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Y4 **PART 2**
COMMUNICATIONS SATELLITES

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HEARINGS
BEFORE THE
COMMITTEE ON
INTERSTATE AND FOREIGN COMMERCE
HOUSE OF REPRESENTATIVES

EIGHTY-SEVENTH CONGRESS
SECOND SESSION

ON

H.R. 10115 and H.R. 10138

BILLS TO PROVIDE FOR THE ESTABLISHMENT, OWNERSHIP,
OPERATION, AND REGULATION OF A COMMERCIAL COMMUNI-
CATIONS SATELLITE SYSTEM, AND FOR OTHER PURPOSES

MARCH 13, 14, 15, 16, 20, 21, AND 22, 1962

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PART 2
COMMUNICATIONS SATELLITES

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COMMUNICATIONS SATELLITES

TUESDAY, MARCH 13, 1962

HOUSE OF REPRESENTATIVES,
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D.C.

The committee met, pursuant to notice, at 10 a.m., in room 1334, New House Office Building, Hon. Oren Harris (chairman of the committee) presiding.

The CHAIRMAN. The committee will come to order.

Today the committee opens hearings on several bills proposing to establish a global commercial communications satellite system. These bills have to do with ownership, operation, and regulation as well as establishment, and certain features of research and development.

I introduced H.R. 10115 on February 7 of this year at the request of the President.

A similar bill was introduced by our colleague, the distinguished chairman of the Committee on Science and Astronautics, Hon. George Miller. That bill is 10138.

(H.R. 10115, H.R. 10138, and agency reports are as follows:)

[H.R. 10115, 87th Cong., 2d sess.]

A BILL To provide for the establishment, ownership, operation, and regulation of a commercial communications satellite system, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled.

TITLE I—SHORT TITLE, DECLARATION OF POLICY, AND DEFINITIONS

SHORT TITLE

SEC. 101. This Act may be cited as the "Communications Satellite Act of 1962".

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 international communications 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; and that the corporation created by this Act be so organized and operated as to maintain and strengthen competition in the provision of communications services to the public.

(d) It is not the intent of Congress by this Act to preclude the creation of additional communications satellite systems, if required to meet unique governmental needs or if otherwise required in the national interest.

DEFINITIONS

SEC. 103. As used in this Act, and unless the context otherwise requires—

(1) the term "communications satellite system" refers to the complex of physical devices and institutional organizations whose purpose is to transmit telecommunications satellite space service and encompasses the satellite terminal stations, communications satellite stations, communications satellites, and such specialized associated ground equipment for tracking, guidance, and command functions as are not a part of generalized launch, tracking, and command facilities for all space purposes, and such other facilities as are necessary to its effective operation and management and interconnection with terrestrial communications system;

(2) the term "satellite terminal station," defined as an earth station in the communications satellite space service, refers to the complex of communication equipment which receives from or transmits to terrestrial communication systems for relay via communications satellite stations, and includes coding devices, traffic control or tracking computers and antennas;

(3) the term "communications satellite" means an earth satellite which is intentionally used to reflect or relay radiocommunication signals in the space service;

(4) the term "associated equipment and facilities" refers to facilities other than satellite terminal stations and communications satellites or communications satellite stations, to be constructed and operated for the primary purpose of a communications satellite system, whether for administration and management, for research and development, or for direct support of space operations, including interconnection with terrestrial communication systems;

(5) the term "research and development" refers to the conception, design, and first creation of experimental or prototype operational devices peculiar to the operation of a communications satellite system, including the assembly of separate components into a working whole, as distinguished from the term "production," which relates to the construction of hardware to fixed specifications compatible with repetitive duplication for operational applications;

(6) the term "telecommunication" means any transmission, emission or reception of signs, signals, writing, images, and sounds or intelligence of any nature by wire, radio, optical, or other electromagnetic systems;

(7) the term "communications satellite space service" means a space service using communications satellites;

(8) the term "communications satellite station" means a space station in the communications satellite space service on board a communications satellite; and,

(9) the term "earth station" means a station in the space service located either on the earth's surface, on board a ship, an aircraft, or a space vehicle;

(10) the term "space service" means a service of space radio communication between earth stations and space stations, or between space stations; and

(11) the term "space stations" means a station in the space service intended to be used in outer space.

TITLE II—FEDERAL COORDINATION, PLANNING AND
REGULATION

IMPLEMENTATION OF POLICY

SEC. 201. In order to achieve the objectives and to carry out the purposes of this Act—

(a) the President shall—

(1) plan, develop, and supervise the execution of a national program for the establishment, as expeditiously as possible, of a commercial communications satellite system;

(2) provide for continuous review of all phases of the development and operation of such a system, including the activities of the Communications Satellite Corporation authorized under title III of this Act (hereinafter called the "corporation");

(3) coordinate the activities of governmental agencies with responsibilities in the field of international communication, so as to insure that there is full and effective compliance at all times with the policies set forth in this Act;

(4) exercise general supervision over relationships of the corporation with foreign governments or entities or with international bodies;

(5) insure that timely arrangements are made for foreign participation in the establishment and use of a communications satellite system, and for the determination of the most constructive role for the United Nations.

(6) take all necessary steps to insure the availability and appropriate utilization of the communications satellite system for general governmental purposes which do not require a separate communications satellite system to meet unique governmental needs.

(7) so exercise his authority as to insure effective and efficient use of the electromagnetic spectrum and the technical compatibility of the system with existing communications facilities both in the United States and abroad;

(8) designate an official or officials of the Government to assist in the accomplishment of the purposes of this Act who shall have access to all books, records, papers, correspondence, and files of the corporation, shall have the right to attend any and all meetings of the board of directors or of stockholders of the corporation, and shall make certain that what is being done and what needs to be done, both by the corporation and by departments and agencies of government, are known at all times to the President and that recommendations are made to him, whenever necessary, to attain full compliance with the national policy regarding international communications through space satellites.

(b) the National Aeronautics and Space Administration (hereinafter called the "Administration") shall—

(1) advise the Federal Communications Commission (hereinafter called the "Commission") on technical characteristics of the communications satellite system;

(2) coordinate its research and development program in space communications with the research and development program of the corporation;

(3) assist the corporation in the conduct of its research and development program by furnishing to the corporation, on a reimbursable basis, such satellite launching and associated services as the Administration deems necessary for the most expeditious and economical development of the communications satellite system;

(4) consult with the corporation with respect to the technical characteristics of the communications satellite system;

(5) furnish to the corporation, on a reimbursable basis, satellite launching and associated services required for the establishment, operation, and maintenance of the communications satellite system approved by the Commission and by the Administration;

(6) to the extent feasible, furnish other services, on a reimbursable basis, to the corporation in connection with the establishment and operation of the system.

(c) the Federal Communications Commission, in its administration of the provisions of the Communications Act of 1934, as amended, and as supplemented by this Act, shall—

(1) insure effective competition in the procurement by the corporation of apparatus, equipment, and services and, to this end, shall prescribe appropriate rules and regulations;

(2) insure that all present and future communications common carriers shall have nondiscriminatory use of, and equitable access to, the communications satellite system on just and reasonable terms and conditions and regulate the manner in which available facilities of the system are allocated among such users thereof;

(3) in any case where the Secretary of State, after obtaining the advice of the Administration as to technical feasibility, has advised that commercial communication to a particular foreign point by means of the communications satellite system should be established in the national interest, institute forthwith appropriate proceedings under section 214(d) of the Communications Act of 1934, as amended, to require the establishment of such communication by the corporation and the appropriate common carrier or carriers;

(4) insure that facilities of the communications satellite system are technically compatible and interconnected operationally with existing communications facilities;

(5) prescribe such accounting regulations and systems and engage in such ratemaking procedures as will insure that any economies made possible by a communications satellite system are appropriately reflected in rates for public communication services;

(6) after consultation with the executive branch agencies concerned, and receipt of their recommendations, specify technical characteristics of the operational communications satellite system to be employed by the corporation.

TITLE III—CREATION OF THE COMMUNICATIONS SATELLITE CORPORATION

CREATION AND NAME OF CORPORATION

SEC. 301. There is hereby authorized to be created a corporation for profit, to be known as the "Communications Satellite Corporation", which will not be an agency or establishment of the United States Government. The corporation shall be subject to the provisions of this Act and, to the extent consistent with this Act, to the District of Columbia Business Corporation Act. The right to repeal, alter, or amend this Act at any time is expressly reserved.

PROCESS OF ORGANIZATION

SEC. 302. The President of the United States shall designate incorporators who shall arrange for an initial stock offering and take whatever other actions are necessary to establish the corporation, including the filing of articles of incorporation which shall thereafter be amended only upon the initiation by or the approval of the President.

DIRECTORS AND OFFICERS

SEC. 303. (a) The corporation shall have a board of directors consisting of not less than nine nor more than thirteen members, elected annually by stockholders, subject to such restrictions as are provided in subsection (c) of this section. The board shall annually elect one of its members as chairman.

(b) The corporation shall have a president, and such other officers as may be named and appointed by the board, at rates of compensation fixed by the board, and serving at the pleasure of the board. No officer of the corporation shall receive any salary from any source other than the corporation during the period of his employment by the corporation.

(c) The board shall be elected annually by the holders of class A stock and the votes of each stockholder for each candidate for director shall be recorded in the minutes of stockholders' meetings. No stockholder or trustee shall vote, either directly or indirectly through the votes of subsidiaries or affiliated companies, nominees, or other persons subject to his direction or control, for more than two

candidates for membership on the board. Subject to such limitation, the articles of incorporation to be filed by the incorporators designated under section 302 of this Act shall provide for cumulative voting under section 27(d) of the District of Columbia Business Corporation Act (D.C. Code, sec. 29-911(d)).

FINANCING OF THE CORPORATION

SEC. 304. (a) The corporation is authorized to issue and have outstanding one million shares of class A stock, which shall be eligible for dividends. Shares of class A stock shall be issued in such amounts as the corporation shall determine: *Provided*, That shares of such stock, as initially issued, shall be sold at a price of not less than \$1,000 for each share. Subject to the provisions of subsections (d) and (e) of this section, shares of class A stock may be issued to and held by any person, including communications common carriers licensed by the Federal Communications Commission.

(b) The corporation is also authorized to issue and have outstanding ten thousand shares of class B stock, which may be issued in such amounts and at such prices as the corporation may determine. Shares of class B stock shall not carry voting rights, and shall not entitle their holders to receive dividends except liquidating dividends (which shall be paid on account of each share of class A and class B stock in proportion to the amount originally paid to the corporation for the issuance of such share). Issuance of shares of class B stock to, and ownership of such shares by, any person other than a communications common carrier approved by the Federal Communications Commission to own such shares is hereby prohibited and declared void. Such carriers may own class B shares of the corporation without limitation as to the amount of such shares, and such shares shall be eligible for inclusion in the rate base of the carrier to the extent allowed by the Commission.

(c) The corporation is also authorized to issue such other nonvoting securities, bonds, debentures, and other certificates of indebtedness as it may determine.

(d) No person, or corporation, including subdivisions, subsidiaries, or affiliated companies subject to its direction or control, shall be authorized to own more than 15 per centum of the authorized class A stock or more than 25 per centum of the outstanding class A stock.

(e) The provisions of section 310 of the Federal Communications Act of 1934, as amended (47 U.S.C. 310), shall be applicable to ownership of shares of stock of both classes in the corporation.

(f) The requirement of section 45(b) of the District of Columbia Business Corporation Act (D.C. Code, sec. 29-920(b)) as to the percentage of stock which a stockholder must hold in order to have the rights of inspection and copying set forth in that subsection shall not be applicable in the case of holders of the stock of either class of the corporation, who may exercise such rights without regard to the percentage of stock held in the corporation.

(g) Upon such terms and conditions as may be prescribed by the corporation and with its approval and the approval of the Federal Communications Commission, any communications common carrier may exchange shares of class A stock which it owns for class B stock, or may exchange shares of class B stock for class A stock, but no such exchange shall be effected which would result in a violation of subsection (d) of this section. If, upon petition by any such carrier, the Commission finds that the corporation has unreasonably denied its approval or attached unreasonable terms and conditions thereto, the Commission may after notice and hearing compel such exchange upon such terms and conditions as the Commission finds reasonable.

(h) Upon application to the Federal Communications Commission by any communications common carrier and upon a finding by the Commission after notice and hearing that the public interest and the purposes of this Act will be advanced thereby, the Commission may compel any communications common carrier which owns class A or class B shares in the corporation to sell to the applicant a number of shares of either or both classes determined by the Commission to be a reasonable number in the light of estimated proportionate use of the corporation's facilities and other factors consonant with the purposes of this Act at a price determined by the Commission to be fair and reasonable. This power shall not be exercised so as to result in a violation of the provisions of subsection (d) of this section.

PURPOSES AND POWERS OF THE CORPORATION

SEC. 305. (a) In order to achieve the objectives and to carry out the purposes of this Act, the corporation is organized to—

(1) plan, initiate, construct, own, manage, and operate itself or in conjunction with foreign governments or business entities a commercial communications satellite system.

(2) furnish, for hire, channels of communication to United States communications common carriers and to other authorized entities, foreign and domestic.

(b) Included in the activities authorized to the corporation for accomplishment of the purposes indicated in subsection (a) of this section, are, among others not specifically named—

(1) conduct or contract for research and development related to its mission;

(2) acquire the physical facilities and hardware necessary to its operations, including communications satellites, earth stations, and associated ground equipment, whether by construction, purchase, or gift;

(3) purchase satellite launching and related services from the United States Government;

(4) contract with authorized users, including the United States Government, for the services of the communications satellite system;

(5) develop plans for the number and location of earth stations, and for the technical specifications of all elements of the communications satellite system.

(c) To carry out the foregoing purposes, the corporation shall have the usual powers conferred upon a stock corporation by the District of Columbia Business Corporation Act.

TITLE IV—MISCELLANEOUS

APPLICABILITY OF COMMUNICATIONS ACT OF 1934

SEC. 401. The corporation shall be deemed to be a common carrier within the meaning of section 3(h) of the Communications Act of 1934, as amended, and as such shall be fully subject to the provisions of title II and title III of said Act.

CONDUCT OF FOREIGN NEGOTIATIONS

SEC. 402. The corporation shall not enter into negotiations with any international agency, foreign government, or entity without a prior notification to the Department of State, which will conduct or supervise such negotiations. All agreements and arrangements with any such agency, government, or entity shall be subject to the approval of the Department of State.

SANCTIONS

SEC. 403. (a) If the corporation created pursuant to this Act shall engage in or adhere to any actions, practices, or policies inconsistent with the policy and purposes declared in section 102 of this Act, or if the corporation or any other person shall violate any provision of this Act, or shall obstruct or interfere with any activities authorized by this Act, or shall refuse, fail, or neglect to discharge his duties and responsibilities under this Act, or shall threaten any such violation, obstruction, interference, refusal, failure, or neglect, the district court of the United States for any district in which such corporation or other person resides or may be found shall have jurisdiction, upon petition of the Attorney General of the United States, to grant such equitable relief as may be necessary or appropriate to prevent or terminate such conduct or threat.

(b) Nothing contained in this section shall be construed as relieving any person of any punishment, liability, or sanction which may be imposed otherwise than under this Act.

[H.R. 10138, 87th Cong., 2d sess.]

A BILL To provide for the establishment, ownership, operation, and regulation of a commercial communications satellite system, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

TITLE I—SHORT TITLE, DECLARATION OF POLICY, AND DEFINITIONS

SHORT TITLE

SEC. 101. This Act may be cited as the "Communications Satellite Act of 1962".

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 international communications 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; and that the corporation created by this Act be so organized and operated as to maintain and strengthen competition in the provision of communications services to the public.

(d) It is not the intent of Congress by this Act to preclude the creation of additional communications satellite systems, if required to meet unique governmental needs or if otherwise required in the national interest.

DEFINITIONS

SEC. 103. As used in this Act, and unless the context otherwise requires—

(1) the term "communications satellite system" refers to the complex of physical devices and institutional organizations whose purpose is to transmit telecommunication information in the communications satellite space service and encompasses the satellite terminal stations, communications satellite stations, communications satellites, and such specialized associated ground equipment for tracking, guidance, and command functions as are not a part of generalized launch, tracking, and command facilities for all space purposes, and such other facilities as are necessary to its effective operation and management and interconnection with terrestrial communications systems;

(2) the term "satellite terminal station," defined as an earth station in the communications satellite space service, refers to the complex of communication equipment which receives from or transmits to terrestrial communication systems for relay via communications satellite stations, and includes coding devices, traffic control or tracking computers and antennas;

(3) the term "communications satellite" means an earth satellite which is intentionally used to reflect or relay radiocommunication signals in the space service;

(4) the term "associated equipment and facilities" refers to facilities other than satellite terminal stations and communications satellites or communications satellite stations, to be constructed and operated for the primary purpose of a communications satellite system, whether for administration

and management, for research and development, or for direct support of space operations, including interconnection with terrestrial communication systems;

(5) the term "research and development" refers to the conception, design, and first creation of experimental or prototype operational devices peculiar to the operation of a communications satellite system, including the assembly of separate components into a working whole, as distinguished from the term "production," which relates to the construction of hardware to fixed specifications compatible with repetitive duplication for operational applications;

(6) the term "telecommunication" means any transmission, emission or reception of signs, signals, writing, images, and sounds or intelligence of any nature by wire, radio, optical, or other electromagnetic systems;

(7) the term "communications satellite space service" means a space service using communications satellites;

(8) the term "communications satellite station" means a space station in the communications satellite space service on board a communications satellite; and,

(9) the term "earth station" means a station in the space service located either on the earth's surface, on board a ship, an aircraft, or a space vehicle;

(10) the term "space service" means a service of space radio communication between earth stations and space stations, or between space stations; and

(11) the term "space stations" means a station in the space service intended to be used in outer space.

TITLE II—FEDERAL COORDINATION, PLANNING AND REGULATION

IMPLEMENTATION OF POLICY

SEC. 201. In order to achieve the objectives and to carry out the purposes of this Act—

(a) the President shall—

(1) plan, develop, and supervise the execution of a national program for the establishment, as expeditiously as possible, of a commercial communications satellite system;

(2) provide for continuous review of all phases of the development and operation of such a system, including the activities of the Communications Satellite Corporation authorized under title III of this Act (hereinafter called the "corporation");

(3) coordinate the activities of governmental agencies with responsibilities in the field of international communication, so as to insure that there is full and effective compliance at all times with the policies set forth in this Act;

(4) exercise general supervision over relationships of the corporation with foreign governments or entities or with international bodies;

(5) insure that timely arrangements are made for foreign participation in the establishment and use of a communications satellite system, and for the determination of the most constructive role for the United Nations.

(6) take all necessary steps to insure the availability and appropriate utilization of the communications satellite system for general governmental purposes which do not require a separate communications satellite system to meet unique governmental needs.

(7) so exercise his authority as to insure effective and efficient use of the electromagnetic spectrum and the technical compatibility of the system with existing communications facilities both in the United States and abroad;

(8) designate an official or officials of the Government to assist in the accomplishment of the purposes of this Act who shall have access to all books, records, papers, correspondence, and files of the corporation, shall have the right to attend any and all meetings of the board of directors or of stockholders of the corporation, and shall make certain that what is being done and what needs to be done, both by the corporation and by departments and agencies of government, are known at all times to the President and that recommendations are made to him, whenever necessary, to attain full compliance with the national policy regarding international communications through space satellites.

(b) the National Aeronautics and Space Administration (hereinafter called the "Administration") shall—

(1) advise the Federal Communications Commission (hereinafter called the "Commission") on technical characteristics of the communications satellite system;

(2) coordinate its research and development program in space communications with the research and development program of the corporation;

(3) assist the corporation in the conduct of its research and development program by furnishing to the corporation, on a reimbursable basis, such satellite launching and associated services as the Administration deems necessary for the most expeditious and economical development of the communications satellite system;

(4) consult with the corporation with respect to the technical characteristics of the communications satellite system;

(5) furnish to the corporation, on a reimbursable basis, satellite launching and associated services required for the establishment, operation, and maintenance of the communications satellite system approved by the Commission and by the Administration;

(6) to the extent feasible, furnish other services, on a reimbursable basis, to the corporation in connection with the establishment and operation of the system.

(c) the Federal Communications Commission, in its administration of the provisions of the Communications Act of 1934, as amended, and as supplemented by this Act, shall—

(1) insure effective competition in the procurement by the corporation of apparatus, equipment, and services and, to this end, shall prescribe appropriate rules and regulations;

(2) insure that all present and future communications common carriers shall have nondiscriminatory use of, and equitable access to, the communications satellite system on just and reasonable terms and conditions and regulate the manner in which available facilities of the system are allocated among such users thereof;

(3) in any case where the Secretary of State, after obtaining the advice of the Administration as to technical feasibility, has advised that commercial communication to a particular foreign point by means of the communications satellite system should be established in the national interest, institute forthwith appropriate proceedings under section 214(d) of the Communications Act of 1934, as amended, to require the establishment of such communication by the corporation and the appropriate common carrier or carriers;

(4) insure that facilities of the communications satellite system are technically compatible and interconnected operationally with existing communications facilities;

(5) prescribe such accounting regulations and systems and engage in such ratemaking procedures as will insure that any economies made possible by a communications satellite system are appropriately reflected in rates for public communication services;

(6) after consultation with the executive branch agencies concerned and receipt of their recommendations, specify technical characteristics of the operational communications satellite system to be employed by the corporation.

TITLE III—CREATION OF THE COMMUNICATIONS SATELLITE CORPORATION

CREATION AND NAME OF CORPORATION

SEC. 301. There is hereby authorized to be created a corporation for profit, to be known as the "Communications Satellite Corporation", which will not be an agency or establishment of the United States Government. The corporation shall be subject to the provisions of this Act and, to the extent consistent with this Act, to the District of Columbia Business Corporation Act. The right to repeal, alter, or amend this Act at any time is expressly reserved.

PROCESS OF ORGANIZATION

SEC. 302. The President of the United States shall designate incorporators who shall arrange for an initial stock offering and take whatever other actions are necessary to establish the corporation, including the filing of articles of incorporation which shall thereafter be amended only upon the initiation by or the approval of the President.

DIRECTORS AND OFFICERS

SEC. 303. (a) The corporation shall have a board of directors consisting of not less than nine nor more than thirteen members, elected annually by stockholders, subject to such restrictions as are provided in subsection (c) of this section. The board shall annually elect one of its members as chairman.

(b) The corporation shall have a president, and such other officers as may be named and appointed by the board, at rates of compensation fixed by the board, and serving at the pleasure of the board. No officer of the corporation shall receive any salary from any source other than the corporation during the period of his employment by the corporation.

(c) The board shall be elected annually by the holders of class A stock and the votes of each stockholder for each candidate for director shall be recorded in the minutes of stockholders' meetings. No stockholder or trustee shall vote, either directly or indirectly through the votes of subsidiaries or affiliated companies, nominees, or other persons subject to his direction or control, for more than two candidates for membership on the board. Subject to such limitation, the articles of incorporation to be filed by the incorporators designated under section 302 of this Act shall provide for cumulative voting under section 27(d) of the District of Columbia Business Corporation Act (D.C. Code, sec. 29-911(d)).

FINANCING OF THE CORPORATION

SEC. 304. (a) The corporation is authorized to issue and have outstanding one million shares of class A stock, which shall be eligible for dividends. Shares of class A stock shall be issued in such amounts as the corporation shall determine: *Provided*, That shares of such stock, as initially issued, shall be sold at a price of not less than \$1,000 for each share. Subject to the provisions of subsections (d) and (e) of this section, shares of class A stock may be issued to and held by any person, including communications common carriers licensed by the Federal Communications Commission.

(b) The corporation is also authorized to issue and have outstanding ten thousand shares of class B stock, which may be issued in such amounts and at such prices as the corporation may determine. Shares of class B stock shall not carry voting rights, and shall not entitle their holders to receive dividends except liquidating dividends (which shall be paid on account of each share of class A and class B stock in proportion to the amount originally paid to the corporation for the issuance of such share). Issuance of shares of class B stock to, and ownership of such shares by, any person other than a communications common carrier approved by the Federal Communications Commission to own such shares is hereby prohibited and declared void. Such carriers may own class B shares of the corporation without limitation as to the amount of such shares, and such shares shall be eligible for inclusion in the rate base of the carrier to the extent allowed by the Commission.

(c) The corporation is also authorized to issue such other nonvoting securities, bonds, debentures, and other certificates of indebtedness as it may determine.

(d) No person, or corporation, including subdivisions, subsidiaries, or affiliated companies subject to its direction or control, shall be authorized to own more than 15 per centum of the authorized class A stock or more than 25 per centum of the outstanding class A stock.

(e) The provisions of section 310 of the Federal Communications Act of 1934, as amended (47 U.S.C. 310), shall be applicable to ownership of shares of stock of both classes in the corporation.

(f) The requirement of section 45(b) of the District of Columbia Business Corporation Act (D.C. Code, sec. 29-920(b)) as to the percentage of stock which a stockholder must hold in order to have the rights of inspection and copying set forth in that subsection shall not be applicable in the case of holders of the stock of either class of the corporation, who may exercise such rights without regard to the percentage of stock held in the corporation.

(g) Upon such terms and conditions as may be prescribed by the corporation and with its approval and the approval of the Federal Communications Commis-

sion, any communications common carrier may exchange shares of class A stock which it owns for class B stock, or may exchange shares of class B stock for class A stock, but no such exchange shall be effected which would result in a violation of subsection (d) of this section. If, upon petition by any such carrier, the Commission finds that the corporation has unreasonably denied its approval or attached unreasonable terms and conditions thereto, the Commission may after notice and hearing compel such exchange upon such terms and conditions as the Commission finds reasonable.

(h) Upon application to the Federal Communications Commission by any communications common carrier and upon a finding by the Commission after notice and hearing that the public interest and the purposes of this Act will be advanced thereby, the Commission may compel any communications common carrier which owns class A or class B shares in the corporation to sell to the applicant a number of shares of either or both classes determined by the Commission to be a reasonable number in the light of estimated proportionate use of the corporation's facilities and other factors consonant with the purposes of this Act at a price determined by the Commission to be fair and reasonable. This power shall not be exercised so as to result in a violation of the provisions of subsection (d) of this section.

PURPOSES AND POWERS OF THE CORPORATION

SEC. 305. (a) In order to achieve the objectives and to carry out the purposes of this Act, the corporation is organized to—

(1) plan, initiate, construct, own, manage, and operate itself or in conjunction with foreign governments or business entities a commercial communications satellite system.

(2) furnish, for hire, channels of communication to United States communications common carriers and to other authorized entities, foreign and domestic.

(b) Included in the activities authorized to the corporation for accomplishment of the purposes indicated in subsection (a) of this section, are, among others not specifically named—

(1) conduct or contract for research and development related to its mission;

(2) acquire the physical facilities and hardware necessary to its operations, including communications satellites, earth stations, and associated ground equipment, whether by construction, purchase, or gift;

(3) purchase satellite launching and related services from the United States Government;

(4) contract with authorized users, including the United States Government, for the services of the communications satellite system;

(5) develop plans for the number and location of earth stations, and for the technical specifications of all elements of the communications satellite system.

(c) To carry out the foregoing purposes, the corporation shall have the usual powers conferred upon a stock corporation by the District of Columbia Business Corporation Act.

TITLE IV—MISCELLANEOUS

APPLICABILITY OF COMMUNICATIONS ACT OF 1934

SEC. 401. The corporation shall be deemed to be a common carrier within the meaning of section 3(h) of the Communications Act of 1934, as amended, and as such shall be fully subject to the provisions of title II and title III of said Act.

CONDUCT OF FOREIGN NEGOTIATIONS

SEC. 402. The corporation shall not enter into negotiations with any international agency, foreign government, or entity without a prior notification to the Department of State, which will conduct or supervise such negotiations. All agreements and arrangements with any such agency, government, or entity shall be subject to the approval of the Department of State.

SANCTIONS

SEC. 403. (a) If the corporation created pursuant to this Act shall engage in or adhere to any action, practices, or policies inconsistent with the policy and purposes declared in section 102 of this Act, or if the corporation or any other person shall violate any provision of this Act, or shall obstruct or interfere with any

activities authorized by this Act, or shall refuse, fail, or neglect to discharge his duties and responsibilities under this Act, or shall threaten any such violation, obstruction, interference, refusal, failure, or neglect, the district court of the United States for any district in which such corporation or other person resides or may be found shall have jurisdiction, upon petition of the Attorney General of the United States, to grant such equitable relief as may be necessary or appropriate to prevent or terminate such conduct or threat.

(b) Nothing contained in this section shall be construed as relieving any person of any punishment, liability, or sanction which may be imposed otherwise than under this Act.

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington, D.C., March 2, 1962.

HON. OREN HARRIS,
*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.*

DEAR MR. CHAIRMAN: This is in reply to your request for comments on H.R. 10115, a bill to provide for the establishment, ownership, operation, and regulation of a commercial communications satellite system, and for other purposes.

This bill was carefully prepared in consultation with all interested departments and agencies. It is our view that the objectives discussed by the President in his letter of February 7, 1962, to the Speaker of the House will best be met by this bill. In particular, the ownership provisions in H.R. 10115 will be more effective in strengthening competition in the communications industry than would be the provisions of otherwise similar bills now before the Congress.

In his letter, the President stated his conviction that a variety of policy objectives could best be met through the medium of a privately owned and operated communications satellite system. Within this basic framework, the bill contains features with regard to stock ownership and voting rights designed to provide that the fruits of publicly financed space development programs will be available to all potential investors and to insure that the Communications Satellite Corporation's policies and activities are not dominated by any single stockholder. In addition, the bill provides sufficient authority for the President to insure that the national interest in telecommunications is safeguarded.

The Bureau of the Budget recommends enactment of H.R. 10115, as in accord with the program of the President.

Sincerely yours,

PHILLIP S. HUGHES,
Assistant Director for Legislative Reference.

GOVERNMENT OF THE DISTRICT OF COLUMBIA,
EXECUTIVE OFFICE,
Washington, D.C., March 13, 1962.

HON. OREN HARRIS,
*Chairman, Committee on Interstate and Foreign Commerce,
U.S. House of Representatives, Washington, D.C.*

MY DEAR MR. HARRIS: The Commissioners of the District of Columbia have for report H.R. 10115 and H.R. 10138, 87th Congress, identical bills to provide for the establishment, ownership, operation, and regulation of a commercial communications satellite system, and for other purposes.

The intent of the bills, as indicated in the "Declaration of Policy and Purpose," is "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." The bills direct the President of the United States, the National Aeronautics and Space Administration, the Federal Communications Commission, and the Department of State to exercise specified supervisory functions in connection with the communications satellite system.

The bills (sec. 301) authorize the creation of the Communications Satellite Corporation, a corporation for profit subject to the provisions of the bills and to the

extent consistent with the bills, to the District of Columbia Business Corporation Act. The President is authorized to designate incorporators who are given the power to take all actions necessary to establish the Corporation, including offering of stock and filing of articles of incorporation. The bills contain provisions for the election of directors and officers and for financing the corporation.

The Commissioners favor the enactment of this legislation with the following amendments:

1. Section 302, page 11, line 14, after "incorporators" insert the following: "who are to serve as the initial board of directors until the first annual meeting of shareholders or until their successors are elected and qualified".
2. Section 304(a), page 12, line 21, after "stock" insert the following: ", without par value".
3. Section 304(b), page 13, line 6, after "stock" insert the following: ", without par value".

The first of these recommended amendments is to facilitate the organizational meeting of the Communications Satellite Corporation.

The other recommended amendments are to minimize the license fee which would be required under the Business Corporation Act. If the par value of the stock were \$1,000 per share, as specified in the bill, the license fee would be substantial (D.C. Code, sec. 29-936(c)). However, the stock could have a corporate book value of \$1,000 per share, without par value.

The Commissioners have been advised by the Bureau of the Budget that, from the standpoint of the administration's program, there is no objection to the submission of this report to the Congress.

Yours very sincerely,

WALTER N. TOBRINER,
President, Board of Commissioners, District of Columbia.

U.S. DEPARTMENT OF JUSTICE,
OFFICE OF THE DEPUTY ATTORNEY GENERAL,
Washington, D.C., March 2, 1962.

HON. OREN HARRIS,
*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.*

DEAR MR. CHAIRMAN: This is in response to your request for the views of the Department of Justice concerning the bill (H.R. 10115), to provide for the establishment, ownership, operation, and regulation of a commercial communications satellite system.

This bill, which would provide for the creation of a private corporation to own and operate such a system and for the responsibilities of the Federal Government with respect thereto, is identical with a proposed bill transmitted by the President to the Speaker of the House on February 7, 1962, together with his reasons for urging Congress to give it prompt and favorable consideration.

The Department of Justice urges prompt enactment of this legislation as being of major national importance on the basis of the considerations set forth in the President's message of February 7. The Department has a particular interest in those aspects of the bill which would release the full competitive vigor of our private enterprise system for the attainment, as soon as possible, of a communications satellite system meeting the broad range of public interest objectives which such a system can subserve, and which would adequately provide for the Government's responsibilities in seeing that this is accomplished.

On March 13, Assistant Attorney General Nicholas deB. Katzenbach plans to appear before the committee in response to your invitation. He will be pleased, at that time, to amplify the views expressed herein, as well as respond to members' questions.

The Bureau of the Budget has advised that enactment of this legislation would be in accord with the program of the President.

Sincerely yours,

BYRON R. WHITE,
Deputy Attorney General.



NATIONAL SCIENCE FOUNDATION,
OFFICE OF THE DIRECTOR,
Washington, D.C., March 12, 1962.

HON. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

MY DEAR MR. HARRIS: This is in further reply to your letter of February 9, 1962, requesting the comments of the National Science Foundation on H.R. 10115 and in response to the "Notice of Public Hearings" forwarded to the Foundation by the Committee on Interstate and Foreign Commerce indicating that public hearings on H.R. 10115 and on H.R. 10138, an identical bill, would commence March 13, 1962.

The bills in question provide for the establishment, ownership, operation, and regulation of a commercial communications satellite system. They represent the position of the administration on this subject and appear to constitute a sound approach to the problems involved.

The Bureau of the Budget advises us it has no objection to the submission of this report from the standpoint of the administration's program.

Sincerely yours,

ALAN T. WATERMAN, *Director.*

SECURITIES AND EXCHANGE COMMISSION

H.R. 10115 would authorize the creation of a corporation for profit, to be known as the Communications Satellite Corporation, for the purpose of facilitating the development of a commercial communications satellite system and of providing the widest possible participation by private enterprise in the development of such a system. The provisions of the bill which are of concern to the Securities and Exchange Commission are those which deal with the financing of the proposed corporation.

Under the bill, the corporation, which would not be an agency of the United States, would be authorized to issue 1 million shares of class A stock and 10,000 shares of class B stock. The class A stock would have voting rights and be eligible for dividends and could be held by any person. Class A shares would be issued initially at a price of not less than \$1,000 per share. The class B stock, which would carry no voting rights and be eligible for no dividends except liquidating dividends, could be held only by communications common carriers approved by the Federal Communications Commission to own such shares. Upon such terms and conditions as may be approved by both the corporation and the Federal Communications Commission, any communications common carrier may exchange shares of one class for shares of another, subject to certain limitations embodied in the bill concerning the maximum number of the authorized shares of each class that may be owned by any person. The Federal Communications Commission would also be authorized in certain circumstances to compel any communications common carrier which owns class A or class B stock to sell to any other communications common carrier a number of shares of either or both classes as determined by the Federal Communications Commission to be reasonable at a price to be determined by that Commission to be fair and reasonable.

The Corporation would also be authorized under the bill to issue other non-voting securities, bonds, debentures, and evidence of indebtedness. The bill imposes no restrictions as to who may own such securities.

The bill contains a section which would impose civil sanctions for violation of any provisions of the bill, and would provide that nothing in that section shall be construed as relieving any person of any punishment, liability, or sanction which may be imposed otherwise than under the bill.

It appears that the bill is not intended to have any effect on the application of the Federal securities laws to the Corporation or to the securities of which it is the issuer. Therefore, it should be noted that, absent the availability of an exemption now provided in the Federal securities laws, the securities issued by the Corporation would be subject to the registration provisions of the Securities Act of 1933 and the qualification provisions of the Trust Indenture Act of 1939, and the Corporation itself would be subject to the reporting requirements of the Securities Exchange Act of 1934. In this respect the Corporation would be in the same situation as any other issuer whose operations are financed by the raising of capital from public investors and in whose securities there is a widespread public investor interest. This Commission has no comments as to the merits of the bill.

SMALL BUSINESS ADMINISTRATION,
Washington, D.C., March 23, 1962.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: I wish to thank you for the invitation, extended by telephone on March 20, to comment on the legislation to establish a space satellite communications system. The importance of such communication to the future of our economy, including the small business segment thereof, can hardly be exaggerated.

The legislation is of concern to the small business community in two principal respects. First, it is essential that all present and future common carriers which qualify as small business concerns, within the meaning of section 2 of the Small Business Act, have nondiscriminatory use of, and equal access to, the communications satellite system on just and reasonable terms and conditions. Second, it is essential that small business concerns be afforded a fair and reasonable opportunity to compete for and share in the contracts and subcontracts awarded for the construction, operation, maintenance, and repair of the system.

It has been our experience that, in the absence of language clearly spelling out the small business policy of Congress, small business concerns have difficulty in obtaining equitable treatment under a statute. Accordingly, although the proposed legislation contains general language prohibiting discrimination in these two respects, I suggest that it would be desirable for the legislation to contain a general statement of the congressional policy along the following lines:

"It is the intent of the Congress that small business concerns, as defined by the Small Business Act, shall be afforded fair and reasonable opportunity to participate in the achievement of the purposes of this act, to share in its direct and indirect benefits, and to receive a fair opportunity to compete for contracts made by the Corporation and for subcontracts thereunder."

And a requirement along the following lines:

"In carrying out its responsibilities to insure effective competition by the Corporation in its procurement, the Federal Communications Commission should consult with the SBA and solicit its recommendations on measures and procedures which will insure that small business concerns are given an equitable opportunity to share in the procurement program of the Corporation for property and services, including but not limited to research, development, construction, maintenance, and repair."

It is my hope that these recommendations will receive favorable consideration.

The Bureau of the Budget has advised that there is no objection to the submission of this report from the standpoint of the administration's program.

Sincerely,

JOHN E. HORNE, *Administrator.*

The CHAIRMAN. These proposals would authorize the creation of a corporation which would contemplate private ownership of the U.S. portion of such a system, not only by communications common carriers but by members of the general public.

The bills seek to provide a broader base of ownership and control of the Satellite Corporation than do certain other proposals pending before this and other committees.

The other bills referred to this committee would approach this problem in varying ways. One would restrict the ownership of the American Corporation to communications common carriers whose eligibility as such has been certified by the Federal Communications Commission.

Another would create a Government corporation and eliminate nongovernmental investors altogether.

Three weeks ago, as we all recall, the United States made a truly significant achievement in the exploration of space. The orbital flight of Col. John H. Glenn, following in the wake of the exploits of Comdr. Alan Shepard and Capt. Virgil Grissom, was followed over radio and television by many millions of our people, and not only

in the United States but throughout the world. Perhaps never before have the vast potential benefits to mankind from space utilization and technology been so strikingly and dramatically demonstrated to the people in every corner of the earth.

President Kennedy pointed out the vital character of our Nation's space program when he said—

With the approval of Congress, we have undertaken in the past year a great new effort in the United States. Our aim is simply to be first on the moon. Space is a vast venture of science, commerce, and of worldwide cooperation, and this Nation belongs among the first to exploit it.

Even today, which will some day be regarded as the infancy of space technology, the use of space satellites for scientific information-gathering purposes has substantially advanced the science of weather forecasting and research. But at this point in our scientific progress it would be difficult to imagine a more significant, far-reaching, or practically useful application of space satellites than in the field of international communications.

A global system for bringing closer together the people of the world by telegraph and telephone, by radio and television, holds out the promise of spectacular progress for the future—scientific, economic, social, and political.

So I think it should be emphasized that while many of our accomplishments still lie in the future, the technological advances of the United States today in the field of space communications far surpass the known advances of any other nation.

The proposals before us today are designed to translate our technological achievements into a practical, workable communications system.

H.R. 10115, as I mentioned earlier, and the identical bill introduced by Mr. Miller would create a privately owned corporation to operate the U.S. portion of the worldwide satellite communications system.

It is anticipated that through agreements with authorities in other countries such an international system can be established within the next few years.

It seems to me vital that the United States lose no time in pressing forward the initiative that we alone can now exercise.

Thus we come to the consideration of these proposals in an atmosphere of some urgency. To be sure, there are some features of these proposals which are controversial. But I think it is important that the Congress act, and that it act soon.

