to arrive at a number of members of the Governing Body selected on this basis approximately the same as in the Interim Committee. If the Assembly considers that the membership of the Governing Body, selected on this basis, does not provide representation of any geographical regions, it should be empowered to allot the minimum number of additional seats in the Governing Body to correct the deficiency; the number of such additional seats should not in any case exceed four. The voting shares of each such additional member should be the same as the combined investment shares of the countries which he represents.

The arrangements for voting on matters of substance in the Governing Body should equally be based on investment shares. Arrangements which have been suggested by various delegations, which would enable a Signatory to opt in some way for an investment share greater than one related to actual use, or for the setting aside of a proportion of the total investment for equal distribution among all Signatories, depart so far from the principles of equity and non-discrimination as to be unacceptable to the United Kingdom delegation. For the same reasons the United Kingdom delegation finds equally unacceptable proposals to alter the equitable balance between investment shares and voting shares by any device such as that of the allotment of a basic bloc of votes to each member.

The United Kingdom endorses the view that the two or three largest shareholders should not be able to impose a decision contrary to the wish of the majority, but if those investors contribute something of the order of 50% of the capital, it would be just as wrong if a decision could be imposed on them.

The United Kingdom suggests that an equitable and practical solution of this problem can be found in a double majority arrangement on the following lines:

> In reaching decisions on matters of substance, the Governing Body shall endeavor to act unanimously. Failing unanimity each member shall cast a vote equal to his investment share, or the total of the investment shares of the Group of Signatories which he represents, as the case may be. Any decision shall require the concurrence of both a number of members whose total investment related votes are not less than two-thirds of the total investment related votes; and of a simple majority of the members of the Governing Body present and voting on the basis of one equal vote for each member.

* * *

TRANSLATION

AIR et COSMOS

February 1, 1969

USSR "OBSERVER" AT THE INTELSAT CONFERENCE

The U.S.S.R. decided recently to send an "observer" delegation to the next Intelsat conference, which will open on February 22 in Washington in order to renegotiate the 1964 interim agreements under which Intelsat presently works. This announcement has somewhat surprised the American circles concerned, it seems; and above all Mr. Leonard Marks, the American Ambassador who will head the U.S. delegation, qualifies this "encouraging action" joining the American objectives of an international telecommunications system by satellite. Let us remember that last August the U.S.S.R. announced its intention to create its own telecommunications system by satellite: "Intersputnik".

Comsat, manager of Intelsat, however does not entirely share this view, because it fears that the U.S.S.R. takes part in the negotiations in order to enforce new structures of organization, which would this time not be very favorable for the United States. Let us remember that the position and the future of Comsat has been called in question again in the report published by the ICSC - the Interim Committee of Intelsat - at its last meeting.

The Soviet delegation at the Intelsat conference will be headed by Mr. N. Talyzin, Deputy Minister of Telecommunications, but also observers from Yugoslavia, Bulgaria and other Eastern European countries are expected. The American delegation will include Mr. James McCormack, President of Comsat, as Vice-Chairman, and Mr. Frank Loy, Assistant to the Undersecretary of State for Telecommunications.

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Bulletin

Vol. 24, No. 7 February 12, 1969

CONTENTS

FRANCE-QUEBEC EXCHANGE OF LETTERS ON SATELLITE COMMUNICATIONS

The Secretary of State for External Affairs, Mr. Mitchell Sharp, made the following announcement on January 24:

The Canadian Government has noted reports indicating that documents have been signed in Paris by representatives of the French Government and the Government of Quebec dealing with future co-operation in the field of satellite communications.

We were informed by the French Government in advance of its intentions in this regard, but we have not yet seen a text, though we had asked to be informed and consulted in sufficient time before signature.

In such circumstances, the Canadian Government naturally wishes to reserve its position with regard to these documents. It intends to study them carefully to determine whether they come within the framework of agreements concluded by Canada and France.

In any event, these documents in themselves would not constitute international agreements. Moreover, constitutional responsibility in the field of telecommunications devolves upon the Government of Canada, which would mean that every project carried out in this field will involve action on the part of the Canadian Government. It is, therefore, clear that all international co-operation concerning satellite communications requires the concurrence and full co-operation of the Canadian Government.

Canada is in the vanguard in the field of satellite communications, as much from the technical point of view as in the efforts which it is making to give practical expression to the interests of the country, of the provinces and of all Canadians. Before the end of 1971, as one of the first in the field, Canada will have an important communications satellite network which it will use in accordance with its policy of promoting bilingualism, to provide Canadians with radio and television broadcasts in both official languages. It intends, thereby, to ensure the expansion of French culture throughout the whole country. The Government is also engaged in exploring and defining possibilities for co-operation in the field of satellite communications both with international organizations and, on a bilateral basis, with other countries including France, with a view to keeping Canada in touch with the mainstream of world culture, including obviously, French culture.

In the course of the past years, we have entered into mutual arrangements in the space field with a number of countries, including France. As far as the French Government is concerned, last year we proposed a programme of co-operation to them designed to expand existing exchange arrangements and, to promote jointly ventures into new areas. Discussions are being pursued. Within the context of

these proposals, the Government of Canada intends to expand its consultation and co-operation with interested provinces, notably Quebec. The Canadian Government is convinced that it is in this spirit that effective co-operation can be undertaken, in which it has an essential role to play. It is also the only way which will guarantee, in a field where technology progresses at such a rapid pace, truly efficient utilization of the financial resources of the governments concerned towards their common objectives, without duplication of effort or expenditure.

GOOD WISHES TO PRESIDENT NIXON

Prime Minister Trudeau sent the following message to President Nixon upon his inauguration on January 20:

As you assume the Presidency of your country, I extend to you and Mrs. Nixon the best wishes of the Canadian Government and your Canadian friends and neighbours. I look forward to working with you for the benefit of both our countries and for peace and justice in the world.

FAREWELL TO MR. JOHNSON

The Prime Minister also sent a message of appreciation and farewell to President Johnson prior to his leaving office:

As you relinquish the heavy responsibilities of the Presidency, I want to express to you, on behalf of the Canadian Government, our deep appreciation for the friendship and understanding for our country which you have shown during your service as President.

We remember in particular your visits to both our West and East coasts as well as to Ottawa and Montreal.

Canadians join in wishing you and Mrs. Johnson much happiness and satisfaction in the new endeavours on which you are now embarking.

WELFARE COUNCIL REPORT

An adequate guaranteed annual income is regarded by the Canadian Welfare Council as the social right of all Canadians: it should be instituted "as rapidly as possible", according to the Council's statement, *Social Policies for Canada*, released on January 29 to federal and provincial ministers, Members of Parliament and provincial legislatures, and appropriate officials at all levels of government. The statement is also being distributed to individuals and social agencies in every region of Canada.

The Council's views, with 38 recommendations, are contained in a 78-page printed document prepared by a special project committee under the chairmanship of a former president, B.M. Alexandor of Ottawa. The project received substantial financial support from the Department of National Health and Welfare.

Among the recommendations of the special two-year study were:

Old age security payments should be related to the rising standard of living.

There should be substantial increases in family and youth allowances.

Insurance for interruption of income owing to sickness or childbirth should be mandatory.

The provinces should develop a "basic network" of social welfare services.

Canada should create a disaster-services unit which could respond to natural and man-made disasters abroad.

HUMAN RIGHTS FOR JUST SOCIETY

The entire statement reflects the growing acceptance of the view that human rights are basic to a just society. Its contention is that people are entitled to certain benefits and conditions of living as a matter of right, rather than as an uncertain privilege bestowed by others.

The document contains sections on the practical implementation of the philosophy of social rights. It proposes legislative and administrative procedures to safeguard the principle of social rights. As such rights relate to social security (specifically income security), the guaranteed income is seen as the first line of defence against poverty, though the statement also deals with other current forms of income maintenance, some of which (e.g. flat-rate family allowances and wage-related social insurance) should be changed or enlarged.

IRAN'S CROWN JEWELS STUDIED

The Crown jewels of Iran – the world's most valuable collection of gems – were the subject of an illustrated lecture at the National Museum of Natural Sciences recently, when Dr. Victor B. Meen, chief mineralogist at the Royal Ontario Museum, a member of the ROM team invited to study the collection, showed slides of many of its pieces. There were pictures of the world's largest ruby-red spinel, five emeralds weighing over 300 carats each, seven of the 14 diamonds in the world that weigh over 100 carats, ropes of magnificant oriental pearls and gem-encrusted paraphernalia of the Royal Court.

Dr. Meen and Dr. A.D. Tushingham, chief archeologist of the ROM, headed a seven-member team that went to Iran in 1966 to carry out the first scientific study of the collection and to catalogue it.

This task was entrusted to the Royal Ontario Museum by custodians of the collection, the Central Bank of Iran. The project was sponsored by the Birks Family Foundation and the team included two documentation assistants, a photographer and a research assistant in gemmology. As well, the services of E.B. Tiffany, chief gemmologist for Henry Birks and Sons, were made available for the last month of the three-month study.

TRANSLATION

Tribune de Genève, February 13, 1969

CONFERENCE IN WASHINGTON ON TELECOMMUNICATIONS SATELLITES

SWITZERLAND WILL HAVE TO PLAY THE EUROPEAN GAME AGAINST THE TWO BIG SPACE POWERS

In ten years time, one will receive directly on our little screens, American, Russian and Japanese television programs, thanks to the increasing number of telecommunications satellites. And where is Europe in all this? This Europe, which within a body like ELDO which is perpetually in a state of crisis, has not succeeded in developing a single project for a practicable launcher?

The position of the European countries will notably be the question from February 24 on in Washington, where the member countries of the present organization "INTELSAT", as well as an important group of observers (the majority of them are Eastern countries, with the U.S.S.R. at the head) will at this time try to establish the guiding arrangements for a global telecommunications satellite organization with a permanent character.

The European Conference on Telecommunication Satellites (CETS) has developed the major general position, which takes into account European interests, to be defended in Washington. Switzerland will participate. The Swiss delegation has been named by the Federal Council. It will consist of Mr. Rudolf Hartmann, Deputy Chief of the International Organization division (Foreign Ministry); Messrs. Valotton and Créola (a jurist specialized in space law) as well as three experts from the PTT.

The European position is clear: there must be democratization of this organization, and internationalization, without reducing its practical effectiveness. This effectiveness the present INTELSAT has fully demonstrated. An American company - Comsat - assures practical development of launchers and satellites.

However, Europe cannot, in the long run, do without having a voice in these matters and it has to reserve the possibility of developing its own regional projects, projects of which French and Germans seem to take advantage rather than the British or the Italians.

Switzerland which has played its part in the European effort is deeply involved in INTELSAT (where it is represented by a specialist of the PTT, Mr. Steiner), and it cannot stay out of current developments.

Switzerland has an industrial interest in "remaining in the game"

Switzerland has an evident industrial interest in remaining in the thick of things. The watchmaking industry in particular is directly concerned. The "Intelsat-4" satellite, presently under construction, includes parts manufactured by a Swiss firm under

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subcontract.

Among the points which are important for our delegation to raise, are that Switzerland sees to it that civilian telecommunications satellites are not used for military purposes. In addition, Switzerland would like to have an article written into the agreements governing the question of arbitration in case of abuse.

The Washington Conference is likely to be just the first one of a series, although the Americans wish to see concrete results rapidly. More than 60 countries will attend, and the general introductions discussion could be very lengthy.

The Soviets' project

One will listen attentively either in the conference room or in the corridors to the proposals of the Soviet observers who are led by a vice minister. They have their own project in their pocket: INTERSPUTNIK. They presented it on the occasion of a conference in Vienna and their proposal made clear the democratic character which they intend to confer on this body. The day after their proposition was presented, Soviet troups arrived in Prague. It is probable that they will revive their project in Washington. One can even envisage a combining of systems. This solution would doubtless present a number of advantages, but it is very doubtful that it can be achieved.

It is also certain that countries, or groups of countries, of the third world will make themselves heard. Satellites open to them new perspectives for covering rapidly all of their territorie which are often very spread out.

It is in this context that our delegation will work, with the purpose of protecting our interests against an incredible flow of positions from all sides and to maintain an avant-guard position for our industry.

By Jean Ryniker, Bern

FINANCIAL TIMES Wednesday, February 5, 1969

Top-level talks on major reform of world satellite system

BY MICHAEL DONNE, AIR CORRESPONDENT

A MAJOR restructuring of the International Communications Satellite Consortium—the 63-nation body known as Intelsat that is working towards a definitive global communications satellite system—may result from a big conference due to open in Washington on February 24.

A top-level delegation from the U.K. will be at the conference, including representatives from the Foreign Office, Commonwealth Office and Post Office. In addition to representatives of the 62 other members of Intelsat, observers from other countries, including the Soviet Union, will be present.

The aim of the conference, which is expected to last for three or four weeks, will be to try to settle plans for a permanent global system of communications satellites, based upon experience with the "interim" system that has been developed in recent years, following the original international agreement signed in August, 1964.

It was agreed then that there would be a conference in 1969, aimed at fixing permanent arrangements, to become effective from January 1, 1970.

So far, technically, the interim arrangements have worked exceptionally well, with such satellites as Early Bird (Intelsat I) and the bigger Intelsats II and III communications satellites now in orbit and functioning regularly.

Bigger "comsats"

Plans are under way for even bigger "comsats," the Intelsat IV series, for which a $72m. (£30m.) contract for four satellites has been awarded to the U.S. Hughes Aircraft Company (with sub-contracts to European, Japanese and Canadian companies).

Politically, the Intelsat consortium itself appears to be in less good shape. There has been much criticism of U.S. dominance of the organisation, both financially and in its preponderance of hardware, and because its own Communications Satellite Corporation is the "system manager" for Intelsat.

Latin American and Arab nations are pressing for a bigger share in the work programmes associated with Intelsat. There is also concern at the growth of competitive "comsat" programme, notably the Soviet Union's Molniya system and the development of the Franco-German Symphonie satellite system, which, it is feared by some, might threaten the development of an effective permanent global system.

To help with its work, the forthcoming conference will have before it a report drawn up by an Interim Communications Satellite Committee, containing recommendations for a definitive global system. The U.K. is a member of this Interim Committee.

TRANSLATION

L'EXPRESS

(French Weekly Newsmagazine)

February 24 - March 2, 1969

EUROPE IN THE TELECOMMUNICATIONS BATTLE

In a shirt, barefoot, with a rope around their necks, the bourgeois who brought the keys of the city of Calais to King Edward were without illusions: they surrendered unconditionally.

Contemporary manners are gentler than those of the XIV century. But the diplomats of 64 countries, including Monaco and Vatican City, who will meet this Monday in Washington in order to negotiate the definitive charter of Intelsat, the global organization for telecommunications satellites, know that they also cannot count very much on the good will of the United States Government.

The latter holds all the winning cards: the satellites, the rockets to launch them, and even the legal texts. Without speaking of interests. Telecommunications, telephone or television - the transmission of information, to adopt the official term - are at the moment the only fields where space can bring in money.

Precautions

Also it is a private company, American Telephone and Telegraph, which was charged with the construction of the first of all the telecommunications satellites, Telstar, launched on July 10, 1962. Since the experiment appeared to be conclusive, the American Government created in the same year a mixed corporation, with private and public capital, in order to exploit space telecommunications, the Comsat Corporation. Having given the responsibilities to Comsat, the Government took precautions. By statute, all the directors of the company have to be American citizens, and the chairman and vice-chairman have to be named directly by the President of the United States.

However, the interest of a satellite is to cover the entire earth; its management inevitably brings into play international interests. Thus, Comsat entered into negotiations with various interested countries, which resulted, on August 20, 1964, in the creation of an international organization, Intelsat, consisting at that time of 12 countries. Very logically, the United States proposed to determine the respective contributions and the rights (of the various countries) in the organization on the basis of the share of each in international telephone traffic. Which is, at present, 7.4% for Great Britain, 5.35% for France and Western Germany, as against 53.5% for the United States - or an absolute majority.

Strong in their predominance, they therefore decided to limit Intelsat's role to a purely theoretical one, all the effective work being entrusted to their own organization, Comsat.

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The European countries, with France in the lead, had not accepted without protest the establishment of such a monopoly. All they could obtain was that the charter would only be temporary and that it would be renegotiated, definitively this time, before the 1st of January 1970.

With empty hands

They hoped to make up their technological lag and to be able to set up their own satellites in competition with the American production. In vain. At the moment when the Conference opens, convoked on the initiative of the United States, the only modern telecommunications satellite, developed by the Europeans, Symphony, constructed by France and Germany, will not be ready before 1972. The launcher which will put it into orbit, the Europa II, accumulates technical delays and political difficulties. At the present time, nobody can tell wether the undertaking, deserted by the English and by the Italians, will not have to be definitively abandoned. The Europeans therefore arrive in Washington with hands almost as empty as in 1964.

However, this does not at all incline them to resignation. The stake is too serious. Because, beyond immediate benefits, which one hopes will be substantial, space telecommunications involve for the future certain fundamental facts that one generally considers as national independence.

The transmission of information comprises in fact long distance communications between computers. Sooner or later one hopes to see established a global network of computers and satellites which would be the equivalent, according to the formula of Dr. Glenn Seaborg, the president of the Atomic Energy Commission in the United States, of a "total brain". A brain of which the management would be American.

Special antennas

The present satellites have only a very weak power and the television programs which they transmit have to be picked up and amplified by special antennas which are very costly, and which are necessarily owned by governments. However, one estimates that starting in 1975, 1980 or later the programs transmitted by satellite will be picked up directly by individual antennas, i.e. there will no longer be national frontiers for television. Political propaganda, commercial advertising, language itself (on a planetary scale) will be in the hands of Intelsat.

Mr. Augustin Jordan, head of the French delegation, contends that the Intelsat agreement does not cover direct television. In virtue of the old juridical principle which wants all doubts to be resolved in favor of the plaintiff when a point is not completely clear. One can effectively discuss this but it is certain that the Americans are deaf in that ear.

The juridical quarrel is in danger of being rapidly overtaken by facts. Space is infinite, but the telecommunications satellites, in order to be efficient, all have to orbit at the same altitude of 36 000 kilometers. This means that the number of satellites will necessarily be limited if one wants to avoid

having their transmissions overlap and interfere with each other. Technology is one of the strongest arguments that the Americans have at their disposal in favor of a single organization.

False window

"The situation is however not desprete, "objects Mr. Jordan. "The United States are sellers of a service in the present case, and we are buyers. The interest of all is to come to an agreement."

In order to come to an agreement, Washington is ready to make concessions. Renouncing absolute majority they would be content with 40%. However, this hardly runs the risk of limiting their room for maneuver.

The Europeans would also wish to avoid Comsat's de facto monopoly. Since the Americans reject in the name of efficiency a really international company, they ask that Intelsat should admit at least the juridical possibility of rival companies. "For example, one day, some Eurosat," explains Mr. Jordan.

However, Comsat has the advantage of existing. It has just launched, on February 6, an Intelsat III, which has 1200 telephone circuits, whereas Eurosat runs the risk of remaining forever one of these "false windows" of which Pascal talked, intended merely to create an appearance of symmetry. The hypothesis is all the more probable in that Comsat has had the prudence to interest the European firms broadly in its Intelsat IV program: almost 30%. The third satellite of the series must be assembled in Bristol, and the forth satellite in Toulouse. The shares which come to the English and French firms in their undertaking clearly exceed, in percentage, the contribution by those countries to Intelsat.

Another French claim - the right to launch regional satellites on this own account and with the blessing of Intelsat. In theory, the United States does not oppose this: it envisages that it will itself launch such satellites in order to cover the regions where the traffic is particularly dense. The telecommunications satellites are particularly suited for this. They are in effect stationary in relation to the earth, covering always the same portion of the globe.

The monopoly

The difficulty starts with the definition of the word "region". For everybody it is geographical. For the French it is ideological: this is the Francophone world, astride Europe, Africa, and even America, because of Quebec. And, on this last point, they risk finding themselves very much isolated in Washington.

The only country which, with its Molniya, has the technical means of breaking the American monopoly, the U.S.S.R., has decided to keep out. They launched last summer the idea of a competitive organization to Intelsat, Intersputnik, but no concrete proposal has followed. They contented themselves with sending some observers to Washington.

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France is therefore reduced to fighting on juridical grounds, to capitalize on the discontent of the sacrificed countries. It has succeeded in getting the Europeans to make a common front, at least at the beginning. The Americans, who hold to their monopoly and scarcely hide it, were hoping to straighten the business out in four weeks. On this point at least they have lost. The conference will surely break up without having decided anything.

"The matter is too serious," says Mr. Jordan. "We will fight until the evening of December 31. And even when it is signed, we know what a definitive agreement means in diplomatic terms."

It is true that agreements among the States, expressing a relationship of forces, will rapidly fall apart as soon as this relationship changes. But, in the present case, it is hard to see how France or Europe could overturn to their advantage the present imbalance. Nor when.

* * *

TRANSLATION NEUE ZURCHER ZEITUNG, February 26, 1969

OPENING OF THE INTELSAT CONFERENCE IN WASHINGTON

Washington, February 24. - The Conference to revise the International Telecommunications Satellite Consortium (Intelsat) was opened on Monday in the large conference room of the State Department in Washington. 67 member countries - including Luxembourg which joined Intelsat just before the Conference started - as well as 15 observers, including countries of the Soviet bloc (with the exception of the Democratic Republic of Germany), Yugoslavia and Mongolia are attending this Conference. Leonard H. Marks, head of the American delegation, has been named Chairman by acclamation, while the Dutchman, Mr. A.F.K. Hartogh, has been chosen as one of the four regional Chairmen.

The Swiss delegation is under the leadership of Ambassador Rudolf Hartmann from the Foreign Office; also participating are Etienne Valotton from the Foreign Office; Reinhold Steiner, an adviser on satellite telecommunications matters stationed in Washington. From the Swiss PTT Directorate Mr. Hansruedi Probst and Walter Jost are participating, and, in addition, the Foreign Office has also sent Mr. Peter Creola to Washington. Finally, the First Secretary of the Swiss Embassy in Washington, Mr. Ernest Andres, is the head of the Liechtenstein delegation.

After a short welcome by the American Acting Secretary of State, Elliot Richardson, the plenary assembly immediately started on the agenda, which, besides the election of the Chairman, had the questions of procedure and organization as its first topics. The most important activity was doubtless the appointment of the various committees, in which the decisive discussions will take place. The most important committees will have to deal with the structure and functions of Intelsat, or with the financial and especially the administrative aspects. All members of the organization are represented, in principle, in each of the various committees.

It is now for the committees to propose within the next four weeks those changes in the organization and structure of Intelsat, based on past experience, and to work out an organizational framework in which the international communications network can be developed in the interests of all the participating nations. If the time available does not suffice for reaching a compromise - which in view of the many problems cannot be excluded - the interim arrangements will automatically continue in force.

However, before the work really starts, the heads of the delegations, invited by the American Government, will go to Cape Kennedy during the second part of this week in order to watch the Apollo-9 launching.

* * * * *

March 3, 1969

MEMORANDUM FOR: Mr. Clay T. Whitehead

SUBJECT: Precondition of ITU Membership for Membership in INTELSAT

There is no real disagreement within the U.S. delegation that elimination of this precondition would be desirable in principle, and that this would be more consistent with our advocacy of a single global system open to all. Such was our position up to last October, when Secretary Rusk made the contrary ruling. The reasons for the change were strictly political. The European desk at State had always been bothered by the eligibility of East Germany, fearing that West Germany would drop out if East Germany made any move toward INTELSAT. Some of the members of the ICSC also felt that ITU membership should be a requirement. And the argument was advanced; why, in any case, should INTELSAT be more open than the UN and ITU?