Now, I would not suggest that these proposals be given hasty or superficial consideration. The consequences of the action of this committee in Congress will project far into the future, and it is with a deep consciousness of our responsibility that we must examine the matter before us today.

Careful consideration, however, must not preclude positive accomplishment. Simply to find fault with these or other proposals, and to offer nothing of value in their place, is not enough.

So this committee has a tremendous responsibility and an obligation to develop and refine a proposal which will convert the engineers' dream of a global satellite communications system into a practical reality.

It is with these considerations in mind, and with a clear sense of the responsibility now resting on this committee that we undertake con-

sideration of one of the most important legislative proposals that has been referred to this committee in a long time, indeed one of the most important of this generation.

I know that it took a great deal of work and effort to bring together the various interested forces in order to recommend something positive in this field. As I indicated a moment ago, there are certain controversial features, and no one knows this fact any better than those who worked to bring these forces together. It has occurred to me that it certainly would be helpful to the committee to have the man who is in the middle of it, and who is as familiar with all of these developments leading up to this concrete legislative proposal, and therefore knows as much about the proposal, in my judgment, as anyone else.

So I am glad on behalf of the committee that we have with us today Dr. Edward C. Welsh, Executive Secretary of the National Aeronautics and Space Council.

This matter emanated from the Council, as is well known, and it was through that source that the various viewpoints were brought together into what we have before us today.

I am mindful of the fact, Dr. Welsh, that you have been ill, but we are very glad that you have recovered and are now back on your feet. All of us hope and pray that you continue to improve and will be permitted to continue your work in this most important field.

We are glad to have you with us today, and we will be glad to have your testimony in ticking off this important program.

I believe, Dr. Welsh, you have with you Dr. Charles Sheldon.

STATEMENT OF DR. E. C. WELSH, EXECUTIVE SECRETARY OF THE NATIONAL AERONAUTICS AND SPACE COUNCIL, ACCOMPANIED BY DR. CHARLES S. SHELDON II

Dr. WELSH. Yes; he is with me from my staff.

The CHAIRMAN. If you would like Dr. Sheldon to sit at the table with you, we would be glad to have him do so.

Dr. WELSH. Thank you very much, Mr. Chairman, for your kind comments about the little difficulty I have had. And I am hopeful that this appearance here, my first time out, will have a therapeutic effect.

I have a brief statement. Would it be appropriate for me to read it at this time?

The CHAIRMAN. If you choose, Doctor, you may proceed as you desire.

Dr. WELSH. Thank you.

Mr. Chairman and members of the committee, it is with pleasure that I respond to your invitation to testify before the distinguished members of this committee, on the subject of communications satellite legislation. In fact, the pleasure is particularly great, not only because the President's proposed bill is a practical means for strengthening our private enterprise system and developing our leadership in space, but also because this occasion marks, I trust, the end of some weeks of hospitalization and enforced absence from duty on my part. I am, indeed, glad to be here.

In view of the study and analysis which you and your staff have undoubtedly made prior to my appearance here, my prepared statement is deliberately brief and emphasizes primarily the principles and

procedures involved in the development of H.R. 10115 and 10138, which the President has recommended to the Congress.

In his letter of transmittal, the President said, in part:

One of the most practical examples of our growing space competence is in the field of communications * * *. The proposed legislation which I am transmitting with this letter will enable us to translate this communications competence into actual performance. It is, therefore, a measure of immense long-range importance.

It certainly is a matter of long-range importance and it is likewise of immediate importance that we get the organization, the responsibilities, and the principles of performance started on the right track on the long-range benefits will be seriously modified.

As you know, the President issued a policy statement last July 24, which guided the basic features and essential objectives of the proposed legislation. That policy was drafted under the auspices of the National Aeronautics and Space Council and was recommended unanimously to the President by the statutory members of that Council, as well as by the Attorney General, the Chairman of the FCC, the Director of the OCDM—the last three having been invited by the Vice President to participate in the policy deliberations.

Last November, the Executive Secretary of the Council was asked to handle the responsibility of preparing a coordinated draft proposal, for translating the aforementioned policy into the most effective and practical means of performance. Many meetings were held and gradually constructive language evolved. The result is the administration's proposed bill, H.R. 10115, or H.R. 10138, which you have before you.

I might point out, as a comment on procedure, that Council staff work in drafting the proposed bill was similar to that employed in the preparation of the policy statement and representatives of the same agencies participated in both drafting assignments. However, the bill was not subjected to formal agency clearance by the Council, but rather was recommended directly to the President for such time-honored procedure of interagency clearances and comments regarding legislation, as the President saw fit to employ. With its responsibility for attempting to eliminate duplication in the space program, it seemed particularly inappropriate for the Space Council to duplicate an interagency clearance procedure which was already in effect and has been formalized for many years.

A summary of the provisions of a bill is, of course, no substitute for an examination of the language of the bill and I make no claim that the following summary is all inclusive. However, I thought it might be useful for the record to state, as briefly as the subject matter will permit, the main provisions of the President's proposal.

H.R. 10115 and 10138 call for the passage of a new act, which would provide for the establishment, ownership, operation, and regulation of a commercial communications satellite system. It would authorize the creation of a privately owned and profit-operated Corporation, to be financed from the sale of securities to the public, which includes but is not limited to common carriers or otherwise chosen companies or individuals.

The President would designate the incorporators, who would arrange for the initial stock offering and take such other actions as would be necessary, within the provisions of law, to get the Corporation started

as such. It would not be an agency or establishment of the U.S. Government, however, and would be subject to the pertinent provisions of the Communications Act of 1934, as amended, and of the District of Columbia Business Corporation Act.

The Corporation would have a Board of Directors, elected annually by the stockholders of class A stock, with no such stockholder eligible to hold more than 15 percent of the authorized or 25 percent of the outstanding class A or voting stock and with no such stockholder eligible to vote for more than two candidates for membership of the Board of Directors. While class A stock is the only voting and dividend-receiving stock, provision is made for other types of securities, such as class B stock which could be owned only by communications common carriers so authorized by the Federal Communications Commission.

The purposes and powers of the new Corporation would include furnishing, for hire, channels of communications to authorized users, ownership of satellites, ground terminals, and other facilities essential for its operation, management, and interconnection with terrestrial communications systems; conducting or contracting for research and development; and purchasing satellite and launching services from the U.S. Government.

The bill would provide authority and responsibility for the President, the FCC, and other agencies of the Government, in supervision, regulation, guidance, and assistance, to assure that the policies and purposes of the act were carried out effectively and expeditiously. The proposed legislation would increase the responsibilities of the FCC and specify the respective functions of Government rather than leave such responsibilities vague to the investors and management of the Corporation as well as to the respective governmental agencies.

Among the policy requirements included in this bill are global coverage, cooperation with other countries, expeditious development of an operational system, provision of service to economically less developed countries, as well as to more highly developed countries, efficient and economical use of the frequency spectrum, nondiscriminatory access to the system by authorized users, maximum competition in the acquisition of equipment and services utilized by the system, and strengthening of competition in the communications industry.

The basic principles of the bill, which I want to emphasize, can also be stated briefly. They are:

1. Private enterprise, operated for profit, with the anticipated benefits in efficiency which so often characterize private ownership and private initiative, including competitive procurement of equipment and services;
2. Protection of the public interest, through Government regulation and such policy and technical coordination as our national and international interests require;
3. Reasonable maximization of opportunity for private savings to nourish this great venture and to obtain returns from such investment through broad public sale of the voting and dividend-sharing stock;
4. Reasonable minimization of domination or control of this national asset on the part of any individual, company, or private concentration of economic power, by limitations on the amount of voting stock or directors subject to such control and by the broad-base ownership provision, which greatly lessens the opportunity for financial domination;

5. Increasing the availability of private investment, by not restricting the quantity of such investment to that amount which could be raised by a few chosen companies; thereby decreasing the likelihood of the need for Government subsidy of the operating company;

6. Speed of action, by authorization of a corporate structure for managing an operational system, prior to the completion of the initial tests and experiments as to the technology and equipment required, thus avoiding unnecessary delays, providing flexibility of funding, and instituting cooperation with the responsible agencies of the Government.

7. Delineation of authority and responsibility, rather than leaving uncertain who is responsible for what, in the Corporation and in the Government;

8. Coordinated action through legislation, so as to make doubly clear to the world that the United States is committed to success in this field, on the basis of private enterprise, nondiscriminatory access, freedom of investment, and broad public benefit;

9. Foreign participation, through investment in the Corporation up to the maximum permitted by law, through ownership and management of ground facilities abroad, and through nondiscriminatory access to the system's use;

10. Recognition of the rate-base practices of regulated companies in the communications field by providing a class of nonvoting stock for authorized carriers, which investment would be subject to the regular rate-base treatment, similar to that accorded other capital investments by the FCC.

Those are the basic features of the proposed legislation, as I see them.

I have no intention of initiating any comparison of H.R. 10115 and 10138 with other bills or proposals. I might state generally, however, that we did, during our deliberations, give thought and consideration to a wide range of alternatives and, after weighing and analyzing, we came out with the proposal before you.

So far as financing is concerned, the basic alternatives seemed to be Government ownership, financial domination by one company, or private broad-based ownership. We decided upon the last, for reasons which seemed both practical and democratic, I am confident that all the members of the committee have, at one time or another, participated in a director's meeting, a fundraising conference, or other similar affair in which the amount of money an individual could provide had more effect upon a policy decision than the number of votes he had. Some of you may even have observed a game of cards in which the advantage lies heavily with the person with the most chips. In any event, the taxpayers have financed in excess of 90 percent of this space communications competence and I believe they are entitled to benefit directly and materially as investors, if they choose to do so.

It has been argued, ineffectively in my judgment, that broad-based ownership might have an adverse effect upon the quality of the management and of the technical staff of the new Corporation, and also that it might prompt unreasonably high charges for communication services via satellites. I have been advised that few companies have as broad-based ownership as does the American Telephone & Telegraph Co., for example, and also that many of those stockholders are not communication experts. I have been further advised that

this widely distributed stockownership has neither caused that company to be particularly inefficient nor has it been the reason why communication rates are at the levels they are now.

In my view, every reasonable effort will be made to get the most competent management and the most talented technicians obtainable, regardless of how wide or how narrow the ownership base may be. However, I do believe that there is a somewhat greater pressure for efficiency from wide-based stockownership than exists when a company is in effect a subsidiary of or dominated by a single large interest.

In the matter of whether the new Corporation should or should not own the ground stations, the answer in favor of such ownership was based upon the principles of greater efficiency, avoidance of duplication from unilateral action on the part of individual carriers, and easier compliance with the nondiscriminatory access principle.

I might add, however, that the bill before us and the bill which I have been discussing does not preclude ownership of ground stations by companies other than the Corporation proposed.

With those somewhat capsuled comments, I conclude my prepared statement.

Thank you, Mr. Chairman, and members of the committee for the opportunity to appear before you during these deliberations.

The CHAIRMAN. Thank you, Dr. Welsh. I want to compliment you on a rather brief but yet clear and precise statement on the subject, giving us the background of how the proposal was developed.

Dr. WELSH. Thank you, sir.

The CHAIRMAN. I am sure there will be a good many questions, because I know the members share the view that I have, that this subject should be fully developed.

In order that we might be able to give everybody some time and opportunity for questioning, I would like to ask from the membership of the committee if there would be any objection to limiting the first round of questions to, say, 10 minutes per member. Some, of course, might not use that much time and some, if we didn't have it, would use a lot more time.

Mr. ROGERS of Florida. Five, Mr. Chairman.

Mr. SPRINGER. I will not object to 10 minutes.

The CHAIRMAN. On the subject of 5 minutes, sometimes the question and the answer takes over 5 minutes. And sometimes the question alone takes up a good part of the 5 minutes.

If the membership, then, would agree, and if there is no objection, we will limit the first round to 10 minutes. In my judgment, that would virtually take care of almost everything that could be asked by the time we hear from all the members.

Mr. Williams?

Mr. WILLIAMS. Dr. Welsh, on page 4 under paragraph 9 relating to foreign participation, I will ask this question: Would class A stock be made available to foreign investors?

Dr. WELSH. That is the anticipation, sir, yes, up to the maximum amount provided by law, which is 20 percent, I believe, of total foreign participation.

Mr. WILLIAMS. Now, one individual foreign investor, could he buy up 20 percent of this stock?

Dr. WELSH. I would think that if he did—that would, first of all, exclude the possibility of any other foreign investor buying in it, but

in addition he is subject to this 15 and 25 percent provision which is in the proposal in regard to class A stock ownership.

Mr. WILLIAMS. In other words, the bill limits foreign participation to 20 percent of the class A stock?

Dr. WELSH. That is my understanding, sir.

Mr. WILLIAMS. Is that sufficient to obviate the danger of foreign control over this corporation?

Dr. WELSH. I would think so, sir. Also, I believe that the Communications Act excludes the possibility of foreign directors.

Mr. WILLIAMS. That is all I have, Mr. Chairman.

The CHAIRMAN. Mr. Springer?

Mr. SPRINGER. Mr. Secretary, H.R. 10115 incorporates your thinking on this matter?

Dr. WELSH. Yes, sir.

Mr. SPRINGER. Was this bill submitted to the National Aeronautics and Space Council before you brought it down here?

Dr. WELSH. I made a statement that I thought explained that, sir.

The answer to your question is that it was not formally presented to the Space Council. It was transmitted by the Chairman of the Space Council to the President, and the President used his own procedure for circulating it to the members of the Space Council as well as other members of the agencies of the Government to get their opinion.

Mr. SPRINGER. And this was not cleared with the National Aeronautics and Space Council? That is my question—yes or no—that ought to be pretty simple.

Dr. WELSH. It sounds simple as stated, sir.

Mr. SPRINGER. Was it or was it not? You have a record? Are you the executive secretary or not?

Dr. WELSH. I will take the questions in their order.

The answer to whether I am executive secretary is "Yes."

Mr. SPRINGER. You ought to have a record of whether or not it has been cleared with that Council, should you not?

Dr. WELSH. The answer is "No," I said so in my statement.

Mr. SPRINGER. That is what I wanted to know. It hasn't been cleared. That is what I wanted to find out.

And yet you are bringing this up here as being the bill, I presume, recommended by the National Aeronautics and Space Council, is that true or not?

Dr. WELSH. No, sir.

Mr. SPRINGER. Did you have any contact with the Federal Communications Commission in writing this bill?

Dr. WELSH. Representatives of the Federal Communications Commission sat in all of the meetings, I think every one of them, and contributed substantially to the content of this bill; yes, sir.

Mr. SPRINGER. Did they submit this bill or recommend this bill?

Dr. WELSH. The bill was submitted by the President of the United States, sir.

Mr. SPRINGER. Was this bill approved by the Federal Communications Commission? If you don't know you can say so.

Dr. WELSH. The procedure—and I will have to answer you in some detail—the procedure for clearing this bill was—

Mr. SPRINGER. It was not recommended by the FCC, isn't that true? If you want to be truthful, isn't that so?

Dr. WELSH. I certainly want to be truthful, Mr. Congressman.

Mr. SPRINGER. Well, was it?

Dr. WELSH. I did not handle the question and the procedure of clearing and, therefore, I can't tell you exactly what the FCC said. It is my understanding that the FCC was not in agreement with all of the provisions of the bill.

Mr. SPRINGER. In fact, the FCC recommended an entirely different approach, didn't they?

Dr. WELSH. I am not in agreement with the statement that they recommended an entirely different approach. I think their testimony in the other body would indicate that they recommended an approach that was not entirely different, but had very many similarities, as a matter of fact.

Mr. SPRINGER. Let me ask you this: Who was the Chairman of the National Aeronautics and Space Council?

Dr. WELSH. The Vice President of the United States.

Mr. SPRINGER. Does he approve this bill?

Dr. WELSH. He commended it to the President.

Mr. SPRINGER. Formally?

Dr. WELSH. Formally, at time of its transmittal.

Mr. SPRINGER. After this Corporation is formed, what part will you play?

Dr. WELSH. As an individual, sir?

Mr. SPRINGER. No, I am talking about as the National Aeronautics and Space Council.

Dr. WELSH. As to general policy recommendations to the President I would assume we would continue to have that role.

Mr. SPRINGER. Actually 99 percent of everything having to do with this would be handled by the Federal Communications Commission once this Corporation is in effect, isn't that true?

Dr. WELSH. That I would not agree with, sir.

Mr. SPRINGER. Would you say 95 percent?

Dr. WELSH. I wouldn't know what the percentage is. The launching for example would not be handled by the FCC.

Mr. SPRINGER. Let's say after launching.

Dr. WELSH. We don't know how long the satellites are going to stay up. You might have relaunching, so I can't say.

Mr. SPRINGER. All of this is going to be handled by the Communications Commission, isn't it?

Dr. WELSH. The communications are going to be handled by the private companies and regulated by the FCC.

Mr. SPRINGER. Actually, there is so little in this bill that has to do with you that the House Space Committee is not even holding hearings on this bill, isn't that true?

Dr. WELSH. I don't know what the reason is, sir.

Mr. SPRINGER. What I say is true, isn't it? They are not holding any hearings on this bill because they have said in effect that this is a communications matter?

Dr. WELSH. I don't know that, I can't answer your question.

Mr. SPRINGER. That is all, Mr. Chairman.

The CHAIRMAN. Let the Chair say that we have a procedure in the House under the House rules under which the Speaker of the House refers all bills according to the preponderance of jurisdiction. The Speaker of the House referred the bill to this committee. I want to

say here, so that it will be perfectly understood, that the chairman of the House Committee on Science and Astronautics was advised of these hearings. The members of that committee were invited, and they did not desire to sit in on the hearings.

I might say that the chairman of the committee did assign one of their staff members here and he is sitting in on these hearings with us.

Mr. ROGERS?

Mr. ROGERS of Texas. May I reserve my time?

The CHAIRMAN. Mr. Schenck?

Mr. SCHENCK. Is it my understanding that stock in this company would be subject to the rules and regulations and procedures of the Securities and Exchange Commission?

Dr. WELSH. That would be my understanding, just as with any other private corporation; yes, sir.

Mr. SCHENCK. Then the issuing of this stock, class A stock for public consumption, would have to meet all of their requirements as set out by the Securities and Exchange Commission?

Dr. WELSH. I would think so, sir.

Mr. SCHENCK. Is there any place in this bill which states that?

Dr. WELSH. No. I would think that unless there is a specific mention that it is excluded from some existing law, that the law would prevail, that is my understanding, and that is our understanding.

Mr. SCHENCK. Have you any thought how long it would be before investors in class A stock would receive any dividends?

Dr. WELSH. I wouldn't want to try to predict, sir, how long. I can't tell.

Mr. SCHENCK. Is there any suggestion or thinking or recommendations as to the price per share of class A stock?

Dr. WELSH. There is in the bill. The bill proposed a price of \$1,000 a share. I did not, however, mention that as one of what I considered the principal elements of the bill. I don't consider that to be a major factor, the exact price.

Mr. SCHENCK. Do you think that the limitation of \$1,000 a share would permit the widespread purchase of such stock?

Dr. WELSH. I am confident that it would permit some widespread, quite widespread, purchase, yes. There is a widespread purchase of other securities that are priced at \$1,000, primarily bonds, but if we could get a wider spread base through a lower price of the stock, why I would think that would be certainly a reasonable thing to consider, sir.

Mr. SCHENCK. In other words, you feel that it would be very helpful to have the greatest number of people holding shares of stock in this corporation?

Dr. WELSH. I don't like to suggest even that there be qualifications for people who should invest in our private corporations. If I were going to suggest one, I would say anyone who is a taxpayer might be entitled. But I wouldn't even suggest that. The taxpayers, however, have initiated this, and I think they ought to have a chance to invest if they so choose.

Mr. SCHENCK. So if the price of the stock per share were lower, that would permit more participation by a greater number of people?

Dr. WELSH. I think this is quite correct. Could I add one point to that? I would want to make certain that the prospectus, the explanation of the nature of the investment, were made very clear, so

that it was not the understanding of individuals that there would be immediate receipt of dividends in a new development of this nature. If that were perfectly clear, then I would see no reason why the price of the stock couldn't be lower.

Mr. SCHENCK. Do you feel that it might be a period of years before the owners of the class A stock would receive any dividends, is that correct?

Dr. WELSH. Yes. This is not an uncommon thing, as you are fully aware, in a new business in the United States or a development of a portion of a new business.

Mr. SCHENCK. Do you see any legislative effort in the setup of this organization which apparently is going to prevent the people who have the technical know-how to be relegated to a nonvoting position, and do you feel that this is just an effort in this approach to only encourage people to invest sums of money on the possible chance that in 5 or 6 years they might make a profit?

Dr. WELSH. Well, there are two parts of that question, sir.

First, of all, there is nothing in the bill that would prevent those who have know-how from investing in the business. They certainly can invest in the business, they are entitled to invest—if you take the communications carriers themselves as being people with the know-how, which I certainly think they are, they are entitled to invest in both the class A and the class B stock, so they are not excluded.

Second, I think that there is every evidence that this will be a profitable venture. And I say that with a good deal of assurance. Anything that has an expanding demand for the product and an increasing and improving technology is very likely to be a profitable venture, and one that would be very encouraging to those who would want to invest.

Mr. SCHENCK. Of course, communications through satellites are going to be in competition with undersea cables, are they not?

Dr. WELSH. I would think they would complement by adding to the total service. I wouldn't call it competition.

Mr. SCHENCK. And these undersea cables already have a tremendous investment tied up in them?

Dr. WELSH. Yes. And I would think they would continue to be used and perform a great deal of service. The satellite method is a way of meeting by modernity and new techniques and new technology the expanding demand in the future for communications, without excluding the use of the cables. There is no thought of doing the latter, sir.

Mr. SCHENCK. The possibility of a profitable return, however, is purely speculative on this class A stock, is it not?

Dr. WELSH. It is not purely speculative, but we couldn't say just when dividends would be paid. I think it would be a good investment.

Mr. SCHENCK. I would say, Dr. Welsh, that some several years ago it was my privilege to serve as a member of the Subcommittee on Commerce, and at that time we had a great deal of discussion about the sale of uranium stocks which had widespread appeal on a speculative basis, and in which a tremendous number of people lost a lot of money. This legislation, which you, Dr. Welsh, are recommending here today, could easily develop the same result.

That is all, Mr. Chairman.

The CHAIRMAN. Mr. Friedel?

Mr. FRIEDEL. Dr. Welsh, will you give the basic reason why you want to have two classes of stock?

Dr. WELSH. The basic reason for the two classes of stock is to provide one form of security, the B stock, which will permit the carriers to have investment reflected in their rate base, as is common for investment on the part of carriers, and at the same time have a broad base ownership in the other type of stock.

If you had, for instance, class A stock which could also be reflected in a rate base, and you had a broad base ownership, you would be treating inequitably some stockholders as against others, because some stockholders don't have any rate base to reflect it in.

Mr. FRIEDEL. The A stock wouldn't have a rate base.

Dr. WELSH. That is my understanding. But we have provided the B type in order to have this provision for the carriers to reflect it in the rate base.

Mr. FRIEDEL. Where do you think most of the money would come from, from individuals, or from these big corporations that have communication facilities?

Dr. WELSH. I think it will come from both, sir, and in considerable amounts.

Mr. FRIEDEL. Which one do you think would provide the most?

Dr. WELSH. I think that the carriers themselves would provide the most. And I gather from various statements made and testimony previously heard in other places that the carriers are very much interested in the communications satellite business. I would think they would want to invest in it. I haven't heard any carriers that weren't interested in the expansion of the communications satellite business. They may have had an interest in this type of a bill or that type of a bill, but they have all been interested.

Mr. FRIEDEL. That is my opinion, too. But I would like to know where the money would come from?

Dr. WELSH. I think some of it would come from them, and I think we have a large amount of available savings in this country which is being invested daily, and I think here is something with a greater assurance of a future than many of the stocks that are being offered on the market today.

I would think, therefore, that savings would come from a large number of other areas.

Mr. FRIEDEL. The reason I asked the question was this: As I see it, I think most of the money would come from the carriers, and they would be limited under class B stock to certain rates, while the class A stock would be unlimited as far as dividends are concerned. Wouldn't that have some effect on the users of the satellite communications system?

Dr. WELSH. As for the ownership of the class B stock, the investors would be the carriers; they would be the only ones to buy the class B stock. They would get the benefit in the form of an addition to the rate base so they would get a return on their investment in that fashion, which is standard practice in the communications industry. Those investing in the class A stock would not get it back through a reflection in a rate base, but would get it back through a payment in a dividend, but not an unlimited dividend because of the rate control through the FCC.

Mr. FRIEDEL. There is no limit on class A stock, is there?

Dr. WELSH. There is no specified limit, but it would be subject to the controls of the FCC.

Mr. FRIEDEL. If they wanted to declare an 8-percent dividend or even a 15-percent dividend, could they do that?

Dr. WELSH. I think this would direct the attention of the FCC to examine the dividend rate and see if the charges to customers shouldn't be lowered if the dividend were getting unusually high for the communications industry.

Mr. FRIEDEL. As I understand the bill, the class A stock would have the voting rights and they would have the management, and naturally these people would be the ones who want to get their money out of it, whereas the class B stockholders are limited to the rate. And I don't see anything in this bill to limit the class A as far as dividends are concerned if the carrier is making money.

Dr. WELSH. Except as the rates are controlled, the prices at which the services sold by the Corporation are subject to the FCC control, and if those rates were so high that they would bring in unusually large dividends—

Mr. FRIEDEL. Can't the owners of the class A stock tell the carriers what they have to pay for it?

Dr. WELSH. The managers of the Corporation—

Mr. FRIEDEL. Yes; the owners of the class A stock.

Dr. WELSH. Would determine the rates at which they are selling the satellite service to the carriers. This would be subject to FCC determination.

Mr. FRIEDEL. Would it be? That is the point I want to make.

Dr. WELSH. There are specified in the bill certain functions which the FCC has. And among those, of course, is on page 10 of the bill—prescribe such accounting regulations and systems and engage in such ratemaking procedures as will insure that any economies made possible by a communications satellite system are appropriately reflected in rates for public communications services.

This indicates that if there are economies developed through the use of this satellite system—and we would certainly think there would be—that eventually they would be reflected in lower rates for communications.

Mr. FRIEDEL. If they could get more business they would lower the rate, but still there would be no limit by the FCC as to the dividends the holders of the class A stock would have?

Dr. WELSH. There is no prescribed maximum, sir, but if there is a control on the charges that they can sell their services for, and large profits are being made, I would assume that they would take action to lower the charge for their services. And this, in a sense, would have an effect of lessening the total amount available for dividend payment.

Mr. FRIEDEL. I am not going to pursue it any further. Thank you very much.

That is all, Mr. Chairman.

The CHAIRMAN. Mr. Younger?

Mr. YOUNGER. Dr. Welsh, I take it from your testimony that you have considered this a private corporation that is set up by this bill?

Dr. WELSH. Yes, sir; all the investment in it would be private.

Mr. YOUNGER. Did you ever hear of a private enterprise corporation launched by the President of the United States and with the control of the incorporators by the President?

Dr. WELSH. I don't know if I have or not, but my point still is, all the ownership would be private.

Mr. YOUNGER. Control will probably be in the incorporators that are nominated by the President, would it not?

Dr. WELSH. No, sir.

Mr. YOUNGER. Why?

Dr. WELSH. Because their only function is to set it up and see that the class A stock can be sold, and their function ceases at that point.

Mr. YOUNGER. Did you ever see a corporation set up by a group whose function ceased after the corporation was set up?

Dr. WELSH. Yes, sir; and I have helped set up a number of them where that happened.

Mr. YOUNGER. Private corporations?

Dr. WELSH. Yes, sir.

Mr. YOUNGER. Do you still contend that with the President appointing all the incorporators it still is a private corporation?

Dr. WELSH. Somebody has to get it started, sir.

Yes, the entire stock, as soon as the incorporators make provisions for the sale of stock, and so forth, and the stock is sold, then the stockowners, the stockholders, have the voting rights to vote their directors and so forth, and they control the corporation from then on.

Mr. YOUNGER. There is no provision in the bill to prevent the election as directors the ones the President appointed, is there?

Dr. WELSH. I would think there might be a little difficulty to that if they weren't stockholders.

Mr. YOUNGER. Naturally they would be stockholders.

Dr. WELSH. Well, if they were stockholders I doubt if they could also be members of the Government.

Mr. YOUNGER. They don't have to be members of the Government, the President can take anybody he wants to out of the body politic.

Dr. WELSH. That, of course, is very true.

But I would think that those who are investing their money in it would want to have the primary say in who was to be——

Mr. YOUNGER. You are not that naive about private corporations, are you?

Dr. WELSH. I am pretty naive, sir.

Mr. YOUNGER. You know that the stockholders don't always nominate and elect the directors, do they?

Dr. WELSH. Well, I am under the general impression that the stockholders nominate, or their representatives nominate, and they, in fact, do vote for the directors of the private corporation. I am certain that the Government doesn't, which I think is your point, sir.

Mr. YOUNGER. That is right. And you have proxies, and the proxies are usually in the hands of the directors so long as the corporation runs all right, are they not?

Dr. WELSH. It isn't always as democratic as we would like, I am sure.

Mr. YOUNGER. It is democratic until someone wants to protest.

But I know of no corporation in my experience that had to have the President of the United States start it in order to get it in operation or to sell the stock.

Dr. WELSH. I think that is quite true. I think we also have a new situation here. We have few corporations that are initiated through the taxpayers' investment in the technology, in the develop-

ment of its competence before the private investors get into the picture. So someone has to start it.

Mr. YOUNGER. How about the atomic energy corporations that are now operating, who put the money in the technology to create the atomic energy to start with?

Dr. WELSH. Of course your analogy is now with a nonprofit corporation, is it not?

Mr. YOUNGER. No, a private profitmaking corporation.

But the Government put their money in developing the technology of the atomic energy in the first instance.

Dr. WELSH. Yes.

Mr. YOUNGER. And now it is operated by private enterprise generally over the country. We had that out in an argument on the Hanford plant before the Congress last year.

Dr. WELSH. This has happened before, sir. I didn't mean to indicate that there hadn't been occasions where the Government hadn't invested money in synthetic rubber, for instance, and other other items of that sort, and eventually it was disposed of and sold to the private interests.

But in this case, the Government isn't even taking over the ownership of the stock or the facilities or anything else in this Corporation; so it doesn't have to make that sale.

Mr. YOUNGER. We have airplanes that were developed, also by tax money, and they are built by private enterprise. There is nothing at all new in that.

One of your claims is that you want to get a widespread holding of this stock, isn't it?

Dr. WELSH. I see much merit in that, sir; yes, sir.

Mr. YOUNGER. And the stock is limited to a million shares, isn't it, by your bill?

Dr. WELSH. Yes, sir.

Mr. YOUNGER. At \$1,000 a share.

Did you ever hear of a corporation starting out to get widespread ownership with stock at \$1,000 a share?

Dr. WELSH. I don't believe I ever did, sir.

Mr. YOUNGER. No, and I don't think anybody else ever did.

Dr. WELSH. I never before heard of a corporation setting up communications satellites either, sir.

Mr. YOUNGER. It looks to me like that was set up for the "fat cats" to buy.

Dr. WELSH. Well, maybe the price should be lower, sir.

Mr. YOUNGER. If you want widespread ownership, how many stockholders does the A.T. & T. have now?

Dr. WELSH. I think they are in a better position to testify on that than I am, but I have heard several million.

Mr. YOUNGER. It is close to 3 million, I believe.

Here you are proposing only for 1 million shares, and that isn't widespread ownership, when you consider that all of the communications corporations that are interested in this probably have a stock ownership representing maybe 5 million as an estimate—we will get the facts, but I will say that is probably a conservative estimate. When you take all of the communications companies, RCA, American Telephone, and International Telephone, all of those which are in-

terested, and here you are trying to limit it to a million, and you claim it is widespread. There is nothing widespread in this at all.

Dr. WELSH. It is a lot more widespread than if it is limited just to the carriers, that is obvious.

Mr. YOUNGER. No, the stockholders of the carriers would get the benefit of this investment, if there is any benefit in the way of earnings; I refer to stockholders of all the carriers. And it would be a widespread benefit over at least five times what it would be here.

Dr. WELSH. I can't agree with that, sir, because one of the stockholders might be—and I don't know whether it would or not—but it might be General Electric on the same principle that you are using the argument for RCA, so the stockholders, the large number of stockholders in General Electric also would be getting the benefit. So that it is more widespread.

Mr. YOUNGER. That is right. I say, under the complete ownership by all of the carriers with a limitation as to the amount anyone could make would give you a real widespread ownership, without somebody taking the chance of a pig in a poke, buying something that may never pay a dividend.

Dr. WELSH. I couldn't agree with that, sir. It wouldn't be as widespread as the way we have provided it, although it would be wider spread than if you limited it to just one company.

Mr. YOUNGER. Nobody has proposed to limit it to just one company, in all the communications I have seen.

Now, are you aware that the National Association of Railroad & Utility Commissioners representing all the commissioners in the United States have recommended that this be a private company organized under the private company system?

Dr. WELSH. And so do we, sir.

Mr. YOUNGER. Sir?

Dr. WELSH. We also believe it should be a private company under a private system.

Mr. YOUNGER. Then you don't believe in the bill that you are here recommending, because that is not a private company, it isn't organized as a private company, it is organized by appointees of the President who eventually would become the directors of the company without any question.

Dr. WELSH. My only way of answering you, sir, and I am sure it wouldn't be adequate, is to say to you that the way I judge whether a company is a private company or not is by who owns the stock in the company. And this provides for ownership of stock in company only by private individuals or other private companies. Therefore, I call it a private company.

Mr. YOUNGER. That is all.

The CHAIRMAN. Mr. Rhodes?

Mr. RHODES. Mr. Chairman, I would like to ask Dr. Welsh how important he considers the speed of action. There is some reference to it here.

Dr. WELSH. I consider the speed of action on our experimentation and improving the technology of first priority. I consider the speed of action on setting up legislation in order to operate a system when these experiments have been completed, or at least when we have made more progress in those experiments, to be also important. Because if we can have the system set up, the investors will know where

they are going to stand in this thing. It will be ready to go sooner if you have legislation and have a corporation established.

But the first and more important and urgent thing is the thing that we are doing right now, and that is continuing with the improvement in the technology.

Mr. RHODES. You mentioned something about getting started on the right track. That is why I raised the question. Because of far-reaching possibilities of a program like this, I wonder whether there wasn't some merit in urging extreme caution so that you do get on the right track?

Dr. WELSH. I think caution and speed are not necessarily opposites. I believe that we should move with caution, but as rapidly as possible, because I think it is well for not only this country but other countries to know that we are taking a positive position on this in leadership, and we plan to carry out what we have already shown we can do from the technological side of it.

Mr. RHODES. You mentioned the desire for maximum competition in the acquisition of equipment and services. Do you believe it is possible for competitive procurement with only a few major corporations being the producers of this equipment?

Dr. WELSH. I will answer you this way: First of all, I consider it a very desirable objective to try to get competitive procurement in the interest of efficiency and the interest of fairness. I believe that with the objectives specified as the intent of Congress that such be done, and with the FCC having responsibilities to see that it is carried out, that there is a very good chance that we will get it.

The CHAIRMAN. Mr. Collier?

Mr. COLLIER. Mr. Welsh, I have about 50 questions, and I will ask what I can in the time permitted.

Without the new stock issue plan, would it be possible for the investing public to fully participate in the ownership of this program simply by investing in the communications companies which presently have stock on the market?

Dr. WELSH. Well, there would be the possibility of indirect investment, although I don't know how much any one of those companies is going to invest in this new corporation. But there would be the possibility of indirect investment. But it would be fragmented, because they would be investing in other things, also, in those companies.

Mr. COLLIER. But the possibility is there, and the fact that there are about 3 million stockholders in A.T. & T. would indicate that this is more than just a possibility?

Dr. WELSH. I think there is a possibility, and it would also be a possibility that the Corporation, without any intent, would be dominated by one company. It couldn't be otherwise.

Mr. COLLIER. I repeat, the possibility of public ownership is there, and it is rather substantiated by the number of stockholders in the general public today?

Dr. WELSH. That is correct.

Mr. COLLIER. Regardless of what direct or indirect possibilities exist, the record of public participation is nonetheless there, is it not?

Dr. WELSH. It is not as widespread as our proposal, but it is possible.

Mr. COLLIER. Now, by the most optimistic estimates it will be 5 to 10 years before there will be any yield on the stock that will be

distributed to the public under the space satellite communications program as proposed in this legislation?

Dr. WELSH. I would think that would be a pessimistic estimate.

Mr. COLLIER. Now, we can take any person in this room who wanted to invest in this program, realizing that General Electric stock closed yesterday, I think, at around 78, and RCA at 63, and CBS at 42, A.T. & T. at 133, that anyone in this room that wanted to participate in that program generally speaking would be in a much better position to invest their money through the purchase of regular communications systems stock than would be available through the proposed dual stock plan. Is that right?

Dr. WELSH. That is not right, sir.

Mr. COLLIER. That is not right?

Dr. WELSH. No, sir.

Mr. COLLIER. Do I assume that there are more people here who have \$1,000 to invest in a share of stock as a participant in this program than there would be in this room that would have \$63 or \$42 to invest in the same program through a different approach?

Dr. WELSH. I don't know about the liquidity of the people in this room, sir—

Mr. COLLIER. I am assuming this is a reasonable cross section of people with normal income and normal financial status.

Dr. WELSH. With this many Members of the Congress present, sir, this is not a reasonable cross section, this is a superior group.

Mr. COLLIER. So that the record is clear, I don't have a share of stock in any one of these firms. In fact, I had to get the figures quoted from the newspaper moments ago.

Now, further than that, if they were to invest through normal channels as a participant in this program, there would be far less possibility of a total loss to an investor under the medium of investing in the communications system than under a program wherein they would buy stock solely and strictly in the space satellite program, is that a fair statement?

Dr. WELSH. I think the likelihood of loss is very, very slight in this particular corporation we are proposing. I think it would be only fair for me to add one point, and that is that one share of stock at \$1,000 in this corporation will give a much bigger percentage of the total investment in communications satellites than \$1,000 invested in the A.T. & T.—

Mr. COLLIER. Except that we are talking about wide participation.

Dr. WELSH. Because it would be only a fraction of A.T. & T.'s activities.

Mr. COLLIER. Just one other question.

Does not this proposal bring into regulation through supervisory powers NASA and in fact the State Department in addition to the FCC?

Dr. WELSH. This does specify rather than leave unclear the functions which the NASA has in the space field which it will continue to have, but it spells it out, so that all those who would be interested in this bill and interested in this investment would know what those functions are. It does likewise spell out the FCC's functions, and so forth.

Those were prepared and drafted for us by the FCC people themselves, just as the NASA ones were by the NASA people. This was a cooperative and jointly worked out affair.

Mr. COLLIER. Presently, as you know, the oversea communication cable systems in Britain, for example, are British owned, whereas they are privately owned participants in the United States. To your knowledge, has there ever been a problem of the British-owned system having any difficulty at all in their general operations and cooperation with the private enterprise communications system in this country?

Dr. WELSH. I don't know about difficulty. I do know that there have been occasions where the State Department has been called in to use its good offices to be of assistance in agreements between private communications companies in the United States and foreign countries, yes.

Mr. COLLIER. There is no record, though—

Dr. WELSH. I didn't say there was difficulty, but I do know that their good offices have been called upon.

Mr. COLLIER. That is all I have.

Thank you, Mr. Chairman.

The CHAIRMAN. Mr. O'Brien?

Mr. O'BRIEN. Mr. Chairman, I might say I have a little more than a passing interest in this subject, because I did have the honor of serving on the original Select Committee on Space. I remember Dr. Sheldon worked with me in those days and, as I recall what we went through 4 years ago, we had a very clearcut test between a totalitarian society and a free society. Our greatest difficulty at that time was in trying to persuade the members of the free society on this. We have moved very rapidly. And it seems to me that we have now arrived at a point in the peaceful use of this outer space where we have a clearcut test between the totalitarian society and a free enterprise society.

And what disturbs me is whether or not the proposal before us in this bill would be free enterprise in the fullest sense.

We have been accustomed to a free enterprise system where existing corporations or corporations formed under our usual method see a profit motive and move in. We have considered that proper. I am not so sure, Mr. Chairman, that we would move with the same speediness if we stopped to form a new corporation when we have existing corporations willing and very eager to move into this field, of course, motivated by the profit motive.

I know that is not a question, but more of a statement.

Now, my question is this: In this matter of ground stations, do you feel that the proposed new corporation should own the ground stations?

Dr. WELSH. I believe it should be as it is so stated, authorized to own the ground stations, and to develop plans for the number and location of such stations. It does not preclude other companies from owning ground stations also.