(The USSR and its Eastern European satellites are members of ITU. Those outside ITU: Red China, East Germany, North Korea, and North Vietnam. Invitations to the Conference went only to members of the UN or its affiliated bodies, of which ITU is one. Just before the Conference opened, the Poles inquired whether the East Germans might be permitted to attend as observers. State replied in the negative on grounds that East Germany does not belong to the ITU.)

LIMITED OFFICIAL USE

Should the U.S., during the Conference, return to its original position? Consideration was given to this immediately prior to the President's European tour. A draft paper was prepared for possible submission to Secretary Rogers before his departure. However, it was dropped when Frank Loy, Bill Miller, et al became convinced that raising the issue would only serve to further complicate the Conference. Not only the West Germans but most of the Europeans like the ITU provision (they have been ITU members for years); M. Mili, Secretary General of the ITU, addressed the Conference on February 26; and eight or ten of the delegations have referred to the ITU in their statements on the floor. In addition, the ITU requirement appears in the U.S. draft agreement tabled on Saturday.

Since this consideration bears on the larger question of the new Administration's policies toward the two Chinas and the two Germanys, Secretary Roger and Henry Kissinger would undoubtedly wish to review it with their principal advisers. Consultations would be necessary with representatives of Taiwan and Bonn (and possibly Seoul and Saigon) before any shift in the U.S. position were made known.

At some point down the road the U.S. may well wish to open INTELSAT's membership door to Red China and the others. But this Conference does not appear to be the time or the place.

Abbott Washburn:fcr

The Implications of the "single global system" concept

DRAFT
ODTM
March 7, 1969

O'Malley.

FOR OFFICIAL U.S. DELEGATION USE ONLY

The Inconsistency of Regional Communications Satellite Systems With the

I. Introduction:

The term "single global system" has been applied to commercial satellite communications with a variety of meanings and interpretations since it was first used in the INTELSAT Agreements of 1964. To some, this phrase implies any integrated system of satellites under single management used exclusively for international public telecommunications; to others, a specific system designed for exclusively international telecommunications; and to still others, a specific system designed for both international and domestic telecommunications.

The discussion of this subject in Committee I of the Conference on Definitive Arrangements indicates many differences in understanding as to how the space segment of a satellite system designed and operated to provide international public telecommunications services can also satisfy the domestic needs of any country for similar services. The discussion has further confused the provision of specialized satellite telecommunications services on either an international or domestic basis with the prime objective of providing public telecommunications services.

It is clear that at the time the Communications Satellite Act of 1962 was passed the U.S. Congress, with the intent of improving international public telecommunications services, proposed the establishment of "a commercial communications satellite system as part of an improved global communications network," which:

"...will be responsive to public needs and national objectives...

"...will serve the communication needs of the United States and other countries...

"...will contribute to world peace and understanding."

Furthermore, these new and expanded telecommunications services "are to be made available as promptly as possible and are to be extended to provide global coverage at the earliest practicable date."

The Congress further declared that "care and attention would be directed toward:

"...providing services to economically less developed countries and areas as well as those more highly developed...

"...efficient and economical use of electromagnetic frequency spectrum.

"...the reflection of the benefits of this new technology in both quality of services and charges of such services."

In the interest of efficiency and economy in the provision of telecommunications services and economy in the use of the frequency spectrum,

the U.S., in its draft Definitive Arrangements, proposes to make explicit the role of INTELSAT in providing the space segment for domestic public telecommunications services and for specialized services.

II. Discussion:

There has been much discussion on the part of the delegates in Committee I of the desire to provide domestic public services by satellite with some indicating the desire to use the INTELSAT space segment while others contemplate satellites completely independent of that space segment. Other discussions (not necessarily by the same delegates) stress the importance of reserving the right of a nation, or group of nations, to establish regional systems if so desired. According to these delegates, these systems could be subject to varying degrees of coordination or rationalization with the INTELSAT system.

Several delegations cite U.N. Resolution 1721 and the Treaty on the Peaceful Uses of Outer Space as the basis for the contention that all must have the freedom to establish domestic or regional systems to meet their public telecommunications needs. ~~Also, the United States has indicated unofficially, if not officially, that it intends to establish domestic public telecommunications services using a space segment not part of INTELSAT.~~

However, this position does not deny the large right of a group of nations, such as INTELSAT, to combine ~~to bind themselves~~ to employ ~~certain~~ specific systems and observe specific

disciplines in the exploitation of outer space in the interest of the greater good of all the nations concerned. Through INTELSAT, with membership which now includes nations of the world which originate and terminate 95% of the world's international public telecommunications traffic and the one nation with the capability of establishing geostationary communications satellites, the nations could bind themselves to any set of principles which they consider to be mutually beneficial to all participants. These nations could also establish similar conditions as a price of direct access to the system by non-members.

The planning and implementation of a satellite communications system must take into account a number of technical/operational/economic factors. For example, due to the long round-trip delay involved between earth stations via a satellite relay, two-way voice telephone through more than a single satellite relay does not meet the ITU established standards. Thus, a domestic or regional satellite service employing a separate satellite must:

1. provide international service as well through the same satellite;
2. provide such service through some form of satellite-satellite relay to the INTELSAT space segment; or,
3. route all international traffic via separate surface communications facilities to an international earth station.

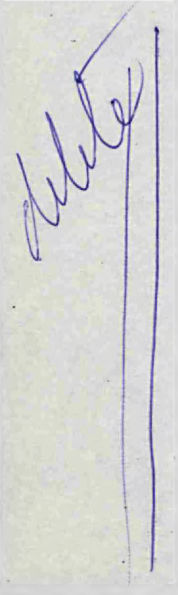
The first alternative requires not only international coordination, but a willingness on the part of all international correspondents to build a special earth station or separate antenna which looks at the particular domestic/regional space segment (satellite) proposed. The second alternative requires extensive international system planning and engineering prior to launch of either international or domestic/regional satellites, plus added cost in the international satellite which must be shared by all its users, as well as added cost in the domestic/regional satellite. The third alternative requires no coordination, but results in heavy economic penalties via indirect routing, particularly in less developed areas of the world. These economic penalties are borne not only by the regional/domestic system users, but are reflected in the costs to all international users who communicate with the region.

The establishment of separate regional systems either within the framework of INTELSAT or outside INTELSAT will face many nations with the choice of communicating either with the single global system, or with a regional system, or with the duplication of earth station antennas to communicate with both. For the developing nation which has constructed an earth station to provide a few tens of circuits through the single global system, the cost of an additional antenna could be a very serious matter. Whereas the U.S. could provide a "regional system" in the Atlantic and another in the Pacific to handle its traffic over these

heavy routes to Europe, Japan and Southeast Asia with a minimum of additional expense (since the U.S. now has two earth stations on each coast), most other countries would be put to prohibitive additional expense by competing regional and global systems.

III. Conclusion.

Within the concept of "a single global system" for which INTELSAT provides the space segment, arrangements could be developed which would meet the legitimate domestic and regional telecommunications requirements of all users on an equitable basis. Since the U.S. has the technological know-how in space communications and the only launching capability for providing the space segment of any of these systems, the U.S. has the unchallenged opportunity to assure the establishment of a single global system of public telecommunications which can meet the legitimate telecommunications needs of all nations, developing as well as developed, in the most efficient, economical manner.



Further, the U.S. cannot opt for an independent domestic communications satellite system outside of INTELSAT without morally obligating itself to Canada or any other country to launch satellites establishing independent domestic system, nor for that matter, can the U.S. refuse to launch satellites establishing a legitimate regional system serving the nations of Europe and Africa. Therefore, the U.S. should forego its option of establishing an independent space segment for

providing domestic satellite services and indicate its intention to use the INTELSAT space segment to provide service for any domestic pilot program which may be established. This decision would be stated to be without prejudice to any right that the United States may wish.

With regard to satellites necessary to provide specialized telecommunications service, the U.S. should indicate its willingness to assist in the establishment of the space segment for such services either within the framework of INTELSAT or separately as provided by Article 8 of Document 10.

DRAFT as modified
ODTM
March 7, 1969

FOR OFFICIAL U.S. DELEGATION USE ONLY

The Inconsistency of Regional Communications Satellite Systems

I. Introduction:

The term "single global system" has been applied to commercial satellite communications with a variety of meanings and interpretations since it was first used in the INTELSAT Agreements of 1964. To some, this phrase implies any integrated system of satellites under single management used exclusively for international public telecommunications; to others, a specific system designed for exclusively international telecommunications; and to still others, a specific system designed for both international and domestic telecommunications.

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It is clear that at the time the Communications Satellite Act of 1962 was passed the U.S. Congress, with the intent of improving international public telecommunications services, proposed the establishment of "a commercial communications satellite system as part of an improved global communications network," which:

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Furthermore, these new and expanded telecommunications services "are to be made available as promptly as possible and are to be extended to provide global coverage at the earliest practicable date."

The Congress further declared that "care and attention would be directed toward:

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The planning and implementation of a satellite communications system must take into account a number of technical/operational/economic factors. For example, due to the long round-trip delay involved between earth stations via a satellite relay, two-way voice telephone through more than a single satellite relay does not meet the ITU established standards. Thus, a domestic or regional satellite service employing a separate satellite must:

1. provide international service as well through the same satellite;
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The establishment of separate regional systems either within the framework of INTELSAT or outside INTELSAT will face many nations with the choice of communicating either with the single global system, or with a regional system, or with the duplication of earth station antennas to communicate with both. For the developing nation which has constructed an earth station to provide a few tens of circuits through the single global system, the cost of an additional antenna could be a very serious matter. Whereas the U.S. could provide a "regional system" in the Atlantic and another in the Pacific to handle its traffic over these

heavy routes to Europe, Japan and Southeast Asia with a minimum of additional expense (since the U.S. now has two earth stations on each coast), most other countries would be put to prohibitive additional expense by competing regional and global systems.

III. Conclusion.

Within the concept of "a single global system" for which INTELSAT provides the space segment,arrangements could be developed which would meet the legitimate domestic and regional telecommunications requirements of all users on an equitable basis. Since the U.S. has the technological know-how in space communications and the only launching capability for providing the space segment of any of these systems, the U.S. has the unchallenged opportunity to assure the establishment of a single global system of public telecommunications which can meet the legitimate telecommunications needs of all nations, developing as well as developed, in the most efficient, economical manner.

Further, the U.S. cannot opt for an independent domestic communications satellite system outside of INTELSAT without morally obligating itself to Canada or any other country to launch satellites establishing independent domestic system, nor for that matter, can the U.S. refuse to launch satellites establishing a legitimate regional system serving the nations of Europe and Africa. Therefore, the U.S. should forego its option of establishing an independent space segment for

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EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF TELECOMMUNICATIONS MANAGEMENT
WASHINGTON, D.C. 20504

March 10, 1967

A Single Global System for Commercial Satellite Communications

I. Introduction:

The term "single global system" has been applied to commercial satellite communications with a variety of meaning and interpretations since it was first used in the INTELSAT Agreements of 1964. To some, this phrase implies any system of satellites under single management used exclusively for international communications; to others, a specific system design for exclusively international communications; and to still others, a specific system design for both domestic and international communications.

None of these concepts or definitions of a "single global system" seems to reflect the apparent intent of the Congress and Executive Branch to make satellite communications available to all nations, both large and small, to serve their vital communications requirements as expeditiously and economically as possible and to promote world peace and understanding through better communications. This paper will attempt to identify and define a "single global system" which does reflect this intent, and to contrast such a "single global system" with alternative "global systems" and with various possible "regional" or "domestic" satellite communication systems.

II. Congressional Statement of Policy and Purpose:

In Section 102 of the Communications Satellite Act of 1962, "Declaration of Policy and Purpose," the Congress established a number of objectives for "a commercial communications satellite system, as part of an improved global communications network," which:

". . . will be responsive to public needs and national objectives. . ."