Mr. O'BRIEN. Now, let's say that the A.T. & T. owns a number of stations—let's say someone is putting in a call from New York City, and you have a ground station at San Diego. The A.T. & T. handles that message all the way across the country through its various facilities, but loses control at the point of takeoff of the message to the satellite. Would that lead to efficiency, better efficiency?

Dr. WELSH. It really wouldn't lose control over the message. What it would be providing is that there wouldn't be two or three different

places for it to take off from where only one was needed; that is all we are talking about, sir.

Mr. O'BRIEN. But they would not have control, the same control over that ultimate final station that they would have over the rest of the system sending the message to that private station; is that correct?

Dr. WELSH. They would have control over the message; they would be the ones that would be selling the message; there isn't any question about that.

Mr. O'BRIEN. The selling of the message.

But I am talking about the transmittal of the message. We don't propose, do we, that this new corporation take over all of the existing facilities in this field now operated by the private corporation?

Dr. WELSH. There is no proposal to take over any of the facilities, sir.

Mr. O'BRIEN. But we would have a duplication of control at the very best, at the point where this message reached the jumping off place; isn't that correct?

Dr. WELSH. I don't see any duplication, sir, but I might not quite understand your question.

All we are talking about is an establishment of a facility which is simply a necessary part of the technology to transmit to the satellite or to receive from the satellite. It isn't a question of duplication of control or duplication of management or anything else, as far as I see it.

The channels should be leased to the respective companies, and they would have the use of them.

This would just be a technical facility available for the use of all of those who are authorized to use it.

Mr. O'BRIEN. And you would limit this control by the new corporation to the specific station from which the message would take off to the satellite; is that correct?

Dr. WELSH. And not the rest of the functions currently being performed by the existing carriers.

Mr. O'BRIEN. But at some point on the ground the existing carrier would lose some of its existing control, ownership, or whatever you want to call it?

Dr. WELSH. They can't lose anything, sir, because they don't have it now. There isn't any such communications at the present time through the use of satellites, and so this is an addition to the function and the performance and the activity of the carriers as well as to the country as a whole.

We aren't talking about anyone losing anything, sir.

Mr. O'BRIEN. I understand you are not losing anything, but they are separating their operation at a certain point; is that not correct?

Dr. WELSH. Well, there is a separation, also, when they transmit with cables between here and London, if you want to look at it that way, sir.

Mr. O'BRIEN. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Devine?

Mr. DEVINE. Mr. Welsh, for whom are you speaking here this morning? Are you speaking for the President of the United States?

Dr. WELSH. Well, I am speaking because I was called by the chairman to come as a witness, and I am speaking in behalf of the President's bill, and so to that extent the answer is "Yes."

Mr. DEVINE. Now, are you also speaking as a representative or the executive secretary of the NASA Council?

Dr. WELSH. The National Aeronautics and Space Council—that is simply an advisory council to the President, so, again, there isn't any line of distinction; when we are speaking for the Council we are speaking for the President.

Mr. DEVINE. The views you express here are in effect the views of the President?

Dr. WELSH. Yes, sir; he approved this bill, sir.

Mr. DEVINE. Now, in this class A and class B stock, is there any prohibition against a class A stockholder also being a class B stockholder?

Dr. WELSH. No, sir.

Mr. DEVINE. There is a conflict of interest between the two.

Dr. WELSH. No, there is a provision for convertibility between the two.

Mr. DEVINE. The class A stock is more secure, isn't it, as an investment?

Dr. WELSH. The class A stockholders would be interested in the control of the corporation as well as in receiving dividends directly from investment.

Mr. DEVINE. Making a profit?

Dr. WELSH. Both. The management side of it as well as the profit side.

Mr. DEVINE. And the class B primarily, they are primarily—

Dr. WELSH. Carriers.

Mr. DEVINE. The responsibility of getting the job done?

Dr. WELSH. I wouldn't draw that distinction, because those who are interested in management are also interested in getting the job done. I would expect all the carriers would be investing in that class A stock, too.

Mr. DEVINE. When the Federal Communications Commission was organized, wasn't it for the purpose of drawing together a diffusion of authority and regulation in the communications field?

Dr. WELSH. I am not sure I got that.

Mr. DEVINE. When the FCC was organized, was not its main purpose to draw together this diffused authority in many agencies and concentrate it under one head, the Federal Communications Commission?

Dr. WELSH. And to improve regulation in areas where monopolies existed, and it has done an excellent job in that respect.

Mr. DEVINE. And wouldn't you agree that they have done a reasonably good job?

Dr. WELSH. Yes, sir.

Mr. DEVINE. As a regulatory agency?

Dr. WELSH. That is one of the reasons why we built in so strongly into this bill the continuation and the strengthening of the role of the FCC, yes, sir.

Mr. DEVINE. And don't you feel, Dr. Welsh, that with the President having his hand in it through the advisers of NASA being in the regulatory area, and with the State Department having something to say about it, on top of the FCC, that this could well bog down progress in this overall program?

Dr. WELSH. I do not think so.

First of all, these agencies have responsibilities, whether they are spelled out in the bill or not. NASA has responsibilities for launching and for research and development in the communications and other satellite fields. They have these responsibilities, and they are to be of assistance to the FCC in that regard. And I think that is sound and good and coordinated use of two Government agencies.

Mr. DEVINE. Couldn't they well become bogged down in what is known as the system in the State Department, with all these clearances that have to be obtained before a procedure could be commenced?

Dr. WELSH. I know that this is a possibility, and I know this could be bogged down in such an efficient organization as the FCC. Things do get bogged down. But I don't think this adds to that possibility, when you clarify what the functions are. That is my answer to your question.

Mr. DEVINE. You don't think it adds to it?

Dr. WELSH. No, we are clarifying the functions, because the functions exist there anyway. NASA has those functions by law; the State Department has agreement functions by law; the FCC has regulatory functions by law. And that is what we are trying to do in this particular problem. We do not want it confused as to who has what functions, so we spell it out. That is the reason it is in there as it is.

Mr. DEVINE. I think that is all I have at this time.

The CHAIRMAN. Mr. Rogers of Florida?

Mr. ROGERS of Florida. Thank you, Mr. Chairman.

What would you say would be the alternatives if this particular proposal were not accepted in order to develop a communications satellite system in the national interest as speedily as possible?

Dr. WELSH. I am going to find it difficult to answer usefully your question, because we would go down through each one of the sections of the bill and say, this could be modified this way, and I think it might still work, and so forth.

Mr. ROGERS of Florida. The point I was trying to get at is either it can be done by the Government itself, or it can be done by private enterprise, and a modification of private enterprise.

Dr. WELSH. That is exactly right, sir.

Mr. ROGERS of Florida. Now, this is an attempt to do it by private enterprise, as I understand it.

Dr. WELSH. That is correct, sir.

Mr. ROGERS of Florida. And that is why I am somewhat surprised at some of the questioning, because I would think that the American people would want it done by private enterprise, this whole development, rather than having it done by the Federal Government, because we have such a tendency now to do everything by Government, and I was hopeful that we could move into some field and still accomplish the national purpose in doing it through private enterprise.

Is it your feeling that this bill will accomplish that?

Dr. WELSH. It is my feeling that it will. And I might say that the greatest major principle that I attempted to apply in chairing the meetings where we were developing this was to get this thing worked out to be sound and practical along private enterprise lines.

There is no reason why we shouldn't try private enterprise in this thing, and there isn't any reason why private enterprise can't do it, in my judgment.

Mr. ROGERS of Florida. Must there along with the private enterprise approach be some urgency to that because of the national interest features in the communications satellite?

Dr. WELSH. My answer to that is in the affirmative; yes, sir.

Mr. ROGERS of Florida. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Nelsen?

Mr. NELSEN. Mr. Welsh, the so-called National Aeronautics and Space Council, who are members of this Council?

Dr. WELSH. It is an advisory body, the Chairman of which is the Vice President of the United States.

The other members are the Secretary of State, the Secretary of Defense, the Chairman of AEC, and the Administrator of NASA.

Mr. NELSEN. The so-called ad hoc committee, who was that launched by?

They made a report, did they not, earlier? How did that come into being?

Dr. WELSH. The ad hoc committee was launched under the auspices of the FCC, and made its report to the FCC—you are talking about the ad hoc private committee?

Mr. NELSEN. Yes.

Dr. WELSH. Yes, sir.

Mr. NELSEN. Now, the plan that you proposed in this bill or which is proposed in this bill differs substantially from their recommendation, does it not?

Dr. WELSH. It differs from it in a good many respects. It does not differ in one major respect, and that is that both of us are for private enterprise.

Mr. NELSEN. Now, in response to Congressman O'Brien's question relative to the ground stations, this becomes an added operational implement to the communications, the ground stations for the communications satellite system?

Dr. WELSH. Yes, sir. We do not have those ground stations now, nobody has the ground stations.

Mr. NELSEN. Now, why does it seem to be necessary to handle this differently from there on than the presently operational facilities undersea cable and radiotelephone?

Dr. WELSH. My answer to your question is that it doesn't seem necessary so much as it seems desirable in the interest of efficiency, to avoid duplication of ground stations, and to make as certain as possible that there is equitable access for all those who are authorized to use the stations. This can be determined, you see, through one corporation subject to the regulation of the FCC.

The ground stations could be owned by the separate companies, also. I think it might be less efficient to do it that way. It might cost more to do it that way. And it might not be as rapidly done if it were done that way.

Those are the reasons.

Mr. NELSEN. Now, the class B stock, is it not assumed that, for example, the people in the communications field would be the large owners of the class B stock, it is possible because of the arrangement under this bill that they would be discouraged from buying adequate amounts of the class B under the provisions of management of this thing?

I wonder, would there be a disposition to be reluctant to invest in substantial amounts to provide the adequate dollars because of the management of this program?

Dr. WELSH. You mean in the class B stock?

Mr. NELSEN. Yes.

Dr. WELSH. I would think that there would be a considerable interest, to the extent that the communications carrier is interested in investing in the Corporation at all, he would have considerable interest in investing in the class B stock, because that is the type of stock which can be reflected in his rate base, and he gets a return from it promptly. He would also be interested in investment, I would think, in the class A stock, because he would want to have something to say about the directors and the management.

Mr. NELSEN. Thank you.

That is all, Mr. Chairman.

The CHAIRMAN. Mr. Hemphill?

Mr. HEMPHILL. Thank you, Mr. Chairman.

Does the legislation that you sponsor here today contemplate a profit being made by the private corporation?

Dr. WELSH. Yes, sir.

Mr. HEMPHILL. And does it contemplate taxation of those profits?

Dr. WELSH. A private corporation subject to taxation; yes, sir.

Mr. HEMPHILL. I have in mind the fact that we engage in so many governmental enterprises which have tax exempt features, and yet we are spending a lot of money, and we must get the money someplace. So it contemplates that you not only expect a profit—and I assume that the rates charged would be under the supervision of the Federal Communications Commission?

Dr. WELSH. That is correct, sir.

Mr. HEMPHILL. And not only the stock of the Corporation, but anything to do with that stock would be under the supervision of the Securities and Exchange Commission?

Dr. WELSH. That is correct, sir.

Mr. HEMPHILL. Suppose that in sending this up to the President you weighed the fact that one or more companies of this Nation have offered to do the job.

Dr. WELSH. I don't know of any company that has been in a position to offer to do the job, because there isn't any company that has the capability to do the job without the assistance of the Government in the launching, and so forth, an aspect which is a big feature of it.

Mr. HEMPHILL. I understand that, that the launching has to be done by the Government, and I think that is common knowledge. But I am talking about the construction of the satellite itself to perform the duties which the satellite would be expected to perform.

Dr. WELSH. There have been a number of companies that have claimed that they have competence to develop a satellite that will do the job. Four of these satellite projects are now under experimentation and testing.

Mr. HEMPHILL. Now, what impact is the Government's attempt to control it in this way by your legislating to have on slowing down the effort, the technological experimentation of the private companies?

Aren't they going to get discouraged and say, "Now, the Government is going to take it over, and why should we spend any more money?"

Dr. WELSH. I would think the reverse would be true. So far the Government has been spending most of the money. With the exception of one instance, I believe, all of the experiments that are actual projects are being financed by the taxpayer.

Now, with the setting up of the new Corporation, the research and development and so forth would be expected to be financed privately.

Mr. HEMPHILL. Well, if it was done by a private company, wouldn't the Federal Communications Commission still have control over allocation of any channels?

Dr. WELSH. Yes, sir.

Mr. HEMPHILL. And wouldn't the Securities and Exchange Commission still have control over the stock of that particular company if it were a private company?

Dr. WELSH. The same control as it has at the present time.

Mr. HEMPHILL. The same control as it has at the present time.

Well, what are the objections to having one of these private companies that have offered to do it, what are the objections on the part of the National Aeronautics and Space Council, which I assume is represented by you here today?

Dr. WELSH. You mean having one corporation do this whole job?

Mr. HEMPHILL. Yes, sir.

Dr. WELSH. There are a number of objections. One is that we don't believe it would be moved along as fast, because one company can't supply the funds, as much funds, and as rapidly as a large number of companies and a large number of individuals; there is no question about that.

Another objection is the question of monopoly.

Mr. HEMPHILL. Well, since the Government is going to control the launching of it, apparently it looks like to me that you can contract in such a way that it wouldn't be a monopoly.

Dr. WELSH. Through regulation you can mitigate the effects of monopoly. You can do it better set up the way we have it with the widespread ownership.

Mr. HEMPHILL. What experience have you had in setting up something like this that has proved better than private business?

Dr. WELSH. Most corporations have been set up this way, except that they haven't been incorporated initially by the Government, but other than that they have gone to as many sources of funds as they could to get such capital to get started.

Mr. HEMPHILL. Your contention is that the Government for the first time in the history of Government can do something better than private industry, is that right?

Dr. WELSH. That is not right, sir. As a matter of fact, we believe that the private industry can do it the best, so that is the reason why we are turning it over to the private industry as soon as it is capable to handle it.

Mr. HEMPHILL. Under this particular legislation, the President of the United States would have the right to name actually the Chairman of the Board and the president of the company, wouldn't he?

Dr. WELSH. That is not correct, sir. He has no vote on it according to the language of the law. The stockholders, of which the President would not be one, the stockholders would vote on the directors, and the directors would appoint a Chairman, and there would be voting annually by the stockholders to elect the Board of Directors and,

hence, the Chairman, and they, in turn, would appoint the president and other officers of the company.

So the President of the United States would not be involved in any of that, nor does he have any authority under this bill to be involved in it.

Mr. HEMPHILL. Why hasn't the Aeronautics and Space Council gone to the various companies, and when the companies made an offer told them this, and asked them for some suggestion whereby it can be a purely private enterprise matter?

Dr. WELSH. I am sure that we have gotten recommendations from a great many companies. Without wanting to specify any particular company, some have recommended Government ownership, some have recommended Government subsidy, some have recommended that they take the whole thing over. There have been all kinds of recommendations from private companies, and we have come up with a conclusion that this ought to be a private company, a profitmaking company with as broad an ownership as we can have. And that is what this particular proposal comes up with. There is no Government ownership in this particular company at all.

Mr. HEMPHILL. You say you plan to issue a million shares of stock for a thousand dollars a share. Is there any restriction on the number of shares a person can own?

Dr. WELSH. There is a restriction, yes; 15 percent of the total authorized and 25 percent of the outstanding is the maximum number that anyone could own.

Mr. HEMPHILL. I assume that—how would you determine who would own this stock?

Dr. WELSH. Just the same way that any other stock is registered, sir, in the names of the individuals who own them.

Mr. HEMPHILL. Well, that sounds simple on its face, but actually if you put this million shares of stock on the board up for sale, if you didn't have a bid on it of some kind, then certain people with a whole lot of money could go in and get big chunks of it and control it.

Dr. WELSH. This all would have to be listed, of course, with the FCC—

Mr. HEMPHILL. The thing I am talking about is buying; the thing that is worrying me is that you are not going to accomplish it in the manner that you present here.

In the first place, your stock is too high for the average John Doe to participate, so that means only the rich folks will have any participation.

In the second place, you have got a 15-percent limitation, and only people who could buy 15 percent would be people with tremendous sums of money, and that would just go back into the same thing you are trying to prevent.

Dr. WELSH. It is true that only those who had rather substantial amounts of money could buy up to 15 percent of a billion dollars in the Corporation.

Mr. HEMPHILL. If that is true, four big companies could go in and buy 60 percent of it and control it.

Dr. WELSH. And this would provide for much more competition than if one company bought 75 percent of it.

Mr. HEMPHILL. I think that is true.

Dr. WELSH. That is one of the other alternatives.

Mr. HEMPHILL. I think that is true.

But the thing that is bothering us is that you have got the Government meddling in it, and I am not sure that that is healthy in this particular program, because it will mean, apparently, the creation of an administration of some kind with all the empire building and all that that is inevitable; don't you think that is true?

Dr. WELSH. No, sir. This doesn't provide for building up any additional empire or any new agency, it gives the authority to the FCC as it has and spells it out, and NASA has express authority now in the field of space.

It doesn't set up any new agency. We are very pleased with that as a major feature. We don't even have the Space Council set up as an agency above this. We are turning it over to a private enterprise with regulation provided by law as is necessary, as I believe your committee agrees.

Mr. HEMPHILL. Why don't you just give us legislation saying that if one company does offer to do it and it is satisfactory to the Government, that it will write into the authorization certain regulations which you said you could do awhile ago, and let's get the ball rolling instead of going around about and back and forth as to who should have control.

Dr. WELSH. I don't think there is a really practical possibility that one company can do it, point 1. And, point 2, I don't think that there is any reasonable likelihood that you wouldn't have a real domination, financial domination at least, by such company if you do have just one in it. I think that it is necessary, therefore, to get some competition in the stock ownership of it in order to get the basis of the objectives we are talking about on procurement and other aspects of competition.

The CHAIRMAN. Your time is up, Mr. Hemphill.

Mr. HEMPHILL. I thank the chairman for letting me have 10 minutes. That is the first time I have had that much in a long time.

Thank you.

The CHAIRMAN. Mr. Keith?

Mr. KEITH. In answer to the question by Mr. Williams concerning the ownership of stock by foreign governments, you stated that the ownership of a substantial portion of the stock by one country would preclude ownership by other countries.

Would allocation of the ownership of this stock be controlled by our Government?

Dr. WELSH. I do not think so, sir. I think this would be a matter of their going on the market and buying stock just the same as anyone else goes on, but they would be limited in total amount.

Mr. KEITH. It is not a fact, then, that the stock would be subject to the free play of the law of supply and demand, and the fact that one country owns a larger portion of it than another would depend on how much they would want to pay for it?

Dr. WELSH. I think that is correct.

Mr. KEITH. So it would not necessarily preclude ownership by other countries if they were willing to pay the price?

Dr. WELSH. No. I was just wanting to make the point that it wouldn't be 20 percent owned by this country and another 20 percent by another.

Mr. KEITH. I wanted to make sure that the State Department didn't use it as an instrument of policy by attempting to allocate stock to a particular country.

Dr. WELSH. I can only say to you that at no time during our debate and discussion and consideration of this did that thought come up.

Mr. KEITH. You said that almost all of the money spent thus far has been given by the Government. I think the record should show that in addition to the satellite experiments made by private enterprise that lots of research and development in the field of communications has, of course, been by private enterprise in our country with outstanding success, not only in the field of radio and telegraph, but also telephone and television.

Dr. WELSH. I wouldn't want to minimize the role of private enterprise.

Mr. KEITH. I am sure that you don't want to minimize it. But without disparaging the imaginative coordinating role of NASA, isn't it fair to say that private enterprise has supplied the majority of the research and development which has now produced this workable communications satellite?

Dr. WELSH. I think that is correct, under contract with the Government in most cases.

Mr. KEITH. With reference to Mr. Collier's question about the possibility of loss, with the Government playing such an active role in the formation of this Corporation there will be in the public mind, it seems to me, some thought that the Government will have a very substantial responsibility for the financial success of this venture, and they might expect a more active role in the financing of further efforts.

Would there not be more political control and impact under this kind of a corporation than one conforming more to the normal standards?

Dr. WELSH. I don't see that there would be. I have great confidence in the ability of private enterprise, in private skills, to make a success out of this. It is to be completely owned privately. It is subject, as is the A.T. & T. at the present time, to regulation by Government bodies set up for that purpose, and I don't believe anybody thinks that the Government runs the A.T. & T. At least, I hadn't heard that.

So I don't believe that this does introduce any additional political element into it, because it is simply a regulatory element and assistance element of research and development, and so forth.

Mr. KEITH. There seems to be some concern among the members of this committee that the role played by the executive branch in setting up the format of this Corporation might in the public eye indicate a greater interest on the part of the Government than would otherwise be the case. Why not have it supervised primarily by the FCC and the SEC?

Dr. WELSH. And that is what it is, sir; it is supervised primarily by the FCC, and is recognized as a common carrier subject to their regulation and subject to the Communications Act of 1934, as amended. That is the primary thing. We just didn't want to have any confusion in this thing as to what the role of the other agencies of the Government were going to be, so we tried to spell them out.

Mr. KEITH. That is all, Mr. Chairman.

Thank you.

The CHAIRMAN. Mr. Kornegay?

Mr. KORNEGAY. Thank you, Mr. Chairman.

Dr. Welsh, it is certainly nice to see you this morning.

Dr. WELSH. Thank you, sir.

Mr. KORNEGAY. As a member of this committee I appreciate your coming here and explaining this bill to us.

I would like to ask you one or two things. No. 1, as was brought out here, and as you stated, this is an effort to set up a private corporation owned and operated and controlled by the individual stockholders.

Dr. WELSH. That is correct.

Mr. KORNEGAY. And there are two classes of stocks, class A, which would be sold to the public generally, including any carriers that would be interested in purchasing stock which would be the dividend-bearing shares and the voting shares?

Dr. WELSH. That is correct.

Mr. KORNEGAY. And the class B would be purchased and limited only the carriers, as I understand it?

Dr. WELSH. That is correct, sir.

Mr. KORNEGAY. And no other person, firm, or corporation could own the class B shares other than the carriers such as A.T. & T., ITIT, and the others?

Dr. WELSH. Any carriers authorized by the FCC, and only those.

Mr. KORNEGAY. Now, the ownership of the stock is limited in two respects: One, 15 percent of the total authorized capital, or 25 percent of the outstanding shares; is that correct?

Dr. WELSH. That is correct, sir.

Mr. KORNEGAY. Or whichever is less?

Dr. WELSH. Yes.

Mr. KORNEGAY. In other words, Upon the initial issue could A.T. & T. go in and purchase, or any other firm or other person, purchase 15 percent of the total authorized capitalization of the Corporation initially?

Dr. WELSH. Let me put it this way to you. At no time could anyone own more than 15 percent of the total authorized or own more than 25 percent of the total issued.

Mr. KORNEGAY. I didn't know whether I understood that or not, unless you say whichever is less—because, of course, initially there will be none outstanding.

Dr. WELSH. That is correct.

Mr. KORNEGAY. And so how are you going to get it—certainly one could come in and purchase initially 15 percent of the total authorized capital stock, and then, of course, as the stock is sold when that 15 percent becomes less than 25 percent of the outstanding stock, they could purchase additional shares up to 25 percent.

Dr. WELSH. I think it is very helpful to the record that you have brought that particular point out.

Mr. KORNEGAY. Is my understanding incorrect as to the procedure there?

Dr. WELSH. If I understand you correctly, your understanding is correct; yes, sir.

Mr. KORNEGAY. Now, there is one other thing that I want to call to your attention and ask you for an explanation, and that is under section 302, which states that—

The President of the United States shall designate incorporators who shall arrange for an initial stock offering and take whatever other actions are necessary to establish the Corporation, including the filing of articles of incorporation which shall—

and this is the substance of my question—

thereafter be amended only upon the initiation by or the approval of the President.

In other words, my understanding was that the only function of the President and the Government was to set this Corporation up initially.

Dr. WELSH. That is correct.

Mr. KORNEGAY. And yet this bill goes on to state that after the Corporation is set up, put into business, that the charter can thereafter be amended only upon the initiation by or approval of the President, rather than of the stockholders as is ordinarily the case.

Dr. WELSH. The reason for that is simply this, that having prepared a bill and having the Congress act on the bill we wanted to be clear that for some reasonable period of time anyway the Corporation which is set up is what was intended rather than have amendments made which would in a sense be in conflict with the provisions of the law.

Mr. KORNEGAY. How could the Corporation amend its charter in such a fashion that it would be in conflict with the law?

Dr. WELSH. I am sure it could, but I don't know how long it would stand up.

But there might be provisions that they would amend in here that were not intended at all, and the Congress hadn't had a chance to discuss, and the President hadn't anticipated, and that is the only reason for it.

We just wanted to be as certain as possible that this was what we say it is, what the investors thought they were investing in, and that it was not going to be changed the next day or the next week. That is the only reason that I can think of.

Mr. KORNEGAY. That is all, Mr. Chairman.

The CHAIRMAN. Mr. Curtin?

Mr. CURTAIN. Thank you, Mr. Chairman.

Dr. Welsh, is there going to be any restrictions on the resale or transfer of this stock, either class A or class B, after its initial issue?

Dr. WELSH. Well, it will be subject to the FCC as far as the class B stock is concerned, but not on the class A stock.

Mr. CURTAIN. Now, as I understand it, your position is that under the provisions of this bill the President appoints the incorporators, they then sell the stock and then their job is done, is that it?

Dr. WELSH. That is my understanding, sir.

Mr. CURTAIN. You say you have set up a lot of corporations. Isn't it normally the case that the incorporators end up as directors or officers, or at least they have a very strong voice in the selection of those persons?

Dr. WELSH. Well, I don't have any poll on that. I know both results have happened. Sometimes it is set up by a group of individuals just to get the thing started, and then it is turned over to others. In this case, however, it is clear that there is no intention of retaining control or ownership at all.

Mr. CURTIN. Isn't what you say about the incorporators setting up the company and then forgetting about it rather an unusual set of circumstances?

Dr. WELSH. I just don't know.

Mr. CURTIN. And even if the incorporators should merely be strawmen, then normally isn't the person who appoints them or who has a hand in the selection of these incorporators, isn't he the person that has a very definite voice in who are going to be the directors and the officers?

Dr. WELSH. I am sure that that happens sometimes. It is not the intent of this, however, that the incorporators set up by the President will do anything more than is stated here. Someone had to get it started, that is the reason for that provision in the bill.

Mr. CURTIN. Can't the incorporators, if this is purely a private enterprise—a private corporation—can't the incorporators pretty well control who are going to buy that initial issue of A and B stock?

Dr. WELSH. Not if it is sold on the open market: no, sir.

Mr. CURTIN. In the event that it is oversubscribed, you mean they can't select who is going to get it?

Dr. WELSH. Well, I don't think that it is a question of oversubscription to a billion dollars authorized stock on the first issue. As a matter of fact, I think it would be ineffective use of investment to put the total amount of potential investment in this all at once.

Mr. CURTIN. You say that the incorporators will have absolutely no choice as to the selection of persons who subscribe to this stock?

Dr. WELSH. I didn't say just that. I said it was not the intention that they would.

Mr. CURTIN. They could conceivably have a considerable amount of voice in the selection of the ultimate purchasers of this stock, could they not?

Dr. WELSH. It would depend somewhat on who the incorporators were, I suppose. If the incorporators were the officials of the Government just to get the thing started, they probably wouldn't have very much to say about it, since they wouldn't be stockholders.

Mr. CURTIN. I am also very much interested in the section of the bill that my colleague, Mr. Kornegay, called to your attention, and that is the fact that the President is going to have a voice in any changes in the articles of incorporation, and, of course, from that would follow any changes in the charter or in the bylaws. Don't you think that that is rather unusual in a purely private corporation?

Dr. WELSH. I think it is.

Mr. CURTIN. Do you still contend that it is just a private Corporation?

Dr. WELSH. Yes. The fact that that is something unusual doesn't prevent it still being private. Do you have a better suggestion, sir?

Mr. CURTIN. If it is going to be a private Corporation, I don't think that any Government official should have anything to do with the management other than the usual supervision under laws presently existing for FCC, SEC, and such regulatory agencies.

But if you let me ask the questions, sir—

Dr. WELSH. Yes, sir. That is the first time I have done that.

Mr. CURTIN. Now, you say in answer to Mr. Kornegay that such Presidential supervision is only going to be for a reasonable period to see that this program is properly launched.

Is there any provision in this act that such supervision is only for a reasonable period?

Dr. WELSH. No.

Mr. CURTIN. The act seems to say that the President is going to have that control during the life of the Corporation, isn't that correct?

Dr. WELSH. Yes.

Mr. CURTIN. Wouldn't you admit that this is pretty much of a hybrid Corporation?

Dr. WELSH. No, sir. It would be completely private, as to ownership.

Mr. CURTIN. That is all.

Thank you.

The CHAIRMAN. Mr. Sibal?

Mr. SIBAL. Dr. Welsh, would you clarify for me what agency or individuals are actual proponents of this proposed bill?

Dr. WELSH. This bill is the administration's bill and sent up by the President. And I don't know of any vote taking throughout all the agencies of the Government.

Mr. SIBAL. Can you tell me who prepared the draft?

Dr. WELSH. Yes, sir, I can tell you who participated in the preparation of the draft. There were nine agencies of the Government that participated in the preparation of the draft. Among them were representatives of these agencies: FCC, NASA, the Department of Defense, the Department of State, the Department of Justice, the Bureau of the Budget, the OEP (formerly OCDM), the Office of the President's Scientific Advisor, and the USIA. That is nine. In addition, of course, there were representatives of the Space Council.

Mr. SIBAL. Are you indicating that each of these agencies endorsed this bill?

Dr. WELSH. No, I was not, I said they participated in the drafting of it, and that I didn't know of any formal vote that was taken. Various agencies were asked for their views on the bill, and I am sure that many of them commented only on that portion of the bill that seemed to affect them and their activities.

Mr. SIBAL. Well, this is the point. Do you consider being asked for one's views participating in the drafting of it?

Dr. WELSH. No. We had a long series of meetings in the drafting of this, and they went on for hours on a number of occasions. We would take a draft and work it through with representatives of all these agencies; they would make suggestions of language; and they would discuss it. We would work up another draft and come back to another meeting and go over it again and go around and get the views again, and if anybody had suggestions, and they could argue something that seemed to be more practicable, it was adopted.

Mr. SIBAL. On page 12 of the bill, on line 25, which sets forth the price of the class A stock, you have the price not less than \$1,000 a share.

What does that mean to you?

Dr. WELSH. That means that the minimum price would be \$1,000 a share, and it does not set a maximum price.

Mr. SIBAL. So that actually we are not talking about \$1,000 a share, you are accepting it only so far as it might be a floor, is that right?

Dr. WELSH. I think there might be a tremendous interest in the purchase of this stock, and it is very possibly an effort to bid the price up, yes, sir.

Mr. SIBAL. So that actually we do not have an initial subscription price, do we?

Dr. WELSH. We have one specified, but it might not hold.

Mr. SIBAL. Do you really have one specified other than—

Dr. WELSH. As a minimum is all, that is right.

May I add just one point?

As I have said before, I don't attach any great significance to this thousand dollar share, if it should be less would not be at all troublesome to me.

Mr. SIBAL. Is there any reason for the creation of the class A stock in addition to what you have suggested before, simply that in your view this would require broader participation in the investment of the Corporation?

Dr. WELSH. Well, there is the additional and very important reason, and that is not only broader participation, but a much greater availability of funds, because that many more people can invest.

Mr. SIBAL. I want to get this straight in my mind.

Is this to encourage the investment of capital, is that what you are setting forth as the main reason for class A stock?

Dr. WELSH. I am saying that is one of the major reasons.

Mr. SIBAL. And if that reason could be shown not to be valid, and if it can be shown to you that sufficient investment capital was available without the creation of class A stock, would that remove the desirability or the need for class A stock, in your opinion?

Dr. WELSH. No, it would just remove one of the reasons for it.

Mr. SIBAL. And what reason would be remaining?

Dr. WELSH. The remaining reason would be domination by an individual company.

Mr. SIBAL. You put the company in the singular.

Dr. WELSH. I put the company in the singular, because on the best of the information that has been available and submitted to the ad hoc committee and other reports, there is only one common carrier that is in a position to furnish large amounts of money for this thing.

This is not a question of willingness, but being in a position to.

Mr. SIBAL. How were the figures of 15 percent of the authorized class A stock and 25 percent of the outstanding class A stock arrived at, section (d)?

Dr. WELSH. Just through the normal procedure of discussion of various percentages and various amounts, and these are the ones we came up with.

We don't consider that there is anything sacrosanct about the 15 or the 25, but they seemed like sufficient amounts, sufficient percentages that would allow larger amounts from those who have larger amounts to invest to come in and still not have what we call financial domination.

Mr. SIBAL. Would you have any objection to the removal of the section of the bill which Mr. Kornegay raised which in effect retains complete control of the charter of this Corporation and its basic structure in the President of the United States?

Dr. WELSH. I find it a little difficult to answer your question, in the sense that I am not here in a position to try to amend the bill that the President has set up. But as a personal reaction to your question, I do not consider that to be a major feature of the bill, and, therefore, I would say if that were the only change made in the bill we would have a mighty good bill still.

Mr. SIBAL. Would you say that your approach to this, and insofar as you know the President's, is to keep the Government control at a minimum?

Dr. WELSH. The minimum necessary to protect the public interest, that is all.

Mr. SIBAL. One question which is not related to this series of questions.

There does not seem to be any right of appeal beyond the FCC concerning the requirement that certain communications carriers might sell stock upon the application of another carrier who wanted to participate in the ownership in a class B section. Would you think that possibly there should be a right of appeal to the courts in connection with this?

Dr. WELSH. Without having studied this, I would be inclined to think that this might better be made through an amendment to the Communications Act of 1934, as amended, and through the authority that the FCC has in controlling corporations under their jurisdiction rather than in this bill.

Mr. SIBAL. Well, that may be. I wondered about that, frankly, myself.

But in any event, you would agree that we should see to it that the right of appeal was maintained?

Dr. WELSH. I would certainly see no basis for objection to it, sir.

Mr. SIBAL. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Dominick?

Mr. DOMINICK. Thank you, Mr. Chairman.

Mr. Welsh, I presume that since this is a public offering it would have to be a prospectus cleared by the SEC, would it not?

Dr. WELSH. That would be my understanding, sir.

Mr. DOMINICK. Would you also agree with me that they would have to put on the front page of that prospectus that "This is a speculative offer"?

Dr. WELSH. I don't know what the rules of the SEC are as to what they have to put on the front of it. I would say that it is mildly speculative, not very speculative, no.

Mr. DOMINICK. Well, I think that you will find under the SEC regulations that that would have to be done.

Dr. WELSH. I assume that is correct.

Mr. DOMINICK. Also, I would presume that when you stated that most corporations have setups like this you were simply referring to the fact that there are two classes of stock, you were not referring to the provisions that are in the bill with respect to governmental control, were you?

Dr. WELSH. Only as far as communications carriers are concerned.

Mr. DOMINICK. Now, do you know of any communications carrier corporations which has a provision similar to section 201(a)(8) on page 7, which gives to an official of the Government complete access to all records, the right to attend all board meetings, to make certain of what is being done and what needs to be done, and to make recommendations to the President to change it whenever necessary?

Dr. WELSH. I don't know in detail the authority that the FCC has in regard to the companies that it regulates. I do know it has access to the books and rates for regulation purposes. I think it is not a completely new thought at all in regard to regulated companies, no, sir.

Mr. DOMINICK. He would be giving recommendations to the President?

Dr. WELSH. He has no authority to act, of course, in the corporation.
Mr. DOMINICK. I understand that.

He would be giving recommendations to the President to do whatever is necessary in order to attain due compliance with national policy. This would indicate to me, and I would like your judgment on this, that the board of directors in fact has no control over this corporation.

Dr. WELSH. I certainly wouldn't agree with that. The national policy in regard to communications satellite corporations was set out by the President last July. It would be formulated in this particular piece of legislation if this were passed. And it is simply a matter of carrying out that type of national policy which has to do with the features which are expressed in the law.

I think most all of them are right in the law.

So it would be merely a matter of the executive having the responsibility of seeing that the law is properly administered, seeing that it is carried out that way, that is all.

Mr. DOMINICK. Mr. Welsh, I think if you combined that section (8) with subsection (c), (6) and (7) on the same page, and put it in with section 302 referred to by Mr. Kornegay, that you would agree with me that the control of this Corporation is completely in the hands of the Government really, and not in the hands of the board of directors.

But, skipping—that is my interpretation, I will put it that way, and it need not be yours.

Dr. WELSH. I don't want to let the record by my silence show that I agree with you, sir.

Mr. DOMINICK. I am unable to find in the bill which I have before me the limitation on foreign ownership with respect to the 20 percent that you referred to.

Could you give me that section so that I could look at it?

Dr. WELSH. It is section 304(e), page 14, which says:

The provisions of section 310 of the Federal Communications Act of 1934, as amended (47 U.S.C. 310), shall be applicable to ownership of shares of stock of both classes in the corporation.

Mr. DOMINICK. And section 310 is where this 20-percent limitation applies?

Dr. WELSH. Also having to do with the matter of election of directors to the board, I believe.

Mr. DOMINICK. What was the purpose in giving the State Department the power to conduct negotiations between this corporation and the foreign country?

Dr. WELSH. It would provide for prior notification of negotiations, but it does also give the power to conduct them, if necessary, because some of these things involve international agreements between governments, and some of them would develop even to the point of treaties, perhaps. So, therefore, it would seem, since the State Department is the Department that has the responsibility for international relations, that it have that function.

Mr. DOMINICK. Do you know of any international carrier agreements between countries that has been conducted by treaty, fulfilled by treaty?

Dr. WELSH. As between individual carriers, I can't answer the question. We do have treaties, of course, in regard to the allocation of the various portions of the radio spectrum.

Mr. DOMINICK. Do you now whether the State Department has conducted any negotiations between private carriers in foreign countries in regard to international communication?

Dr. WELSH. As far as I know, it has not actually conducted them. It has participated in such activities however. I believe in a most recent case, renegotiation of a cable landing license between the Western Union and the French Government, the U.S. Ambassador was requested to come in and participate in that particular matter.

Mr. DOMINICK. Was this bill cleared with the Securities and Exchange Commission as to what might have to be put into a prospectus if you offer the shares to the public?

Dr. WELSH. No. That would have been a step which would eventually have to be taken, I am sure, but it was not done. We had conversations with people in the SEC as to the different types of stocks and so forth, and got the advantage of their expert opinion, but we didn't ask them for their views on the prospectus.

Mr. DOMINICK. Does the District of Columbia Corporation Act require any basic amount of cash investment before a corporation can commence operation?

Dr. WELSH. I can't answer that question, I am sorry. I can get the answer for you, sir.

The CHAIRMAN. You may supply it for the record.

(The answer referred to is as follows:)

Incorporation under the District of Columbia Corporation Act does not require any cash. In order to begin business, a new corporation must have at least \$1,000 of capital, but it need not be in the form of cash.

Mr. DOMINICK. That is all, Mr. Chairman.

The CHAIRMAN. Mr. Kornegay, you had one additional question?

Mr. KORNEGAY. Yes, sir. I had a question about which Mr. Dominick asked, and that is, how much stock is necessary to be sold before the company could operate? And then I thought it might be covered by the District of Columbia Business Act.

Now, in connection with section 304, what would be your feeling about an amendment there, Dr. Welsh, that would call for 100 million shares of Class A stock to have a par value or to be sold initially for \$10 per share?

Dr. WELSH. I certainly wouldn't have any objection to that. However, it would seem to me that that is a rather low price, and might encourage individuals who don't read prospectuses very carefully, and who might really be dependent upon dividends rather quickly, to think they could purchase and get a quick return on a low price stock. There is a tendency on the part of individuals in the case of low price stocks to think that they are something that they are going to make a lot of money out of quickly. So the \$10, it seems to me, is a little low, I am not going to say that it might not be acceptable, but something between \$10 and \$1,000 doesn't seem to me to be at all unreasonable.

Mr. KORNEGAY. I have not given it a lot of thought, and I am certainly not wedded to the idea at the moment, but the thought occurred to me that that might give it broader public base.

Dr. WELSH. I am certainly in support of that idea, as you know, because that has run through my testimony, the broader base, and there have been suggestions that a hundred dollars might be a better price. There have been suggestions from \$25 to \$100, and various other figures.

Mr. KORNEGAY. Thank you, sir.

The CHAIRMAN. Dr. Welsh, we do appreciate your appearance here this morning. I did not understand who are the members of the Space Council.

Dr. WELSH. The Chairman of the Space Council is the Vice President of the United States. The other members are the Secretary of State, the Secretary of Defense, the Administrator of NASA, and the Chairman of the Atomic Energy Commission.

The CHAIRMAN. Were all four agencies that you just mentioned included in the nine agencies who participated in the development of this legislation?