". . . will serve the communication needs of the United States and other countries. . ."

". . . will contribute to world peace and understanding."

Furthermore, these new and expanded telecommunications services "are to be made available as promptly as possible and are to be extended to provide global coverage at the earliest practicable date."

The Congress further declared that "care and attention would be directed toward:"

> ". . . providing services to economically less developed countries and areas as well as those more highly developed. . ."
>
> ". . . efficient and economical use of the electromagnetic frequency spectrum."
>
> ". . . the reflection of the benefits of this new technology in both quality of services and charges for such services."

III. International (INTELSAT) Agreements of 1964

To further reinforce these objectives, the U. S. was an active promoter of the International Agreements of August 20, 1964, to which 56 nations have now adhered. The preamble to this agreement states, in part:

- -

> "Desiring to establish a single global commercial communications satellite system as part of an improved global communications network which will provide expanded telecommunications services to all areas of the world and which will contribute to world peace and understanding;"
>
> "Determined, to this end, to provide, through the most advanced technology available, for the benefit of all nations of the world, the most efficient and economical service possible consistent with the best and most equitable use of the radio spectrum;"

- -

IV. Priority of U. S. Effort:

- As outlined above, the U. S. policy clearly implies a focusing of effort in the international field, and in the early provision of satellite communications to serve less-developed areas of the world as well as those more highly developed.

- While domestic and regional satellite communications services are certainly not excluded under this policy, it seems clear that such services are not to compete with nor in any way hinder the development of the global communications system.

V. Potential Evolution of Satellite Communications:

A. International Communications

The present system of satellite communications is but a first, faltering, but essential step toward achieving the full potential to be derived from this new communications technology. It is specifically designed to link together, for the first time and via the most direct interconnections possible, all the major international communication centers of the world. This system began as a time-shared, two-party service, wherein only two stations could use the space segment at any given time to communicate with one another, other two-party connections being permitted at different times. This very simple approach was dictated initially by the novelty and uncertainty of application of this new technology. Both the technology and "applications awareness" of satellite communications is literally mushrooming, however, thus the second phase of system implementation is already under way. In this phase, several earth stations may simultaneously use the space segment for two-way communications with one another, using preassigned subchannels within the space segment. This will permit greater continuity of communications between those pairs of international stations which have sufficient mutual traffic to justify such service. However, some international stations, particularly in less developed areas of the world, may

not have enough communications traffic to specific other stations to justify full-time use of preassigned circuits to every other international station, even though its total international traffic requirement is adequate to justify the station cost. Thus, in the third phase of system implementation now being planned, demand-assigned satellite channels will be made available, for use by any pair of earth stations on-demand to establish a short-term link between them.

B. Domestic/Regional Communications

At one time, it might have been considered that phase 3 above represented the end of satellite system design, the only remaining effort being the addition of more satellites and more international earth stations to handle additional international traffic. It has become increasingly apparent, however, that satellite communications has great potential for other applications, such as domestic common carrier services, TV distribution, "regional" (as opposed to intercontinental) services, etc. To realize this potential, additional design, development, and implementation phases are called for; these may certainly be carried out in parallel with one another and with phases 2 and 3 indicated above. Some typical examples might be:

Phase 4: Develop a satellite system (or systems) for U. S. domestic common carrier services, including TV distribution.

Phase 5: Develop a satellite system for European regional common carrier services, including TV distribution.

Phase 6: Develop a satellite system for Canadian domestic applications.

Phase 7: Develop a satellite system for Japanese regional services.

Phase 8: Develop a satellite system for South American regional services.

Phase 9: Develop a satellite system for Southeast Asia regional services.

and so on, ad infinitum.

All these phases, and many more, are not only possible but indeed very probable in the evolution of satellite communications to serve the great variety of world communication needs which now exist or which will develop in the ensuing years. The important question is, how will these phases be planned, designed, financed, implemented, and coordinated so as to achieve the greatest benefits for each individual nation as well as for the community of nations from satellite communications? Let us examine some of the coordination required to achieve this objective.

VI. Coordination Required for Full Utilization of Satellite Communications Potential:

The planning and implementation of a satellite communication system must take into account a number of technical/operational/economic factors. For example, due to the long round-trip time delay involved between earth stations via a satellite relay, two-way voice telephony is considered ~~highly~~ unsatisfactory over more than a single satellite relay.[1] Thus, a domestic or regional satellite system must either provide international service as well through the same satellite or through some form of satellite-satellite relay to an international satellite, or all international traffic must be routed via separate surface communication facilities to reach a separate international earth station. The first alternative requires not only international coordination, but a willingness on the part of all international correspondents to build a special earth station which looks at the particular domestic/regional system proposed. The second alternative requires international coordination prior to launch of either international or domestic/regional satellites, plus added cost in the international satellite which must be shared by all its users, and added cost in the domestic/regional satellite as well. The third alternative requires no coordination, but results in heavy economic penalties via indirect routing, particularly in less developed areas of the world. These economic penalties are borne not only by the regional/domestic system users, but are reflected in the costs to all international users who communicate with that region!

Other aspects of system planning which require extensive international coordination include:

1. The future may well see reconsideration of this ITU policy especially under special conditions

Orbital Parking Space and Electromagnetic Spectrum:

Orbital parking space for satellites, as well as the electromagnetic spectrum, are finite international resources which can be utilized with varying degrees of effectiveness by different system designs, or "wasted" and "polluted" by poor designs. To some extent, the electromagnetic spectrum is already subject to international regulation and coordination. It is clear that the international interest will in the future dictate even greater regulation of this vital resource, as well as the equally vital resource of orbital parking space. Coordination of the use of these for domestic/regional purposes will definitely be required. If each nation in the world should demand an equal share of these resources, as seems their right, it would be technically impossible for any nation to place a satellite in orbit without interfering with another's orbit and spectrum space! On the other hand, if major nations (such as the U.S., etc.) begin independent large-scale exploration of these resources, the U.N. may clearly decide to intervene and take complete control of these resources, and perhaps of satellite communications entirely.

Spare or Emergency Space Segments:

Any communication system obviously requires spare facilities to maintain continuity of service in the event of catastrophic failure of any element of the system. In satellite communications, due to the long delay in scheduling launch service and achieving orbit and position, this implies the existence of spare space segments in orbit. These spares, unless and until required, represent virtually a total loss to the system although there is, of course, the possibility of some use for overflow or infrequent service requirements. Clearly, if many satellites are in orbit, serving many diverse needs, a spare for each system represents a rather significant waste in investment. Through prior coordination and planning, a single (in the early system stages) spare properly spaced in a profuse system should be capable of providing backup for any failure, at major reduction in waste investment plus the added reliability of service thus provided.

Progressive Implementation of New Service and Design Changes:

Satellite communication technology needs to be and could be in an almost explosive state of development. In nine years we have progressed from the first demonstration of satellite communications

to a relatively simple straight three relay providing only 240 voice channels between only two stations at a time. Much more could have been done much sooner. The coming generation of stationary satellites with broader band relays, capable of 1,200 equivalent voice channels, will provide continuous service at costs which should within a few years be below the cost of equivalent surface or subsea communications over long distances. New development technology now exists, although not yet incorporated in systems, which can provide multiple antenna beams, higher power capacity, etc., to provide even greater channel capacity, lower cost stations, which will provide further cost reductions. Clearly, such technological possibilities create serious problems in system implementation and make important the utmost possible expediting of research and development. In order to begin providing service as expeditiously as possible, it is necessary to begin to implement systems which may well be technologically obsolescent before they are even in operation, and almost certainly before they can be fully amortized! This requires a most careful balancing of investment and system implementation, based on the best possible projections of technology, and further requires a built-in flexibility, particularly in the ground environment, which will allow the newer technology to be readily assimilated without either undue cost or delay. This is a serious enough problem when there is one agency (INTELSAT) coordinating the phasing plan; if multiplied severalfold, by the political and financial vagaries and national interests of a number of nations the problem gets out of hand and incompatibilities between independent regional or domestic systems seem inevitable.

These are only a few of the coordination problems associated with the development and implementation of regional and domestic satellite communications systems on a large scale. The following questions outline additional problems:

What should be the size of a regional communications system? Who should be included or excluded in a given area? Based on whose judgment? Should there be a continuation of colonially-oriented systems which exclude next-door neighbors? How shall rates and routing be established? By whom? What is a domestic system? Does it include only a single nation, or would adjoining nations with common interests and existing telecommunications interconnects be included (e.g., U.S./Canada, Intra-Europe, etc.)? Again, decided by whom? etc. etc.

Perhaps the most fundamental question of all is this:

Considering that communication satellites are so completely and irrevocably international in nature (e.g., use of international resources, virtually unavoidable coverage beyond national borders, requiring extensive international coordination of all aspects of design and operation, etc.) is there any justification for so-called "domestic" or "regional" systems, particularly with regard to the space segment? The answer, it would seem, must clearly be NO.

VII. Description and Justification of a Single Global System

As used in this paper, a "single global system" of satellite communications may be described as follows:

1. A single management and ownership of all space segments for all commercial satellite communications (including both domestic and international services), by a joint international consortium such as INTELSAT.

2. Admission to the Consortium open to all nations without discrimination.

3. All space segments operated on a cost sharing basis to all participating members of the Consortium in accordance with their usage of the space segments.

4. All earth station facilities owned and operated by the individual user nations (both domestic and international facilities).

5. Design and positioning of each space segment optimized for specific intended application, as determined jointly by the Consortium and prospective users, Consortium having final authority.

The key factor in this concept of a single global system is the completely international, joint operation of the space segment of all commercial satellite communications as a cost-shared service available to all nations. The actual use of these space segments for domestic and international communications is left to the discretion of each individual nation or group of nations. This is in keeping with the U.S. position of providing the benefits of space and of space technology to all nations on a non-discriminatory basis. It is also in keeping with its position of non-involvement with other nations' internal affairs. Of equal importance, however, it assures that no nation may exploit or control another nation through control of its communications links, either internal or international. At the same time, it can provide for the development and implementation of the most economical services of all types for all users, through the provision of a common management, design, and financing organization for all members. And finally, it can assure the most efficient utilization of frequency spectrum and orbital space, which are inherently international resources of great value for present and future generations.

VIII. Discussion of Alternatives to the Single Global System

These are some of the characteristics of the single global system, as envisioned here. To fully appreciate these, it is necessary to consider the alternatives to such a single global system. Basically, these are:

1. Independent domestic satellite systems, tied together via a patchwork arrangement of "international" satellites or necessarily by cables if two satellite hops would be involved.

2. Independent domestic satellite systems, tied together by a combination of international satellites and cables.

3. A series of regional/domestic systems on an area basis, interconnected for intercontinental purposes by a series of individual patching interconnections or a separate intercontinental system. Again such patching would have to be done by cable (for telephone use) if more than one satellite hop were required by the design of the over-all system.

4. A series of hegemonies, each comprised of one or more "dominant" nations to which a number of smaller, widely dispersed "satellite" nations are linked; inter-hegemony interconnections again by cables or by another satellite system if systems design permits one-hop operation.

Each of these alternatives unfortunately contains a number of serious flaws. For example:

Alternative 1

a. With the exception of the United States no nation individually can viably afford even a single satellite at the present time for purely domestic purposes.

b. Since orbital space and frequency spectrum are finite international resources, any sub-optimum use or pollution of these by one nation is a detriment to all nations.

c. Two-hop circuits (e.g. via separate domestic and international satellites) provide very poor two-way voice communications quality due to excessive time delay, and should be avoided whenever possible.

Additionally, the cost of such circuits must obviously be much greater than for one-hop circuits, probably at least double because twice the capital investment and operating costs are involved.

d. Any via-point routing is inherently more costly than direct routing and should be avoided if possible. This applies equally to long terrestrial links to satellite earth stations or to multi-hop satellite circuits.

e. This alternative provides no assurance that a given nation may have access to any other nation without multiplying costs (or even regardless of cost) since no provision is made for full, worldwide interconnection nor for compatibility among various systems.

Alternative 2

Essentially all the above comments apply with the possible exception of "e."

Alternative 3

All comments of 1 and 2 apply for intercontinental traffic, though regional international traffic could presumably be adequately provided via a common satellite. Politically, the difficulties involved in organizing small contiguous groups of nations for joint programs such as this could be far more difficult than through a single global organization. Economically, even regional groupings in many areas of the world could probably not afford both a regional satellite system and access to a separate global system, particularly considering the added design and development costs of such a special purpose regional system.

Alternative 4

This is very probably the only alternative which would actually be considered in lieu of the single global system due to economic factors. It is typified by the present international communication systems based on cable and HF radio technology. A review of these systems should thus provide an insight into the performance and the unsatisfactory nature of such a satellite communication system.

There are currently four major hegemonies which handle the bulk of international communications (as well as much of the domestic communications). These are headed by Britain, France, Japan, and the United States. Besides the obvious fragmentation of areas with common interests and goals by these hegemonies, there is the added separation within a given hegemony whereby a nation may be forced to communicate with even its next door neighbor via a remote point located in the dominant member of the hegemony. Typical inequities in this via-point traffic routing, which result in greatly increased cost (even tribute in some cases) and low-quality communications include:

-- U.S. to 27 nations via London

-- U.S. to 23 nations via Paris

-- Tunisia to Libya -- via both London and Paris in series

-- Colombia to Venezuela via New York

-- Guatemala to Colombia via both Miami and New York

-- Bangkok to U.S. via Tokyo

-- Saigon to U.S. via Paris

Of all foreign nations or areas considered as being reachable by U.S. telephone service, calls to 61 percent are routed via some other nation. For smaller nations, this number is generally close to 100 percent. Such routing, with all its inequities and higher costs, could be expected to continue if satellite system hegemonies replace present hegemonies. Additionally, the quality of service can be expected to remain at a low level due to the necessity of using multiple-hop and/or excessively indirect routing.

IX. Summary and Definitions

It seems clear that a "single global system" as described in Section V. is absolutely essential if we are to accomplish the objectives set forth by the Congress and the Executive Branch for a worldwide system of satellite communications to serve the needs of all nations. Any alternative system or systems poses serious economic, routing, operational, and technical penalties on the use of this great fallout of man's efforts to conquer space as a means to conquer himself.

Accordingly, the following definition of a Single Global System is proposed for U.S. adoption:

The Single Global System:

a. Consists of a number of jointly owned space segments and nationally owned earth stations to serve the commercial satellite communications needs (both domestic and international) of all nations of the world.

b. Comprises a variety of space segment/earth station designs, as required to serve the various needs for domestic, regional, and intercontinental satellite communications.

c. Is managed by a single international consortium of nations, to which admission is accessible to all on a non-discriminatory basis and in which all have representation.

d. Provides cost sharing space segment services as required to meet the individual or common needs of nations.

e. Assures compatibility among both components and major segments of the system, to assure most economic, direct routing of international traffic.

f. Involves no preferential or discriminatory allocation of traffic among nations.

Regional Subsystem of the Single Global System:

Is part of the ownership, plan, or policy of INTELSAT;

Is under the central space segment managership of INTELSAT;

Involves no preferential or discriminatory allocation of traffic;

Provides domestic, regional, and international interconnections as directly and economically as possible;

Utilizes basic specifications and standards prescribed for the INTELSAT System; with special alterations as to capacity, antenna patterns, geographic coverage, etc., as required.

As to traffic requirements and growth to regional needs (but not for indirect routing) the vote of the regional members is controlling unless there are major conflicting factors with other INTELSAT programs or requirements.

Decisions as to the place of manufacture of domestic and regional satellites should be the prerogative of the nations for which the service is intended. Additional or excessive costs involved (over and above comparable satellite costs) should be incorporated in the per channel cost of service borne by the domestic or regional users, or levied upon them.

As a contrast, one might consider the characteristics of a separate regional system, as proposed by some highly nationalistic interests:

Separate Regional System:

A system which serves a particular group of nations normally, but not necessarily, closely associated geographically. The characteristics of such a system are separate ownership (as compared to INTELSAT), separate management, separate policy consideration as to:

a. Membership - Determined by dominant nation, probably on political basis (a la European Common Market.)

b. Admission - Ditto.

c. Ownership and Financing - By dominant member.

d. Technical characteristics.

e. Compatibility with other systems.

f. Conservation of spectrum and orbital space.

g. Rates, charges, and divisions of tolls or profits.

h. Requirements for transit fees.

i. Preferential traffic segregation into this system vis-a-vis the INTELSAT system. (Exclusivity of use)

IS THIS THE TYPE OF SYSTEM WHICH BEST FULFILLS THE U.S. DECLARATIONS OF POLICY AND INTENT REGARDING SATELLITE COMMUNICATIONS?

March 10, 1969

The indefinite nature of ~~xpecialxx~~ additional specialized services -- the lack of definition of these services, the lack of experiment or research and development with them, the lack of a concept of what their requirements are going to be -- all make it difficult to determine at this time what the scope of the organization should be. And thus, many nations are hesitant to enter into an agreement which has no definition or no real substantive concept of what we are talking about when we say all other services which do not interfere with the primary purpose of the correspondents.

Our present idea is to provide for all countries, particularly the under developed countries, a maximum efficiency and economy of operations, particularly of the international communications. That is what we really mean by commercial communications. An international group has never operated as successfully as a well knit organization, such as the present Manager.

We are being criticized for not having stated a clear cut U. S. position, witness the Washington Post article of Saturday, March 8th. Preparations are already being made to blame the U. S. for the possible failure of the Conference. In talking with the Chairman Deputy Head of Delegation,

he emphasized most strongly the connection between the technology gap and their considerations in connection with this Conference. In other words, there are a great many side issues which are being dragged in here. He also mentioned the psychological effect of the strength of the U. S. and indicated, you people have everything, such strength, such wealth, and such capabilities which we lack that it is not an international affair, the strength is too one-sided. The implications here are that the U. S. should give more, or share more, or being willing to accept a smaller role in the organization, which of course, could be manifest in a number of ways. One, in terms of the Manager, or in terms of voting power, but really as far as the German was concerned when I pressed him, he always fell back on the technology gap and their need to get into the space business, the space age. These people don't fundamentally understand what it is going to cost them to do that. Finding a market for this sort of thing does not exist and that they are going to have to contribute large amounts of money to subsidize their space industry as the United States has done over the past years. There is almost total lack of understanding of this, they want to have the space technology, they want to have the capability, they want to ~~xxxx~~ close the technology gap, but they don't have the money to do it, they don't know how to do it, and they are frustrated as a result.

We are dealing with a group of frustrated people and this frustration is one of the obstacles with which we have to contend. The point here is not that we don't have a problem of simple commercial operations supplying services for all nations. We have a mixed bag of social and political ambitions and frustrations involved which serve to complicate greatly the problem.

There is an analogy here between our own Small Business Administration for example, trying to maintain small business in competition with large businesses, and we should perhaps take a look at this analogy. The division between those nations which are frustrated in a technology sense and those nations who merely want communications is a major element of division which we must explore.

If we could devise a way of severing the many frustrations, the concept of the technology gap, all of these kinds of ambitions and frustrations from the idea of simply running an efficient, economical, all inclusive world communications system we will have gone a long way toward solving our problem. It seems to me that these kinds of words need to be said quite clearly to this Conference, that all of the diverse ambitions, counteracting, interacting ambitions, make it very difficult

to proceed in a straightforward way, clear and simple, toward the structuring of an organization to do a highly business-like job. Fundamentally, they don't want a highly business-like job done. They want to improve their technology, they want a variety of other objectives to be accomplished, and communications to them the INTELSAT, is merely one way of achieving a number of other ambitions which to them in many cases are more important than the idea of a single, world communications system achieving the objectives of low cost, highly reliable, high quality communications for all of the nations of the world. This is not the primary objective of the European nations.

Mr O'Connell

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF TELECOMMUNICATIONS MANAGEMENT
WASHINGTON, D.C. 20504

DRAFT/OTM/OLSSON 3/10/69

Memorandum for the Record:

Subject: INTELSAT Conference

The purpose of this memorandum is to depict the general trend of the INTELSAT Conference (February 24 - March 21, 1969) and to discuss some of the alternatives available to the United States Government in bringing the Conference to a meaningful conclusion.

The first week of the Conference was required to organize into four committees covering: (a) Structure and Functions (b) Legal (c) Financial and (d) Other operational arrangements. Extensive discussion and debate ensued during the second week. The United States tabled a proposed Intergovernmental Agreement and a companion Operating Agreement at the beginning of the second week (Conference document #10). A daily summary of Conference activities is provided the Secretary of State. In addition, a Summary Record of each Committee meeting is furnished to all delegates to the Conference.

The basic agenda of the Conference follows the general format of the ICSC report on Definitive Arrangements (Conference document #6 -- ICSC 36-58). The principal subjects treated in the Conference and the degree of support of the United States position are summarized in the attached enclosure 1.

The key policy issues on which there is considerable opposition to the United States position include the following:

-- Nature of the INTELSAT Consortium - The United States position that the INTELSAT organization should continue as an unincorporated joint venture commercial business undertaking without legal personality is strongly opposed by other members who want to create an International Intergovernmental legal entity.

-- Internationalization of the INTELSAT Organization, Particularly the Manager - The United States position that the INTELSAT structure should remain essentially like that under the Interim Agreements is opposed by the Europeans who desire to establish International Secretariats and an International Management body.

-- Role of the Assembly - The United States position to assign the Assembly a minimum role whereas most of the other members of INTELSAT favor a strong Assembly. Also, the U. S. view that the Assembly should be represented by either a Government or a designated entity (signatory) is not supported by other members.

-- Role of COMSAT as Manager - The United States position that the Communications Satellite Corporation should be designated as Manager for INTELSAT in the Intergovernmental Agreement is opposed particularly by the European nations.

-- Impact of Regional Systems on the Single Global System- The United States position that separate Regional Systems should not be established by INTELSAT or outside INTELSAT is strongly opposed by many of the developed nations.

Continued strong opposition by other members of INTELSAT could seriously jeopardize the reaching of agreement on Definitive Arrangements acceptable to the United States. Unfortunately, the logic and reasonableness of the United States position has not been fully understood and accepted by the other members. Although Ambassador Marks presented an overview of the United States contribution during his opening session talk, no subsequent comprehensive treatment of the "facts" concerning the truly significant United States contributions by NASA, Industry and COMSAT has been placed in the conference record. It is pertinent to note that the ICSC report did not contain information about the significant role played by NASA in providing launch services for INTELSAT satellites. Furthermore, the United States has not supported its proposed Intergovernmental and Operating Agreement submission by fully explaining in detail the rationale for the nature, structure and functions of the INTELSAT organization, particularly the compelling arguments for keeping the Consortium form. Accordingly, the United States

delegation has a real "sales" job to undertake in order that the other members are informed fully about the United States proposal.

A review of the above list of key policy issues indicates that each fit the category of a "vital" issue to the United States. Substantial study and analysis made by the United States Government and COMSAT have concluded that these "vital"issues are crucial to the continued success of the INTELSAT Consortium, particularly if the objectives established in the Preamble of the United States position (conference document #10) are to be met.

The acceptance of the majority view on any of the five "vital" issues listed above would create institutional arrangements that would be, in the long-term, contrary to United States interests and would be inconsistent with United States policy reflected in the Communications Satellite Act of 1962 and the President's message to the Congress of August 14, 1967. Accordingly, it is important that the United States Government, as a matter of urgent priority, formulate an appropriate positive strategy for concluding this Conference. Such an effort should likewise include an evaluation of practical alternatives for obtaining agreement with the INTELSAT partners and the preparation of guidelines for future United States participation in the INTELSAT Consortium.