Dr. WELSH. Those agencies all participated, but I will have to modify the comments as regards the AEC. The Atomic Energy Commission was invited to attend, and I believe they may have attended several of the meetings, but said they didn't have a primary interest in it, so they didn't participate in the drafting. But NASA, State, and Defense did participate in the meetings regularly.

The CHAIRMAN. Now, if you did not list all nine of the agencies that you had in mind in your list a moment ago, will you complete the record on it?

Dr. WELSH. I would be pleased to have that opportunity to do so.

The CHAIRMAN. Now, in view of the questions that have been asked—and I am sorry that all of our colleagues could not be here for these final two or three questions—in view of the questions that were asked, was the Space Council asked to consider the approval or disapproval of this proposal?

Dr. WELSH. The Space Council as a council was not so asked, because the President has a provision for clearing legislation already established, and so we didn't go through the duplicate that procedure.

The CHAIRMAN. Your explanation in your statement was very clear to me, but I wanted to make it indelibly clear in the record, in view of some of the questions that have been asked. In other words, the Space Council as a council was not asked to approve or disapprove this legislation?

Dr. WELSH. That is certainly correct, and I am appreciative of your making that clearer than it was before.

The CHAIRMAN. I am sure you can understand the interest of members of the committee from the questions that were asked of you today. I am constrained to state that there are some things that have been attempted to be read into this legislation which do not exist. And, for that reason, I am sure the members of the committee are going to have to study it more carefully and longer in order to become acquainted with what the bill does propose, and where disagreements lie.

Actually, the two or three areas of disagreement, the major areas of disagreement, would be in the stock ownership, is that not true?

Dr. WELSH. I think this is one on which there have been different views.

The CHAIRMAN. And the question of common carrier ownership versus wider ownership under private enterprise, isn't that also one of the areas of disagreement?

Dr. WELSH. Certainly that would be an area.

The CHAIRMAN. And then isn't there an area of disagreement on who would own the ground stations?

Dr. WELSH. There have been several views expressed on that, yes, sir.

The CHAIRMAN. There are several questions that I have in mind, but a major question in this respect is why should the Corporation own any of the ground stations?

Dr. WELSH. The reason for providing that the Corporation would own ground stations is to get the most efficient operation underway as quickly as possible, to get compatibility of technology as between one ground station and another, so that we do have some uniformity in this operation, to make it easier for the FCC to regulate, and to give assurance that there would be equitable access to the ground stations by all these who are authorized to use it.

Those are the reasons.

The CHAIRMAN. Dr. Welsh, I can appreciate the long and thoughtful consideration you have given to the question of ownership of ground stations, but I want to try to get more explanation of it. I simply cannot see why the Corporation should be owning a ground station unless the idea is to provide assurances for certain operation by the military or certain other eminent and important Government operations.

Now, as I understood your testimony, the carrier shareholders, that is, the corporations, private carrier corporations, who are going to have, or are expected to have, a share in this, would be permitted to have their own ground stations?

Dr. WELSH. They would be permitted. And I think that it is rather important that this new private corporation not be deprived of also being an owner of ground stations.

The CHAIRMAN. Dr. Welsh, we have had a lot of complications develop out of the fact that we have had in the past so many different controls, separate controls of the airways. We found that we got into such difficulties, and some rather tragic incidences happened, that we had to enact the 1958 act setting up the Federal Aviation Agency.

Now, that was made necessary because the Air Force had its own control operation, and the commercial carriers had theirs under the old CAA, and there was another one, so that there was no coordination whatsoever.

And it seems to me you might run into the same situation here. I should think that your group might take another look into this and see if we could not have control by the people who are operating this thing under the regulation of the FCC than by having too many people in the business.

Dr. WELSH. May I suggest simply that this new Corporation would also would be subject to the regulation by the FCC?

The CHAIRMAN. Yes, I appreciate that. But if it is the intention to be sure that we have two separate systems operating, why then I can see some feasibility to it. If it is the purpose of coordinating this whole activity so that we will have the most efficient operation, then I can't see the necessity of setting up two ground stations side by side.

Dr. WELSH. I agree with you, I don't see any necessity for setting up the two ground stations.

I think that there is much merit in having a carefully planned minimum number of ground stations set up and not have the other corporations, the carriers, have to invest money in setting up ground stations.

The CHAIRMAN. But if the carriers who are interested in this would prefer to set up their own ground stations and assure that that would be done effectively, wouldn't that be a better solution?

Dr. WELSH. It might be a good solution, I don't know that it would be better.

The CHAIRMAN. Anyway, I wish you would go into that further.

But time would not permit me to continue, and it would not be necessary anyway.

You have done a magnificent job this morning, and your statement is very clear. I don't think that there can be any misinterpretation or misunderstanding by anyone as to your views as shown by your testimony here today.

Let me thank you for your appearance. We hope that you will continue to improve in your health, and that you will certainly be 100-percent well.

Dr. WELSH. Thank you, Mr. Chairman. I feel better already.

The CHAIRMAN. We appreciate your coming here and being with us today to testify for the administration's proposal, and you have proven yourself very capable in that capacity.

The committee will adjourn until 11 a.m. tomorrow. We will meet at 11 because there is a Democratic caucus at 10 o'clock, and, consequently, we will meet at 11 o'clock, at which time the Federal Communications Commission will be here to testify.

(Whereupon, at 12:35 p.m., the committee recessed, to reconvene at 11 a.m., Wednesday, March 14, 1962.)

The first of these is the fact that the
 government has been unable to raise
 the necessary funds to carry out its
 policy. This is due to a number of
 reasons, including the fact that the
 government has been unable to attract
 foreign investment, and that it has
 been unable to raise taxes. The
 second reason is that the government
 has been unable to control inflation,
 which has led to a loss of confidence
 in the government. The third reason
 is that the government has been
 unable to control the balance of
 payments, which has led to a
 depletion of foreign reserves. The
 fourth reason is that the government
 has been unable to control the
 money supply, which has led to a
 loss of confidence in the currency.
 The fifth reason is that the
 government has been unable to control
 the exchange rate, which has led to
 a loss of confidence in the currency.
 The sixth reason is that the
 government has been unable to control
 the interest rate, which has led to
 a loss of confidence in the currency.
 The seventh reason is that the
 government has been unable to control
 the money market, which has led to
 a loss of confidence in the currency.
 The eighth reason is that the
 government has been unable to control
 the credit market, which has led to
 a loss of confidence in the currency.
 The ninth reason is that the
 government has been unable to control
 the real estate market, which has led
 to a loss of confidence in the
 currency. The tenth reason is that
 the government has been unable to
 control the stock market, which has
 led to a loss of confidence in the
 currency.

COMMUNICATIONS SATELLITES

WEDNESDAY, MARCH 14, 1962

HOUSE OF REPRESENTATIVES,
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D.C.

The committee met, pursuant to recess, at 11:05 a.m., in room 1334, New House Office Building, Hon. Oren Harris (chairman of the committee) presiding.

The CHAIRMAN. The committee will come to order.

In resuming the hearings on H.R. 10115 and H.R. 10138 to provide for the establishment of a commercial communications satellite system, we are very glad this morning to have the Federal Communications Commission.

I believe we have all seven members of the Commission present this morning.

As chairman of the committee and for the committee let me welcome all seven of you here.

The Chairman of the Commission, Hon. Newton N. Minow, will present the Commission's statement regarding this important problem.
Mr. Chairman.

STATEMENT OF NEWTON N. MINOW, CHAIRMAN, FEDERAL COMMUNICATIONS COMMISSION, ACCOMPANIED BY ROSEL H. HYDE, COMMISSIONER; ROBERT T. BARTLEY, COMMISSIONER; ROBERT E. LEE, COMMISSIONER; T. A. M. CRAVEN, COMMISSIONER; FREDERICK W. FORD, COMMISSIONER; JOHN S. CROSS, COMMISSIONER; BERNARD STRASSBURG, ASSISTANT CHIEF, COMMON CARRIER BUREAU; AND MAX PAGLIN, GENERAL COUNSEL

Mr. MINOW. Mr. Chairman and members of the committee, I am appearing today to present the views—and, I add, the unanimous views—of the Federal Communications Commission on H.R. 10115, recommended by President Kennedy and introduced by Chairman Harris. This bill would establish a national policy with respect to our Nation's participation in the establishment and operation of a commercial space communication system.

The CHAIRMAN. Let me get this straight so every member of the committee will know.

Did you not just say that you are presenting a unanimous position of the Commission?

Mr. MINOW. That is correct, Mr. Chairman. I am very pleased to state that.

The CHAIRMAN. All right.

Mr. MINOW. It is identical with S. 2814, on which the Commission testified before the Senate Committee on Aeronautical and Space Sciences on February 28, 1962.

In accordance with Chairman Harris' announcement of these hearings, we will also address ourselves to other bills relating to this subject. These bills include: H.R. 9696, introduced by Congressman George P. Miller of California, chairman of the House Committee on Science and Astronautics, which is identical with S. 2650, on which we also testified before the Senate Space Committee on February 28; H.R. 10104, introduced by Congressman Olin E. Teague of Texas, which is, except for certain provisions, identical with H.R. 9696; H.R. 9907, introduced by Congressman William Fitts Ryan of New York; and H.R. 10629, introduced by Congressman Frank Kowalski of Connecticut.

I might add for the record that Congressman Miller has also introduced H.R. 10138, which is the same as H.R. 10115.

The ability to use space satellites to relay communication over long distances is a development of great importance to our Nation. It is not only a most significant advance in communications technology; it also provides us with an unprecedented opportunity to demonstrate our desire that space be used for peaceful purposes to benefit all mankind. We shall be able, in cooperation with other nations, to greatly increase the capacity of existing worldwide communication networks and thereby accommodate the rapidly growing volume of international public correspondence. We shall be able to institute on an international scale new and expanded telecommunications services, such as transmission of high-speed data and television, which are now provided domestically.

Space communication also promises to make direct communication possible on an economic basis with the newly emerging nations and smaller nations of the world.

Within the United States, it is generally accepted that for the foreseeable future only one commercial space communication system will be technically and economically feasible. There is also general agreement that, because of these practical limitations, the system must accommodate at least the following policy requirements: It should provide for potential global coverage; it should be open to participation by foreign nations through ownership and use; there should be nondiscriminatory use of and equitable access to the system by all communication carriers in the United States authorized to use the system; and there should be effective competition in supplying goods and services required by the system.

If our Nation is to provide constructive world leadership in the establishment of an operable space communication system, we cannot afford delay in taking steps to translate this new technology into practical application for the benefit of our own and other nations of the world as quickly as possible. It is therefore fitting for the Congress at this time to consider measures to assure effectuation of the policies to be accommodated by such a system and, in this connection, to define the respective responsibilities of private enterprise and the several departments and agencies of the Government.

As you know, during the past year, the Commission has given extensive consideration to the problems in this field, the areas in which policy decisions must be made, and the various ways in which such policies might best be implemented.

Our studies, particularly our general inquiry proceeding in docket No. 14024, have convinced us that the necessary decisions can and should be made within the context of our traditional philosophy under which telecommunication facilities of this Nation are owned and operated by regulated private enterprise. It is our conviction that the interests of the United States in a global space communication system can be effectively promoted by the initiative and resources of private enterprise within the framework of appropriate Federal regulations.

H.R. 10115 follows the principle set forth in the President's policy statement of July 24, 1961—reliance on regulated private enterprise. H.R. 9696 and H.R. 10104 also fully reflect this philosophy.

H.R. 9907 and H.R. 10629, on the other hand, would alter this traditional philosophy by entrusting the accomplishment of our objectives to a wholly owned Government corporation. We think that the advantages of regulated private ownership are manifest.

The statement which follows will be addressed to H.R. 10115, H.R. 9696, and H.R. 10104, the provisions of which are premised on private enterprise as the means by which our Nation's participation in a communication satellite system shall be given expressions.

Although varying in detail with respect to implementation, the bills are in substantial accord as to purpose in most major areas. Each provides for the formation of a privately owned corporation to represent the United States in the establishment, ownership, and operation of a global system. Each contemplates that existing communication carriers will continue to bear the responsibility for furnishing service to the public through facilities obtained from the new Corporation, as well as through their present facilities.

Each provides for foreign participation in the establishment, ownership, and operation of the system. Each provides that all authorized common carriers shall have nondiscriminatory use of and equitable access to the system. Each provides that there be effective competition in the procurement by the Corporation of material required by the system. And each sets out the responsibilities of the President, the National Aeronautics and Space Administration, and the Federal Communications Commission with respect to the Corporation.

The Commission is in general agreement with the objectives of the bills in these areas, and believes that there should be no difficulty in resolving differences between them on details of implementation. We shall cooperate with the committee in this regard if the committee so desires. At this time we will confine our comments to the more salient aspects of the bill.

We wish, at the outset, to comment on what appears to be the major difference between H.R. 10115, on the one hand, and H.R. 9696 and H.R. 10104, on the other—the ownership composition of the proposed Corporation. H.R. 9696 and H.R. 10104 propose that only U.S. communications common carriers participate in ownership of the Corporation. H.R. 10115, however, would invite ownership participation by anyone, including such carriers, in a class A stock, which is to have voting and dividend rights. It further provides for a class B stock, without these rights, which can be purchased only by carriers and which would be eligible for inclusion in their respective rate bases to the extent allowed by the Commission.

The touchstone for resolving the conflict between the bills in this regard is, of course, the public interest. We believe the foremost consideration in the application of this standard to be the universal extension of the benefits of space communication; that is, improved telecommunication service at the most reasonable rates to the using public as rapidly as possible.

In evaluating each of the bills against this objective, we think the following factors are highly relevant:

1. Communication service in this country is furnished to the public by privately owned common carriers operating subject to Government regulation. The Communications Act imposes an obligation on these carriers to furnish service in an efficient manner at reasonable charges to the public. They are required to equip themselves with adequate facilities necessary to effectively discharge this obligation.

2. Telephone service between the United States and oversea points is provided almost exclusively by the American Telephone & Telegraph Co. through both high-frequency radio and submarine cables. Hawaiian Telephone Co. furnishes telephone service between Hawaii and the United States mainland. Telegraph service is furnished by various competing international telegraph carriers. The principal telegraph carriers are the Western Union Telegraph Co., whose oversea facilities consist entirely of submarine cables; the American Cable & Radio companies (subsidiaries of International Telephone & Telegraph Co.), which operate by both radio circuits and submarine cables; and RCA Communications, Inc. (a subsidiary of Radio Corp. of America), which operates principally by radio circuits. Press Wireless, Inc., furnishes a worldwide telegraph service limited, however, to press material.

All of these companies offer essentially a worldwide service. There are also several smaller carriers, such as Tropical Radio Co. and United States-Liberia Radio Corp., which furnish telegraph services to a limited number of oversea points. A.T. & T. also furnishes certain oversea private line record services to the Military Establishment.

In recent years, following the installation of A.T. & T.'s high capacity submarine cables, certain of the oversea telegraph companies have been authorized to lease channels in those cables to supplement their own systems. In addition, there are U.S. corporations, such as General Telephone & Electronics Corp., that own foreign subsidiaries providing service with the United States.

3. Communication via satellite, though a new technology, is essentially but another means of relaying long-distance communications. It will perform much the same function as do existing cable and radio facilities of our common carriers. Under no circumstances should it replace existing facilities, which must be maintained by these carriers to afford diversification of facilities and routing needed to guarantee continuity and security of service under all conditions between the United States and oversea points.

Thus, from a service standpoint, the utilization of satellite facilities by any common carrier will require technical and operational coordination and integration of those facilities with its existing facilities.

4. Ordinarily, as new technological advances are made, each carrier independently may integrate such new development into its own system. However, the economic cost and technical demands of a communication satellite system make it impossible for each carrier unilaterally to take advantage of this development.

Thus, for all carriers to share in the benefits of this new advance and pass them on to the public, they must jointly participate in a single space communication system.

5. By reason of their experience and responsibility for furnishing communication service, the regulated carriers themselves are well qualified to determine the facilities best suited to their needs and those of their foreign counterparts, with whom they have had long-standing and effective commercial and operational arrangements and who will have a substantial interest in the operations as well as the ownership of any space communication system. The public interest in efficient and economical service can best be satisfied by the carriers maintaining control over the facilities used to furnish service. Their statutory obligation to provide efficient service at reasonable charges can be fulfilled most effectively if they are held directly and fully responsible for providing the required facilities and are not dependent upon third parties.

6. The furnishing of international communication service requires agreements between our carriers and the communications agencies that operate the foreign end of the communications circuit. These agreements are complemented by international agreements between governments covering such matters as frequency allocations and standardization of operating techniques and practices.

It is within this established framework of governmental and non-governmental negotiation and agreement that we believe it will be fully possible to resolve all important questions with respect to foreign participation in the establishment, ownership, operation, and use of a global communication system consistent with our national objectives.

7. During the early operational years it is unlikely that the satellite system will operate at a profit. It will probably be a number of years before traffic demands increase to a point where the high channel capacity of the costly system will be sufficiently employed to put the system on a profitable basis. Thus, the cost per satellite channel in use will be very high for some time, compared to existing facilities.

Under ordinary circumstances involving the introduction of new facilities, carriers are able to include in their general rate bases the relatively high cost of their new facilities with the lower costs of their existing plant and thus, in effect, average such costs for ratemaking purposes. Thereby, a return on the capital invested in new facilities is not dependent solely upon the revenues produced by those facilities during their initial years of operation. This has the advantage of facilitating the introduction and application of new facilities in an orderly systematic manner with a minimum of impact on rates charged the public.

Under H.R. 9696 and H.R. 10104, where only carriers would be owners of the Corporation, their investments would be eligible for inclusion in their respective rate bases, so that a return on the total capital invested in the corporation would come from general service revenue produced by all facilities.

Under H.R. 10115, which would permit investment by noncarriers, to the extent capital contributions are made by such noncarriers, a return to such capital can only come from revenues of the Corporation from its satellite operations. Since those revenues will be derived from channels furnished at high cost during initial operational years,

its charges, particularly during those years, will be commensurately high if there is substantial investment in class A stock by the non-carrier.

This will have the undesirable effect of diminishing the amount of use made of the system by our common carriers and their foreign counterparts, who will use less costly facilities to the extent possible and thereby defeat our Nation's objective of fostering the most widespread use that can be made of the system.

The problems we have outlined with respect to the capital costs of the Corporation during the early years apply with equal force to its operating costs during those years.

Thus, we believe that H.R. 10115 presents a most serious problem in this respect. Moreover, we wish to make clear that the structure of the industry proposed in H.R. 10115 is so novel that it is impossible for us at this time to anticipate the nature of other regulatory problems that may be presented.

The foregoing considerations raise serious doubts as to the desirability of noncarrier participation. On the other hand, permitting ownership of the Corporation only by the common carriers would give maximum assurance that its facilities and operations will be responsive to the communication needs of the public. It would facilitate the orderly integration of satellite facilities in the existing worldwide communication network. It would simplify the establishment of agreements and arrangements with foreign governments and entities who will share in the ownership and use of the satellite system.

It would, finally, in our judgment, expedite maximum use of the system on a worldwide scale.

It has been urged that affording Aerospace and other manufacturers the opportunity to invest in the new Corporation will provide a built-in safeguard against the emergence of abuses that might otherwise occur if ownership of the Corporation were limited to common carriers. One such abuse referred to is domination by a single carrier of the policies and operations of the Corporation. There is also concern that the manufacturing affiliates of common carriers will be given favored treatment in supplying equipment and services to the Corporation, thereby depriving other manufacturers of the opportunity to compete for this market.

Because the Commission shares these concerns, we strongly recommend the imposition of specific safeguards to prevent such abuses from emerging from a carrier-owned enterprise. Many of these safeguards are contained in one or more of the several bills which are being considered. Among other things, they would limit each carrier, regardless of the amount of its investment, to equal representation on the Board of Directors of the Corporation; require the Corporation to use such measures as competitive bidding in the procurement of equipment and services; authorize the Commission to determine the appropriate technical characteristics of the satellite facilities; and empower the Commission to allocate satellite channels among the authorized carriers and to take such other measures as are required to insure all authorized carriers nondiscriminatory use of the system upon reasonable terms.

These and other safeguards, in combination with continuing governmental surveillance of the affairs and operations of the Corporation, should effectively serve the public interest in the prevention of abuses of dominance or conflicts of interest.

Unrestricted ownership of the Corporation is not, in our opinion, necessary or desirable as the means of preventing such abuses. The danger of such abuses is also inherent in unrestricted ownership. Apparently it is for this reason that H.R. 10115 provides for comprehensive statutory safeguards.

In summary, the Commission favors the ownership approach reflected in H.R. 9696 and H.R. 10104, for the following reasons: It has distinct advantages from the standpoint of the most efficient and economic use of satellite technology as a means of public communication; adequate and effective statutory safeguards can be provided to protect all essential public interests; and any possible advantages that might flow from a policy of unrestricted ownership are not, in our judgment, sufficient to warrant that approach.

We would now like to discuss briefly certain other aspects of the several bills which we feel warrant comment at this time.

Each bill delineates in varying detail the specific responsibilities of the President, the National Aeronautics and Space Administration, and the FCC in relation to the proposed Corporation and the communications satellite program as a whole. This is desirable to insure overall effective planning and coordination of the several aspects of the program, and to avoid jurisdictional confusion that could hamper effectuation of our national objectives.

We believe, however, that appropriate revisions in the bills, in order to more clearly delineate respective roles, are called for, and, in particular, we think that the Commission's regulatory powers with respect to the Corporation should be better designed. I will treat the latter aspect of this matter in a moment.

Regarding the organization and ownership of the proposed Corporation, for the reasons previously discussed we would strongly favor the approach taken by H.R. 9696 and 10104, which limits ownership to authorized common carriers. We would, however, differ with the ownership approach of these bills insofar as they specify a minimum ownership interest of five shares (\$500,000). This would necessarily prevent ownership participation by smaller carriers, existing and future, who might otherwise be prepared to invest funds in an amount less than the specified minimum. We would recommend elimination of any minimum and permit investment by an authorized carrier of less than \$500,000.

We are in accord with the provision of these bills which would limit each carrier investing \$500,000 or more to the appointment of two directors of the Corporation and permit all other authorized carriers collectively to appoint two directors. This limitation on appointment of directors is an important measure in preventing any one shareholder from dominating the policies and operations of the Corporation.

We would recommend, however, that provision be made for some representation on the Board of Directors of the domestic common carrier industry as a class. While it is unlikely that the satellite facilities of the Corporation will be available for domestic communication, at least during the initial operational stages of the system, it is conceivable that the system may be eventually used for domestic service.

Representation of the domestic common carrier industry on the board would tend to ensure that policies adopted by the Corporation will not unnecessarily restrict or prejudice the adaptability of the system to domestic use at some future date.

The specification in H.R. 10115, H.R. 9696, and H.R. 10104 of the powers of the proposed Corporation are, in general, compatible with the purposes and objectives of the legislation. We believe, however, that a more detailed exposition of the powers and authorized activities of the Corporation along the lines set out in H.R. 10115 would afford greater recognition of the national policies and public interest objectives to be served by the Corporation.

H.R. 10115 would prohibit the Corporation from entering into negotiation with any foreign communication interests "without a prior notification to the Department of State, which will conduct or supervise such negotiations"; and further provides that all agreements and arrangements with any such foreign communication interests shall be subject to the approval of the Department.

As we understand the purpose of this provision, it is designed to insure that negotiations or agreements of the Corporation relating to foreign ownership in or access to the satellites, as distinguished from purely commercial or technical operating matters, will not conflict with our foreign policy in this area, but, rather, will advance it. Moreover, we note that by its terms this provision applies to the Corporation and not to the common carriers which will use its facilities.

Accordingly, it is our firm view that H.R. 10115 does not in any way deprive our common carriers of their existing right to engage in operating negotiations or traffic agreements with their foreign counterparts without having such business transactions conducted or supervised by the Department of State. Of course, this would mean that these arrangements would be in accordance with policies established by the FCC with respect to classes of service, rates, and divisions of revenues.

With this understanding we recommend that a provision of this type also be included in H.R. 9696 and H.R. 10104. Effective implementation of this provision will, of course, require full coordination between the Department of State, which is the President's chief agency for conduct of our foreign policy, and the Commission, which is responsible for the regulation of interstate and foreign commerce in communication and which will be responsible generally for regulation of the Corporation. Such coordination will insure, among other things, that participation in the use of the system by all U.S. and foreign interests will be compatible with the technical capability of the satellite system.

The President's Executive order of February 16, 1962, establishing the position of Director of Telecommunications Management within the Office of Emergency Planning, provides a most useful apparatus to facilitate such coordination and thereby avoid cumbersome and conflicting regulatory measures. The President has stated that he expects to rely on that official for assistance in coordinating agency efforts.

Both H.R. 10115 and H.R. 9696 also provide for ownership and operation by the Corporation of the U.S. portion of the system, including satellites, earth terminals, and associated ground control and tracking equipment. However, both are silent with respect to ownership and operation of earth terminals by authorized common carriers. These bills may therefore be construed to prohibit the Commission from licensing a carrier to own and operate its own earth

terminal where it would benefit the public interest. H.R. 10104, on the other hand, expressly forbids Corporation ownership of any ground stations and, instead, provides that such stations shall be owned jointly or severally by authorized common carriers.

Concentrating ownership and operation of the entire system in a single corporation has advantages and we endorse the approach of H.R. 10115 and H.R. 9696 in this respect.

On the other hand, we would urge that provision be made to also permit, upon a showing that the public interest would be served thereby, ownership of earth terminals by an authorized carrier or carriers, subject to such terms and conditions as the Commission may prescribe. For, should the technology and our experience indicate that ownership and operation of earth terminals by carriers is compatible with a sound and efficient operational system, the legislation should not restrict such arrangements and the benefits that might otherwise flow therefrom.

In this connection, appropriate provision should be made to require the Corporation to furnish channels in the satellite to carrier-owned ground stations.

Also, as in H.R. 10104, appropriate provision should be made to ensure that carrier-owned ground stations are subject to the same criteria as are Corporation ground stations with respect to nondiscriminatory use and equitable access by other carriers and with respect to the maintenance of effective competition in the obtaining of materiel.

The bills propose that the Corporation shall be regarded as a communications common carrier and, as such, be subject to all of the regulatory provisions of the Communications Act applicable to common carriers. The bills also vest the Commission with certain additional regulatory powers to assist in effectuating the purposes of the legislation.

Essentially, each bill contemplates that the same scheme of regulation will apply to the Corporation as now applies to common carriers in general.

Since the Corporation will not function as a conventional common carrier, we believe that it would be impractical to place it under a regulatory scheme devised for such carriers. Unlike those carriers, the Corporation will not furnish service to the general public. Its undertaking, rather, will be to furnish channels of communications to relatively few users; namely, common carriers and their foreign counterparts, who do serve the general public. This undertaking is without precedent in the communications common carrier field. Also, the relationship between the carriers and the Corporation will differ in essential respects from the relationship between the carriers and the general public. Thus, the carriers who will use the Corporation's facilities may also have substantial ownership interests in the Corporation.

For these and other reasons, certain sections of the Communications Act relating to common carriers may not be germane to the Corporation, while at the same time the unique status of the Corporation requires singular measures not now present in the act.

We recommend, therefore, that the Corporation be made subject to a new self-contained statutory scheme of regulation empowering the Commission to deal flexibly with the many unusual and new

problems which may be created. The Commission should be expressly empowered, among other things, to approve the ownership and capital structure of the Corporation and its charter and bylaws; to allocate the use of its facilities among the authorized common carriers; to prescribe or approve fair and reasonable terms under which such facilities are made available; to approve all contractual arrangements, and modifications thereof, between the Corporation and any common carrier and to prescribe modifications therein required by the public interest; and to prescribe the form of accounts to be kept by the Corporation and the financial reports to be filed with the Commission.

The Commission should also be empowered, as in H.R. 10115, to specify, after consultation with other interested agencies, technical characteristics of the operational system to be employed by the Corporation, and to prescribe procedures for insuring effective competition in the procurement by the Corporation of equipment and services.

In order to insure full implementation of the purposes and policies of the legislation and compliance therewith by the Corporation, we would recommend that provision be made for the appointment of Government officials having visitorial powers. These officials would have access to all books and records of the Corporation, be able to attend meetings of its board, and make reports and recommendations to the Federal Communications Commission and other agencies of Government having jurisdiction over the particular matters involved.

It would provide, in effect, a window into the Corporation through which Government would be kept fully informed with respect to all activities contemplated and taken by the Corporation. It would also serve to discourage and prevent any ownership interest within the Corporation from exploiting such interest to the detriment of other participating owners or users of the Corporation's services. An approach similar to this in many respects is taken by H.R. 10115.

H.R. 10115 provides that the Corporation is to furnish facilities not only to communications common carriers but also to authorized users, including the U.S. Government. We think that the bill is somewhat ambiguous in this respect. It does not make clear who is included in that class, other than the Government, or how they are to be authorized. The bill can be construed to permit entities, such as the Government, who otherwise would be customers of the carriers, to directly lease channel facilities from the Satellite Corporation.

In our opinion, such a construction would raise a most serious question of policy that should be carefully considered. For this could result in the Satellite Corporation competing directly with the common carriers, and possibly deprive those carriers of essential revenues, thereby leading to financial difficulties for the carriers. We think that this matter should be clarified.

Finally, both H.R. 9696 and H.R. 10104 provide that, in regulating the Corporation as a communication common carrier, the Commission shall insure, among other things, that the rate structure established for the communication services offered by the Corporation will provide a fair return on the capital invested in the Corporation. But, in addition, H.R. 10104 would require that, in determining the rates of an owning carrier, the Commission may take into account the revenues and expenses of the Corporation and the carrier's investment therein,

as well as the investment, revenues, and expenses of the owning carrier.

With respect to the first of these requirements, we believe that it would be unjust and unsound, from the ultimate ratepayer's standpoint, to base the making of rates for services furnished by the corporation on the amount of capital that may have been invested in the Corporation. In accordance with established ratemaking principles, rates should be fixed with relation to that amount of the total capital which is actually devoted to providing communications service and which is otherwise required for conducting the communications business of the Corporation. This avoids burdening the users of the carrier's services with capital and other costs which are not related or necessary to that business.

Parenthetically, it should also be noted that a requirement that rates be established which will insure a return on a carrier's investment is not in accord with generally recognized ratemaking principles under which rates are set to provide the carrier with an opportunity to earn a fair return.

We see no reason why ratemaking for the Corporation should not be governed by the same statutory standards applicable under the Communications Act to the ratemaking for communications carriers generally. This requirement is simply that all rates and practices for and in connection with communications service shall be just and reasonable and neither unduly discriminatory nor preferential.

In applying such a standard to the approval or prescription of rates for the Corporation, the Commission would be free to take into account all facts and circumstances relevant to a determination of the appropriate rate base and revenue requirements of the Corporation.

Now, the second requirement I referred to as set out in H.R. 10104 says that the Commission in fixing rates for an owning carrier shall take into account the revenues and expenses of the Corporation and the carrier's investment in the Corporation. It is assumed that this would allow a carrier to reflect in its own rate base its investment in the Corporation and thereby earn a return on that investment. For the reasons previously mentioned, we believe that this is a sound approach in the interest of fostering maximum development and use of the satellite system. However, the advantage of this treatment would be negated if, by reason of the first requirement, the Commission is required to fix rates for the Corporation which would also provide a fair return to the Corporation on the capital invested in it by the carriers even though the carriers are earning a return on such capital through their own rate bases.

This conflict would likewise be resolved by eliminating the first requirement and establishing as the governing standard that the rates, classifications, regulations, and practices of the Corporation shall be just and reasonable. This standard, together with the additional language of H.R. 10104, would insure that the Commission's powers will have the necessary flexibility to deal with the various complex ratemaking problems that will arise in this area.

In addition to the matters we have mentioned, we have other suggestions of a lesser nature which we do not believe are of sufficient importance to take up at this time. We will, however, be glad to submit these additional suggestions to the committee or its staff at such time and in such manner as the committee deems appropriate.

Before concluding, with the chairman's permission, I would like to take this opportunity to comment briefly on the Commission's record of regulation of A.T. & T. On a matter so important to the public interest, the record should be completely clear so that no misunderstandings may result through any criticisms going unanswered.

Under the Communications Act, the Commission has the responsibility for maintaining rates for interstate and foreign services which are just and reasonable and free of unjust discriminations and preferences. In what manner has the Commission discharged this responsibility with respect to the Bell System's rates and services?

As this committee is well aware, the Commission over the years has conducted a number of formal investigations and hearings for the purpose of establishing proper rate levels and rate structures applicable to the telegraph services of our domestic and international telegraph carriers. Formal rather than informal proceedings in the telegraph field have been considered necessary by us inasmuch as in this field, unlike the telephone field, we have been dealing, for the most part, with the carriers' efforts to increase rates in order to improve their revenues because of rising costs. Also, in the international telegraph field, service is furnished by several common carriers in competition with each other. The conflicting interests of the international carriers stemming from such competition complicate the ratemaking task and this generally necessitates extensive hearings to resolve the ratemaking issues in this field.

In the telephone field, on the other hand, the Commission has been able to employ informal regulatory procedures to a much greater extent. A.T. & T. and the other Bell System companies have experienced continuous and substantial growth in the public's use of their services. This growth, together with improvements it introduced in the art of telephony, have offset and, on occasion, have outstripped the rising costs of plant and operations generally. This long-range trend has tended to make possible reductions rather than increases in rates for interstate long-distance telephone services, which account for more than 85 percent of interstate revenues.

Since 1935, there have been a large number of such reductions, with only one general increase in long-distance telephone rates. The reductions have amounted to hundreds of millions of dollars in annual savings to the public. The most recent of such reductions—\$50 million—became effective in September 1959.

The Commission has maintained continuing studies of extensive financial and operating data which it requires the Bell System companies to file in monthly, annual, and special reports. Thus, the Commission is constantly in a position to assess the reasonableness of the Bell System's overall earnings from its services subject to our jurisdiction. Whenever, in the judgment of the Commission, it has appeared that overall earnings were at a level to warrant rate reductions, the Commission has in general been successful in obtaining rate reductions that appeared warranted without conducting protracted and costly hearings. By this means, the benefits of such reductions are promptly made available to the public.

However, on several occasions where the use of our informal procedures was initially unsuccessful in bringing about the results the Commission sought to achieve, the Commission instituted formal rate reduction proceedings through the issuance of show-cause orders. In

each instance, this action led to a satisfactory resolution of the matter without the need to proceed with the hearings.

With respect to the rates for individual classes of service, the Commission is now engaged in concluding a comprehensive formal investigation of the rates of A.T. & T. for all of its various private-line telephone and telegraph services. A final decision in this proceeding is pending at this time. In addition, the Commission now has in various stages of hearing the rates of A.T. & T. and the other Bell System companies for their TELPAK service, wide area telephone service, and wide area data service. These proceedings will enable the Commission to determine appropriate rate levels and structures for each of these special services.

Now with respect to A.T. & T.'s revenues from overseas services, until several years ago the revenues from these services amounted to a relatively few million dollars annually and constituted only a small fraction of A.T. & T.'s total service revenues. Considering more pressing regulatory problems confronting us, and our very limited staff and resources, special attention to the overseas rates did not appear to be warranted.

However, in regulating the overall interstate rates and earnings of the Bell System, as I previously described, the overseas operations of A.T. & T. were treated, in effect, as part of those operations.

By 1960, overseas telephone revenues of A.T. & T. had reached a level of more than \$40 million annually. Several new high capacity transoceanic cables had been installed and others were in a planning stage. Also, satellites as a means of overseas communication appeared to be a real likelihood.

Therefore, in June of 1961, we directed that A.T. & T. institute detailed studies to develop complete operating and earnings data with respect to its overseas operations for analysis by the Commission. The data furnished by these studies will enable the Commission to determine the reasonableness of A.T. & T.'s overseas rates and what further regulatory action may be required.

This committee is well aware of the various other activities of the Commission in the field of telephone regulation.

Let me just mention what was done within the last year. Action taken by the Commission brought about an annual reduction of \$26 million in the prices charged by Western Electric Co., the manufacturing affiliate of the Bell System, for equipment sold to the operating companies of the system. Just recently, the Commission's efforts resulted in a change in the separation procedures used by the Bell System to allocate its investment and expenses between interstate and intrastate telephone services. These separation changes have the effect of relieving the intrastate services of the Bell System of about \$46 million of annual revenue requirements and thereby make possible reductions in intrastate rates by this amount. Several State regulatory commissions have already taken advantage of these benefits by effecting rate reductions.

We do not contend that we would not be even more effective in our common carrier regulatory program—as would any other regulatory agency—if more money and expert personnel were at our disposal. Nevertheless, we feel that within the limits of our available resources, we have protected the public's interest in just and reasonable rates for common carrier services. We are also confident that Government

regulation may safely be relied upon to deal effectively with all regulatory problems that may arise in the future, including those problems that will be presented by the new satellite technology.

In conclusion, let me stress again that our privately owned common carriers, under governmental regulation, have provided the Nation with an unparalleled communications system, and may confidently be relied upon to fulfill the objectives of our Nation's satellite communication program.

We have been advised by the Bureau of the Budget that, while there is no objection to presentation of this testimony, the enactment of H.R. 10115 would be in accord with the President's program.

We thank you for the opportunity to appear before you.

I regret that our statement has been so long, Mr. Chairman, but I wanted you and the committee to know that we have given this matter our most urgent and top priority attention over the past year, and we wanted the committee to have the benefit of our thoughts, and now we will be prepared to answer any questions.

The CHAIRMAN. Thank you, Chairman Minow, I want to compliment you and the Commission for what I consider a very fine, clear, and concise statement on this important matter.

I personally appreciate the explanations which you provide the committee, the analysis of the various proposals, and the recommendations which you have made. It is a very good statement in my estimation, an excellent job.

I intended to have the names of all the Commissioners included in the record at the point I mentioned a moment ago, Mr. Reporter, together with the names of such members of the staff as the Commissioner has here with him, and that shall be supplied for the record, if you will.

And also following that point in the record, I want to note the presence of our distinguished colleague, the Honorable Jim Fulton, member of the Committee on Science and Astronautics, and who is interested, of course, not only personally but for that committee. We have discussed it ourselves, and I discussed it with the chairman of his committee, and we recognize there is one phase of this program in which that committee has some interest.

Mr. FRIEDEL. Mr. Chairman, I would like to repeat again for the benefit of the members who were not here, that this was by the unanimous consent of the Communications Commission.

The CHAIRMAN. Yes.

Now in view of the time situation, I am going to ask a few questions right now myself, but I think probably since we have got to be on the floor of the House, because of the matter in which this committee is interested, we will adjourn in a few minutes until 2 o'clock this afternoon.

I might say for the benefit of the members that we have a rule on the supplemental airlines bill. That will come up first.

The conference report that was on the program at this time will not be called up, as I understand it, but H.R. 10607 will be called up, and there will be a rule, and I am sure the full hour will be utilized, because it usually is when you have a closed rule on the bill.

That being true, and allowing for at least one quorum call and maybe two, it seems to me that we should be able to get back here at 2 o'clock, and during general debate on the bill, which is quite tech-

nical as you know, the committee members will have an opportunity to ask questions, and we will pursue the same rule or understanding as we had yesterday, since we got along with it so well.

But at this time, Mr. Chairman, may I inquire if the Commission has a bill prepared that it believes will carry out the policies, principles, and provisions which you have recommended?

Mr. MINOW. Mr. Chairman, we have given a lot of thought to the language in the problems of drafting. We think that our suggestions could be incorporated by way of amendments to the various bills pending, and we would be very glad to supply the committee with some very detailed suggestions.

The CHAIRMAN. I would ask the Commission at this time if you would consider the language in the bill here, 10115, and attempt to provide the language or adjustments to that bill that would carry out the suggestions and recommendations which you have made here today.

Mr. MINOW. We would be very pleased to do that, Mr. Chairman.

The CHAIRMAN. Our staff will be available to assist, and any member of this committee will be available to you.

Mr. SPRINGER. May I ask a question, Mr. Chairman?

The CHAIRMAN. Yes, Mr. Springer.

Mr. SPRINGER. H.R. 10115?

The CHAIRMAN. Yes, that is the bill I introduced at the request of the administration, which came up as the result of the President's message.

Mr. SPRINGER. Maybe I misunderstood your statement. I understood that you were recommending H.R. 9696 and 10104 with qualifications. Am I right?

Mr. MINOW. The principal difference between them, Congressman Springer, is on the base of ownership. We are in accord with the approach in 9696 on the ownership part of it. We also have some differences with 10115 on the ground stations part.

However, there are parts of 10115 that we prefer to the other, so it is a mixture. But on the ownership—I think the most significant substantive points are the composition of ownerships, the arrangement on ground stations, and also the regulatory pattern of the Corporation.

On the third point, I would say we would be really submitting almost some new language entirely.