Background on INTELSAT Agreements

The Agreement Establishing Interim Arrangements for a Global Commercial Communications Satellite System and the related Special Agreement, both of which entered into force on August 20, 1964 are effective until entry into force of the Definitive Arrangements (Article XV). The INTELSAT Conference has as an objective pursuant to Article IX:

> (c)... The Parties to this Agreement shall seek to ensure that the definitive arrangements will be established at the earliest practicable date, with a view to their entry into force by 1st January 1970.

The Agreement in Article IX also established basic criteria for the Definitive Arrangements as follows:

(b) Regardless of the form of the definitive arrangements,

(i) their aims shall be consonant with the principles set forth in the Preamble to this Agreement;

(ii) they shall, like this Agreement, be open to all States members of the International Telecommunication Union or their designated entities;

(iii) they shall safeguard the investment made by signatories to the Special Agreement; and

(iv) they shall be such that all parties to the definitive arrangements may have an opportunity of contributing to the determination of general policy.

Also,the Conference must consider among other things:

Whether the interim arrangements should be continued on a permanent basis or whether a permanent international organization with a General Conference and an international administrative and technical staff should be established.

With this general background for the present INTELSAT Interim Arrangements, an examination of potential alternative approaches for concluding the conference and for the future INTELSAT arrangements can begin.

Alternative Approaches -

In light of the strong positions taken by other INTELSAT members in the Conference to date, it is apparent that the United States Government will be faced with fundamental policy decisions as to what realistic alternative approaches would be acceptable to our INTELSAT partners. In searching for feasible alternatives, the U. S. Government needs to examine realistic fall-back positions which progressively move from the ideal full Definitive Arrangements position taken by the United States in Conference Document # 10.

One politically attractive fall-back position could be based on the idea that, since our vital interests would be damaged by an undesirable and risky Definitive Arrangements, the U. S. Government would propose a new multilateral executive agreement to replace the August 20, 1964 Agreement. This alternative would contemplate "Transitional Arrangements" that would provide a basis for evolving toward Definitive Arrangements at some later date. Such an approach would have the further advantage of being able

to allow enlightened institutional innovations when actual experience has been gained in the operation of the advanced series INTELSAT IV satellites. In fact, there are compelling arguments for avoiding premature Definitive Arrangements since INTELSAT has not either reached the full deployment of the Global System in the space segment sense, nor has the terrestrial plant been optimized in the sense of the advanced multiple access features which will become available by deployment of the INTELSAT IV satellite.

Various other fall-back positions can be postulated based upon extending the Interim Arrangements for a specified period of time and incorporating those amendments on which the conference members can agree.

Lastly, the other members of INTELSAT should appreciate the fact that United States initiative and enlightened policy enabled the multi-lateral approach to telecommunications to be realized in the INTELSAT Consortium and that there is not something irrevocable about the United States participation in the Consortium, particularly on terms opposed to "vital" U.S. interests. Accordingly, an alternative, although certainly undesirable politically, nevertheless albeit an option available to the United States, is the buying-out of those partners who do not desire to remain in the Consortium under terms acceptable to the United States and, if necessary, termination of the Interim Arrangements.

The following list of alternative approaches appear to be the options available to the United States Government:

Alternative	Description	Approach
I	Adopt "Definitive Arrangements"	(1) Agressive Effort to Obtain Agreement on "Vital" Issues During 1969. (2) Implement Agreements 1 Jan 1970.
II	Adopt "Transitional Arrangements" to Replace Interim Arrangements	(1) IF ALTERNATIVE I FAILS (2) Obtain Agreement on "Vital" Issues for Interim Period (Say 1975) (3) Schedule Definitive Arrangement Conference (Say 1974) (4) Implement Transition to Definitive Arrangements (During Period 1975 to 1980)
III	Amend "Interim Arrangements"	(1) If Alternative I and II Fails. (2) Obtain Agreement on Selected Changes to Modernize the Interim Arrangements. (3) Extend period of Interim Arrangements Until (Say 1975). (4) Set new Objective for Definitive Arrangement Conference (Say 1974).
IV	Continue "Interim Arrangements"	(1) If Alternative I, II and III Are Not Feasible -- (2) Continue Existing Interim Arrangements. (3) Advise ICSC to Present Recommendations to States for Follow-up Conference.
V	Terminate "Interim Arrangements"	(1) Agree that "Vital" Issues cannot be Equitably Resolved. (2) U.S. Designated Entity "Buys-out" Partners Shares. (3) Dissolve Consortium, if Required. (4) Establish Bi-lateral Arrangements.

Evaluation of Alternative Approaches

A summary evaluation of the alternative approaches is shown in enclosure #2. The evolution highlights the substantial and time consuming difficulties that would ensue if the United States were to give-up on the five "vital" issues in order to obtain agreement on Definitive Arrangements. The evaluation further highlights the advantages and low-risks involved in keeping some up-dated form of the Interim Arrangements or by replacement of the Interim Arrangements with a "Transitional Arrangements" agreement which would be consistant with United States Policy. The evaluation also shows that the U.S.G. cannot discard the politically undesirable alternative whereby the Interim Agreement is terminated.

Proposed U.S.G. Strategy

The strategy to be used by the United States Government with regard to both the Conference issues, as well as long-term issues, should be formulated in keeping with the following objectives:

(a) work toward the objectives stated in Article IX(b) of the Interim Arrangements agreement;

(b) present a low-risk to the viability of the "going-concern" -- institutionally, technically and economically;

(c) be consistant with established United States Policy.

The proposed U.S.G. strategy for the INTELSAT Conference should be structured to be positive, constructive but firm and designed to adapt to strong forces by promoting an alternative approach from an unsatisfactory Definitive Arrangements.

A proposed United States Position paper has been drafted to accomplish these objectives and is attached as enclosure 3. The key features of the proposed paper include the following:

-- Declaring the existing United States Policy on satellite communications.

-- Charging the U. S. Delegation to advise the Conference delegations of the significant contributions made by the United States, NASA, industry and COMSAT toward the successful deployment and operation of the Space Segment.

-- Charging the U. S. Delegation to agressively promote the proposed Definitive Arrangement Agreements tabled by the U. S. in conference Document #10.

-- Charging the U. S. Delegation to advise the conference delegations the degree of compromise contained in document #10, specifically with regard to the establishment of an Assembly, Voting in the Board of Governors, and provision for future change of Manager vis-a-vis the existing Interim Arrangements as well as the rationale for continuing the consortium form of enterprise.

-- Directing the U. S. Delegation to not compromise the "vital" issues of: Nature of the INTELSAT Consortium (legal

personality); Internationalization of the INTELSAT Organization, particularly the Manager; Role of the Assembly; Role of COMSAT as Manager; and Impact of Regional Systems on the Single Global System.

-- Providing guidance to the U. S. Delegation in the formulation of alternative back-off positions in order for the Conference to end in a meaningful manner.

-- Providing guidance to the U. S. Government relating to INTELSAT activities subsequent to the present Conference.

Encl. (3)

For JD O'connell copy

CONFERENCE ISSUES

	SUPPORT OF UNITED STATES POSITION		
	STRONG	MIXED	WEAK OR NONE
STRUCTURE & FUNCTIONS			
OBJECTIVES & PURPOSES	XXX		
SCOPE OF INTELSAT ACTIVITIES			
INTERNATIONAL PUBLIC	XXX		
INTERNATIONAL SPECIALIZED		XXX	
DOMESTIC		XXX	
NATIONAL SECURITY EXCLUSION	XXX		
ELIGIBILITY FOR MEMBERSHIP		XXX	
STRUCTURE			
INTERRELATIONSHIPS *			XXX
ASSEMBLY (Few Functions)			XXX
BOARD OF GOVERNERS		XXX	
MANAGEMENT BODY (COMSAT)			XXX
RIGHTS AND OBLIGATIONS			
REGIONAL SATELLITES (Separate)		XXX	
DOMESTIC SATELLITES		XXX	
SPECIALIZED SATELLITES		XXX	
LEGAL STATUS OF INTELSAT			
LEGAL PERSONALITY			XXX
FINANCIAL ARRANGEMENTS			
INVESTMENT/USE	XXX		
DETERMINING INVESTMENT SHARES		XXX	
OTHER OPERATIONAL ARRANGEMENTS			
PROCUREMENT POLICY		XXX	
INVENTIONS, DATA, TECHNICAL INFORMATION	XXX		

* International legation of the INTELSAT Organization

ENCLOSURE 1

INTELSAT CONFERENCE EVALUATION OF ALTERNATIVE APPROACHES

ALTERNATIVE	ASSUMED CONFERENCE STATUS	CONSEQUENCES POLITICAL	CONSEQUENCES ECONOMIC	CONSEQUENCES TECHNICAL/SERVICE	CONSEQUENCES OTHER REMARKS
UNACCEPTABLE I ADOPT "DEFINITIVE ARRANGEMENTS"	U.S. GIVES UP "VITAL" ISSUES	+ ADVERSE CONGRESSIONAL REACTION + ADVERSE U.S. INDUSTRY REACTION + FAVORABLE DEVELOPED COUNTRY REACTION + UNFAVORABLE DEVELOPING COUNTRY REACTION	o INEFFICIENT MECHANISM	o FRACTURED SYSTEMS APPROACH o NATIONAL SECURITY IMPLICATIONS	o INCONSISTENT WITH UNITED STATES POLICY o WOULD REQUIRE TREADY o PRELUDE TO FAILURE
ACCEPTABLE I ADOPT "DEFINITIVE ARRANGEMENTS"	AGREEMENT REACHED ON U.S. "VITAL" ISSUES (VERY LOW PROBABILITY)	+ THIS IS POLITICALLY DIFFICULT OBJECTIVE + IF SUCCESSFUL, FAVORABLE U.S. POLITICAL REACTION + UNFAVORABLE DEVELOPED COUNTRY REACTION + LOW ATTRACTION FOR NON-MEMBERS + Probable favorable reaction by many developing nations.	o EFFICIENT MECHANISM	o SINGLE GLOBAL SYSTEM APPROACH	o MIGHT REQUIRE A Joint Resolution o DIFFICULT PRACTICAL TRANSITION PROBLEMS o COULD BE PREMATURE OPTION IN LIGHT OF SYSTEM STATUS AND INTELSAT IV PHASING
II ADOPT "TRANSITIONAL ARRANGEMENTS"	(1) AGREEMENT CANNOT BE REACHED ON U.S. "VITAL" ISSUES (2) MEMBERS AGREE TO MOVE FORWARD BUT NOT UNDER DEFINITIVE ARRANGEMENTS	+ COULD BE POLITICAL COMPROMISE SOLUTION	o MOST EFFECIENT MECHANISM o OFFERS CHANCE FOR MARKETING INNOVATIONS	o BUILD ON GOOD FEATURES OF INTERIM ARRANGEMENTS o FOSTERS EVOLUTION APPROACH	o TWO STAGE PHASING -- AMMENDED INTERIM ARRANGEMENTS (1970-1975) --TRANSITION TO DEFINITIVE ARRANGEMENTS (1975-1980)
III AMEND "INTERIM ARRANGEMENTS"	(1) AGREEMENT REACHED ON SOME UP-DATING OF INTERIM ARRANGEMENTS (2) MEMBERS AGREE TO STUDY DEFINITIVE ARRANGEMENT PROPOSALS	+ Practical Compromise Approach May be Politically Attractive to Substantial Number of Members.	o SAME AS UNDER INTERIM ARRANGEMENTS	o PROVIDES MECHANISM TO EXPAND SCOPE OF SERVICES	o SOME PROGRESS IS MAINTAINED
IV CONTINUE "INTERIM ARRANGEMENTS"	(1) CONFERENCE DEADLOCK (2) MEMBERS DESIRE TO STUDY DEFINITIVE ARRANGEMENTS PROPOSALS (MOST PROBABLE ALTERNATIVE)	+ Politically unattractive to Many Members. Preserve U. S. political flexibility.	N/A	N/A	o TIME AND "FACE SAVING" OPTION
V TERMINATE "INTERIM ARRANGEMENTS"	CONFERENCE VOTES TO SEEK NEW SATELLITE COMMUNICATIONS ARRANGEMENTS OUTSIDE INTELSAT CONSORTIUM	+ Politically Unattractive	o INTERNATIONAL TELECOMMUNICATIONS SERVICE CHARGES WOULD PROBABLY RAISE	o FRACTURED SYSTEMS APPROACH	o UNDESIREABLE OPTION

Enclosure #2

Proposed

United States Position

on

Commercial Satellite Communications

Part I INTELSAT Conference
(February 24 - March 21, 1969)

(a) United States Policy on Satellite Communications

(1) Communications Satellite Act of 1962

① Xerox copy of Page 1 of Act.

② Underline words that delegates should follow

(2) President's Message to the Congress, August 14, 1967

Cite INTELSAT Related Policy

① Continuation of INTELSAT

② Regional systems

③ Domestic systems

(b) United States Contribution to the INTELSAT Consortium

① Role of COMSAT as MGR for INTELSAT accomplishments

② Role of NASA

[a] Launch Service

[b] Technology

③ U.S. as promoter of Satellite Communications

Encl. #3

Use President's annual report, COMSAT annual report and OTP White Paper.

Table in Conference to early delegate copy of President's annual Report.

(c) United States Position on Definitive Arrangements for the International Telecommunications Satellite Consortium (INTELSAT)

(cite key elements of Conference document #10)

Recommend Senior US Govt official make a policy statement in Plenary session.

(d) Compromises in U. S. Position in relation to the Interim Arrangements.

Lists - ① Establishment of Assembly

② Voting in Board of Governors.

③ Provision for charge of ComSat as manager.

(e) Strategy for negotiations of Definitive Arrangements ~~with respect to "vital" issues~~.

① Treatment of "Vital" issues

②

(f) Guidance to U. S. Delegation on Alternative back-off positions.

(Refer to page 9 of memo)

Part II Long-Term U. S. Objectives in INTELSAT

(a) Guidance to U. S. Government on Post-Conference Activities relating to INTELSAT.

Mr. Whitehead's item "possible forums or mechanisms for continuing discussion"

and possibly

① Importance of agreement in 1969 and

② Possible changes in COMSAT.

MR J.D. O'CONNELL

DRAFT: 3/11/69 - OTM:Olsson

(OUTLINE)

THE FUTURE OF INTELSAT

(A Policy Statement by the United States for a Pleniary Session)

INTRODUCTION - Purpose of the Statement

BACKGROUND - Development of United States Position for the Conference

- PROGRESS OF INTELSAT - A Summary
  - Growth of Membership
  - Development, Deployment and Operation of the Global System
  - United States contributions to INTELSAT.
- UNITED STATES POLICY ON SATELLITE COMMUNICATIONS
  - Communications Satellite Act of 1962
  - President's Message to the Congress (August 14, 1967).
- U. S. PROPOSAL FOR DEFINITIVE ARRANGEMENTS
  - Overall Concept of the Future INTELSAT
  - Specific Rationale for Key Policy Issues
  - Firm Statement on "Vital" Issues
  - Promote Understanding of U. S. Views.
- THE FUTURE OF INTELSAT
  - Objectives - Business Enterprise to Provide Global Satellite Telecommunications Services
    - Not a Political Body
  - Based upon Success under Interim Arrangements
  - Organizational Change to Foster Growth in Membership - Assembly
    - Board of Governors (Expended representation)
  - Exploit Growth in Technology to improve quality and expand range of services
  - Maintain Continuity of Planning and Operations
  - Seek Maximum effectiveness e.g. Best service - lowest rate
  - Based on Firm Commitment of United States to Provide Launch Service
  - Undesirable Consequences if Organization takes other than Unitary Business Approach.

SUMMARY

March 11, 1969

WHEREAS, United States efforts, achievements, and investments have in the past and will continue in the future to provide a massive source of space technology (including satellite communications) from its laboratory organizations of scientists and its industrial contractors, the output of this effort will continue to be available to advance the progress and development of satellite communications throughout the world;

WHEREAS, it has been an undeviating and consistent policy of all Presidents since the year 1958, which policy has been announced in unmistakable terms repeatedly, to make available the benefits of our technological progress in space to advance the cause of peace and advance technology;

WHEREAS, specifically in respect to satellite communications, the Congress of the United States has enacted legislation known as the Communications Satellite Act of 1962, which unmistakably announced the policy of using this great new technological capability to provide the opportunity for greatly improved and less costly international communications between all nations and to authorize the support of United States owned launch facilities for this purpose through its

designated chosen instrument, hereinafter to be known as the Communications Satellite Corporation, a business organization to be organized in the United States;

WHEREAS, the United States has thus, in effect, both by pronouncements of its Presidents and by Act of Congress, renounced the concept of Government ownership and the use of the new international communications system to further international political objectives;

WHEREAS, the United States subscribed in 1964 to an Interim Agreement whose purpose was to establish as expeditiously as possible a cooperative non-profit association of nations to plan for, finance, and through its Manager, COMSAT, to procure, establish, maintain, and manage the space segments needed for this purpose;

WHEREAS, as indicated in the report of the President of the United States for 1968, the report of the Interim Committee, and the statements on the floor of this Conference by many Delegation representatives, the progress of this cooperative consortium has been highly successful as presently constituted and managed;

WHEREAS, this cooperative venture association requires the successful achievement of its most advanced, costly, versatile, and high capacity (Intelsats IV) satellites to make available to all its members the versatility, direct

access, quality of communications, and low cost for service, the next few years will be critical ones requiring a stable, efficient, increasingly competent management organization;

WHEREAS, it is in the interests of all nations, members of this cooperative association, that this phase be brought to an early and satisfactory conclusion;

WHEREAS, it is considered by the United States to be in the interests of all nations that the maximum opportunities be afforded during these critical years for the successful achievement of a truly global system, it is considered that regional and domestic space service accommodations can be most economically, efficiently, and consistently provided through the established cooperative association.

THEREFORE, there is established a United States policy with the following provisions:

1. It shall be considered as the primary United States objective to establish an efficient, effective, and viable business enterprise to serve the communication needs of the world international community with maximum efficiency, reliability, and quality and at the lowest possible cost.

2. It shall be a further objective to minimize to the maximum extent possible the organization or utilization of this association as an instrument of international political influence or activity.

3. During the period between now and the installation and early operational phase of INTELSAT IV, changes in the organizational structure of INTELSAT which could be disruptive and detrimental to the efficiency of current and INTELSAT IV space segments should be avoided.

4. An increased representation and voice in the affairs of the association should be provided through the institution of a general assembly which should be given the authority to be thoroughly informed on all INTELSAT plans, procedures, and progress and to exercise a general supervisory and inspection function to the end that the needs of all members are being satisfactorily met to the extent practicable and feasible, and within the bounds of reasonable economic viability.

5. It is essential to the continuity, effectiveness, and efficiency of the association that COMSAT-continue as Manager.

6. It is essential that for the period involved no launch assistance be provided by the United States except under the strict interpretation

of the Communications Satellite Act and under the auspices of COMSAT and INTELSAT.

7. In its pilot domestic system the United States will utilize the services of INTELSAT space segments in accordance with terms and conditions to be negotiated with that organization.

8. The principle of weighted voting in the Board of Governors should be continued, but the United States will concede that no one nation shall have more than 50% of the weighted vote.

9. In computing voting weights, domestic use of the space segments shall be included up to but not in excess of the 50% voting strength.

10. In view of the constraints imposed thereby and the establishment of a trend toward an international political organization rather than the strengthening of a business association, no legal personality will be established for the association.

DRAFT
March 17, 1969

FURTHER DETAILS ON CONCLUDING CONFERENCE AND ESTABLISHING PROCEDURES FOR AN ORDERLY ~~CONCLUSION~~ CONTINUATION ? OF ITS ACTIVITIES AFTER MARCH 21

1) Plenary Sessions and Committee Reports

One purpose for holding Plenary Sessions of the Conference will be to consider and take appropriate action on reports issued by Committees I, II, III and IV. At this time it would appear that the reports of these committees will not provide a basis for Plenary action. This is due to the enormous work still to be done in these committees and their working groups and the likelihood that many committees will simply report alternative proposals or solutions or provide a catalog of items for subsequent consideration and to the fact that work will not be completed in Committee I which is the hub of future negotiation. In addition, many delegations will seek to prevent action on certain matters until they know the content of other matters such as subjects being considered in Committee I.

Thus, it may be realistic to anticipate that the most Plenary sessions can accomplish is to note the reports of the various committees and to refer them to the Intersession Preparatory Committee. Of course, Plenary sessions will necessarily be devoted to other important matters such as the issuance of a communique, the establishment of the Intersession Committee

and the recess of the Conference.

2) Intersession Preparatory Committee

With respect to this Committee, Plenary sessions of the Conference should take several important actions including the following:

a) Establishment - The Conference must establish and nominate countries to serve on the Intersession Preparatory Committee. This matter is being handled via the Steering Committee.

b) First Meeting of the Preparatory Committee - The Conference must indicate a date certain when the Intersession Preparatory Committee shall meet and establish a time when indications must be received that the countries nominated to participate on this Committee have accepted such participation.

c) Work Schedule and Procedures for Preparatory Committee and Terms of Reference - The Preparatory Committee must have clear guidance from the Conference concerning its future work program and terms of reference. The terms of reference will be established via the Steering Committee which contemplate both an effort to reconcile divergent views and to prepare draft agreements reflecting common views and ultimate divergencies of viewpoint.

These draft agreements would provide the basis for the report by the Preparatory Committee to the Conference.

In view of the likely terms of reference for the Preparatory Committee, it would seem advisable to set forth at this Conference the details of a work schedule for the Preparatory Committee, to the extent this is feasible. It would appear useful to have preliminary discussion of the likely work schedule at an early Plenary session of this Conference (prior to Friday). The Preparatory Committee subsequently will not spend an excessive amount of time revisiting such matters. The exigencies would appear to dictate that the Preparatory Committee will do the following:

(i) At its first session, which would convene approximately mid-May for a period of some four weeks, the Preparatory Committee would endeavor to reconcile divergencies which are well stated in the materials produced at this Conference; cause to be developed clear alternatives which time did not permit to be developed at this Conference; prepare draft agreements reflecting common views and alternate positions.

(ii) The Preparatory Committee would have to spend some time establishing working groups to prepare those

materials which would serve as the basis for a reconciliation of views. This could prove to be a time-consuming process and these working groups might have to meet more frequently, perhaps in lengthy continuous sessions, than would the Preparatory Committee itself. In addition drafting teams would have to be appointed to undertake the task of stating the various views in draft agreements. These drafting groups would have to meet more frequently and extensively than the Preparatory Committee itself.

(iii) Reasonable Work Schedule - Based on the foregoing a reasonable work schedule for the Intersession Preparatory Committee might be as follows:

May 14 - June 11 (shorter, if possible)

Establish working groups and commence process of reconciling differing points of view.

May 21 - June 18

Working and drafting groups meet and render reports to Committee.

(September 2 - 16

If tasks are not completed, working and drafting groups meet and render reports to Preparatory Committee.)

September 4 - 18

Preparatory Committee meets and produces final report to Conference participants.

(November 4 - 18

Preparatory Committee holds session and develops report for Conference.)

3) Date for Reconvening Conference

Detailed consideration of what might be considered a somewhat pessimistic schedule of events (a useful basis for planning) would appear to indicate that it might not be desirable to set a date certain for reconvening the Conference. Should it be impossible to meet a date certain such as November 4, the ensuing psychological and political impact might well be negative. Additionally, it would not seem appropriate to place the onus for postponement of a Conference on an Intersession Preparatory Committee which in all likelihood will not consist of full INTELSAT membership. Thus, it might be most useful to provide the Preparatory Committee with the authority to recommend to the United States Government a date for reconvening the Conference and to state at a Plenary session at this Conference that the next session of the Conference will be convened no later than February 1970.