The CHAIRMAN. On which one?

Mr. MINOW. On the regulation of the Corporation itself.

The CHAIRMAN. Which one?

Mr. MINOW. I say it is not in either, but on the ownership and on the ground stations I would say we are more inclined toward 9696 than 10115.

The CHAIRMAN. In other words, so that we might understand, there are provisions in 10115 that you are in accord with?

Mr. MINOW. Yes.

The CHAIRMAN. There are provisions of the bill that you are not in accord with?

Mr. MINOW. That is correct, sir.

The CHAIRMAN. There are provisions in H.R. 9696 that you are in accord with?

Mr. MINOW. That is correct.

The CHAIRMAN. And there are provisions in the bill that you are not in accord with?

Mr. MINOW. That is correct, Mr. Chairman.

The CHAIRMAN. And the same thing I assume is true with respect to one or two of the other bills that you mentioned.

Mr. MINOW. Right. We are not in accord, of course, with those bills that advocate Government ownership and operation. We are not in accord with those as a matter of philosophy. With those bills that deal with private operation we have varying views on each.

The CHAIRMAN. I think we will forego any questions until we come back, since it is 12 o'clock.

The committee will recess until 2 o'clock.

(Whereupon, at 12 noon, the committee recessed, to reconvene at 2 p.m. this same day.)

AFTERNOON SESSION

The CHAIRMAN. The committee will come to order.

Mr. Chairman, I have a good many questions in my own mind, and I am sure other members have, too.

At this time I would like to ask just a few preliminary questions in order to try to get the record clear. First, we recognize the importance of this program. We recognize the necessity of some action, appropriate action. I feel there is imperative need for the right kind of program to be developed now. Fortunately, we have a very good approach under our system to any new problem.

In the first place, you are familiar with the fact that we have a Space Council that was established by the Congress back in the previous administration, the Eisenhower administration, was it not?

STATEMENT OF NEWTON N. MINOW, CHAIRMAN, FEDERAL COMMUNICATIONS COMMISSION, ACCOMPANIED BY COMMISSIONERS HYDE, BARTLEY, LEE, CRAVEN, FORD, CROSS; AND BERNARD STRASSBURG AND MAX PAGLIN—Resumed

Mr. MINOW. Yes, sir. It is a statutory body whose members are set out in the statute.

The CHAIRMAN. Yes. And by statute it provided that the Vice President of the United States shall be Chairman of the Council, and it designates certain other members of the Government as members of that Council.

Mr. MINOW. That is right, sir.

The CHAIRMAN. I believe it is in the record, but it includes the State Department, NASA—

Mr. MINOW. The Attorney General.

The CHAIRMAN. The Attorney General, is he part of the Council?

Mr. MINOW. Yes; I believe so. No; excuse me, I am mistaken. The Chairman of the Atomic Energy Commission.

The CHAIRMAN. The Chairman of the Atomic Energy Commission.

Mr. MINOW. The Secretary of Defense.

The CHAIRMAN. The Secretary of Defense.

Mr. MINOW. That is right, sir.

The CHAIRMAN. And the Vice President, which makes up five members.

Mr. MINOW. That is correct.

The CHAIRMAN. The Chairman of the Federal Communications Commission is not a member of the Council; is that right?

Mr. MINOW. That is correct, sir.

The CHAIRMAN. Are you familiar with the fact that under the statute setting up the Space Council, the Congress gave certain responsibilities to the Council and certain responsibilities to the President?

Mr. MINOW. Yes, sir.

The CHAIRMAN. The President is, in fact and in reality, the titular head of the Space Council, as, indeed, he is as Commander in Chief?

Mr. MINOW. Yes, sir; I believe that is correct.

The CHAIRMAN. Are you familiar with the fact that the Space Council, as such, determined and issued a release on a general policy regarding satellite communication?

Mr. MINOW. I believe it was a recommendation of the President. Mr. Chairman, last spring Commissioner Craven and I attended a meeting of the Space Council at the request of the Space Council, and we were asked for our opinion with respect to certain matters of policy on communications satellites. The Space Council then ultimately adopted a recommendation to the President, and then the President issued a statement of policy, I think it was in July, July 24 or 25 of 1961.

The CHAIRMAN. July 24, 1961. And then the President did announce a policy statement?

Mr. MINOW. That is correct, sir.

The CHAIRMAN. And the Space Council made a formal recommendation?

Mr. MINOW. That is correct, sir.

The CHAIRMAN. By invitation of the President?

Mr. MINOW. That I do not know, sir. I would think so, but I have no knowledge of that.

The CHAIRMAN. I am not the witness and I am not testifying, but I have reviewed the record and that is the fact. Now, following the announcement by the President of the policy statement, it was testified yesterday by Dr. Welch that he was designated by the President to bring together the views of the various agencies and departments who would be concerned with this problem. Did Dr. Welch contact the Federal Communications Commission?

Mr. MINOW. Yes, sir; he did, and he asked for the assistance of some of our experts and technical people on matters relating to communications satellites, and we were very pleased to make our experts available to him.

The CHAIRMAN. I have about 2 minutes to finish my time.

Did the Commission make recommendations to Dr. Welch?

Mr. MINOW. No. Our staff gave their views on various matters, but we, as a commission, made no recommendations until subsequently a bill, a draft bill, was submitted to us for our formal comments, and at that time the Commission submitted its comments.

The CHAIRMAN. Then ultimately a draft bill did come to the Commission for recommendation?

Mr. MINOW. Oh, yes, sir.

The CHAIRMAN. And you did make recommendations?

Mr. MINOW. Oh, yes, sir.

The CHAIRMAN. Were some of the recommendations of the Commission incorporated in the bill that was submitted?

Mr. MINOW. Yes, sir.

The CHAIRMAN. By the President?

Mr. MINOW. Yes, sir.

The CHAIRMAN. Some of the recommendations were not included?

Mr. MINOW. That is correct. On some points our view was accepted. On some points it was not.

The CHAIRMAN. Just as you explained here today?

Mr. MINOW. That is correct, sir.

The CHAIRMAN. Mr. Springer?

Mr. SPRINGER. Mr. Chairman, this statement which you have made today, does this represent the composite thinking of the seven members of your Commission?

Mr. MINOW. Yes; it does, sir.

Mr. SPRINGER. And has this statement, in effect, been approved by all the members of the Commission?

Mr. MINOW. Yes, sir.

Mr. SPRINGER. This is official?

Mr. MINOW. Yes, sir.

Mr. SPRINGER. And unanimous?

Mr. MINOW. Yes, sir.

Mr. SPRINGER. Mr. Chairman, in order that I may get this a little closer, would you put before you 9696, and I think I can do this all within my allotted time of 10 minutes.

Mr. MINOW. Right.

Mr. SPRINGER. Turn to page 2.

Mr. MINOW. Yes, sir.

Mr. SPRINGER. Section 402(b), is that substantially the Commission's position?

Mr. MINOW. Yes, sir.

Mr. SPRINGER. Will you go to paragraph (c). Is all of section 402, including (a), (b), (c), (d), (e), (f), over to line 9, and including line 9 at page 4, substantially the views of the Commission?

Mr. MINOW. One difference, Congressman Springer, I know: As I testified this morning, we do not think there should be a minimum of \$500,000 established for participation.

Mr. SPRINGER. \$500 million?

Mr. MINOW. \$500,000 per carrier.

Mr. SPRINGER. Oh, I see.

Mr. MINOW. That is the very last part of that.

Mr. SPRINGER. Yes.

Mr. MINOW. We disagree with that.

Mr. SPRINGER. All right.

Mr. MINOW. We have various suggestions to make as to the language, such as the characterization of the entity as a communication common carrier's carrier.

I would say, in substance, however, Congressman Springer, to save time, we are in agreement with this section.

Mr. SPRINGER. With that section?

Mr. MINOW. Yes.

Mr. SPRINGER. Now, would you go over to section 403. That is page 4.

Mr. MINOW. There is one other important change: We feel that the ownership of ground stations, which is set out in 402, should be more flexible, as I expressed this morning in my statement.

Mr. SPRINGER. You are talking about associated control and tracking facilities?

Mr. MINOW. Yes, sir.

Mr. SPRINGER. Will you then turn to page 4.

Is paragraph 403 substantially your position?

Mr. MINOW. I indicated this morning some suggestions to enlarge the powers of the Corporation, but, again, to save time, in substance we would agree, but we do have some language suggestions and some broadening of the powers.

Mr. SPRINGER. Substantially, that is your position?

Mr. MINOW. I think that is right.

Mr. SPRINGER. Would you go to page 5, section 404, relationship between the Corporation and National Aeronautics and Space Administration.

That paragraph over to, and including, line 23, page 6, is that substantially your position?

Mr. MINOW. We have no difference with the substance of that. Again, to save time, I would say we would reserve on some language problems, but I am saying that in substance we would have no difference.

Mr. SPRINGER. Page 7, section 405, relationship between the Corporation and the Federal Communications Commission, is that substantially your position?

Mr. MINOW. This is where we recommend, as I mentioned this morning, that we think that, rather than taking the Communications Act as it is, as it applies to common carriers, we would recommend some new language, because this is not really a common carrier; this is not a conventional common carrier. We would recommend some differences in the regulatory scheme.

Mr. SPRINGER. Would this be just changes or tightening up or what?

Mr. MINOW. Tightening up, mostly.

Mr. SPRINGER. Tightening up?

Mr. MINOW. Right.

Mr. SPRINGER. Of the regulation which you would have over this Corporation?

Mr. MINOW. Right, and recognizing that this is not a conventional carrier giving service to the public, but, rather, a carrier giving service to other carriers.

Commissioner Craven points out we have difficulty with paragraph 2, as I mentioned this morning.

Mr. SPRINGER. Paragraph 2, page 7?

Mr. MINOW. Yes.

I mentioned this morning, when you get into the question of fair return on the capital, we think we are departing there from the traditional ratemaking practices, and it is a matter of language to tighten that up.

Mr. SPRINGER. This is a tightening up?

Mr. MINOW. Right.

I dwelt on that this morning at some length.

Mr. SPRINGER. Is it substantially your position there, with the State Department there, for no interference here?

Mr. MINOW. I do not think it is in that section.

Mr. SPRINGER. In what section is the State Department involved?

Mr. MINOW. I do not think it is in this bill.

Mr. SPRINGER. All right.

In other words, would you have some language put in the bill—

Mr. MINOW. Yes, sir.

Mr. SPRINGER. Is this your position with the State Department or the relation of the State Department to the Corporation?

Mr. MINOW. We think there should be language in the bill spelling out what the State Department's role is, and our own view is that the business practices, traffic arrangements and so on, must be conducted in a commercial way, but anything having to do with foreign policy should be conducted by the State Department.

Mr. SPRINGER. In other words, are you relinquishing any power by yourself?

Mr. MINOW. Oh, no.

Mr. SPRINGER. You are just making this work?

Mr. MINOW. That is correct, sir.

The CHAIRMAN. Do I remember correctly that you said in your statement that you think that whatever the Corporation is, it should meet the requirements of the Federal Communications Commission?

Mr. MINOW. Oh, yes, sir, and one of the things we would do would be to spell that out more carefully.

Mr. SPRINGER. On page 8, "The Completion of Organization of the Corporation," is that substantially your position?

Mr. MINOW. We have some differences on the mechanics of this, but I do not think that they go to the real heart of the substance.

Mr. SPRINGER. Now, may I ask you, in addition to this, are there substantial other sections or language which you would use, in addition to what has been put in this bill?

Mr. MINOW. Yes, sir.

Mr. SPRINGER. Could you just briefly go through those 1, 2, 3, 4?

Mr. MINOW. Particularly with respect to regulation in ratemaking, we think that should be specified in some detail because we are dealing with an entirely new form of organization.

Mr. SPRINGER. Regulation and ratemaking?

Mr. MINOW. Right. The other things, I think we have talked about—the earth terminals.

Mr. SPRINGER. Earth terminals?

Mr. MINOW. The ownership of the ground stations.

Mr. SPRINGER. Earth terminals and what else? The tracking stations?

Mr. MINOW. Well, we use the term "ground stations" to encompass the whole thing. We do think there should be representation of the domestic common carriers on the Board, and we think that there should be, as I mentioned this morning, some provision for visitation and access to the books and records of the corporation by Government representatives of NASA and ourselves.

Mr. SPRINGER. Access to books of the corporation?

Mr. MINOW. Right.

Mr. SPRINGER. Let me ask you: At the present time you do not have any access, you do not have any right to access to books except by subpoena?

Mr. MINOW. No; we do, but we think that because of the unique nature of this, that this should be spelled out in greater detail. And one other thing I forgot to mention: I mentioned this morning we think that the Commission should be authorized to specify the technical characteristics of the operational system after consulting with other interested agencies, sir.

Mr. SPRINGER. Could you simplify what you mean by that?

Mr. MINOW. Commissioner Craven, I would rather have you answer that.

Mr. CRAVEN. There are two aspects of space satellites insofar as communications is concerned: They are (1), the amount of frequency space, and (2) the type of circuitry that is going to be used insofar as emissions are concerned. We feel that after consultations and hearings on that matter and after clearing with and securing international agreement, we should be able to enforce those technical characteristics.

Mr. SPRINGER. Is that substantially all, those five?

Mr. MINOW. I think those are the main things, Congressman Springer.

Mr. SPRINGER. Now, let me ask you this: Do you believe that a bill which encompasses 9696 with the modifications which you have mentioned, that we finally will have a bill in the hopper which encompasses all which you have mentioned here? Would this be substantially a bill that you believe as a commission would be in the public interest?

Mr. MINOW. We would say "Yes," saying only, as I mentioned, there are a number of problems in language; but I would say, in substance, our answer would be "Yes."

Mr. SPRINGER. That is all, Mr. Chairman.

The CHAIRMAN. Mr. Younger?

Mr. YOUNGER. Mr. Chairman, I want to congratulate the Chairman and the Commission for bringing to the committee a very wholesome and enlightening approach to this bill, as opposed to the testimony we had yesterday.

So far as I am concerned, I will have no trouble at all getting together with the Commission and agreeing on a bill forthwith. I would have no trouble at all in my general approach to this bill of handling it in the usual private industry manner. Again I want to congratulate the Commission and the Chairman for the forthright manner which has been followed in bringing these suggestions to us, and I hope you will give us your amendments which you would want adopted.

Mr. MINOW. We will do so, sir.

Mr. YOUNGER. That is all I have, Mr. Chairman.

The CHAIRMAN. Mr. O'Brien?

Mr. O'BRIEN. Mr. Chairman, I, too, would like to congratulate you and the Commission on bringing forward to this committee ideas which, I think, will work. I would like to ask you first, if I may, sir, a rather broad, philosophical question. Would you say that this attempt to use outer space in this manner is a dramatic, clear-cut, pioneering test of the relative capacity of a totalitarian society and a private enterprise or a capitalistic society to utilize outer space for the good of mankind?

Mr. MINOW. We do, sir, and in answer to that I would say this: The whole issue now is whether our system works in competition with

the totalitarian system, and we feel very strongly that we ought to show that our system does, and that private enterprise here is willing to do the job, and is capable of doing the job under Government regulation. We think it provides the first peaceful dividend, really, from the great effort made in the space program.

Mr. O'BRIEN. And there would not be as clear-cut a test if we were to water down too much the system that we call private enterprise, or if we were to send private enterprise into this contest—and I assume it will be a contest—with one or both hands tied behind its back?

Mr. MINOW. We certainly agree with that, sir. We think that this provides a very dramatic test of our system at work, and we think we can do it.

You do have here, just by the very nature of things, a mixture of Government and private business working together, and I think this, again, is a good illustration of how this can be done.

Mr. O'BRIEN. Your position is that business can do it and Government should control it?

Mr. MINOW. That is correct.

Mr. O'BRIEN. Rather than Government becoming the business?

Mr. MINOW. That is right, sir.

Mr. O'BRIEN. And then controlling it, too?

Mr. MINOW. That is right, sir.

Mr. O'BRIEN. Did I understand you to say that if we were to follow another method, that we would have to have very substantial rates?

Mr. MINOW. This is our grave doubt about the other method. We think that having the carriers in it will provide a way to average out their costs with existing facilities, and thereby create the incentive to put the system into effect at the earliest practical date for the public.

Mr. O'BRIEN. Unless that was done, it would be entirely possible that the charges would be so high that what can be done quickly might not be done successfully for many years to come; is that right?

Mr. MINOW. This is our fear, and we also in our agency, in dealing as we do with the communications companies, recognize, I think, the necessity of an incentive for them to be willing to risk capital and enterprise on it.

Mr. O'BRIEN. Mr. Chairman, another question:

Numerically speaking, just speaking of people, is it not true that if private enterprise was permitted to undertake this, more people would be represented financially in that undertaking than if we were to form a new private corporation and seek a million investors?

Mr. MINOW. I think so, if we were to seek a million investors. The carriers that we have listed here, I think, collectively have about 3 million stockholders.

Mr. O'BRIEN. Then there would be at least 3 million?

Mr. MINOW. Roughly.

Mr. O'BRIEN. American citizens who would have a financial as well as a patriotic interest in the success of this endeavor?

Mr. MINOW. That is correct, sir.

Mr. O'BRIEN. One final question, Mr. Chairman.

You referred in your testimony to these ground stations. Do you and the Commission regard it as impractical to say to a private corporation that you may control all the stations in the transmitting of a

message from New York to San Diego, but you may not have control of the final station from which the signal would take off for the satellite?

Mr. MINOW. No.

Our view is that communications work best when the company is directly responsible for everything. We do think on the ground stations that it should be kept flexible, so as to decide, as science and technology lead us, whether individual ownership of the stations is better or the corporate ownership.

Mr. O'BRIEN. Those are all the questions I have, Mr. Chairman. I again want to thank the Chairman and the members of the Commission for giving us a very refreshing statement.

The CHAIRMAN. Mr. Collier?

Mr. YOUNGER. Will the gentleman yield for just one point which I overlooked previously.

I do hope that in bringing the State Department into this picture, and I think they should be in, but I hope we do not make the mistake that we have made in connection with the routes of foreign carriers and the interference with the CAB, which, in my opinion their acts have been very detrimental to a good many of our domestic carriers.

Mr. MINOW. We will bear that in mind, Congressman Younger.

Mr. COLLIER. Mr. Minow, the telecommunication facilities that have been in public use over the years in this country have always been privately owned, privately financed, and subject only to FCC regulations. Is that a fair statement?

Mr. MINOW. Plus the State regulatory bodies for intrastate services.

We have only the interstate and the international operations, sir, under our jurisdiction.

Mr. COLLIER. In your opinion, is there any basic distinction between the ownership of undersea cables in international communications or a satellite in space, which, in both instances, would be merely an implement of transmission?

Mr. MINOW. I think the analogy is a good one. We take the view that this is merely another way to transmit a message. You do have the physical differences, of course. You know, one requires a rocket propulsion and everything else, but, in principle, they are both ways to relay a message.

Mr. COLLIER. Then I cannot understand why it is necessary to write into this measure supervisory controls over the program by the State Department, by NASA, and by the Executive, if, for example, there were not State Department controls over the regulation of the communications system with undersea cable.

Mr. MINOW. Well, there are some unique differences here. You are going to see multilateral communication between a number of different countries bouncing off of one satellite, whereas now it is pretty much a bilateral, nation-to-nation communication.

In addition, only the Government can send up a satellite.

Private industry cannot, themselves, furnish the propulsion and rockets, and so on.

Also, we are not and we do not pretend to be foreign policy experts; this is out of our bailiwick, but I do think there are foreign policy implications here.

Mr. COLLIER. Mr. Minow, does your agency or any other regulatory agency have the right at any time to consult, to seek counsel

from any other agency of Government in the pursuit of your own responsibilities in this field?

Mr. MINOW. Oh, yes, and we do. We are constantly. I might add, over the past 2 or more years we have worked very closely with all the other Government agencies involved in this.

Mr. COLLIER. If this is true, then I would assume that in the future where we got into areas so involved, situations that had international implications, that you would seek such counsel and advice where you deemed it was necessary, as you have done in the past?

Mr. MINOW. Right, except, as I say, we acknowledge we are not the experts in this. I think the one big difference here, also, is because of the fact of the frequency shortage and the heavy cost involved, you can only have one system. That is the real problem, sir.

If each company—if we had enough frequencies and there were enough resources, if each company could go into this on its own, then we would have a different set of circumstances, but we have got to find a way to put them all into one package.

Mr. COLLIER. And you have no fears that the overlapping of authority, as is embraced in this bill, would create any problems at all as far as the FCC is concerned?

Mr. MINOW. We will have some language changes which we think will sharpen that up, and, given those amendments and suggestions, we think we can live with it very well.

Mr. COLLIER. Do I understand that you are not married to the concept of the dual-stock plan issue provided in this bill?

Mr. MINOW. No; we are not, sir.

Mr. COLLIER. And neither are you necessarily going to require from your standpoint ownership of the ground station by the private firm?

Mr. MINOW. No, sir.

We think this should be left flexible, to be decided as the technology and science develops.

Mr. COLLIER. Thank you very much, Mr. Chairman.

Mr. MINOW. I might add in answer to that, we are dealing here in the committee and the Commission and the Congress are dealing with an exploding technology, and keeping public policy and public regulation current with it is a real challenge. We have tried over the past year to keep up with it so that when the satellites were here, we would be ready with a program as to how to get it organized and going.

I do think that some of these things have got to be left flexible.

Like the Earth stations, that is a perfect example. I do not think you can decide that or freeze that now because it will depend on what we learn from these experiments.

Mr. COLLIER. I have one other question that just occurred to me.

I presume the ITU in Geneva is going to play a major role in setting up the international satellite system?

Mr. MINOW. On the frequency allocation part of it; yes. As a matter of fact, they are meeting here this week in Washington. Commissioner Craven and I attended a meeting there on Monday. We have delegates from 50 countries meeting here in Washington, working on this problem right now.

Mr. COLLIER. But you will sit in with the State Department in any deliberations.

Mr. MINOW. Oh, yes; our people are over there this afternoon.

Mr. COLLIER. Thank you, sir.

The CHAIRMAN. Mr. Hemphill?

Mr. HEMPHILL. Thank you, Mr. Chairman.

I want to join the others in congratulating you on your statement. I can imagine the courage involved in taking the position you have. I am sorry I missed a little bit of it, but I had some telephone calls.

Now, how much jurisdiction is the FCC going to have if this plan is carried out as proposed in your statement?

Mr. MINOW. We think it will be ample, Congressman Hemphill. We think, indeed, with our suggested amendments we would feel very comfortably assured that we would have all the regulatory power and so on that we need.

Mr. HEMPHILL. One of the reasons I asked that, there are many of us who feel that if the FCC had the jurisdiction, that the country would be far better off than if the State Department had anything to do with it, and I have in mind the fact that the State Department would like to give away everything to other countries.

Now, in the field of rates alone, I assume you would have absolute jurisdiction?

Mr. MINOW. Oh, yes, sir.

Mr. HEMPHILL. You say there is only—

Mr. MINOW. Except to the same extent now that the foreign partner participates in a division of the charges as they do in the cables.

Mr. HEMPHILL. But you would insure by your rate proposals that not only would they make a profit, but that it was not exorbitant to the users of the media; is that right?

Mr. MINOW. That is right, sir.

Mr. HEMPHILL. And the profits, of course, would be subject to taxation, I assume?

Mr. MINOW. Yes, sir.

Mr. HEMPHILL. So the private free enterprise system is preserved?

Mr. MINOW. Yes, sir.

Mr. HEMPHILL. Is that the objective of your statement?

Mr. MINOW. Exactly, sir.

Mr. HEMPHILL. Now, how much interference or sabotage would you expect from the State Department?

Mr. MINOW. I do not think we would anticipate any, Congressman Hemphill. Commissioner Craven has worked with the State Department for how many years, 40?

Mr. CRAVEN. I think I have worked with the State Department in international negotiations since 1919.

Mr. HEMPHILL. You have my sympathy.

Mr. MINOW. And in the field of communications we have always worked cooperatively. We go to conferences together, and we have normally been successful.

As I mentioned, just Monday we participated here in a meeting on this.

Mr. HEMPHILL. On pages 19 and 20 of your statement you said that the FCC or Government officials would have visitorial powers.

I assume that the FCC would have far greater powers than that?

Mr. MINOW. On that we meant to be sure to be able to get the books and records and know what is going on. We would suggest that NASA similarly have a representative to be there.

Mr. HEMPHILL. I do not want to propose any governmental interference because we have got too much of that now, but I just wondered whether or not it would be a good thing to have them report back to the Congress or back to you every year as certain other departments are required to do under the law?

Mr. MINOW. Well, any carrier—and certainly this one if it is established—will be filing reports with us very often. Once a month we have reports from most of the carriers.

Mr. HEMPHILL. Which will include profit and loss?

Mr. MINOW. Right.

Mr. HEMPHILL. Taxation?

Mr. MINOW. Right, depreciation.

Mr. HEMPHILL. And services?

Mr. MINOW. Right.

Mr. HEMPHILL. Thank you very much, sir.

Mr. MINOW. Thank you, sir.

Mr. CHAIRMAN. Mr. Devine?

Mr. DEVINE. Mr. Minow, is it correct that the entire Commission is unanimous in the opinion you have expressed before us here today?

Mr. MINOW. Yes, sir; I am very pleased to say we are unanimous.

Mr. DEVINE. And does that also apply to your appearance before the Senate committee on February 28?

Mr. MINOW. Yes, sir.

Mr. DEVINE. I would ask you: Do you happen to have a copy of your testimony that you gave before the Senate?

Mr. MINOW. I think we do. Our general counsel should have that.

Mr. DEVINE. The reason I asked you that, I have copies of your Senate testimony and that is what I studied prior to your appearance here today.

Mr. MINOW. I think they are almost exact, except that we have added some points that occurred in the Senate after our appearance there, but I think in many cases—

Mr. DEVINE. Do you have one there to which you can refer, if necessary?

Mr. MINOW. Yes.

Mr. DEVINE. May I say this: It is most refreshing to have Government officials such as you and the other members of your Commission being such stalwarts for the free enterprise system.

I would like to compliment you, not only on your statement, but on your general attitude in this field today.

Mr. MINOW. I do not think that there is any difference that I know of on the bills here except for those proposing Government operation on the free enterprise part of it. Where the differences occur is as to which companies shall participate in the ownership.

Mr. DEVINE. I understand that. I think it is a very significant point actually, and I might say that I wrote to the President last fall urging that this be, this overall communications system be, in the field of free enterprise.

I was pleasantly surprised when I read a week or two ago that your recommendations were not in complete accord with the original proposal of the President.

Now, in referring to your testimony before the Senate, I notice on page 2, the second line, you talk about:

It should be open to participation of foreign nations through ownership.

The question of ownership is a bit fuzzy to me. Could you enlarge upon that in any particulars?

Mr. MINOW. Yes, sir.

Mr. DEVINE. What type of ownership are you talking about?

Mr. MINOW. All that the legislation contemplates here is the American partner, the creation of the American partner. Foreign governments will want to, and I think should, own parts of the satellites.

They may own in common some ground stations in their country that the American partner may own part of, we do not know. But all this remains to be negotiated out between the American entity which we are creating here, representing all American interests, and the foreign governments concerned.

Mr. DEVINE. How would these foreign governments acquire this ownership? Of course, that may be an administrative detail.

Mr. MINOW. It is through negotiation. The analogy would be to the cable system where they meet and work out a business transaction, depending on how much money each is willing to put in.

Mr. DEVINE. Perhaps through some financial assistance?

Mr. MINOW. Not necessarily; not necessarily. I think the cables offer the best analogy.

The British, for example, and the Japanese and the Germans—there are a number of these; there are a lot of precedents involved in this—they own undivided interest in the cables.

Mr. DEVINE. That is one of the things that I am interested in. How would they acquire this ownership? Are we going to do all the work, put all the funds into it, get it up and give away part of it?

Mr. MINOW. Oh, no. As a matter of fact, I think there are informal and preliminary discussions going on already with the British, is that not right?

Mr. CRAVEN. That is right.

Mr. MINOW. Commissioner Craven, I think, is more informed about that.

Mr. CRAVEN. The concept is that the foreign correspondents, namely, the foreign entities will own their own ground systems, ground stations.

Mr. DEVINE. Ground stations?

Mr. CRAVEN. They will ask and I think demand a right of ownership in the satellite equipment, for which they will pay the Corporation.

Mr. DEVINE. For which they will pay?

Mr. CRAVEN. That is right.

Mr. DEVINE. I notice on page 4 of your statement, again, before the Senate committee, Mr. Chairman, you point out that S. 2650 authorizes only ownership of the Corporation by the United States?

Mr. MINOW. The Corporation, which means the American entity.

Mr. DEVINE. Yes.

Mr. MINOW. The American partner will be totally owned by American interests, but then the American partner will own part of the overall world system in partnership with other nations.

Mr. DEVINE. On page 8, the last paragraph of page 8 of that statement, it says:

Limiting ownership of the Corporation to the common carriers would give maximum assurance that its facilities and operations will be responsive to the communications needs of the public.

I presume that you and your Commission feel quite strongly on that, do you not?

Mr. MINOW. We do, and that is really, I think, the most important difference we have with the other bill.

Mr. DEVINE. I would say, for what it is worth, that I would agree with you in that area that the common carriers should own and operate the system. Now as far as ground stations are concerned, I believe you indicated that you thought that that should be flexible?

Mr. MINOW. That is right, sir.

Mr. DEVINE. If even the ground stations were owned by the common carriers, would you not—with the jurisdiction and the authority that you have, could you not enforce the nondiscriminatory clause in that area?

Mr. MINOW. We could, although we think it ought to be spelled out here, because we are moving into a new area. We would like to have it—we would like the Congress to set this out very clearly to avoid any litigation or arguments.

Mr. DEVINE. To have the guidelines?

Mr. MINOW. That is right.

Mr. DEVINE. On page 10, again of the statement of February 28, you indicate that each bill delineates in detail the specific responsibilities of (1) the President, (2) NASA, and (3) your organization.

Yesterday, when Dr. Welch was here, I questioned him as to whether or not, since the FCC has done a fine job as a regulatory agency over the years, whether or not the injection of these additional agencies might tend to bog down this operation.

I call your attention specifically to what is known as the system in the State Department. Do you feel that, as the Chairman of your Commission and speaking for the other members, that perhaps with everyone having their hand in this it might be inclined to bog down the operation?

Mr. MINOW. We think with the comments and suggested changes I have mentioned earlier, that we will give the committee, that this can all be worked out in a very satisfactory way. We have worked with NASA intimately on a day-to-day basis now for several years, and we get along fine; and we have worked with the State Department, and we have not had any difficulty in this matter.

Mr. DEVINE. I would presume, as you indicated in your earlier testimony, that you have been and you would continue to cooperate and work along with these various agencies, whether or not this was spelled out in this particular legislation?

Mr. MINOW. We would, yes, sir; we certainly would.

Mr. DEVINE. It would seem to me that perhaps the Federal Communications Commission should be the key regulatory agency here, perhaps having final decision, and at that particular juncture, I might say that I associate myself with the remarks made by Mr. Hemphill, of South Carolina, in connection with any disputes that may arise with the Department of State.

Mr. MINOW. Right.

I am sorry Congressman Hemphill is gone, but for the record I want to say on the visitorial powers that Congressman Hemphill asked me about, we felt that is required because of the antitrust laws, really. One of the reasons that that is necessary is because we are going to create one entity here in which competing carriers will be joined.

So therefore, some Government visitation here, we think, our lawyers tell us, is necessary and desirable under the antitrust laws.

Mr. DEVINE. Thank you very much.

That is all, Mr. Chairman.

The CHAIRMAN. Mr. Kornegay?

Mr. KORNEGAY. Mr. Minow, I would like to congratulate you on your very fine statement and say that it indicates a great deal of time, thought, and work in bringing together the multitude of ideas.

Mr. MINOW. I would like to say—

Mr. KORNEGAY. I have been impressed with this fact in connection with your presentation.

Mr. MINOW. I want to say to the committee that the Commission has worked very cooperatively in this. Commissioner Craven has been designated as our Space Commissioner. He is our oldest Commissioner and he is in our youngest field, and he has been at this steadily, day by day, for years, and a lot of the credit belongs to Commissioner Craven for this.

Mr. COLLIER. He is in years, or oldest in service?

Mr. MINOW. Both, I think.

Mr. KORNEGAY. He has done a fine job.

Just two or three questions, Mr. Chairman.

No. 1, I do not recall—you may have made some statement about it, but I do not recall—and that is with reference to foreign investors insofar as your plan is concerned.

Under this plan would we invite foreign investors; and, if so, would there be a limitation on the amount of stock, or would the ownership be limited strictly to those carriers named in your statement?

Mr. MINOW. We think that there should be no foreign ownership—when I say “of the Corporation,” by that I mean the American Corporation.

Then the American Corporation will own, together with other foreign interests, parts of the overall system. But we think that there should be no foreign ownership of the American part.

Now the Communications Act does have in it now some specific provision—section 310, which has some limitations in it already on foreign ownership of licensees.

What we would envision here would be American ownership of the American Corporation consistent with section 310 of the Communications Act.

Mr. KORNEGAY. What progress is being made in other foreign nations at this time?

Mr. MINOW. I would like to have Commissioner Craven answer that, if I might.

Mr. KORNEGAY. All right, sir.

Mr. CRAVEN. There is considerable progress being made. We have a report from the U.S.S.R. that they may be in a position to launch a communications satellite in the very near future. There are plans on the part of other governments to participate, with or without the cooperation of the United States, in a satellite system. But I think that, insofar as those latter governments are concerned, we are ahead in point of time.

Mr. KORNEGAY. Is it envisioned by anybody that we would be able to cooperate or that we would cooperate in having one broad system?

Mr. CRAVEN. This matter was discussed in Geneva in 1959. I was the chairman of the U.S. delegation in that respect. As a result

of those discussions, I am quite certain that we can rely on the cooperation of all of our allied powers.

Mr. KORNEGAY. Yes.

Mr. CRAVEN. I also believe that there is a possibility of cooperation with the U.S.S.R. in a single system.

Mr. KORNEGAY. That brings me to my next question, and this one is properly one that should be directed to an engineer. What means would we have to prevent some nonparticipating nation from utilizing our satellites, the satellites put up by the participating nations?

Mr. CRAVEN. We expect—there is no technical way to stop it—we expect that the nations of the world through the International Telecommunications Union, of which we are members, and of which 110 nations are members, will cooperate in that respect, as they have in the past.

Mr. KORNEGAY. In other words, would it not be possible, if we had the system going, assuming that the U.S.S.R. was not a member, a participating member, that it, with the proper ground equipment, could utilize our satellites, transmitting messages from, say, Moscow to Vladivostok, or some other area?

Mr. CRAVEN. Some of the most educated systems that we have envisioned, which may be impractical from a commercial standpoint, would make that unfeasible.

We can devise technical means to stop that.

Mr. KORNEGAY. That is what I wanted to find out.

Now, one more question.

Mr. Minow, you stated that by limiting the ownership of the Corporation to common carriers, that it would enable them to, in the event of losses and heavy expenditures initially, to average out their costs.

Do you mean by this statement that they could average it out across the board in all of their participations?

Mr. MINOW. No.

Mr. KORNEGAY. Or only in the Corporation?

Mr. MINOW. Only in the international services, and there might be some possibility of averaging with some of the overall interstate services, but I would not think that would be very significant.

Mr. KORNEGAY. In other words, the loss for the first 2, 3, 4, or 5 years would not cause or permit A. T. & T. to advance, through the Bell Systems, telephone rates to individual subscribers?

Mr. MINOW. No.

We will keep our eye on that, you may be sure.

Mr. KORNEGAY. That is all.

Thank you very much.

Mr. MINOW. Congressman Hemphill, you will remember, we were talking about the need for visitorial representatives. Our lawyers tell us that the antitrust laws are one of the reasons why we have suggested such visitation, because we would be taking competitors and putting them into a joint enterprise. Therefore, some Government representation there would be desirable.

That is the reason.

Mr. HEMPHILL. Thank you.

I am sorry I had to be absent.

The CHAIRMAN. Mr. Nelsen?

Mr. NELSEN. I wish to join my colleagues in complimenting Mr. Minow on his statement.

I find it a very fine statement, and, obviously, many of us are in agreement with it; most of us are.

As I recall your previous statement relative to the powers of the FCC, you indicated you lost none of your power under this proposed bill or the proposals that you have in your statement?

Mr. MINOW. No, we think not.

In fact, in some instances it is enlarged to take account of this new form of enterprise.

Mr. NELSEN. I see.

On page 16 of your statement at the bottom of the page, you refer to the Director of Telecommunication Management.

Mr. MINOW. Right.

Mr. NELSEN. The President named on February 16, 1962.

Mr. MINOW. Yes, sir.

Mr. NELSEN. And you state in this statement of yours that he would be in a position to avoid cumbersome and conflicting regulatory measures that the President indicates that he expects to rely on in this particular effort.

In this capacity as stated here, would he interfere with your authority and your regulatory—

Mr. MINOW. No, we think to the contrary.

I might add that he is Dr. Irvin Stewart, who used to be, who was one of the earliest members of the Federal Communications Commission.

His job really is concerned with the allocation of frequencies among Government users of the spectrum and we look forward to giving him our full cooperation.

The Executive order creating his appointment specifies that nothing that is in his assignment impairs any authority of the FCC.

Mr. NELSEN. I just wish to be assured that he does not interfere with your authority, which I think you should keep. Thank you for that statement.

Mr. MINOW. Right.

The CHAIRMAN. Mr. Thompson?

Mr. THOMSON. Thank you, Mr. Chairman.

I think, Mr. Minow, I should join, too, in what appears to be an expression of surprise, a unanimous expression of surprise, that the representatives of the administration are talking for private enterprise.

Mr. MINOW. I do not think that should be surprising.

Mr. THOMSON. Well, it just appeared to be.

Do you have before you H.R. 10115?

Mr. MINOW. Yes, sir.

Mr. THOMSON. On page 1, line 8, declaration of policy and purpose?

Mr. MINOW. Right.

Mr. THOMSON. Section 102(a):

The Congress hereby declares it is the policy of the United States—
and so forth.

Mr. MINOW. Yes, sir.

Mr. THOMSON. In all other communication matters whose responsibility is it to see that the policy of the U.S. Government is carried out in respect to that subject?

Mr. MINOW. Civil communications, I think, are within our regulatory competence, subject to the will and the policy set out for us by the Congress in the Communications Act.

Mr. THOMSON. In all matters you carry out the policy of the Congress as it relates to regulatory matters of communication; do you not?

Mr. MINOW. Yes, sir.

Mr. THOMSON. That brings me to page 7, under section 201, which begins under subsection (a):

The President shall—

and in paragraph 8 it says—

shall designate an official or officials of the Government to assist in the accomplishment of the purposes of this Act, who shall have access to all the books, records, papers, correspondence, and files of the Corporation, shall have the right to attend any and all meetings of the Board of Directors or of the stockholders of the Corporation, and shall make certain that what is being done and what needs to be done, both by the Corporation and by departments and agencies of Government, are known at all times to the President, and that recommendations are made to him whenever necessary to attain full compliance with the national policy regarding international communications and space satellites.

Now, is that the section to which you referred as a visitation?

Mr. MINOW. Oh, no.

What I was talking about is that we have some suggestions about visitation by representatives of the FCC and NASA. I think that what I was referring to in my statement is the view that we have about that.

Mr. THOMSON. You remember last winter, when there was a rumor that Dean Landis was going to sit in the White House and spy on the FCC?

Mr. MINOW. I do.

It turned out to be nothing but a rumor.

Mr. THOMSON. Well, it was not received very cordially in the Congress.

Mr. MINOW. No.

I remember that, too, sir. I remember testifying about that the very first day or so I was here.

Mr. THOMSON. Does this not sound like a Dean Landis sitting in the White House, spying on this private corporation?

Mr. MINOW. Well, I think not.

I think our views about this have been expressed. We look at this in the context of what our regulatory job is, and I think we have expressed ourselves on that.

Mr. THOMSON. In the ordinary context of regulatory powers, you do it, do you not?

Mr. MINOW. Yes, sir.

You do have, of course, here an extraordinary thing. That is why we are here.

You have got an extraordinary, new venture, and that is why we are trying to figure out what is the best way to get it going.

Mr. THOMSON. Does not this language, "to attain full compliance with the national policy," imply direction of this private corporation?

Mr. MINOW. I cannot speak for the executive branch, and I would not want to characterize it.

Mr. THOMSON. I did not have the opportunity yesterday to question the representative of another agency on this matter.

Mr. MINOW. We are very conscious in this discussion today of our role as being an independent agency, accountable to the Congress, and that is the way we have approached this matter.

Mr. THOMSON. Does not this language seem to imply that the President is going to tell you and the private corporation what needs to be done?