4) Work Priorities for Intersession Preparatory Committee

In order to avoid excessive procedural discussion at the first meeting of the Intersession Preparatory Committee, it might be useful to have some discussion and, if possible, some conclusions from Plenary sessions of this Conference with respect to the priorities to be given to certain subjects by the Intersession Preparatory Committee and its working groups. Such priorities might be listed as follows:

- Structure and Functions of the Organization (including legal personality issue, relationship with ITU, and all issues handled in Committee I in its working groups)

- Scope of Activities

- Membership and Access

- Rights and Obligations of Members

- Financial Arrangements (including transition from interim arrangements to definitive arrangements, principles and methods for determining investment shares, rights and obligations, aaccess to system, ownership questions)

- Procurement Policy

- Inventions, Data and Technical Policy

- Earth Station Authorization and other Operational Matters

- Arbitration

- Preamble

- Final Clauses and Entry into Force
  (including duration of agreements, number of agreements, privileges and immunities, accession, supersession and buy-out, amendment processes, withdrawal provisions, liability of partners inter-se, reservations, etc.)

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF TELECOMMUNICATIONS MANAGEMENT
WASHINGTON, D.C. 20504

OFFICE OF THE DIRECTOR

March 17, 1969

MEMORANDUM FOR AMBASSADOR MARKS

Subject: Report of the Working Group A. Committee I (COM 1/84 March 14, 1969).

Reference is made to subject report.

A review of the proposed Preamble contained in COM 1/84 indicates that reference to the International Telecommunications Satellite Consortium (INTELSAT) has not been included. Since the purpose of the Definitive Arrangements is to establish arrangements for an international global system which shall supersede the Interim Arrangements established by the multilateral executive agreement in 1964, it seems to me entirely proper that the Preamble should contain the reference to the International Telecommunications Satellite Consortium (INTELSAT).. Accordingly, I recommend the United States Delegation insure that the Conference record include at least a footnote to the third paragraph on page 2 of the Committee I Preamble as follows:

. . . has been established by the International Telecommunications Satellite Consortium (INTELSAT).

On page 4 of COM 1/84 under Objectives and Purposes (a), I feel strongly that "to create a Global Organization" is the wrong priority of objectives and purposes as has been formulated by Committee I. The primary and priority objective of the Parties should be to agree to achieve efficient low cost, high quality telecommunications to all users of the space segment. Furthermore, I see the Definitive Arrangements as a continuation and expansion of both the institution (INTELSAT) and the Global System established under the Interim Arrangements. Accordingly,

the United States Delegation should insure that at least a footnote be added to the cited paragraph as follows:

> . . . Parties agree to continue and expand membership in the organization known as the International Telecommunications Satellite Consortium (INTELSAT) established by the Interim Agreement whose principal and first priority function . . .

James D. O'Connell
Director of Telecommunications
Management

cc: Mr. Loy
Mr. Ende
Mr. McCormack
Mr. Buchen

TALKING PAPER

SUBJECT: Regional Satellite Systems

REFERENCE: Committee I Discussions on Rights and Obligations

-- U. S. Delegation members reported Mr. Loy made a very good statement on obligations of members and the need to avoid separate Regional Satellite Systems.

-- Understand Malaysia supported U. S. viewpoint and Mr. Loy responded.

-- France said they intended to talk more.

-- Accordingly, the following points should be highlight in the U. S. response to show the compelling logic and rationale and fair position of avoiding the proliferation of Regional Systems:

- There are no fundamental technical reasons or service requirements for regional coverage which cannot be satisfied by advanced INTELSAT series satellites. In fact, the flexibility of individual satellites grows significantly with each new satellite such as the multiple transponder INTELSAT IV series.

- The economy of scale achieved in a single global system with unitized management and ownership means lower investment costs for space segments and lower service unit utilization charges which work to the benefit of developing nations as well as the large user nations.

- Regional Systems impose requirements for additional ground stations thereby necessitating dual stations if a country is to gain access to the Global System. Such an unefficient system concept is particularly uneconomic to the nations who have limited resources available to devote to improving their telecommunications capability.

- Traffic in Regional Systems has the direct effect of reducing the INTELSAT traffic and thereby has a divisive, competitive characteristics which is contrary to both the principles contained in the Preamble of the Intergovernmental Agreement as well as the inherent obligations of parties in the Consortium.

- In the view of the United States separate regional satellite systems if allowed to proliferate will cause serious damage to the continued viability of this international organization and therefore we feel all members have a strict obligation to avoid regional systems established outside the framework of INTELSAT.

OTM:WTOlsson

D R A F T

UNITED STATES POLICY

ON

FUTURE PARTICIPATION

IN THE

INTERNATIONAL TELECOMMUNICATIONS SATELLITE CONSORTIUM

(INTELSAT)

WHEREAS, United States investments, efforts and achievements have in the past and will continue in the future to provide a massive source of space technology (including satellite communications) from its scientific laboratory organizations and its industrial establishment, the output of this effort will continue to be available to exploit and advance the progress for the development of satellite communications facilities in providing commercial telecommunications services throughout the world;

WHEREAS, the United States has pursued the undeviating and consistent policy of all Presidents since 1958, which policy has been announced in unmistakable terms repeatedly, to make available the benefits of our technological progress in space which will contribute to world peace and understanding.

WHEREAS, specifically in respect to satellite communications, the Congress of the United States enacted legislation in the Communication Satellite Act of 1962, which declared the policy to be "to establish, in conjunction and in cooperation with other countries, as expeditiously as practical a commercial communications satellite system, as part of an improved global communications network, which will be responsive to public needs and national objectives /and/ which will serve the communication needs of the United States and other countries...", and to provide the opportunity for greatly improved and less costly international telecommunication services, and to achieve these objectives stated that "United States participation in the global system shall be in the form of a private corporation, subject to appropriate governmental regulation", which has been implemented by creating the "Chosen Instrument" the Communications Satellite Corporation (COMSAT) a private business organization, and to Commit the United States Government, through the National Aeronautics and Space Administration, to

provide launch service for placing communications satellites in earth orbit.

WHEREAS, the United States ~~has thus~~ in the pronouncements of its Presidents, by Act of Congress and by its agressive efforts to achieve the national objectives has been an active promoter of satellite communications and has thus, renounced the concept of Government ownership and the use of the new international communications system to further international political objectives.

WHEREAS, the United States initative in 1964 resulted in a multilateral executive agreement establishing Interim Arrangements for a Global Commercial Communications Satellite System which created an international cooperative, non-profit, unincorporated (joint venture) ~~business enterprise~~ currently known as the International Telecommunications Satellite Consortium (INTELSAT), for the purpose of jointly planning and financing, and through the services of COMSAT as Manager for the design, development, construction, establishment, and maintenance and operation of the space segment needed to establish and operate the Global System;

WHEREAS, as indicated in the 1968 Annual Report of the President of the United States, the report of the INTERIM Communications Satellite Committee and statements by many delegation representative on the floor of the INTELSAT Conference, the progress of this cooperative international Consortium has been significant and highly successful in meeting the objectives of the organization within the institutional framework established by the Interim Arrangements;

WHEREAS, the cooperative international Consortium (INTELSAT) requires the successful achievement of programs to establish advanced, costly, longlife and high capacity communications satellites which will make available to all members

of the Consortium the flexible, versatile, direct access high quality and low cost telecommunications services and accordingly the Consortium needs to maintain ~~xxx~~ its forward momentum by building on the successes achieved under the Interim Arrangements and insuring meaningful and undesruptive continuity of planning and operations through institutional arrangements which provide stable, efficient and increasingly competent management performance.

WHEREAS, its is considered by the United States to be in the interest of all nations (developed and developing) that the maximum opportunities be afforded during the years ahead for the successful achievement of a truly Global System and that regional and domestic space segments can be most economically efficiently and consistently provided in the immediate future through the established international cooperative enterprise INTELSAT;

THEREFORE, for the purpose of providing guidelines to United States participants in the International Telecommunications Satellite Consortium (INTELSAT) under the INTERIM arrangements and, when and if applicable, under the Definitive arrangements the following United States policy will apply:

1. The primary objective of the United States is to maintain the established international cooperative Consortium as a dynamic, efficient, effective and viable operating ~~business~~ cooperative enterprise which provides facilities for telecommunications services, marketed on a ~~commercial~~ cost shared basis to serve the communications needs of the world international community with maximum efficiency, reliability and quality and at the lowest possible cost for the benefit of people throughout the world.

2. In implementing the primary objective above, the United States will strongly sponsor the adoption of institutional arrangements in the Consortium which will sustain the apolitical characteristics of the organization established under the Interim Arrangements and promote an institutional

structure which emphasises the attributes of efficient, competitive business enterprise.

3. In accomplishing the objectives stated in 1. and 2. above, the United States will continue to sponsor the Nature of the Organization embodying the concept of a international unincorporated joint venture with no legal personality and thus deemphasis the undesirable trend toward an international political organization.

4. The United States Participants in the Consortium should be sensitive to avoiding unnecessary changes in institutional arrangements (organization and procedures) which could be disruptive and detrimental to the efficiency of the Global System particularly during the period between now and the completion of the early operational phase of the advanced INTELSAT IV series satellite now scheduled for late 1971 and early 1972.

5. The Unired States accepts the need for increased representation and voice in the affairs of the Consortium and has proposed the establishment of a new organizational body (Assembly) which should be given authority to be informed on all INTELSAT activities and to exercise an oversight function to the end that the needs of all members of the Consortium are being satisfactorily met to the extent practicable and feasible, and are consistent with the maintenance of a viable business enterprise.

6. The Communications Satellite Corporation will serve as the United States designated entity in the Consortium and will continue to serve as Manager for INTELSAT in order to insure essential continuity effectiveness and efficiency in the achievement of Consortium objectives.

7. The United States through the National Aeronautics and Space

Administration will continue to provide launch services to the Consortium with COMSAT serving as agent under a strict interpretation of the Communication Satellite Act of 1962 and will not provide launch services for commercial communications satellites to any other organizations.

8. The United States in its projected pilot domestic system will utilize the services of INTELSAT provided space segments in accordance with terms and conditions to be negotiated with the Consortium.

9. The United States strongly supports the principle that weighted voting in the Board of Governors should be continued, but the United States will accept that no one nation/entity shall have more than 50 percent of the weighted vote.

10. The United States strongly supports the principle that in applying the concept of investment/use the determination of investment and computation of voting weights in the Board of Governors will include domestic traffic in the space segment but not in excess of the 50 percent voting strength.

11. The United States will firmly avoid the establishment of any "Regional" satellites outside of the INTELSAT framework.

ACCORDINGLY, the departments and agencies of the Executive Branch of the Government and the Communications Satellite Corporation are specifically charged to implement the provisions of the Communications Satellite Act of 1962 within the terms of reference established above in future activities related to the International Telecommunications Satellite Consortium (INTELSAT)

Comsat
Draft

WORKING GROUP C - COMMITTEE I

Working Paper

This working paper is submitted by the delegation of the U.S. in order to facilitate discussion of the subject of access. Since there is consensus approaching unanimity on this subject, an attempt has been made to present the concepts contained in ICSC Report paragraphs 554 and 555 in the form of a statement of principles to be appropriately reflected in the Definitive Arrangements.

Principles of Access

Access to the INTELSAT space segment should be available directly and indirectly to all Signatories, under such terms and conditions as the Governing Body shall establish.

The Governing Body, in its discretion, may provide direct and indirect access to the INTELSAT space segment to States not participating in the Organization, pursuant to appropriate arrangements with the Organization on terms and conditions to be determined by the Governing Body.

Signatories, as well as States not participating in the Organization, may accomplish indirect access to the INTELSAT space segment through an earth station using the system, pursuant to appropriate arrangements made with the owner of such an earth station.