Mr. MINOW. I think not.

I think in our statement we set out some alternative ways which we think can assure that the various agencies of the Government are working harmoniously on this.

Mr. THOMSON. Did your Commission consider carefully this language that we are now discussing?

Mr. MINOW. Yes, sir.

And I think we addressed ourselves to it in our statement.

Mr. THOMSON. Now, on page 11, section 302:

The President of the United States shall designate incorporators who shall arrange for an initial stock offering and take what other actions are necessary to establish the Corporation, including the filings of articles of incorporation.

The remainder of the sentence is what I want to direct your attention to:

which shall thereafter be amended only upon the initiation or by the approval of the President.

Now, we have talked about private enterprise and a regulated company. Whose company is this?

Mr. MINOW. This is a private company which will be, in effect, authorized and created at the direction of the Congress.

Mr. THOMSON. But they cannot amend their articles except by the initiation of the President or by the approval of the President?

Mr. MINOW. Well, again, I am not in a position to speak for the executive branch, and in our statement, as I say, we suggested some alternative proposals.

Mr. THOMSON. There is some apprehension that has been expressed about the influence of the State Department here, but it appears to me that this is a proposal to create a corporation with private capital, to man it with technical know-how of private enterprise, but to have it not regulated by the Government but dominated by the Government.

Mr. MINOW. There again, I think in our statement we have addressed ourselves to some alternative suggestions, and I am not in a position to speak for the executive.

Mr. THOMSON. I might say I like some of the suggestions you have made, but I do not join in the confidence expressed by so many members here that this is the usual private industry manner of either creating a corporation or regulating it or dominating it.

Mr. O'BRIEN. Would the gentleman yield?

Mr. THOMSON. Certainly.

Mr. O'BRIEN. Is it not a fact that if the suggestions made by you, Mr. Chairman, were adopted by this Commission, that section 302 would be meaningless and would not be in the bill at all?

Mr. MINOW. I think that is right.

The way we would propose it, I think, would be that it would fall more within the established regulatory process.

Mr. THOMSON. Do you mean section 302 in the bill that I am reading relates to the process of organization?

Mr. O'BRIEN. Yes.

Mr. MINOW. Well, in part.

Mr. THOMSON. You do not go for this particular feature of the organization, do you?

Mr. MINOW. No, but I do think in our statement we did say something about amendment of the articles of incorporation. We had an alternative suggestion on that. That is the latter part.

Mr. THOMSON. Thank you.

That is all.

The CHAIRMAN. Mr. Rogers?

Mr. ROGERS of Florida. Just a question or two, Mr. Chairman.

Mr. Minow, as I understand it, you feel that you would need additional authority to deal with this particular Corporation that you do not now possess under the laws to deal with carriers, is that true?

Mr. MINOW. That is right; because this is a different kind of carrier than we have ever dealt with, we do think that there should be some—

Mr. ROGERS of Florida. What are the main additional points of authority that you would request that differ from the present law?

Mr. MINOW. The fact that we suggest that there should be required approval by the Commission of changes in capital and the charter and certain visitorial rights and access to books and records.

Because the accounting problems will be different, we think that there should be greater flexibility in enabling us to do a better job of ratemaking.

You have got a carrier here which is going to be serving other carriers, not the public, and for that reason we do think some differences in regulatory approach are necessary.

For example, the conventional tariff requirements may not apply as they do now, and so on. We will submit some specific language on that.

Mr. ROGERS of Florida. On the additional authority?

Mr. MINOW. Yes, sir.

Mr. ROGERS of Florida. Thank you, Mr. Chairman.

The CHAIRMAN. Does any other member have questions? I have several, but I will give anybody else an opportunity to proceed at this time.

As I understand it, Mr. Chairman, the principal areas of difference between what you recommend and what is recommended in the administration bill are, No. 1, the stock ownership; No. 2, the rate base, which would have to do with the class B stock; and, No. 3, the ground facilities, operation and ownership of the ground facilities.

Mr. MINOW. I think those are the major substantive points, Mr. Chairman.

The CHAIRMAN. Of course, there are many other things?

Mr. MINOW. Right. The others, I think, go to mechanics, but I think those are the major substantive points.

The CHAIRMAN. Of course, there is that major difference, I know, which has been raised here as to the authority of the President.

Mr. MINOW. Yes, sir.

The CHAIRMAN. The dispute, in my judgment, is more political than it is of major substance in the bill, although I would not be deluded into thinking that the President would not under this language, have a lot of authority and power if the bill were to prevail.

I also know that under the statutory provisions setting up the Space Council, that the Congress has given a lot of power to the Chief Executive and, I assume, appropriately so.

But let us talk for a moment about the question of securities. I do not want to let the hearings conclude without having as good a record as we can make in this particular field as well as others.

Is the sale of securities by the communication carriers now subject to regulation by the Federal Communications Commission, or subject to the regulation of the Securities and Exchange Commission?

Mr. MINOW. The Securities and Exchange Commission, sir.

The CHAIRMAN. I recognize that you are probably not intimately familiar or an expert in the laws administered by the Securities and Exchange Commission, although, as a lawyer, I am sure you must have some knowledge of the field. But I do believe that this matter should be opened up by the committee and pursued.

First, is there any difference insofar as disclosure requirements are concerned with respect to marketing of securities under H.R. 10115 and H.R. 9696?

Mr. MINOW. We would think yes. We are not experts on the securities law, Mr. Chairman, although I might add that the Chairman of the SEC was my law professor who taught me corporations, but I think I had better let the SEC speak for itself.

I would think this, though: 10115 contemplates an offering to the general public, and I think there is no question that that would have to be registered and processed by the SEC.

With respect to 9696, I think there you have got a question, because that would contemplate a limited offering, limited to a certain small, qualified number of stockholders and not to the general public, and I think the rules would be different. But I would not want that opinion to go as any more than a curbstone opinion.

The CHAIRMAN. In other words, you are of the opinion now that they would require full disclosure in every way, and a meeting of all SEC disclosure requirements under the administration's bill, but it would probably be limited under the bill 9696?

Mr. MINOW. That would be our view, but I would emphasize that that is not a view of an expert.

The CHAIRMAN. Under 9696, the international carriers would purchase shares of stock in the satellite corporation; is that true?

Mr. MINOW. Yes, sir.

The CHAIRMAN. How would they raise the funds which would be needed to purchase stock in the satellite corporation?

Mr. MINOW. We have asked—during the course of our study of this problem, we asked the carriers if they were willing to invest in an enterprise, and received answers from each of them. I do not think they went into how they intended to raise the money, whether to take it out of existing capital or have an offering. I think that would vary, depending on each carrier.

The CHAIRMAN. And you would not know whether they would have to sell additional securities of their own in order to raise the necessary funds?

Mr. MINOW. No; I would not. I think it would probably vary with their financial strength and cash position at the time.

The CHAIRMAN. Would it come from the rates received?

Mr. MINOW. I am sorry, I did not hear you.

The CHAIRMAN. Could it come from the proceeds derived from rates of their existing organization?

Mr. MINOW. Oh, I think so, from retained earnings. That is certainly a possibility.

The CHAIRMAN. In other words, would the Commission be required to approve higher rates provided by the general public for their existing facilities in order to meet their requirements for funds to go into this new adventure?

Mr. MINOW. I would think not. Certainly there has been no indication of that in the responses to our inquiries into the matter.

The CHAIRMAN. I think it would be interesting to go into that and find out, because somebody is going to have to stand for it.

Mr. MINOW. I would think it would come either from existing resources—some of them may go out and have a public offering to raise new money, but the extent of our knowledge of it is that, based on the responses we have had, they are willing to put up designated amounts of money for the new enterprise.

The CHAIRMAN. Could you state whether or not registration statements would be required under either proposal?

Mr. MINOW. I think definitely under 10115, and, as to 9696, I would presently doubt it, but I would hate to have that go in as an informed opinion. You see, if you limited it to the carriers, they have full knowledge of the situation and the necessity for public disclosure about a lot of things I do not think would be as necessary.

The CHAIRMAN. I would assume they would have to make detailed disclosures in whatever registration statement would be required, would they not?

Mr. MINOW. Under 10115, yes, sir; but on 9696 we are not sure.

The CHAIRMAN. In other words, what I am getting at now, would it be necessary to disclose or would the statements have to set forth whether the high altitude system or the low altitude system would be expected to be used?

Mr. MINOW. Oh, I think on 10115 there would have to be a full disclosure of all the relevant scientific and technological possibilities; yes, sir, whatever is known would have to be disclosed.

The CHAIRMAN. In other words, is it likely or is it a possibility that a lot of information would have to be made public while they are in the process of developing this system?

Mr. MINOW. I would think in general the answer would be yes, except where there was anything of a military classification or anything like that.

The CHAIRMAN. It seems to me that it might be necessary to reach some decision along this line in advance of the sale of securities as to whether or not such procedure would be practical.

Mr. MINOW. This is one reason I think, Mr. Chairman, that we have taken the view that the carrier base would produce a faster organization.

But I think on these other questions, that the view of the SEC would be a much better one than ours.

The CHAIRMAN. I appreciate that, but it does appear to me that this may be an area that sufficient attention may not have been given to, and I raise the question because I feel that it may be necessary for all of the interested Government agencies and members of the committee and the Congress to begin thinking about this.

It seems to me it is an important area that should be given attention and consideration, and not wait until we are through and then find out that we have overlooked maybe a vitally important issue here.

Mr. MINOW. I know that we have consulted informally with the SEC on some aspects of this, but if you would like us to participate in getting a detailed opinion from them, Mr. Chairman, or if you want to do it directly, we would be glad to cooperate in any way we could.

The CHAIRMAN. In view of the fact that there is a joint responsibility here—and I understand that much of the activity contemplated by this bill is going to come under your hearing, supervision and regulation—it seems to me that it might be advisable for you to have some consultation with the SEC along this line.

It may be that I am completely out of order and it does not involve them at all, but it just seems to me that there might be something here.

Mr. MINOW. We will be glad to pursue our conversations further, Mr. Chairman, and perhaps submit to you a letter based on our consultation with the SEC and submit it for the record.

The CHAIRMAN. Thank you. Now, the carrier regulations provisions of the Communications Act of 1934 are silent on communications by satellites. You are aware of that?

Mr. MINOW. Yes, sir; also television.

The CHAIRMAN. I believe, however, it is made very clear that when you speak of radio in the Communications Act, that includes television?

Mr. MINOW. Yes, sir.

The CHAIRMAN. But it does not include satellites, does it?

Mr. MINOW. Our general counsel says it still involves the transmission of radio energy. It could be interpreted to encompass satellite communication as well, although certainly it was not contemplated when the 1934 act was written?

The CHAIRMAN. That is right. None of the bills before the committee take the form of any amendment to the Communications Act?

Mr. MINOW. That is correct, sir.

Mr. YOUNGER. Will the gentleman yield?

The CHAIRMAN. Just 1 second. I wondered if it would not be well to consider amendments to this proposal to make it clear that the existing regulatory powers with reference to carriers are applicable to any new system such as this.

You said this morning that you wanted to be sure that the Corporation complies with the Communications Act. Now, if the Communications Act is not applicable to it, how could you require compliance?

Mr. MINOW. Our proposed language changes that I mentioned this morning contemplate amendments to the Communications Act. I should also point out, Mr. Chairman, that there are references in 10115 to the Communications Act, specifically section 401, which is headed, "Applicability of Communications Act of 1934."

For the record, Mr. Chairman, I might also add that S. 9696, section 405, also has references to the Communications Act.

The CHAIRMAN. Very well. I suppose you will consider that and see if it is sufficient?

Mr. MINOW. We think this is very important and the language which we are going to submit to the committee's staff will address itself specifically to this point.

The CHAIRMAN. Fine, we will be glad to have that. Now, let us go back to this ground station discussion.

Yesterday, Dr. Welch in his testimony to the committee, on behalf of the administration's proposal, told us that they felt that the Corporation and the carriers, private carriers, should be permitted to own ground station facilities. I asked him why, if the Corporation is set up to take care of the phase of communication through satellites and then the signal is to be transmitted in the usual way after it returned to ground receiving stations, would it be necessary for the United States to provide for the Corporation to own ground stations within the United States, recognizing that it would not own ground stations elsewhere—that is, in foreign countries.

And it was not clear to me that he had any good answer to the problem, except it was developed that perhaps it might be advisable, should some national defense purpose or something come up, it would be necessary.

Now, you say that you think that particular problem should be left flexible. What do you mean in this respect that it should be flexible?

Mr. MINOW. Well, there are some divisions of opinion within the scientific community about the technical desirability of having a unified system where one entity owns and operates ground stations as well as satellites.

If agreeable, I would like to have Commissioner Craven try to explain what these different theories are within the engineering.

The CHAIRMAN. I would like to have him do that because maybe my later questions would be affected by it.

Mr. CRAVEN. Within the parameters, electronic parameters of the system as a whole, there are several ways of establishing ground stations with different types of equipment, some better than the others, some more adapted to telephony, some more adapted to telegraphy, and if one corporation owns it all and puts the money in the situation, it would be very difficult to make a change to accommodate all needs of the different carriers.

So some of the carriers feel that from the standpoint of technological progress, it is highly desirable that they have the right to show that it is in the public interest to establish their own ground stations in order to keep up with their specific technology.

The CHAIRMAN. That is a specific point I wanted to raise. Why should anybody else besides these carriers be permitted to operate ground stations?

Mr. CRAVEN. There is a limit to the number of ground stations that we can have, and perhaps we will have to have some joint ownership, and the Commission felt that perhaps the corporation might be one that owned some of those ground stations.

The CHAIRMAN. Is it anticipated then that several common carriers might own a particular ground station and all of them use that?

Mr. CRAVEN. That could be possible, but we want entire flexibility. There is quite a division among the common carriers with respect to that. Some of them want to join in and own jointly some ground stations. Others desire to have their own ground stations.

The CHAIRMAN. If a company is going to transmit signals and serve the public, then it should have its own ground stations or be permitted to use them jointly, is that not right?

Mr. MINOW. I think that is right. Our view is that even if a carrier does not want to build its own ground station, it must have access to either another carrier's ground station or the corporation's ground station.

The CHAIRMAN. From what you know about it, is it possible that some of the carriers would not be able to set up their own ground stations?

Mr. MINOW. Oh, yes, sir; some of the small ones will not have the funds, the wherewithal, to do this.

The CHAIRMAN. And it is your position, then, that if that is true, in order to prevent a monopoly in the telecommunications field, then that the corporation would be permitted to set up a ground station in order to help these smaller carriers out?

Mr. MINOW. That is right.

The CHAIRMAN. Is that the theory?

Mr. MINOW. In part. Now, Mr. Chairman, to be specific, Western Union and, I think, General Telephone have both taken the position that the overall entity should own the ground station. My recollection is that the A.T. & T. and RCA and I.T. & T. have taken the other view. But there is a division of opinion about this, and that is why we would like to keep this flexible so, as these experiments occur this spring, we will be able to make a much more informed and intelligent judgment about it.

The CHAIRMAN. I can see some reason for that viewpoint, but, on the other hand, it does seem to me, if the corporation is set up for a particular purpose, and that is to do a job that it is well known that private carriers cannot do—the satellite operation itself—it should perhaps own the ground stations. But if this corporation is not going to engage in transmitting signals and become a carrier itself after the signal reaches the ground, either here or some other country, it just seems to me it is a foot in the door to set the corporation up as an organization to establish the ground stations and then to have use of them.

Now, we have seen these proposals in connection with other things. As a matter of fact, we have seen recently the atomic energy program, and out of a certain operation comes something else.

They say that we have got to set up an additional operation in order to utilize what comes from this, and I just wanted to find out and make it very clear that if the satellite corporation has a function to do, it seems to me we should not be putting it into other fields of operation that it was never intended for and then be faced later with a request to the effect that, well, we have got it this far, now we have got them up, we have got to use them.

Mr. MINOW. That is why, Mr. Chairman, we think in view of the—I think you well stated the complexity of it—in view of the differences among the technical people, we would prefer keeping this decision in a flexible manner until a later date.

The CHAIRMAN. I cannot see where there is much difference in the way you explained the viewpoint of the Commission and the intention that was expressed by Dr. Welch yesterday in this regard.

Mr. MINOW. I think that is right. I have looked at his testimony on that, although we think that the language of 10115 is subject to a contrary interpretation, and it may just be a language interpretation or clarification that is needed.

The CHAIRMAN. I am glad to develop this record, giving the committee an opportunity to consider it along with the recommendations by you and the representative from the administration. Now, I should like to ask a question with reference to one other point and, Commissioner Craven, I would direct this to you. The record so far seems primarily to be on the kind of organization to be formed to own and operate the satellite; that is, whether Government-owned, common carrier owned, or widely owned with participation by the general public and common carrier interests.

Do you have any thought that perhaps there might be something in the record concerning the kind of satellite envisaged here?

Mr. CRAVEN. I think it is too early to come to any positive conclusions. As you know, Mr. Chairman, there are several types of orbits which have been suggested, and there are several types of electronic parameters that have been suggested. For example, we have had what we call the low orbit, the random orbit type, the low equatorial orbit, and the high equatorial orbit, and the high synchronous orbit type.

We expect to have some experiments commencing next May which will lead to some information as to which is the most feasible system.

As time goes on, and as we get more power in the boosters, we may find out what type of electronic circuits are necessary for each type of orbit, including the high orbits. I think it is premature at this time to make a positive judgment as to which is best. I also know that the entire industry is pretty well divided on the subject at this time, and we do need more experimental data.

The CHAIRMAN. But I would assume that the principle involved here would have to do with relays; that is the concept, is it not: relays from ground station to satellite, from ground station to somewhere else to another ground station?

Mr. CRAVEN. All of them have the same principles. That is, they start with the domestic landline system or radio system, go to the ground station, and then go to the satellite, then down to the receiving station in another country, then back on to the domestic system of another country. All of them have that. The satellite is the relay.

The CHAIRMAN. All right, Commissioner. I know this is not the right thing to do, but it just happens that it develops this way:

Do you recall testifying before the committee last July, when you discussed these developments, at which time you mentioned the possibility of developing where the broadcasting by satellites would be directly to the home, without going through the ground relay station?

Mr. CRAVEN. I have some recollection of that; yes, sir. I would like to expand on it now. I do not think at any time I have taken the position that it is technically unfeasible to have broadcasting, international broadcasting, from a studio in one nation by way of the satellite directly to the homes of another nation. That is not the problem. The problem is frequency allocation. Whose frequencies are we going to use? Are we going to use existing frequencies of our

domestic systems? The domestic systems and the satellite systems direct to the homes cannot exist side by side.

The next problem is what standards are we going to use, in television, for example. Standards throughout the world differ. Basically, the electronic distribution systems of foreign countries are on a 50-cycle basis, while ours are on a 60-cycle basis. Some foreign nations have far different standards than we do. For example, they have 7-megacycle bands abroad. The voice carrier and the video carrier are separated further than ours are.

Where are the frequencies coming from?

Those are the problems that face us.

At the present time there is no provision for international broadcasting direct from the satellite to the homes in the form of frequency allocation. I think we would have to have cooperation among nations, which has never existed to that extent before.

The CHAIRMAN. But I believe you did tell us last year that you would not rule out the possibility, even though it might be 20 years away?

Mr. CRAVEN. That is true. Human nature may change.

The CHAIRMAN. Well, now we are proceeding here today, and you are administering a very important program that was designed and approved by the Congress in 1934.

That is about 28 years ago.

There have been a few amendments, yes, but the basic act is still with us. Now, we are in a position where we can look forward 20 years and see where we will be.

Mr. CRAVEN. Of course, I have no objection to trying to look forward. I have always found that hindsight was better than foresight, though.

The CHAIRMAN. Yes, we are more sure of it.

But you do not think that we should give too much concern or take too much time with that basic problem at this time?

Mr. CRAVEN. At this time, but I think it is a problem that has to be met sometime as we learn more. I would have some difficulty—

The CHAIRMAN. If I recall correctly, you were talking about the possibility of television and the audio would probably beat the picture by some 3 seconds back and forth and it would be awfully hard to get the thing coordinated.

Mr. CRAVEN. There is a lot to be learned as yet and we have no experimental data on it at the present time, and there are great differences of opinion.

For example, one of the large electronic companies is doing some research on this very project in which they expect to have 50 megawatts of solar power in the satellite, which is believed to be necessary to get enough signal into the homes of other nations.

I asked them what channels they were going to use.

They said channels 7 to 13.

Well, that takes away all of those stations in this country on channels 7 to 13 and puts it in an international service.

The CHAIRMAN. I imagine there would be a problem there.

Mr. MINOW. There might be a little problem of deintermixture.

Mr. CRAVEN. And I was told that I had better get wise to myself and get abreast of the electronic age because it is upon us. The world thinking has to change, I was told. We have to become one man's

world—I mean a one-world type of a thing now, no longer independent nations. So I gave up.

The CHAIRMAN. I raised these questions because I think that someday we might be faced with them.

Mr. CRAVEN. I have no doubts that there will be a proposal from some of the large research companies to experiment in this, and from that experiment I think we will learn a lot. I also think we will learn a good deal from the other governments of the world as a result of that experiment.

The CHAIRMAN. Again, let me thank you, Chairman Minow, and the members of your Commission and of your staff that are with you, for your very fine presentation here today.

Mr. MINOW. Mr. Chairman, I could not let the record close without saying a word about our staff, which I think has done an exceptional job here on this problem.

We are, as you know, a small agency by Government standards, and we have taken people from our Common Carrier Bureau and our General Counsel's Office and other parts of the agency, and they have devoted themselves outside of their regular duties to this, and I think they have done a splendid job in advising us.

The CHAIRMAN. I want to join you in that compliment, and I know that your staff has been of tremendous help in this whole matter.

That will conclude the hearings today.

The committee will adjourn until promptly at 10 o'clock in the morning when we will have Mr. George C. McGhee, the Under Secretary of State, as the witness.

Thank you very much.

(Whereupon, at 3:50 p.m., the hearing was adjourned, to reconvene at 10 a.m., Thursday, March 15, 1962.)

COMMUNICATIONS SATELLITES

THURSDAY, MARCH 15, 1962

HOUSE OF REPRESENTATIVES,
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D.C.

The committee met, pursuant to recess, at 10:15 a.m., in room 1334, New House Office Building, Hon. Oren Harris (chairman of the committee) presiding.

The CHAIRMAN. The committee will come to order.

When the committee adjourned yesterday, I announced that Mr. George McGhee, Under Secretary of State for Political Affairs, would be the first witness this morning.

That was the schedule and the committee's intention, but unfortunately Mr. McGhee was requested to perform rather important functions for the State Department this morning at 10 o'clock, and he will be a little late arriving.

Mr. MCGHEE. Mr. Chairman, I am here at your disposal.

The CHAIRMAN. Oh, you have already arrived. I was advised that you would not be here until 10:30, Mr. McGhee.

We will then proceed as we announced yesterday, and we will have Mr. McGhee at this time for the State Department with reference to H.R. 10115 and related bills on this subject.

Mr. McGhee, let me say that I am glad to extend a hearty welcome to you from the committee on this highly important subject.

Mr. MCGHEE. Thank you very much, Mr. Chairman. I appreciate very much—

The CHAIRMAN. Do you have someone with you that you would like to sit at the witness table?

Mr. MCGHEE. Yes, thank you.

The CHAIRMAN. You may identify them for the record, if you wish.

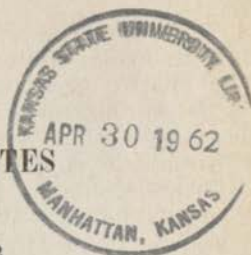
STATEMENT OF GEORGE C. MCGHEE, UNDER SECRETARY OF STATE FOR POLITICAL AFFAIRS, ACCOMPANIED BY T. H. E. NESBITT, FOREIGN SERVICE OFFICER, DEPARTMENT OF STATE, AND LEE R. MARKS, ATTORNEY, DEPARTMENT OF STATE

Mr. MCGHEE. I would first like to say I wish to express appreciation for your courtesy in allowing me to be late this morning.

I was requested to represent the Department of State in the farewell ceremony for the President of the Camerouns. However, his departure was on time and so I was able to come immediately from there.

I have a prepared statement which, with your permission, I will read, sir.

The CHAIRMAN. Yes, sir, you may then proceed.



Mr. McGHEE. The Department of State supports H.R. 10115 and H.R. 10138, an identical bill, the proposal of the President submitted to the Congress on February 7, 1962. This legislation provides for the establishment of a Communications Satellite Corporation which would be the agency for U.S. participation in the establishment of a worldwide communications satellite system. The Department is pleased that the Congress is proceeding promptly to take up this urgent matter. We hope that H.R. 10115 will be passed during this session.

It is important for the accomplishment of the national objectives of the United States that an international communications satellite system, developed under U.S. leadership, come into operation as soon as possible. I propose to discuss briefly with you today the following three aspects of this program which are of the greatest concern to the Department of State as the agent of the President in foreign relations:

1. The international significance of communications satellites and the foreign policy considerations which make U.S. participation and leadership in the development of this striking new capability so important.

2. The necessary role of the President's proposed legislation in providing a focus to the U.S. effort.

3. The nature of the international task to be undertaken upon establishment of the Corporation: the task of proceeding with the organization of a global communications satellite system in cooperation with other countries.

THE INTERNATIONAL SIGNIFICANCE OF COMMUNICATIONS SATELLITES

In the application of space technology to international communications, we have an opportunity to make available to many nations a new technology for purposes which are unquestionably peaceful in nature and beneficial to mankind. Satellite relays, in their application to communications, are primarily international. For some large countries they may ultimately augment domestic communications nets; however, their greatest importance will unquestionably come in linking countries across the oceans and the continents. Communications satellites hold the prospect of enabling the geographic pattern of international communications to become truly global.

The creation of such a new medium for international communications would, when economically feasible, enable the establishing of direct communications services to countries where such service is not now available. It would make possible a closer interlinking of remote nations, leading to a freer and more rapid exchange of information and ideas, and a more rapid exchange of governmental and private communications which could greatly improve international understanding. From a purely practical point of view, the establishment of this new capability should help ease the everincreasing congestion and overloading of present international communications facilities. It would most certainly provide a marked stimulus to commerce. We may look forward to greater reliability, security from interference and, hopefully, eventual economies.

In view of the high capital cost and great capacity of this means of communication, it is desirable that there be but one such system in operation for global commercial use at least for some time to come.

More broadly, the enactment of the proposed legislation would further U.S. foreign policy objectives by providing a tangible demonstration of our open and cooperative approach in the peaceful uses of space. It would lead to opportunities for all members of the family of nations—large and small, developed and underdeveloped—to participate in a truly international joint venture which will be clearly to the benefit of mankind. It would lead in a major way toward building the community of free nations of which the President spoke in his message on the state of the Union.

There is widespread recognition in other countries of the prospective economic and political benefits from the successful development of communications satellite relays. The International Telecommunication Union (ITU) has given active and foresighted attention to the problem of making available the necessary allocation of radiofrequencies. Allocations for experimental space communications were made in 1959, and an extraordinary administrative radio conference is tentatively scheduled for late next year to consider allocations for continuing space communications uses.

On Monday of this week the Vice President addressed the opening meeting of two study groups of the International Radio Consultative Committee (CCIR) of the ITU, attended by delegations from approximately 25 nations, one of which has just begun the study of technical problems relating to space communications. In his opening remarks the Vice President said:

Radio has revolutionized the world. And this would not have been possible without the work of the International Radio Consultative Committee and the International Telecommunication Union.

The base for future international action will come from your studies and recommendations here in Washington. You can lay down wise guidelines here which will influence other bodies in the years that lie ahead.

My Government is vitally interested in seeing that utilization of any new space communication facilities will be available to all countries of the world. At the same time, we recognize the problems of adjacent countries in regional areas in planning their most efficient and economical usage of the system.

The CCIR meeting convened here in Washington last Monday represents the first formal step at an official international governmental level to come together and deal with some of the technical problems presented by these new challenges.

Preliminary views on frequency allocation proposals, prepared by U.S. experts last year, have already been circulated to all of the 115 members and associate members of the ITU, and they, together with the comments received, will provide a basis for formulation of the U.S. position at the conference. If we are to secure general support for the allocation of frequencies for a commercial satellite system, it will be important for other states to feel that they will share in and benefit from the establishment of such a system.

Keen interest in space communications was evident during the discussions of the United Nations General Assembly in December 1961; at that time a resolution calling for cooperation in space communications and other peaceful uses of outer space, with appropriate United Nations assistance, was adopted unanimously. I would like to introduce for the record, if I might, Mr. Chairman, this General

Assembly resolution, as well as Ambassador Stevenson's explanatory speech of December 4.

The CHAIRMAN. You may include those two documents in the record following your statement.

Mr. MCGHEE. As this committee is well aware, a number of countries, including the United Kingdom, France, Brazil, Italy, and Germany, are well advanced in preparations to join with us in communications experiments later this year in connection with Projects Relay and Telstar; possibilities of participation by additional countries in these and later experiments are being actively explored.

This widespread interest is readily understood, for the possibilities offered by this new communications vehicle capture the imagination. For example, it offers to us the prospect of direct communications links with our embassies, with the newly emerging nations of Africa and Asia, and with our sister countries of Latin America. It promises the prospect of simultaneous viewing by television in all parts of the world of the key deliberations of the United Nations.

And as our traditional trade and cultural ties with the nations of the new burgeoning European community expand, as they inevitably will, these new communications channels will provide us the needed capacity for handling the resultant greatly increased volume of commercial traffic. They will also make it possible to enlarge our contacts through telephone, broadcast, and TV exchanges.

In this connection it is significant to recall Mr. Khrushchev's statement in his letter to the President of February 21, 1962, in which he said:

If our countries pooled their efforts—scientific, technical, and material—to explore outer space, this would be very beneficial to the advance of science and would be acclaimed by all peoples who would like to see scientific achievements benefit man and not be used for cold war purposes and the arms race.

Better communications also offer one of the most hopeful ways of bridging the present sharp political divisions between the nations of the world: Thus, as we actively examine possibilities for space cooperation with the Soviet Union as directed by the President, the possibility of cooperation in space communications has special attractiveness. We are hopeful that the Soviet Union, which cosponsored the U.N. resolution looking toward a global and nondiscriminatory satellite system, will join with us in implementing this objective.

Thus, what we do to develop and use communications satellites, and the spirit in which we do it, are being closely watched by the other countries of the world.

IMPORTANCE OF H.R. 10115

It is generally agreed that it is essential that the United States have a suitable agent to take the lead in the development of communications satellites and in working out arrangements for their launching and use in cooperation with other countries. Legislation to this end is embodied in H.R. 10115, the proposed Communications Satellite Act of 1962. It is important that the corporation envisaged in the bill come into existence at an early date. While much research is underway, no responsible body is planning the operational system which will make use of communications satellites, the interrelations with existing communications, the nature of the organization which will direct

operations, and the arrangements for serving the countries of the world. If the experiments this year are to bear early fruit, responsibility must be fixed without delay on a competent entity to decide which techniques are best suited to operations and when they have been sufficiently proven so that it is time to move from experiment to practice.

This legislation proceeds on the premise that a corporation with these powers must be so directed and regulated as to further the public interest and advance the attainment of national objectives as first set forth in the President's policy statement of July 24, 1961. Establishing such a U.S. Communications Satellite Corporation will serve as a focal point for the increased U.S. research and planning effort urgently required, and as an inducement to industry to contribute from its reservoir of knowledge in the fields of communications and space technology.

H.R. 10115 takes account of the President's policy objectives enunciated last July in that it will clearly expedite the U.S. research and development effort necessary for decisions as to design of a global communications satellite system; it will allow the U.S. Communications Satellite Corporation to become owner of the U.S. portion of a global system which we hope will provide efficient communications services throughout the world as soon as technically feasible; and it will provide private industry the opportunity of extending and improving its international communications services.

Although the proposed legislation deals primarily with domestic arrangements required to implement the President's communications satellite policy of July 24, 1961, the uniquely international character of a communications satellite system makes evident the foreign policy implications and the role which the Secretary of State will have to play. This unique character is evident in the global scope of the system, which requires that the interests of many countries be met by a single satellite system: a sharp contrast to the simpler negotiations for a cable between two or three countries. It is evident in the unprecedented scale of the problem of making available—through intergovernmental agreement—the needed frequencies even though domestic adjustments may be required. It is evident in the political problems that will arise in locating ground stations to serve the needs of a number of countries in an area of the world. The Government, and the Department of State in particular, have a responsibility to see that problems and opportunities such as these are fully met.

Among the many factors which relate to foreign arrangements are the provisions for participation in the ownership and operation in an international satellite system; the kind and extent of services to be rendered; the determination of radio frequencies to be employed; the choice of the operational system to be established; the relationship of the international system to the U.N. and its specialized agencies; and the extent to which the United States would be prepared to assist in providing financial and technical assistance to new and developing countries which may desire to participate in the service.

Sections 201(c)(3) and 402 of H.R. 10115 direct the Department of State to conduct or supervise negotiations for such arrangements. In carrying out these responsibilities, the Department would be acting with and in behalf of the new Corporation. It would seek the advice of the Director of Telecommunications Management, FCC, NASA, and other agencies as appropriate.

As the term "conduct or supervise negotiations" indicate, the active role of the Department would vary widely. The basic objective would be to see that the foreign policy and public interest objectives are fully attained in the establishment and use of the system. Within general guidelines approved by the Department, the bulk of the business arrangements would undoubtedly be worked out by the Corporation and foreign entities. Just as in the past, much of the negotiation carried on prior to the laying of new cables or the establishment of new radio circuits has been done by private American companies without the direct involvement of the Department of State, we would contemplate that such would ordinarily be the case in purely commercial or technical aspects of negotiations involved in the communications satellite system. However, the worldwide scope of this new medium of communications and its potential impact on the achievement of our foreign policy objectives clearly indicate the necessity of the Department's involvement as the President's agent for dealing with foreign affairs whenever the Department considers this necessary to the achievement of national objectives in foreign policy. In the case of the important discussions in the ITU, the United States would be represented by governmental delegations.

The Department's interest in matters of this kind is not new. Over the years it has participated in the negotiation of many treaties dealing with frequency allocation and communications problems in general. It has also taken the initiative in the establishment of new and direct communications circuits, and has intervened on behalf of the U.S. international telecommunication companies in protecting their interests abroad. The following are several instances where the Department negotiated on behalf of American communication companies:

(1) The Bermuda Telecommunication Agreement of 1945 between the United States and the British Commonwealth for the establishment of direct radio-telegraph circuits between the United States and certain members of the Commonwealth such as Australia, New Zealand, South Africa, and so forth.

(2) The establishment of relay stations for RCAC and McKay Radio & Telegraph Co. at the international city of Tangier. This necessitated an agreement with the Soviet Union since it involved circuits between the United States and the Soviet Union via Tangier and negotiations with the authorities of the international city of Tangier.

(3) Prior to the signing of an agreement between the A.T. & T. and the British General Post Office for the building of the first transatlantic telephone cable, the British authorities wished to discuss with U.S. officials certain aspects of the contract, especially, the question of the use of telephone cables for telegraphy. Consequently, during the period May 16 through May 25, 1956, informal discussions were held in Washington between officials of the United States and the United Kingdom Governments concerned with telecommunications. Representatives of the operating companies of both countries and the U.S. Congress attended the later stages of the discussion.

An analogous situation exists in the negotiation of traffic rights and routes for American companies operating airlines. These negotiations are regularly carried on by representatives of the Department of State with the cooperation and assistance of the other interested

Government agencies and the companies concerned. This method of negotiation is provided for in the Federal Aviation Act. The administration proposal for legislation to establish a communications satellite corporation also takes into account this longstanding practice.

As shown by past experience, the Department is prepared to supervise and facilitate the international negotiations necessary to establish a new worldwide system of international communications responding fully to our own national interests and the expectations and interests of other participating countries. We are of the opinion that H.R. 10115 provides a suitable and necessary basis for proceeding to these arrangements.

RELATIONSHIP BETWEEN THE U.S. CORPORATION AND A GLOBAL SATELLITE COMMUNICATIONS SYSTEM

You will recall that, in his "Statement on Communications Satellite Policy" of July 24, 1961, the President said:

I again invite all nations to participate in a communication satellite system ***.

This invitation repeated one first made in the January 1961 state of the Union message.

How should the participation of other countries be provided? While H.R. 10115 is primarily concerned with domestic aspects of a global space communications system, it recognizes the role and interest of other countries in a number of key provisions.

The proposed legislation submitted by the President requests that the Congress—

hereby declare 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 (sec. 102(a)).

The act then directs the President to—

insure that timely arrangements are made for foreign participation in the establishment and use of a communications satellite system, and for determination of the most constructive role for the United Nations.

Other relevant provisions are sections 102(a) and 305(a)(1).

These provisions reflect the strong expectation that the global satellite communications system which will emerge before many years will be one requiring international cooperation and participation. The United States will be a major participant in such a system and we hope that the technology of our expanding space program will be the foundation of the system; but we will be only one principal participant.

The international nature of a satellite communications system is dictated by a number of commonsense considerations. The satellites will be primarily useful for communicating with other countries, and we thus must agree with those sovereign countries on the arrangements for talking with them. Much of the traffic will be between other countries not involving the United States at all. In view of the importance of communications to all States, many other countries will wish to have a voice in the operation and management of the system and will be prepared to contribute to the cost of the system. For our part we should welcome this interest in cooperation and

participation by other countries, both as a sharing of the burden of establishing and maintaining the system and as a demonstration of international cooperation which will have value in itself.

It is most significant to note in this regard that industry also recognizes the necessity for international participation and cooperation. The report of the Ad Hoc Carrier Committee established by the FCC last year to consider this problem, and representing the extensive experience of private U.S. communications interests, pointed out the basic fact that the active interest of foreign communications administrations is essential to a global communications satellites system since these administrations operate the international communications facilities emanating from other countries. Such administrations, the Carrier Committee points out, will wish to own their own ground stations. Many have expressed interest in the satellites themselves and will want substantial ownership interest in the satellites and associated facilities of a global system. Similarly the Corporation proposed in H.R. 10115 is intended to be the U.S. participant in such a system.

In order to obtain the desired global participation there should be subsequently negotiated and established international arrangements which would provide for broader ownership and participation. The Corporation is intended to be the U.S. participant in a global system. Existing U.S. law prohibits more than 20 percent foreign ownership in any U.S. communications corporation, and will apply to this Corporation. We do not, however, envisage that the participation of other countries in the overall satellite communication system ultimately to be established will be limited to whatever investment they may wish to make in shares of the proposed U.S. Satellite Corporation. With our present knowledge of the active interest of foreign countries in establishing communications via satellite and their natural desire to operate their own ground stations as well as participate in the ownership of a global system, the establishment of arrangements for truly international participation would appear to be necessary.

It is the Department's view that the best means of initiating the most effective arrangements will be through exploratory discussions with other interested countries. With the passage of the proposed legislation, there would come into being a U.S. corporate instrument which, with the foreign policy guidance of the Department, could take the lead in such discussions.

The United States would, I wish to emphasize, participate in the ownership and management of the overall international system through the envisaged U.S. Communications Satellite Corporation. There are practical forces pointing toward a solution based on international cooperation which would leave ample scope for U.S. leadership.

CONCLUSION

The year 1962 will be a year which will see a number of significant communications satellite experiments sponsored by NASA, the Defense Department, and the U.S. communications industry. This technical progress must now be matched by establishment of a focus for vigorous national planning to make use of our growing technical achievements.

Cooperation such as is proposed is needed now to give leadership in making the many important design, construction, and managerial decisions which must be taken without delay. Passage of the proposed legislation before you would establish a Communications Satellite Corporation well adapted to these purposes.

Once such a corporation is established, we in the Department of State look forward to working with it, as provided in the proposed act, in devising and carrying out international arrangements in the spirit of the act and of the President's policy. In that manner we shall bring into being as expeditiously as possible and in cooperation with other countries, a communications satellite system which will serve the communications needs of the United States and other countries and thus contribute to world peace and understanding.

(The documents referred to are as follows:)

INTERNATIONAL COOPERATION IN THE PEACEFUL USES OF OUTER SPACE

(Following is a statement made in Committee I (Political and Security) on December 4 by Ambassador Adlai E. Stevenson, U.S. Representative to the General Assembly, together with the text of a resolution adopted in plenary on December 20.)

STATEMENT BY AMBASSADOR STEVENSON

U.S. delegation press release 3875

The subject before this committee this morning is, as you have indicated, outer space—and what we together decide to do, or not to do, to promote the exploration and use through peaceful cooperation.

This is Year Five in the Age of Space. Already in 4 short years scientific instruments, then animals, then men, have been hurled into space and into orbit around the earth. Within a few more years satellites will bring vast new developments in weather forecasting and in worldwide telephone, radio, and television communications. More than that, rocket booster capacity will become sufficient to launch teams of men on journeys to the moon and to the nearest planets. And after that, one can only speculate what may come next.

Unhappily this astounding progress in space science has not been matched by comparable progress in international cooperation. In the race of history social invention continues to lag behind scientific invention.

We have already lost valuable time that can never be recovered.

Unless we act soon the space age—like the naval age, like the air age and the atomic age—will see waste and danger beyond description as a result of mankind's inability to exploit his technical advances in a rational social framework. In short, unless we act soon, we shall be making the old mistakes all over again.

Despite the urgent need for immediate international action, I fear that we come to this subject ill prepared to think clearly about it. I suspect that we are handicapped by our heritage of thought about the affairs of this single planet.

We are conditioned to think in terms of nations. Our lives and concepts are predicated upon states whose boundaries are fixed by oceans and rivers and mountain ranges or by the manmade lines drawn sharply across the two-dimensional and finite surface of planet Earth. We are conditioned to think in terms of nations defined by finite areas expressed in finite measurements—nations with more or less known resources and more or less counted populations. And especially we are conditioned to think in terms of national sovereignties.

Such concepts have no meaningful application to the unexplored, unbounded, and possibly unpopulated reaches of outer space, which surround no nation more than any other nation, and which are innocent of the idea of national sovereignty.

We are further handicapped, many of us, by the impression that the exploration of outer space is a matter of concern only to the great powers because they alone have the capacity to penetrate space. That impression gains force from the belief that outer space is unrelated to the day-to-day problems of nations whose energies are absorbed by such earthly daily questions as growing enough food to feed their peoples.

This impression, I submit, is totally and dangerously wrong.

The smallest nation represented here in the United Nations is deeply concerned with this question before us—and so is the poorest of our members. Indeed, they may have far more to gain from the shared benefits of space science—and on just such matters as growing food—than the larger and the richer societies.

Moreover, the small nations have an overriding interest in seeing to it that access to space and the benefits of space science are not preempted by a few nations, that space exploration is not carried forward as a competition between big-power rivals, that the ideological quarrels which so unhappily afflict this planet are not boosted into space to infect other planets yet unsullied by the quarrels of men.

Finally, all nations can play a part in assuring that mankind derives the maximum advantage from space technology in the here and the now and not just in the hereafter. Every nation can cooperate in the allocation of radio frequencies for space communications. Every nation can participate a global systems of weather prediction and communications.

In outer space we start with a clean slate—an area yet unmarred by the accumulated conflicts and prejudices of our earthly past. We propose today that the United Nations write on this slate boldly and in an orderly and a creative way to narrow the gap between scientific progress and social invention, to offer to all nations, irrespective of the stage of their economy or scientific development, an opportunity to participate in one of the greatest adventures of man's existence.

The United States, together with other delegations, today places before this committee a program for cooperation in outer space—a program embodied in the draft resolution¹ now before you. We look forward to constructive discussions of these proposals—and to improvement upon them. They do not represent fixed positions. We are prepared to consider constructive suggestions from any member of the committee so that the widest possible measure of common agreement may be reached. But these proposals do represent our best and most thoughtful effort to put forward in good faith a program of international cooperation for the benefit of all mankind.

TOWARD A REGIME OF LAW AND ORDER

The first part of this program, embodied in part A of the draft resolution, looks toward a regime of law and order in outer space based on two fundamental principles which should commend themselves to all nations.

The first principle is that international law, including the United Nations Charter, applies to outer space and celestial bodies. Now that man has found means to venture beyond his earthly environment, we should state explicitly that the rules of good international conduct follow him wherever he goes. The *Ad Hoc* Committee on the Peaceful Uses of Outer Space noted in its report of July 14, 1959,² that as a matter of principle the United Nations Charter and the statute of the International Court of Justice are not limited in their operations to the confines of the earth.

The second principle is that outer space and celestial bodies are free for exploration and use by all states in conformity with international law and are not subject to national appropriation by claim of sovereignty or otherwise.

The *Ad Hoc* Committee on Peaceful Uses of Outer Space noted in its report that with the practices followed during the International Geophysical Year "there may have been initiated the recognition or establishment of a generally accepted rule to the effect that, in principle, outer space is, on conditions of equality, freely available for exploration and use by all in accordance with existing or future international law or agreements."

This rule has been confirmed by the practice of states in the time since the report was written. It now deserves explicit recognition by this Assembly.

But such a statement on outer space is not enough. In the 2 years since the report was written, mankind has taken giant steps toward reaching celestial bodies. The first manned lunar landing may take place by the end of the present decade. All mankind has an interest and a stake in these monumental achievements. We must not allow celestial bodies to be the objects of competing national claims.

The members of the committee will note that we have not attempted to define where outer space begins. In our judgment it is premature to do this now. The attempt to draw a boundary between air space and outer space must await further experience and a consensus among nations.

Fortunately the value of the principles of freedom of space and celestial bodies does not depend on the drawing of a boundary line. If I may cite the analogy of

¹ U.N. doc. A/C. 1/L. 301.

² U.N. doc. A/4141.

the high seas, we have been able to confirm the principle of freedom of the seas even in the absence of complete agreement as to where the seas begin.

Freedom of space and celestial bodies, like freedom of the seas, will serve the interest of all nations. Man should be free to venture into space on the same basis that he has ventured on the high seas—free from any restraints save those imposed by the laws of his own nation and by the rules of international law, including those embodied in the United Nations Charter.

OPEN AND ORDERLY CONDUCT OF ACTIVITIES

The second part of our program is designed to encourage the open and orderly conduct of outer space activities. The measures proposed in part B of the draft resolution would help all countries participate in space activities and would foster an atmosphere of mutual trust and confidence.

In pursuit of these objectives we proposed that all states launching objects into orbit or beyond should furnish information promptly to the Secretary-General for the purpose of registration of launchings. This information would include orbital and transit characteristics and such other data as launching states might wish to make available. The Secretariat would maintain a record of this information and would communicate it upon request to other members of the United Nations and to specialized agencies.

The establishment of a complete registry or census of space vehicles would mark a modest but an important step toward openness in the conduct of space activities. It would benefit nations the world over, large and small, which are interested in identifying, tracking, and communicating with space vehicles. It could lay the basis for later arrangements for termination of radio transmission and removal of satellites when their useful lives were ended.

The Secretariat should perform other useful functions beyond these connected with the registry of space vehicles:

It could, in consultation with appropriate specialized agencies, maintain close contact with governmental and nongovernmental organizations concerned with outer space matters.

It could provide for the exchange of information which governments might supply in this field on a voluntary basis—supplementing but not duplicating existing exchanges.

It could assist in the study of measures for the promotion of international cooperation in outer space activities.

Finally, it could make periodic reports on scientific and institutional developments in this field.

It is time to vest the Secretariat with these basic service functions. The report of the *Ad Hoc* Committee on Peaceful Uses of Outer Space suggested that some functions of this kind should be performed by the Secretariat. It noted with approval the conclusion of its Technical Committee that "there is a need for a suitable centre related to the United Nations that can act as a focal point for international co-operation in the peaceful uses of outer space."

We believe that this recommendation should be implemented without further delay, making fullest possible use of existing resources of the Secretariat. We understand that the services specified in this resolution can be performed with the addition of a very small number of personnel. The measures taken to carry out the new functions could be reviewed by the Assembly at its next session.

WEATHER RESEARCH AND PREDICTION

The third part of our proposed program calls for a worldwide effort under the auspices of the United Nations in weather research and weather prediction.

The dawn of the space age is opening vast new possibilities in weather sciences. Satellites and sounding rockets have supplemented other advances in meteorological techniques such as the use of radar and electronic computers. They make it possible for the first time in history for man to keep the entire atmosphere in every region and at every altitude under constant surveillance.

This portends a revolution in meteorology—a peaceful revolution which can benefit all peoples on this earth, particularly in the less developed regions which presently lack adequate weather information. Meteorological satellites hold special promise for the improvement of weather forecasting capabilities in the Tropics and in the Southern Hemisphere, where vast oceans cannot be covered by present techniques.

Increased knowledge of the forces that shape the weather will enable man to forecast typhoons, floods, rainfall, and drought with greater accuracy.

These possibilities will mean the saving of human life and reduction of property damage.

They will make possible the more efficient use of limited water resources and enable the farmer to adjust the timing and the nature of his planting to the rainfall which his fields will receive. Fishing and grazing will also benefit.

Fuels and raw materials can be transported and stored more efficiently with better foreknowledge of the weather.

In short, by making the weather and the events which depend on it the more predictable, we can foster progress in industry, agriculture, and health and contribute to rising living standards around the world.

But the enhancement of our knowledge of the weather is only the beginning. In the more distant future looms the possibility of large-scale weather modification. If this power is to be used to benefit all rather than to gain special advantage for a few, if it is to be used for peaceful, constructive purposes, progress toward weather control should be part of a cooperative international venture.

With these exciting prospects in mind we propose preparatory studies for two coordinated programs in part C of the draft resolution.

The first is an international atmospheric science program to gain greater knowledge of the basic forces affecting the climate. This will yield information essential for improved weather prediction and eventually for possible weather modification.

The second is an international meteorological service program. The aim of this program would be to enable men everywhere to reap the practical benefits of discoveries in basic weather science. Under this program steps could be taken leading to the establishment of a global network of regional weather stations located in less developed as well as developed areas of the world. Weather information obtained from satellites could be transmitted directly to such centers or communicated indirectly after receipt in other areas of the world.

The concept of regional meteorological centers is already accepted and being applied in the Northern Hemisphere, where there are five such centers serving regional needs for weather communications and analysis. The needs of the Tropics and the Southern Hemisphere are now being studied. There is, for example, a plan for establishment of an international meteorological center in Bombay in connection with the 4-year international Indian Ocean expedition.

To put such a world weather network in operation will require cooperative efforts of many nations. The World Meteorological Organization—called WMO—has played an important role in supplying technical assistance in the training of weather technicians, especially in the less developed areas. We believe this activity of WMO should be continued and strengthened in the future. National and international suppliers of investment capital can help finance the establishment of centers in countries which cannot afford them. Nations which have developed weather satellites can make the weather information available freely for use in this system.

So far as the United States is concerned, we stand ready, here and now, to make the weather data received from our satellites available for such a global system. In fact we are already making such data available to other countries. We are developing methods which would permit direct transmission of satellite cloud photography to any part of the world. If this is successful the way will be opened for a marked increase in the timely availability of useful data.

GLOBAL SYSTEM OF COMMUNICATION SATELLITES

Now the fourth part of the space program looks toward the establishment of a global system of communication satellites.

Space technology has opened enormous possibilities for international communications. Within a few years satellites will make possible a vast increase in the control and quality of international radio, telephone, and telegraph traffic. In addition, something new will be added—the possibility of relaying television broadcasts around the globe.

This fundamental breakthrough in communication could affect the lives of people everywhere.

It could forge new bonds of mutual knowledge and understanding between nations.

It could offer a powerful tool to improve literacy and education in developing areas.

It could support world weather services by speedy transmittal of data.

It could enable leaders of nations to talk face to face on a convenient and reliable basis.

The United States wishes to see this facility made available to all states on a global and nondiscriminatory basis. We conceive of this as an international service. We would like to see United Nations members not only use this service but also participate in its ownership and operation if they so desire.

The United Nations Organization itself stands to benefit directly from the use of satellites both in communicating with its representatives around the world and in disseminating programs of information and education.

As an example of the potentialities of such use, we hope to have before long an experimental satellite which will transmit across the Atlantic, for brief periods, live television excerpts of debates in the General Assembly of the United Nations.

In preparation for these developments the United States proposes that the International Telecommunication Union consider the various aspects of space communication in which international cooperation will be required. This will assure all members of the United Nations a fair opportunity to express their views. It is particularly important that the necessary arrangements be made for the allocation of radio frequencies for space communications.

In order to enable less developed countries to participate in effective use of satellite communications, the Expanded Technical Assistance Program and the United Nations Special Fund should give sympathetic consideration to requests for assistance from less developed countries to improve the state of their domestic communications.

The principles I have mentioned are embodied in part D of the draft resolution now before you. If implemented with dispatch they could help to clear the way for cooperative use of a worldwide system of satellite communications.

REVITALIZING THE OUTER SPACE COMMITTEE

The fifth part of our program seeks to put new life and new responsibilities in the Committee on the Peaceful Uses of Outer Space.

As we all know, this Committee was established 2 years ago for an indefinite period by Resolution 1472 (XIV)³ with a continuing mandate to study programs on peaceful uses of outer space which might be undertaken under United Nations auspices, to study the legal problems which might arise from the exploration of outer space, and to plan an international conference for the exchange of experience in the exploration of outer space.

We propose that, in addition to the responsibilities laid down in this original mandate, the Committee should review the activities provided for in this resolution and make such reports as it may consider appropriate. In the four previous parts of the resolution we have specifically noted the role the Committee could play in studying the legal problems of outer space, in reviewing the service arrangements undertaken by the Secretary General, and in examining the proposals for international cooperation in weather and communications.

As my colleagues are aware, Resolution 1472 provided for 24 members of the Outer Space Committee elected for a period of 2 years. We propose to continue the same membership, augmented by the addition of Nigeria and Chad in recognition of the increase in the membership of African states in the United Nations during the past 2 years.

Let the Committee make a fresh beginning. Let the Committee meet early in 1962 to undertake its original tasks and its new responsibilities in connection with these cooperative programs.

We recognize that outer space activities are unique in many respects and that international cooperation is a prerequisite to progress. Although we cannot of course accept the veto in the work of the Committee, we expect that this work can be carried out in a spirit of mutual understanding. We do not anticipate that the nature of the Committee's work would give rise to differences that could not be resolved by discussion. We hope that, proceeding in this spirit, we can finally put life into the Committee created 2 years ago.

I ask the distinguished delegates here to bear in mind that in weather and communications the resolution embodies no commitments to any specific program. It merely calls upon the Secretary General in cooperation with the specialized agencies, and with other organizations, to submit proposals for action. These proposals will be presented to the Economic and Social Council at its 34th session, to the 17th General Assembly, and to the Outer Space Committee.

In short the resolution in these fields merely clears the way for deliberate consideration of programs by government representatives. Such basic studies ought not be further delayed.

³ For text, see Bulletin of Jan 11, 1960, p. 68.

Now we have sought in good faith and so far as is possible to present a program which is above the clash of partisan politics or the cold war. The principles and programs embodied here bestow no special advantage on any state—they are in the interest of all states.

The resolution deals exclusively with the peaceful uses of outer space. The military questions of space are closely entangled with the military questions of earth. We believe that they require urgent study as part of comprehensive negotiations for general and complete disarmament.

This does not mean, however, that the program of peaceful cooperation now before us has no bearing on the issues of peace and war. It does. If put into operation without delay, it can help lay the basis for a relaxation of tensions and facilitate progress elsewhere toward general and complete disarmament.

WE CANNOT AFFORD TO DELAY

Mr. Chairman, I must close with the same theme on which I commenced this presentation: We cannot afford to delay.

The space programs of the great powers are well advanced. Our own nation is proceeding with the development of satellite systems for weather forecasting and communications. In the months ahead important decisions will have to be made. If the opportunity for United Nations action is missed, it will be increasingly difficult to fit national space programs into a rational pattern of United Nations cooperation.

Our first choice is a program making maximum use of the United Nations for at least three reasons:

because it could bring new vitality to the United Nations and its family of agencies;

because it would help to assure that all members of the United Nations, developed and less developed, could have a share in the adventure of space cooperation; and

because a program of such magnitude should be carried out as far as possible through the organizations of the world community.

As I say, this is our first choice. But the march of science is irreversible. The United States has a responsibility to make the fullest possible use of new developments in space technology—in weather forecasting, in communications, and in other areas. These developments are inevitable in the near future. We hope they can take place through cooperative efforts in the United Nations.

I suppose that the great climaxes in the drama of history are seldom evident to those who are on the stage at the time. But there can be little question that man's conquest of outer space is just such a moment, that we—all of us—are on stage, and that how we behave in the immediate will have a profound impact upon the course of human affairs in the decades ahead.

There is a right and a wrong way to get on with the business of space exploration. In our judgment the wrong way is to allow the march of science to become a runaway race into the unknown. The right way is to make it an ordered, peaceful, cooperative, and constructive forward march under the aegis of the United Nations.

I most earnestly recommend your serious attention to the proposals my Government is making to this end.

TEXT OF RESOLUTION ⁴

A

The General Assembly,

Recognizing the common interest of mankind in furthering the peaceful uses of outer space and the urgent need to strengthen international co-operation in this important field,

Believing that the exploration and use of outer space should be only for the betterment of mankind and to the benefit of States irrespective of the stage of their economic or scientific development,

1. *Commends* to States for their guidance in the exploration and use of outer space the following principles:

(a) International law, including the Charter of the United Nations, applies to outer space and celestial bodies;

(b) Outer space and celestial bodies are free for exploration and use by all States in conformity with international law and are not subject to national appropriation;

⁴ U.N. doc. A/RES/1721 (XVI) (A/C.1/L.301/Rev. 1 and Corr. 1); adopted unanimously in plenary session on Dec. 20.

2. *Invites* the Committee on the Peaceful Uses of Outer Space to study and report on the legal problems which may arise from the exploration and use of outer space.

B

The General Assembly,

Believing that the United Nations should provide a focal point for international co-operation in the peaceful exploration and use of outer space,

1. *Calls upon* States launching objects into orbit or beyond to furnish information promptly to the Committee on the Peaceful Uses of Outer Space, through the Secretary-General, for the registration of launchings;

2. *Requests* the Secretary-General to maintain a public registry of the information furnished in accordance with paragraph 1 above;

3. *Requests* the Committee on the Peaceful Uses of Outer Space, in cooperation with the Secretary-General and making full use of the functions and resources of the Secretariat:

(a) To maintain close contact with governmental and non-governmental organizations concerned with outer space matters;

(b) To provide for the exchange of such information relating to outer space activities as Governments may supply on a voluntary basis, supplementing but not duplicating existing technical and scientific exchanges;

(c) To assist in the study of measures for the promotion of international co-operation in outer space activities;

4. *Further requests* the Committee on the Peaceful Uses of Outer Space to report to the General Assembly on the arrangements undertaken for the performance of those functions and on such developments relating to the peaceful uses of outer space as it considers significant.

C

The General Assembly,

Noting with gratification the marked progress for meteorological science and technology opened up by the advances in outer space,

Convinced of the world-wide benefits to be derived from international co-operation in weather research and analysis,

1. *Recommends* to all Member States and to the World Meteorological Organization and other appropriate specialized agencies the early and comprehensive study, in the light of developments in outer space, of measures:

(a) To advance the state of atmospheric science and technology so as to provide greater knowledge of basic physical forces affecting climate and the possibility of large-scale weather modification;

(b) To develop existing weather forecasting capabilities and to help Member States make effective use of such capabilities through regional meteorological centres;

2. *Requests* the World Meteorological Organization, consulting as appropriate with the United Nations Educational, Scientific and Cultural Organization and other specialized agencies and governmental and non-governmental organizations, such as the International Council of Scientific Unions, to submit a report to its member Governments and to the Economic and Social Council at its thirty-fourth session regarding appropriate organizational and financial arrangements to achieve those ends, with a view to their further consideration by the General Assembly at its seventeenth session;

3. *Requests* the Committee on the Peaceful Uses of Outer Space, as it deems appropriate, to review that report and submit its comments and recommendations to the Economic and Social Council and to the General Assembly.

D

The General Assembly,

Believing that communication by means of satellites should be available to the nations of the world as soon as practicable on a global and non-discriminatory basis,

Convinced of the need to prepare the way for the establishment of effective operational satellite communication,

1. *Notes with satisfaction* that the International Telecommunication Union plans to call a special conference in 1963 to make allocations of radio frequency bands for outer space activities;

2. *Recommends* that the International Telecommunication Union consider at that conference those aspects of space communication in which international co-operation will be required;

3. *Notes* the potential importance of communication satellites for use by the United Nations and its principal organs and specialized agencies for both operational and informational requirements;

4. *Invites* the Special Fund and the Expanded Programme of Technical Assistance, in consultation with the International Telecommunication Union, to give sympathetic consideration to requests from Member States for technical and other assistance for the survey of their communication needs and for the development of their domestic communication facilities so that they may make effective use of space communication;

5. *Requests* the International Telecommunication Union, consulting as appropriate with Member States, the United Nations Educational, Scientific and Cultural Organization and other specialized agencies and governmental and non-governmental organizations, such as the Committee on Space Research of the International Council of Scientific Unions, to submit a report on the implementation of those proposals to the Economic and Social Council at its thirty-fourth session and to the General Assembly at its seventeenth session;

6. *Requests* the Committee on the Peaceful Uses of Outer Space, as it deems appropriate, to review that report and submit its comments and recommendations to the Economic and Social Council and to the General Assembly.

E

The General Assembly,

Recalling its resolution 1472(XIV) of 12 December 1959,

Noting that the terms of office of the members of the Committee on the Peaceful Uses of Outer Space expire at the end of 1961,

Noting the report of the Committee on the Peaceful Uses of Outer Space.⁵

1. *Decides* to continue the membership of the Committee on the Peaceful Uses of Outer Space as set forth in General Assembly resolution 1472(XIV) and to add Chad, Mongolia, Morocco and Sierra Leone to its membership in recognition of the increased membership of the United Nations since the Committee was established;

2. *Requests* the Committee to meet not later than 31 March 1962 to carry out its mandate as contained in General Assembly resolution 1472(XIV), to review the activities provided for in the present resolution and to make such reports as it may consider appropriate.

The CHAIRMAN. Mr. McGhee, thank you very much.

There will be, I am sure, a number of questions. We will proceed as expeditiously as we can.

I would like to remind you and the members of the committee, however, that we will very likely be called to the floor of the House. Therefore, the hearing will perhaps be interrupted rather early this morning.

Mr. MCGHEE. That is fine, Mr. Chairman.

I am at your disposal and I will stay here while you are interrupted until you come back, if you would like me to.

The CHAIRMAN. We will do our best to proceed as well as conditions will permit.

Mr. SPRINGER any questions?

Mr. SPRINGER. Mr. McGhee, H.R. 10115 contemplates regulation of this Corporation with extensive powers to the President; in addition, some powers to NASA and the State Department. Did you have any part in drafting this bill?

Mr. MCGHEE. The Department of State, yes, participated in the group drafting this legislation, Mr. Springer.

Mr. SPRINGER. At the present time do all of these agencies, including the President, have power to regulate our international carriers presently in existence?

Mr. MCGHEE. No, sir; not all.

⁵ U.N. doc. A/4987.

The Department of State does not have any powers in this regard at the present time. Of course, the powers envisaged are not regulatory as far as the Department of State is concerned.

Mr. SPRINGER. You are seeking new powers over international carriers which you do not now have?

Mr. MCGHEE. That is correct, sir.

The CHAIRMAN. Will the gentleman yield?

Mr. SPRINGER. Yes.

The CHAIRMAN. So that I might clearly understand, Mr. McGhee, did I understand you to say that you are seeking new powers over international telecommunications carriers beyond the proposed Corporation?

Mr. MCGHEE. No, sir; only as provided in the legislation provided in this proposed Corporation.

The CHAIRMAN. Yes, but if the gentleman will permit, would that extend authority that would be given to the Department of State over negotiations regarding presently existing facilities?

Mr. MCGHEE. No, it would not.

The CHAIRMAN. Over international carriers that you do not now have?

Mr. MCGHEE. No, sir; there is nothing in legislation which gives us authority over the present carriers. The authority is only with respect to the Satellite Corporation.

Mr. SPRINGER. Let me see if I can express it in these words.

What you are seeking now in this legislation is powers over the satellite communications system which you do not presently have over international carriers?

Mr. MCGHEE. That is correct, Mr. Springer. That is what I interpreted your question to be and my answer is the same.

The CHAIRMAN. And, further, which you will not have even if this bill—H.R. 10115—were to pass?

Mr. MCGHEE. Over the existing carriers?

The CHAIRMAN. Yes.

Mr. MCGHEE. Indeed, yes, Mr. Chairman.

The CHAIRMAN. I want that to be made very clear. I think there are a lot of implications here. I want both Mr. Springer and myself both to understand just what you mean.

Mr. SPRINGER. I think we both mean the same thing. I understand what you are talking about but I think in answer to my question he gave the right answer and a truthful answer.

In the past have your relations in the State Department been good with the international carriers?

Mr. MCGHEE. To the best of my knowledge, Mr. Springer, they have been good.

Mr. SPRINGER. Do you believe that our international satellite communications system will work better by giving additional powers over it to the President, to NASA, to the State Department, and to the Attorney General?

Mr. MCGHEE. Yes, sir.

Insofar as the entire functioning of the system and the carrying out of our national objectives, I believe that they will work better with the delegations, with the authorities granted in this bill.

Mr. SPRINGER. Turn to page 10 of your statement.

At the present time, an international carrier, in seeking new fields, does he carry out the preliminary negotiations?

Mr. MCGHEE. Yes, sir.

Mr. SPRINGER. Has that worked satisfactorily?

Mr. MCGHEE. Yes.

In general, it has worked satisfactorily, Mr. Springer. Quite often, these negotiations are preceded by conversations between our representatives abroad and by the Department of State and representatives of government to lay the groundwork for his later negotiations.

Mr. SPRINGER. Actually, isn't it a fact, there are no American international carriers who try to break ground without consulting you?

Mr. MCGHEE. I would not be able to state that quite so categorically, Mr. Springer. I do not believe we would have evidence in all cases.

I am sure there are many cases where representatives of companies have initiated negotiations without prior consultations with the American officials abroad or their discussions with government.

Mr. SPRINGER. In those instances, though, you are kept advised of what they are doing, are you not?

Mr. MCGHEE. In general. In some instances, this probably is not fully carried out, however.

Mr. SPRINGER. Now, what you are seeking in this legislation, and may I quote you—

in carrying out these responsibilities now—

for the Corporation you propose to create in this legislation, and I quote—

the Department would be acting with and in behalf of the new Corporation.

Mr. MCGHEE. That is correct.

In those instances where the Department elected to exercise its authority.

Mr. SPRINGER. Now, in fact, you are going to be the agent of the new Corporation in any negotiation that is carried on with any foreign country, are you not?

Mr. MCGHEE. The wording of the act is "conduct or supervise such negotiations."

Mr. SPRINGER. You are going to do all the negotiating, not the company?

Mr. MCGHEE. No, sir. In many instances the negotiation will be of such a nature, say, a purely commercial or technical nature, that the Department will unquestionably let the Corporation conduct the negotiation in its own behalf.

In other cases, I would envisage that the Department, or through its representatives abroad, would negotiate perhaps a general arrangement under which the Corporation would negotiate more detailed commercial and technical agreements, without the assistance of the Department in many cases.

Mr. SPRINGER. Let me read the law to you which you propose. May I ask you this question: Before anything would be undertaken, you would have to be gone to and it would have to have your approval entirely before anything could be done; is that not true?

Mr. MCGHEE. That is correct.

Mr. SPRINGER. All right. Now, I think, we are getting down to it. On page 9, the bottom of the page:

In any case where the Secretary of State, after obtaining the advice of the administration as to technical feasibility, has advised that commercial communi-

cations from a particular standpoint by means of telecommunications satellite system should be established in the national interest.

Does that not mean that anything that is done by the FCC in this matter has to obtain, first, your prior approval?

Mr. MCGHEE. We would make the suggestion, as the Department of State, where we thought that this facility would be in the furtherance of the national interest.

Mr. SPRINGER. And it is not possible for them to proceed, nor for the carrier to proceed, until that prerequisite has taken place?

Mr. MCGHEE. This particular provision applies to circuits which would not be economic and which are established in pursuance of our foreign policy objective.

Mr. SPRINGER. Now, just a minute, Mr. McGhee. You can put that in later, but now can you give a yes or no answer. Is it not substantially true, what I have stated?

Mr. MCGHEE. No, this is not my understanding of the bill, Mr. Springer.

Mr. SPRINGER. Mr. McGhee, I am just a curbstone lawyer, but I think I can read language. If that does not mean the State Department has got the first shot at it, I do not know what it does mean.

I do not think a move can be made in this until the State Department has gone into this matter themselves, after obtaining the advice of the administration as to technical feasibility that a communication is in the national interest, and you have to determine that.

Mr. MCGHEE. This particular provision applies to a situation, Mr. Springer, where the Department feels that facilities should be established, and it so recommends to the Federal Communications Commission.

Mr. SPRINGER. That is right, and they have to seek your advice on that, do they not?

Mr. MCGHEE. No.

They can go ahead and establish other links and facilities without our advice.

This pertains to those that we initiate, because we have a foreign policy objective to be achieved.

Mr. SPRINGER. Now, you have a foreign policy objective to achieve?

Mr. MCGHEE. Yes, sir.

Mr. SPRINGER. Then what are you going to do when you say that our foreign policy achievement demands that we open this up?

Mr. MCGHEE. We recommend this to the Federal Communications Commission.

Mr. SPRINGER. And they cannot do anything until they get that recommendation?

Mr. MCGHEE. They are quite free to do anything they like prior to this. This only applies to the particular recommendation we make, as I understand it, Mr. Springer.

Mr. SPRINGER. I do not interpret this as you do, Mr. McGhee. Do you have your counsel here, your attorney? Are you accompanied by your counsel?

Mr. MCGHEE. We do not have our counsel. Here is our expert in space communication matters. But, again, my understanding is that this permits the Department of State to recommend the creation of links which the Corporation did not elect to do for commercial

reasons, and we recommend this to the Federal Communications Commission.

To my knowledge, this does not apply to the many links which they will initiate on their own.

Mr. FRIEDEL. Will the gentleman yield?

Mr. SPRINGER. For a question. I do not want to interrupt the thought.

Mr. FRIEDEL. The same thought.

In answer, Mr. McGhee, to Mr. Springer's question, you said under the proposed law that it would work better. It is my understanding that under the present law all international communications organizations have to make a report to the State Department whenever they make an agreement with any foreign country.

Mr. MCGHEE. No, sir; this is not a provision of present law.

Mr. FRIEDEL. Under the present law do they not have to make a report to the State Department now?

Mr. MCGHEE. No, sir.

Mr. FRIEDEL. Not on communications?

Mr. MCGHEE. Only with respect to undersea cables emanating from the United States.

Mr. FRIEDEL. Do they not have to report? It is my understanding that they do under the present law.

Mr. MCGHEE. Not to the State Department, sir.

Mr. SPRINGER. Just one more question.

At the present time do you not have the power to negotiate—and the provision is quite similar; although not in the exact language, the meaning is the same—with a foreign country as to the route of an airline? And you have the right, do you not, to give that to a foreign carrier?

Mr. MCGHEE. We negotiate in behalf of the CAB for foreign routes.

Mr. SPRINGER. You negotiate in behalf of the CAB?

Mr. MCGHEE. Yes, sir.

Mr. SPRINGER. And the President has this power or does the State Department have this power?

Mr. MCGHEE. It is State Department responsibility to negotiate in behalf of the CAB.

Mr. SPRINGER. Now, who finally makes the decision?

Mr. MCGHEE. The Department.

Mr. SPRINGER. Of State?

Mr. MCGHEE. Yes, sir.

Mr. SPRINGER. You are seeking here by the language in this bill to have the same kind of a right to give away as you had in international routes?

Mr. MCGHEE. This is not just a question of giving away. This is a reciprocal matter. We gain routes, flights.

Mr. SPRINGER. You have a right to give away that route, if you so wish?

Mr. MCGHEE. "Give away" is not—we have the right to grant permission.

Mr. SPRINGER. You have the right or the permission to grant that right. We will put it in that language.

Mr. MCGHEE. That is correct, in exchange for other considerations granted by the government we are negotiating with.

MR. SPRINGER. Can you name the right that was given to an international carrier of our own in return for the right of Air France to fly an uninterrupted route from New York to Mexico City?

MR. MCGHEE. I do not have the knowledge myself about this particular agreement, sir. I will be delighted to get it and report it.

(The information mentioned above appears on p. 500.)

MR. SPRINGER. Mr. McGhee, I would like to have the commensurate right which we received for that route.

MR. MCGHEE. Very good.

MR. SPRINGER. And you had better pin it down pretty close because I do not think you have any commensurate right that we receive in return therefor.

But the point I am trying to make, Mr. McGhee, you are seeking in the language of this bill to be able to have the same kind of a right on international satellite communications that you now have in negotiating giveaway, granting, or whatever it is, of airline routes?

MR. MCGHEE. Yes, sir.

MR. SPRINGER. That is all I wanted to know.

MR. MCGHEE. With the qualification of the word "giveaway."

MR. SPRINGER. I understand, with that qualification.

I thank you very much.

That is all, Mr. Chairman.

THE CHAIRMAN. If the gentleman will permit, I would like to carry Mr. Springer's line of questioning further for a moment.

It is my understanding under the law that the President has the final decision with reference to grants of international routes.

MR. MCGHEE. I am sure this is true, sir. As a practical matter, the State Department, I am sure, normally conducts the negotiations.

THE CHAIRMAN. I am not talking about a practical matter. I am talking about a legal matter.

MR. MCGHEE. We are unfortunately not prepared adequately on the aviation aspect of this.

THE CHAIRMAN. You have made this record pretty clear that the State Department has that right and I question that myself under the law.

MR. MCGHEE. Yes.

MR. SPRINGER. Mr. Chairman?

THE CHAIRMAN. Yes?

MR. SPRINGER. May I say that the chairman is right. It does reside in the President. But I think, at least under three administrations that I have watched—and I am not being partisan in this—that, as a policy matter, the decision is made down at the Department but the final authority resides in the President to make the decision.

Is that not about right, the way it works out as a practical matter?

MR. MCGHEE. This is my understanding of it. I regret—

THE CHAIRMAN. I would question that, because if you will go back, Mr. McGhee, and look at the record of the so-called over-the-circle route, I think you will find that the State Department ultimately had very little to do with what the actual decisions were on a practical basis.

That was kicked around back and forth, primarily under two administrations, from the White House to the Civil Aeronautics Board and from the Board back to the White House.

And it would seem to me that before we start making comparisons here as to what is sought on something in which you think that you have a definite responsibility and authority, that you had better review this.

I think that there was—and I was not a Member of Congress at the time the Civil Aeronautics Act was passed in 1938—I missed it by just 2 years—there was a special proviso recognizing the constitutional authority of the President of the United States in dealing with foreign affairs.

Under the present act, I think you will find that the Board is authorized to recommend decisions on grants of international commercial routes to the President. I do not think you will find that the State Department is authorized to recommend to the President under the act.

As a practical matter, the President does and should consult with the State Department, and, no doubt, uses the advice of the Department in order to reach some of these agreements. But I should think that you had better be very careful in making these comparisons categorically on this question with reference to what the authority is here.

Mr. McGHEE. What I was referring to, Mr. Chairman, the State Department now conducts the negotiation, as the State Department, for the routes, as we discussed.

I accept what you say that the result of the negotiation must be approved finally by the President. In the proposed legislation the State Department would, in quite a similar way, conduct the negotiation in behalf of the corporation.

The CHAIRMAN. Provided the President asked you do do it. If the President decided he wanted to use some other means under the law, he can use those means.

Mr. McGHEE. I am sure the President has this authority, sir. Under the law the Department would have the direct authority.

The CHAIRMAN. You mean under this proposal?

Mr. McGHEE. Under this proposal.

The CHAIRMAN. This proposal here?

Mr. McGHEE. That is right.

Mr. SPRINGER. May I just ask one more question?

The CHAIRMAN. Yes.

Mr. SPRINGER. I do not want to leave this hanging. I think our thinking is the same, Mr. McGhee. What you mean to say, I think, is in the cases of the airlines—and I contemplate it would be the same under this—in the Bermuda Conference, for instance, that conference was carried on at the instruction of the President as the Chief Executive, but actually the State Department carried on all those negotiations with reference to routes and you negotiated with the state departments of other countries.

In essence, that is what would happen?

Mr. McGHEE. That is correct, yes.

Mr. SPRINGER. That is all.

The CHAIRMAN. I was sure that this would happen.

Mr. Rogers, you will be recognized at 1:30. The committee will adjourn until 1:30.

(Whereupon, at 11:05 a.m., the hearing was adjourned, to reconvene at 1:30 p.m. of the same day.)

AFTERNOON SESSION

Mr. WILLIAMS (presiding). The committee will be in order, please. When the committee recessed, the Chair had indicated that the first member to be recognized for questioning would be Mr. Rogers of Florida. Mr. Rogers has not returned.

I believe Mr. Friedel has been passed over. The Chair recognizes Mr. Friedel.

Mr. MCGHEE. Mr. Chairman, either now, or at some appropriate stage, I would like, if I may, to make a comment on a matter which arose this morning, and which I would like to, with your permission, file a paper. However, I will be delighted to wait until after the questioning.

Mr. WILLIAMS. Who was interrogating you about that?

Mr. MCGHEE. Perhaps it would be best to wait until the chairman returns, because he was actually the member of the committee that questioned me.

Mr. WILLIAMS. If that is agreeable, we will proceed.

Mr. FRIEDEL. Mr. McGhee, do you know whether the common carriers have had any difficulty in negotiating on operating and ownership with foreign carriers in foreign countries?

STATEMENT OF GEORGE C. MCGHEE, UNDER SECRETARY OF STATE FOR POLITICAL AFFAIRS, ACCOMPANIED BY T. H. E. NESBITT, AND LEE R. MARKS—Resumed

Mr. MCGHEE. Of course, they have been successful in many cases. Unquestionably, there are many negotiations that were not successful.

Mr. FRIEDEL. Yes. But do you know of any difficulty? Naturally, if you could not get the other countries to agree, you could not get the rights. But do you know of any difficulties they have had?

Mr. MCGHEE. Any specific difficulties?

Mr. FRIEDEL. Yes. Do you know of any?

Mr. MCGHEE. We have a number of examples in the testimony where it was necessary for the Department of State to act in behalf of the carriers, because they could not achieve their objectives in these particular cases. In my testimony, I gave three examples of this situation.

Mr. FRIEDEL. Hasn't there always been cooperation by the carriers of foreign countries with the State Department?

Mr. MCGHEE. Since it is not required, the cooperation has been rather uneven. In many instances, the carrier will go ahead with his negotiation without prior consultation. Perhaps it was not necessary. In other cases, they will consult with the Department of State or our Embassy abroad, and frequently request our assistance.

Mr. FRIEDEL. Do you know of any instance where our carriers entered into an agreement with a foreign country that was in opposition to the view of the State Department?

Mr. MCGHEE. That was in opposition with what? Where the State Department actually had views opposite to those the carrier sought to achieve?

Mr. FRIEDEL. Whether they made contracts or agreements with foreign countries, or foreign carriers, that the State Department was opposed to.

Mr. MCGHEE. I know of no specific illustration. I am sure that, had the Department been consulted, there are some situations where the Department's advice would have been at variance with the agreement finally worked out. But I have no specific illustration in mind.

Mr. FRIEDEL. It is my understanding that our carriers do make a report to the State Department whether they have to or not, of any agreement or any arrangements made with foreign carriers.

Mr. MCGHEE. It is only in the case of cables emanating from this country that they are required to by law.

Mr. FRIEDEL. What I am trying to determine is: Have they bypassed the State Department; have they done something against the views of the State Department?

Mr. MCGHEE. We are speaking of so many different contracts and so many different situations in the world—

Mr. FRIEDEL. I mean communications, whether it be cable or radio or other ways of communications. Have our carriers ever worked out an agreement with a foreign country or foreign carrier that was against the position taken by our State Department?

Mr. MCGHEE. Again, since it was not our responsibility, perhaps the Department in most cases would not have a view—not considering it our particular concern over the technical or financial matters involved.

Mr. FRIEDEL. Well, if it has worked so successfully in the past, why would you want this special law? You say it would work better. That is the word you used. That is what I am trying to pursue.

Mr. MCGHEE. This is a very basic point. I am glad you raised it. Actually, the situation is that this type of communications arrangement is so novel and so far reaching and involves so many countries and so many actual and potential foreign policy interests of the United States that a new situation arises.

In the past, communications arrangements covered basically one country or two, and in conventional and well-established means of communication. Here you have a new approach to communication, an opportunity through a satellite to communicate simultaneously with most of the countries in the world.

Mr. FRIEDEL. Don't we have radio overseas?

Mr. MCGHEE. That is correct, sir. But, again, this is so novel, it is such a new approach to communications, we feel a difference in kind is created here, in contrast with the preexisting forms of communication. And the arrangements to be worked out with the governments concerned are so novel.

Mr. FRIEDEL. You used the words "it would work better." Now, you must have some reason.

Mr. MCGHEE. Yes, sir.

Mr. FRIEDEL. Why would it work better? Couldn't you give me some example where it did not work before?

Mr. MCGHEE. Well, these are examples with respect to the existing forms of communication. Now, we do not raise any issue with respect to additional controls over the existing forms of communication. It is only with respect to this new form of communication that we raise this new issue. We do think that problems would exist, and that the corporation or the individual firms would, indeed, seek our assistance with respect to this new form, because it raises so many new problems.

I can give illustrations, if you would like me to, Mr. Friedel.

Mr. FRIEDEL. I would like you to.

Mr. MCGHEE. Yes, sir.

Just for example, suppose that it is considered by a number of the countries of Africa, small countries, that they would like to participate in this system.

They have existing communications nets on the ground, and they want to tie in with the satellite system. The erection of a ground station is an expensive affair. Each country cannot afford its ground station.

So some arrangement has to be made wherein one ground station is created which will serve a number of countries, who will then tie in their domestic nets.

In this circumstance, a negotiation at the international level must take place between our Government and the various countries concerned, so the decision can be made which country shall be selected as the site for the ground station, and what are the conditions under which the various countries can use this ground station.

What, for example, will be their sharing of the costs?

What, for example, will be their sharing of the ownership of whatever international entity is created?

Mr. FRIEDEL. Would that not come under the jurisdiction of the Federal Communications Commission, the sharing of the cost?

Mr. MCGHEE. The—

Mr. FRIEDEL. On a rate basis?

Mr. MCGHEE. I am speaking with regard to a general negotiation as to some formula whereby the sharing of costs or the foreign participation in ownership and control, the conditions, the number of frequencies each are allotted, all of these things.

Mr. FRIEDEL. Would the State Department interfere in that end of it, or would that be under the jurisdiction of the Federal Communications Commission?

Mr. MCGHEE. Sir, as I would envisage it—of course, we are talking now hypothetically, because all of this is quite new and we have no experience.

As I would envision it, there would be an intergovernmental study which the State Department would conduct.

Mr. FRIEDEL. You mentioned Africa, for instance.

Do you think a private individual or a corporation, spoken of in your bill, would erect ground stations if they did not have any users there—I mean no requests for them?

Mr. MCGHEE. If they were operating on strict economic considerations, they perhaps would not. But I am speaking of the situation where they would have users. There is another situation created by a country that does not have enough business to justify a ground station, where we might consider it to be in the national interest.

Mr. FRIEDEL. If they want to participate, they would build, or an American company would build a ground station, if it looked like it was going to be profitable in the end?

Mr. MCGHEE. Yes, sir.

But a decision would still have to be made as to which of the countries became the site of the ground station. Each country would perhaps want the ground station to be in his own country. And, yet, each cannot afford one.

So a negotiation would have to take place between the countries concerned and our Government.

Mr. FRIEDEL. I would feel better about it if you could give me one concrete example where agreements have not worked in the past.

Mr. MCGHEE. Well, the ones that did not work, of course, are the ones that we do not have services and contracts covering. I am sure there are many objectives which our international communications companies have sought which did not work out.

Now, whether they would have worked out better, had the Department been able, in a sense, to run interference for them, I do not know, because I just do not have the detail. We do not know about the ones that did not work out.

There are many illustrations—I gave three—where it was necessary for the Department to precede—

Mr. FRIEDEL. I can understand that end of it, yes, to negotiate and work out the contract.

But you are making it part of the law under this bill. It would have to go direct through the State Department.

Now, if they communicate with a foreign country and report to the State Department if they are violating any agreements or treaties that we have, I can understand that you would object to it. But you are making every country or every station have to go through the State Department.

Mr. MCGHEE. The State Department would supervise or conduct negotiations according to the language.

Mr. FRIEDEL. That is all.

Mr. MCGHEE. As we would envisage this working out, the State Department would not actually intervene or take a role in a negotiation which did not involve an important foreign policy interest, but involved purely commercial or technical considerations.

Just as a practical matter, there would be many such negotiations, and the State Department would exercise a very, very general supervisory relationship over them and look at them after they are finished.

It is only with respect to, say, negotiations involving an important foreign policy interest or several nations at once, where the company would really need the assistance of the State Department and our Ambassadors in the field in working out a complex negotiation.

Mr. FRIEDEL. But under this bill they would have to come to you, whether they needed your assistance or not.

Mr. MCGHEE. That is correct, under this bill.

But the State Department, of course, would retire from a situation in which it felt its assistance was not needed.

Mr. FRIEDEL. That is all, Mr. Chairman.

Mr. WILLIAMS. Mr. Younger?

Mr. YOUNGER. Thank you, Mr. Chairman.

Mr. McGhee, in order to clear the record, I would like to read into the record at this time a provisions in Public Law 85-286, the Federal Aviation Act of 1958.

Any certificate authorizing an air carrier to engage in overseas or foreign aircraft transportation, or transportation between places in the same territory or possession, or any permit issued to any foreign air carrier under section 402, shall be subject to the approval of the President. Copies of all applications in respect to such certificates and permits shall be transmitted to the President by the Board before hearings thereon, and all decisions thereon by the Board shall be submitted to the President before publication thereof.

The State Department is not even mentioned in the law. This is quite contrary to what—

The CHAIRMAN. Will the gentleman yield?

Mr. YOUNGER. Yes.

The CHAIRMAN. I wish the gentleman would read the following paragraph, too.

Mr. YOUNGER (reading):

The Secretary of State shall advise the administration, the Board, the Secretary of Commerce and consult with the administration, Board or Secretary, as appropriate, concerning the negotiation of any agreement with foreign governments for the establishment or development of air navigation, including air routes and services.

But the President, as you said, has the ultimate decision on that.

I am a little fearful that if we put too much in here about the State Department, we may get decisions like I think we have in the air carrier cases where our own carriers have been slighted somewhat, according to my own opinion.

Now, on your statement, page 4, you speak about the committee, CCIR, of the ITU, the convention or meeting that was held here.

Were the Communist bloc nations represented in that meeting?

Mr. MCGHEE. Yes, sir, they were.

Mr. YOUNGER. Which ones were here?

Mr. MCGHEE. Just a moment, sir.

The U.S.S.R., Poland, and Czechoslovakia were here, I am informed.

Mr. YOUNGER. The three of them were in the meeting?

Mr. MCGHEE. Yes, sir.

Mr. YOUNGER. I think that also ought to be in the record.

Now, you have a statement on 6, and then there is another statement—first on 10—you say:

And the extent to which the United States shall be prepared to assist in providing financial and technical assistance.

An then on page 6, you mention again about the newly emerging nations of Africa and Asia, these communications links with our embassies in those nations, and with the sister countries in Latin America.

But you do not mention all the other places in the world where we have connections.

Is there any reason for leaving out Europe?

Mr. MCGHEE. Europe is referred to in another place, Mr. Younger. These were mentioned perhaps because these are areas where our communications network is least complete, in comparison with the new needs that arise from new states being created.

Mr. YOUNGER. Well, is it your intention to furnish the money for these newly emerging nations of Africa to buy stock in this company, like you furnish money to these nations to pay their assessments in the United Nations?

Mr. MCGHEE. Well, of course, I do not believe that we would admit that we furnish money directly to these countries to pay their assessments.

Mr. YOUNGER. Directly or indirectly—as long as they get the money to pay their dues.

Mr. MCGHEE. We do not provide money to countries. We provide financing of particular projects.

Now, insofar as this relieves them of the necessity of spending their own money, perhaps this helps them pay their dues. But it would

only be in this way, if at all, that our assistance would help them buy stock in the Corporation, because there would be no direct assistance envisaged to enable them to buy stock in our plan.

What is envisaged, perhaps, is this; If the country presents a telecommunications program which qualifies for assistance under the AID Act, it might be considered by the AID agency for financing under the AID Act.

The actual project of building a communications network might be considered by the AID agency for financing under the AID Act.

But this is something that would be up to the AID agency. We merely mention this as a possibility.

Mr. YOUNGER. Would it not be well to make sure that the money furnished will be used for that purpose?

Mr. MCGHEE. Yes, sir.

The money furnished by the AID agency is for particular projects, and there are ways of assuring that the funds provided are spent for that project.

Now, as I said, you might reason that insofar as this relieves the Government of the necessity of doing this project, assuming that it had the money to do it, it might then take this money and apply it to some other purpose.

But our money is not directly available for these purposes, Mr. Younger.

Mr. YOUNGER. Well, what did you mean, then, by "providing financial or technical assistance"? What do you mean by "providing financial assistance"?

Mr. MCGHEE. This, sir, would be for the actual construction or development of a communications system within the country itself, which could then tie into the satellite network. There will be, of course, necessity for internal communication in these countries, both telephone and radio and telegraph, which, once developed, could tie into the satellite system.

And the building—the furnishing of technical assistance and the development of plans and the actual construction of these internal systems—could be financed by the AID agency, if it qualified under the AID legislation.

Mr. YOUNGER. To build receiving stations?

Mr. MCGHEE. This is conceivable.

This has not been thought out in detail, Mr. Younger. But if the AID agency would consider that this station qualified under the legislation, it could give technical assistance and finance the building of a ground station or an internal communications net.

Mr. YOUNGER. On page 7 you gave a quotation from Mr. Khrushchev. Do you place any reliance on that statement?

Mr. MCGHEE. We received this message from Mr. Khrushchev. The President responded to it. A mechanism is being set up to explore this matter with the Soviets.

I am sure that there is no inclination here to accept anything at face value, unless it is tested by actual performance. If, in fact, the Russians choose to cooperate in this field, as Mr. Khrushchev has offered, and we feel a basis can be worked out wherein there is a mutual advantage, and there are adequate policing and enforcing provisions, the administration will carry forward this acceptance which Mr. Kennedy has made.

Mr. YOUNGER. You do place some credence in the statement, any sincerity?

Mr. MCGHEE. Mr. Younger—we deal with the Soviets in a variety of circumstances, where there is no element of trust involved, where the arrangement is self-policing. There is some trade even between us, of course.

Mr. YOUNGER. On page 8 in your statement—
and regulated as to further the public interest.

What do you mean by the “public interest,” page 8, third line, second paragraph?

Do you refer to the stock being widespread among the public, or what is your reference there?

Mr. MCGHEE. These are the foreign policy objectives of this system, sir—public interest objectives that we seek with nations abroad.

Mr. YOUNGER. It does not affect the public interest which might be created by virtue of buying stock?

Mr. MCGHEE. This, of course, is an important element. It is an element, however which the Department of State is less concerned with than the domestic agencies.

Mr. YOUNGER. This bill which you are advocating, and recommending, I am sure you appreciate it has been somewhat rejected by the FCC?

Mr. MCGHEE. Yes, sir.

I have observed that the FCC has differed from certain provisions of this bill—not, I believe, from its broad objectives.

Mr. YOUNGER. Fundamental principles?

Mr. MCGHEE. Yes, sir.

The fundamental principles, I believe, are shared by the FCC.

Mr. YOUNGER. Well, they are not shared. The fundamental principles, I would say, are somewhat in opposition to the position that you have taken. If you take the whole bill, from A to Z.

Mr. MCGHEE. That is correct, we support the bill.

Mr. YOUNGER. Yes.

You even support the theory that you can have widespread public interest by establishing corporations selling stock at a thousand dollars a share. You subscribe to that?

Mr. MCGHEE. Yes, sir.

This is not in our primary range of interest, but we do subscribe to this.

Mr. YOUNGER. Did you ever hear of a corporation started that way?

Mr. MCGHEE. By the sale of stock in this amount?

Mr. YOUNGER. Sale of stock at a thousand dollars a share, when the desire was to get widespread public interest?

Mr. MCGHEE. This, of course, is an unusual offering. There are many people who can subscribe to stock at \$1,000. As I understand it, there was perhaps some thought that, with respect to very small subscribers, that this might be too risky for them; that a thousand dollars was a useful minimum. But there are a great many people, corporations, groups, in this country that could afford a thousand-dollar stock.

Mr. YOUNGER. It is all right to take their money on a risky investment—is that what you want to leave with the committee?

Mr. MCGHEE. Normally, of course, it is up to the buyer to take his risks, I assume, when he buys stock. Presumably, somebody who can afford a thousand dollars can take a greater risk than somebody who can afford a smaller amount.

Mr. YOUNGER. But you have never heard of a company organizing and wanting to have lots of stock holders and wide interest, selling stock, to begin with, at a thousand dollars a share, have you?

Mr. MCGHEE. I am not too familiar with this field. I do not preclude the possibility that financing has been done in this way, sir. But, of course, this is a very unusual offering.

Mr. YOUNGER. It sure is.

Mr. MCGHEE. There has been nothing quite like this.

Mr. YOUNGER. I think that is true. I do not think anybody has ever proposed a corporation like this to be controlled by the Government. There is one other question.

On page 12—

the establishment of relay stations for RCA—

in that paragraph No. 2, do you recall the date of that? You give the dates of some of the others, but on that particular agreement with Tangier, you do not give the date. Was there any particular reason why you left the date off?

Mr. MCGHEE. Just a moment, sir. There is no reason. We will get the date for you. We are informed it was 1946, sir.

Mr. YOUNGER. I thought maybe there might have been some reason for leaving it out.

Mr. MCGHEE. No, sir; there was no reason. I assume the date just was not at hand when we drafted this.

Mr. YOUNGER. On page 16—I am not sure about the—

existing U.S. law which prohibits more than 20 percent foreign ownership in any U.S. communications corporation.

That is existing law?

Mr. MCGHEE. Yes, sir.

Mr. YOUNGER. Is that right?

Mr. MCGHEE. Yes, sir. I am told in the Communications Act—we will try to find the reference for you. Section 310 in the Communications Act, I am told.

Mr. YOUNGER. That is any corporation organized under the laws of the United States; is that true?

Mr. MCGHEE. Yes, sir. This applies to all corporations falling within the jurisdiction of the Communications Act, sir.

Mr. YOUNGER. So that—

Mr. MCGHEE. We have the provision here, if you would like for me to read it.

Mr. YOUNGER. No. I just want to make sure that it applies to all corporations. This might infer—if you say a U.S. communications corporation, it might infer that it is a corporation in which the Government might own a majority of the stock.

Mr. MCGHEE. No, sir. This applies to all communications companies.

Mr. YOUNGER. Yes. And it would apply to a private corporation organized—

Mr. MCGHEE. Yes, sir; a private communications corporation.

Mr. YOUNGER. Organized for this purpose?

Mr. MCGHEE. Yes, sir.

Mr. YOUNGER. I think that is all, Mr. Chairman.

Mr. MCGHEE. Mr. Chairman, would you consider it appropriate if I made my remarks that I suggested earlier, since Mr. Younger has raised this question, and the chairman is here?

Mr. WILLIAMS. Since the chairman is here; yes.

Mr. MCGHEE. Mr. Chairman, as you recall, at our discussions of the responsibilities of the State Department and the President and the Federal Communications Commission, our discussion was perhaps not as explicit as it might have been to bring out these relationships.

With respect to the actual certification of carriers, both domestic and foreign, the statement made by Mr. Younger and that you made, since you are, of course, very familiar with this, was correct.

What we were speaking to was the responsibility for conducting negotiations for services and routes. Now we find that this is, in fact, the responsibility of the State Department, and that the air agreements are signed by the Secretary of State or by his designee.

With your permission, I would like to read two statements which I believe will clarify this, because, in a sense, I believe both of us were right this morning about what we were speaking of, but we were speaking of slightly different things.

If I might read first "The Department of State, Its Role in International Aviation Relations," and this is a very short statement.

The Department of State in its capacity as the agency within the executive branch primarily responsible for the conduct of U.S. foreign relations has been traditionally looked to for the negotiation of aviation agreements. This concept is reflected in section 802 of the Federal Aviation Act of 1958 which reads:

"The Secretary of State shall advise the administration, the Board, the Secretary of Commerce, and consult with the administration, Board, or Secretary, as appropriate, concerning the negotiation of any agreement with foreign governments for the establishment or development of air navigation, including air routes and services."

In practice the Department advises the Board of imminent air transport negotiations and requests its views and recommendations on the positions to be taken by the United States in these negotiations. These views are carefully considered by the Department, and except under unusual circumstances a representative of the Board is a member of the U.S. negotiating delegation. The strategy of the negotiation, however, remains with the Department.

The agreements themselves are normally made up of two parts. The basic agreement contains the general principles under which air transport relations will be conducted between the United States and the foreign country involved. An annex to this agreement specifies the routes exchanged between the two countries. No air carriers are named in the agreements. The designation of carriers to operate the routes exchanged is up to the country of their nationality, and actual operation by that airline may be subject to certain procedural formalities established by the other country.

The Secretary of State or his designated representative signs all bilateral air transport agreements.

And this is a statement on the "Civil Aeronautics Board, Its Role in International Aviation Relations":

The Civil Aeronautics Board has two functions in international aviation relations. First, the Board is required under sections 401 and 402 of the Federal Aviation Act of 1958 to authorize U.S. and foreign air carriers to operate on international routes involving a territory of the United States. Second, the Board is required under section 1102 in exercising and performing its powers and duties under the act to do so consistently with any obligation assumed by the United States in any treaty, convention, or agreement.

Under section 401 the Board issues certificates of public convenience and necessity for U.S. carriers to engage in foreign air transportation, i.e., to operate scheduled services on international routes. Under section 402 the Board issues foreign air carrier permits to foreign air carriers operating in foreign air transportation, i.e., on international routes involving the territory of the United States.

The role of the President in the issuance of certificates to U.S. carriers and foreign air carrier permits to foreign carriers is spelled out in section 801 which states that the approval of the President is required on any action affecting a U.S. international carrier certificate or a foreign air carrier permit. The role of the President in international aviation relations is covered specifically under the act only in section 801 covering the approval of certificates and foreign air carrier permits.

In a sense, the responsibility for the negotiation and the signing of the air agreement rests with the Secretary of State. The responsibility for the certification of domestic or foreign carriers, pursuant to this agreement, is by the President, upon the recommendation of the CAB.

The CHAIRMAN. I think it is well to have that additional explanation, Mr. McGhee, which makes it very clear, as far as the statute itself is concerned, that the President has the final responsibility to act—that is, decisional authority—on the recommendation of the Board and with the State Department being adviser and consultant.

Mr. MCGHEE. Mr. Chairman, if I may—that is not quite, I believe, descriptive of the role of the State Department under its negotiating responsibilities, because the certification of carriers referred to is within the framework of the air agreement, which is the responsibility of the Secretary of State, and which he signs.

You are quite right that the certification of the actual carrier who shall fly the route covered by the agreement is done by the President.

The CHAIRMAN. Yes.

Well, I think the question was raised, Mr. McGhee, because there is some feeling—which I happen to share—that in the past our American international carriers have had the short end of these actions. And out of fear that that has been true in the past—there might be some argument as to whether it has been true, but I have the feeling it has been true—I think the question has been raised here.

I also recognize that we go back to that day when aviation was in its infancy, and the motivating thought behind the action of the Congress at that time was—in view of the fact that we were subsidizing certain services in the field of aviation that were determined to be in the best interests of the United States—that the United States could require through this procedure that service be given even to remote places in the United States. And I think that was the motivating thing originally.

But, as time has gone on, there have been other questions raised in that connection. But I think it might be well to describe further the authority and the responsibility in this field. Let me digress for just a minute.

All of us who knew him and served with him recognized that our late and beloved colleague, Carl Hinshaw, was quite knowledgeable as well as very active in this field. And he proved this during the civil air policy hearings in the 84th Congress.

I think it might be, for the information of everyone, certainly advisable if we reminded ourselves what the Supreme Court has said with reference to the dual responsibility over commerce. And with-

out reading the entire thing, I think one paragraph will probably pinpoint this responsibility. The Court said:

Congress may, of course, delegate very large quantities of its powers over foreign commerce to the President.

That was in the Supreme Court decision in U.S. 294, and again in U.S. 371.

The President also possesses in his own right certain powers conferred by the Constitution on him as Commander in Chief and as the Nation's organ in foreign affairs. For present purposes, the order—

the one referred to then—

draws vitality from either or both sources. The legislative and executive powers are pooled, obviously, to the end that commercial, strategic, and diplomatic interests of the country may be coordinated and advanced without collision or deadlock between agencies.

I think the Court has well spoken on this subject.

Mr. ROGERS?

Mr. ROGERS of Florida. Thank you, Mr. Chairman.

Mr. McGhee, as I understand your testimony at present, negotiations are carried on by private companies that would carry on communications between our Nation and others?

Mr. MCGHEE. That is correct; yes, sir.

Mr. ROGERS of Florida. What are the advantages now of having the State Department come in and assume these responsibilities?

Mr. MCGHEE. Mr. Rogers, we feel that the problems which will be raised in connection with the introduction of this very drastic, very novel system, which introduced a whole new dimension in the field of communications, are so great that the forms and the experience of the past will not in all cases be applicable.

You create a system which will permit at one time, in theory, reception all over the world of a signal transmitted by a satellite system.

You will have for example, nations for the first time having access to world communications, not only in telegraph, telephone, but now television, which they have never had before. They will have many interests as nations in this new system—one, perhaps to participate in the ownership of it. Certainly to participate in the benefits from it.

And you will have problems created in immediately allocating frequencies and time and costs as between all these nations, which have never emerged in the case of the development of the traditional means of communication.

Mr. ROGERS of Florida. Does it vary that much from radio?

Mr. MCGHEE. Yes, sir; because radio lends itself to a multiplicity of systems. There are many radio broadcasting stations.

What we envisage here is not only the desirability, but, indeed, the necessity, of there being but one system, a world monopoly, because if there were others—one is quite capable of handling the traffic, according to the best available information, and if there were others—there would be competition as between frequencies and orbits and services which would be very confusing.

Mr. ROGERS of Florida. Do you anticipate that Russia and their bloc of nations are agreeable to having one system such as this, where it would be under our domination and initiation and control?

Mr. MCGHEE. We have no evidence that they will accept this. But this would be our hope; yes, sir.

Mr. ROGERS of Florida. If they do not, has State gone into the possibility of whether it can be effective or not, or could it be blocked out, jammed?

Mr. MCGHEE. Yes. A great deal of consideration has been given to this, Mr. Rogers.

It is my understanding that the consistent jamming or utilization of a sophisticated commercial system by someone who is not authorized to use it would be very difficult to do.

Mr. ROGERS of Florida. So they cannot jam it?

Mr. MCGHEE. That is correct. This is my understanding, sir.

Mr. ROGERS of Florida. Then why is it necessary for us to have just one system, if we can set up one and use our own signals to friendly nations, and perhaps they set up one and use theirs, and neither of us could jam the other? What is the necessity for the one system?

Mr. MCGHEE. One, the cost is very great, so it would be desirable to share the cost, since one system, in theory, can provide all of the services that are required.

But (2) there would be competition for very scarce channels of communication, the frequencies, which might result in inability to reach firm agreements about the allocation of frequencies and overlap of frequencies.

It is conceivable that there could be competition between orbits.

The Russians would unquestionably go out and seek to connect into their service all the countries that they wanted to, so we would be competing with each other among the countries of the world—competing for who might subscribe to our service.

Mr. ROGERS of Florida. Do you anticipate our system would be in effect before the Russians might be able to institute a similar system?

Mr. MCGHEE. The Russians have not, up to this point, produced an actual communications satellite, to our knowledge. They appear to have all of the necessary technology to do so, however, so that it would appear to be within their capability.

But they have, so far, focused their efforts on exploration in space, rather than in the communications satellites. I would say the best evidence available is that we would be able to put one up first. If course, we have experimental ones already up.

Mr. ROGERS of Florida. Well, then, the main objective for State to come in would be to carry on negotiations with Russia and their bloc of nations?

Mr. MCGHEE. That would be one objective, yes, sir; but other objectives would be to carry on negotiations with all of the countries who might wish to participate in this system, or whom we might wish to persuade to participate.

Mr. ROGERS of Florida. You do not feel this could be done by the company itself?

Mr. MCGHEE. When you come to the point of negotiating the actual technical and commercial aspects of the program, yes, because the Department would not have enough people or the expertise to do this.

But, say, the initial negotiation with another government is going to involve so many broad considerations, about participation in ownership, what ground station they will utilize, what frequencies they will operate on, whether they get television, all the many aspects of

the problem, and matters involving the foreign policy interests, because we may have a very strong interest in working one of these countries into the network.

We feel that this involves so many new factors and so many factors involving our foreign relations and factors involving multiplicities of nations, groups of nations, that only the Department itself could make the initial overall agreements.

Mr. ROGERS of Florida. Of course, it is quite possible, is it not, that many of these nations will not want to come in on an ownership basis?

They might want to just perhaps pay a rental, or some method of averaging the use of the system, rather than an ownership.

Mr. MCGHEE. That is correct.

This may well be the case.

Mr. ROGERS of Florida. Now, the present operations of that nature, where we have communications between our Nation and other nations, are presently negotiated by the company; are they not?

Mr. MCGHEE. That is correct.

Mr. ROGERS of Florida. And I just question why it will be so different—you may say Russia, and so forth, we may have to get into it there on a national policy, but where there are friendly nations, and countries with whom we wish to communicate, I question why State would have to get into that sort of situation, where we have been able to do this without State negotiating over these many numbers of years with telephone and with radio.

Mr. MCGHEE. Yes, sir.

Well, my preceding remarks were directed to that subject. You might say that the existing forms are relatively straightforward. They involve one country at a time, basically point to point, or two or three, and with well-known, established methods, whereas this proposal involves all the nations of the world in theory, and quite novel methods.

Mr. ROGERS of Florida. Now, you do not anticipate really all of the nations of the world coming in and joining this anywhere in the immediate future; do you?

Mr. MCGHEE. Oh, no, sir; not immediately.

But the advantages of this system, apparently, if things work out as those engaged in the research seem to think, the advantages of this would be so great that, in all probability, most of the nations in the world will want to use this system.

Mr. ROGERS of Florida. Will it not be necessary for most of these nations to have an internal communications system before they would want to come into a system like this?

Mr. MCGHEE. Yes, sir; but this might be very elementary in the case of some countries that might want to come in—for instance, an undeveloped country with communications systems only in its national capital, so its government and the people living in the national capital could tie in with the international net.

Mr. ROGERS of Florida. But this could be done through the company, without State?

Mr. MCGHEE. Well, the hypothetical situation I was discussing here earlier—take the example where there are three or four countries adjacent to each other. They do not individually justify building a ground station, which may be too expensive. But they justify a

ground station to serve the group of nations, which they can then tie on with ground nets.

Some negotiation has to occur between these countries and ours as to where the ground station is to be located. And this is hardly a matter where a company could successfully carry on this negotiation.

This means a meeting involving all of these governments and our Government, and some agreement among them that country X will be given the ground station, or will be allowed to build a ground station, which then will be utilized by the others.

Mr. ROGERS of Florida. You will not be concerned so much with commercial considerations there as you would with where you wanted to locate the ground station?

Mr. McGHEE. That is correct—establishing the basic relationship between the new country and the international net, because when it comes to the detailed negotiations, these are beyond the competence of the Department and beyond our interests. We would merely be inhibiting and blocking this company in carrying out its functions if we insisted on negotiating every agreement as to rates and frequencies and all the commercial factors.

Mr. ROGERS of Florida. Let me ask you this:

Suppose for a foreign policy objective, which a company might not consider as much—they would consider whether it is going to be a paying situation, where they locate a ground—but the State Department might not be so much concerned about whether it is going to be a paying consideration, but, rather, whether it is located in the country that is most friendly to your views at the time, perhaps?

Mr. McGHEE. Yes, sir.

Mr. ROGERS of Florida. And so you ask them to locate the ground station in a country which is not commercially feasible. Who pays for that?

Mr. McGHEE. This was a matter discussed earlier this morning

There is a provision in the act which, when the State Department feels that there is a country—not in the way you have raised it—you have raised it in a very useful way, and it is a good extension of the discussion we had this morning. But assume there is a country which we feel it is to our advantage to tie in with, so we can broadcast there and establish communications.

Under the act we recommend to the FCC that this be done, and they then decide whether or not it is feasible and, in so doing, will make appropriate adjustments in the rate structure elsewhere, so that this will be possible.

Mr. ROGERS of Florida. So we could actually run the cost up to such an extent that it could be very definitely uneconomical to run this company, if we had too many political considerations brought it, rather than the commercial considerations?

Mr. McGHEE. That is correct.

I would hope that the Department, itself, would use some restraint in this regard.

But, also, then the FCC is the body which would decide. And this, of course, is a provision in many laws involving common carriers, including, as I understand it, our domestic laws affecting communications and transport.

Mr. ROGERS of Florida. Have you any estimate of what your first-off plans or approach in the location of this system throughout the world would be?

Mr. McGHEE. Sir, I know of no better estimate than that made by the ad hoc committee, based on alternative assumptions, but which, as I recall, would aggregate \$150 million, under certain assumptions.

Mr. ROGERS of Florida. And how many countries would that cover?

Mr. McGHEE. This, to my knowledge, did not involve any assumptions as to the receiving countries. This would be the establishment of the satellite system itself. And I assume the necessary ground stations in this country.

I would judge—I am not too clear—that the actual costs abroad would be expected to be borne by the government entities which run communication facilities abroad, and would not, by and large, have to be provided for by the Corporation.

May I quote from the ad hoc report here. I apologize, I did not have this in mind at the time.

The practical first phases for satellite operations would include at least four ground stations in Europe, one in South America, one in Australia, one in Hawaii, and two in the continental United States.

Now, the question is: Was the cost of these ground stations included in the \$150 million?

Mr. NESBITT. No; it was not.

Mr. ROGERS of Florida. How many in Africa?

Mr. NESBITT. There were none.

Mr. McGHEE. There were none in the first phases in Africa.

Mr. ROGERS of Florida. I was thinking of a projection. Maybe not the first installation, but where you have indicated that we might even provide aid for internal communication systems as well as aid for the ground systems, if these new emerging nations want to tie in with the system.

And I wondered what the Department of State, in giving this testimony, had thought of as a matter of cost.

Mr. COLLIER. Would the gentleman yield at that point?

We are doing that already in technical assistance aid.

Mr. ROGERS of Florida. Yes.

Mr. McGHEE. That is correct.

Of course, there would be the new element of the ground station, which we have not done up to this point. But, insofar as it involves internal nets, this has been financed.

Mr. ROGERS of Florida. Approximately the cost for these?

Mr. McGHEE. Mr. Rogers, no one has thought through this far. This is really why we need to create this Corporation, so it can, itself, direct itself to these practical questions that will arise.

Mr. ROGERS of Florida. And, yet, you think we should give the authority to go in and spend these funds before we know the extent of them, or the amount that they would be, and the responsibility?

Mr. McGHEE. It may well be that these foreign expenditures can, by and large, be done by the countries concerned. We know now, for example, that France, England, and Germany are already building ground stations with their own funds.

Many countries in the world—Japan is interested; she can build them.

Mr. ROGERS of Florida. Yes.

Well, I wondered if we had any different plans to know how many have, how many have not, how many have asked us or not.

Mr. MCGHEE. No, sir; there are no plans.

Mr. ROGERS of Florida. Can we get that information before we pass this legislation?

Surely, your experts have thought ahead to know what countries they anticipate they will want to tie in, or which ones they will not.

Mr. MCGHEE. We know now the ones that are interested, and the ones which are already building ground stations.

Mr. ROGERS of Florida. Yes, and those who will need funds, and those who will not.

Congressman Collier says that we are already doing a great deal of this. Maybe we could have a report on the extent of what we are doing. I think it would help the committee. I personally would like to know what we will be called upon to do before we get into a worldwide system of providing communications.

Mr. MCGHEE. Surely.

And you are referring now not just to the expenditures of the Corporation, but the expenditures of the AID agency helping other countries?

Mr. ROGERS of Florida. Yes, I think that would be helpful, because whether we take it out of the right pocket or the left pocket, I do not think much matters.

Mr. MCGHEE. Surely.

Mr. Rogers, we will examine this question, and see if there is anything we can conclude in this. It may be that there is just not sufficient evidence to do anything very definitive. We will do the best we can.

Mr. ROGERS of Florida. I think it would be helpful. I would hate to pass legislation that we do not know what we could do with.

(The information requested follows:)

Nations which have indicated an interest in establishing communications by satellite are the British Commonwealth of Nations, Brazil, France, Germany, Italy, Japan, and the U.S.S.R.

England, France, and Germany are presently constructing experimental ground stations. The I.T. & T. is also constructing a mobile ground station which will be located in Brazil. The ground stations located in the aforementioned countries will be utilized in tests later this year.

It is anticipated that some of the member countries of the British Commonwealth will need financial assistance if they own and operate their own ground stations, but as yet it is not certain which of these countries will wish to participate in the communication satellite system. Such a determination may be made at a meeting to be held in London commencing March 27, 1962, to discuss this subject.

Mr. ROGERS of Florida. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Collier?

Mr. COLLIER. Mr. McGhee, since the International Telecommunications Union will undoubtedly play a major role in this program, if it is adopted, would you describe for the committee the present composition, the composition of the present directorship of the ITU?

Mr. MCGHEE. The ITU consists of 115 countries. Of course, as you know, it is a very old organization. It was created in the 19th century. I am afraid the details as to the names of the individuals who are the Directors—

Mr. COLLIER. Tell me this—

Mr. MCGHEE. I can produce it for you, but I do not have it with me.

Mr. COLLIER. What are the major nations presently represented by the directorship personnel, presently, of the ITU? First, who is the Director?

Mr. MCGHEE. Mr. Gerald C. Gross, who is an American, is the Secretary-General.

Now, there is an Administrative Council, which advises Mr. Gross. Do we know the composition of the Council?

May I furnish this information to your committee, the composition of the Administrative Council?

Mr. COLLIER. If you will, this will suffice.

(The information requested follows:)

COMPOSITION OF THE ADMINISTRATIVE COUNCIL OF THE INTERNATIONAL TELECOMMUNICATION UNION

Region A (the Americas), six seats:

Brazil, 82
Mexico, 76
Argentina, 74
United States of America, 69
Canada, 51
Colombia, 41

Region B (Western Europe), six seats:

France, 74
Italy, 73
Switzerland, 65
Germany, 62
United Kingdom, 52
Spain, 48

Region C (Eastern Europe), three seats:

Yugoslavia, 76
U.S.S.R., 68
Czechoslovakia, 66

Region D (Africa), four seats:

United Arab Republic, 57
Morocco, 56
Ethiopia, 51
Tunisia, 49

Region E (Asia and Australasia) six seats:

Japan, 73
India, 62
China, 49
Iran, 49
Australia, 49
Philippines, 47

Mr. COLLIER. Now, presently the ITU, of course, actually administers the technical assistance phases—that is, the communications portion of the technical assistance program—does it not?

Mr. MCGHEE. Sir, the ITU does not actually conduct operations. It is concerned with the allocation of frequencies and technical—

Mr. COLLIER. And counsel and advice on the contracts for domestic communications systems all over the world, if such a system is established through the technical assistance program; is this correct or not?

Mr. MCGHEE. It gives advice, yes, sir. But it does not actually conduct operations.

Mr. COLLIER. It provides contracts for engineering surveys on communications systems?

Mr. MCGHEE. Mr. Collier, we know of no example where it does more than give advice or technical assistance. We will investigate this matter, and will further inform the committee. (There are none.) But the essence of the ITU is that it does not conduct operations. And we, as they, do not consider it an appropriate group to conduct operations.

Mr. COLLIER. I did not make a statement. I asked it as a question. The answer is to urge they do not get into such operations.

Is it not true that presently the facilities for domestic communications in many nations are so inadequate that it would take—it would cost several billions of dollars to bring them up to a par of what the facilities were in this country 25 to 30 years ago?



Mr. MCGHEE. I am sure this would be the case; yes, sir.

Mr. COLLIER. Now, if that is true, it seems quite apparent that this problem of financing, which I think you referred to in your statement as being a tremendously high capital investment, is going to most certainly be a factor in the progress of the global communications program.

Mr. MCGHEE. Yes, sir. I think we should distinguish between two aspects of this program.

With the existing communications facilities in the world, local ground facilities, there would be quite adequate utilization of the satellite system. In other words, you would be justified in creating the satellite system just with the erection of the necessary ground stations, and without extending the existing ground net.

Mr. COLLIER. I understand that. Before it could become broadly effective, it would require an investment of billions of dollars around the world, would it not?

Mr. MCGHEE. Well, apart from the creation of the system, itself, and the ground stations, and, as I just indicated, the ad hoc committee indicated 10 initial ground stations—apart from this, the system would be justified, and would be effective, even if there were no further extension of existing ground facilities.

Mr. COLLIER. I certainly am not questioning the justification of it. I am just trying to get this in long-range perspective to determine what is involved before a global system of this type would be broad enough to reach a given number of people around the world.

This being the case—incidentally, may I ask this:

Aside from the moneys that are available to develop communications systems through the technical assistance program, under the United Nations, what other international finance organizations are available to provide loans and financing for communications systems?

Mr. MCGHEE. The Export-Import Bank, of course, would be eligible, if the materials came from this country. I see no reason why the International Bank could not finance such operations. and, of course, many of these could have easily been financed privately.

It is not necessary that all this be financed by governments. Indeed, I would think that today a small percentage is financed by governments.

Mr. COLLIER. I would hope that would be the case.

Now, is it not true that in the field of domestic communications at the present time we are, in fact, through the foreign-aid program, if I may refer to it as that, providing funds for construction of communications facilities in certain countries?

Mr. MCGHEE. Yes; to my knowledge this is one under AID.

Mr. COLLIER. So that, in addition to the technical assistance program, there is also American dollars going directly to the development of the program—there is available funds for borrowing through the World Bank, and so on. So there are many areas that a nation can move into to get financing.

Presently, the United States now actually finances about 60 percent or better, either directly or indirectly, the communications development in more than 40 nations, including Latin America.

Is this a correct statement?

Mr. MCGHEE. I cannot verify that statement, sir. I accept it. If you would like for us to, we will attempt to confirm it.

Mr. COLLIER. All right.
(The information requested follows:)

The cumulative total for AID and predecessor agency obligations for foreign telecommunications for fiscal year 1955 through fiscal year 1961 is \$94 million. The breakdown for fiscal year 1961 follows:

Development Loan Fund

Country	Purpose	Amount
Israel.....	Telephone development.....	\$6,000,000
United Arab Republic.....	Telecommunications.....	2,500,000
U.A.R.....	do.....	1,300,000
Paraguay.....	do.....	1,000,000
Subtotal.....		10,800,000

International Cooperation Administration

Country	Purpose	Amount
Republic of China.....	Telecommunications expansion.	\$150,000
Korea.....	do.....	18,000
Vietnam.....	do.....	56,000
Iran.....	do.....	16,000
Nepal.....	do.....	264,000
United Arab Republic.....	Telecommunications training center.	421,000
Libya.....	Telecommunications.....	93,000
Subtotal.....		1,018,000
Total.....		11,818,000

Mr. COLLIER. Is it not true that at the present time the toll network in Latin America, in Africa, is bogged down because of the need of funds?

Mr. MCGHEE. I am sure this is the case in Latin America.

Mr. COLLIER. And until some of these domestic communications systems are established, the progress of a global communications system is naturally going to have to wait.

Mr. MCGHEE. No, sir.

I think these could be considered as quite separate affairs. The existing communications facilities in the world justify the creation of the satellite system.

Mr. COLLIER. I agree. But just the land stations are not going to be sufficient if what the people who are experts in this field tell me—you are going to have to have landing stations; you are going to have to have distribution of switch center stations that have to be created.

And these involve tremendous costs which are not embraced in that \$145 million figure that the ad hoc committee comes up with.

Mr. MCGHEE. Yes, sir.

But the ground stations, which is the principal thing required, themselves, I am told, cost between \$1 million and \$5 million apiece.

And there are 10 envisaged in the first phases of the ad hoc report. There are some figures given in the ad hoc report which are relevant here, if you do not mind.

Mr. COLLIER. All right.

Mr. McGHEE. Under two assumptions—for the medium altitude satellites, including tracking stations, that the amount required for ground stations in the United States and Hawaii would be \$26.5 million to \$34 million; and other countries, \$45.5 million to \$63 million.

Under the assumption that the satellite is a high altitude satellite, this amount is greatly reduced to \$7.5 million to \$9 million for the United States and Hawaii; \$7.5 million to \$21 million for other countries.

These, of course, are relatively small sums in comparison with the creation of the satellite system itself, and with the existing investment in ground communications.

Mr. COLLIER. Which do not include, I am sure, the necessary complementary equipment, electronic equipment, and that sort of thing, that will be absolutely essential to the use of this; is that right?

Mr. McGHEE. Technically, I don't know. This was the cost of the ground station. I would assume that it included the equipment required to link the ground station with the existing ground systems.

Mr. COLLIER. So then what we are talking about here is the cost that involves really nothing but a skeleton to establish a system which is—well, is a skeleton, in fact, is that right?

Mr. McGHEE. Well, all of the important cities of the world have their communications systems. These are the most important elements of the new system. They do not go back into the hinterland in every case.

But this is not so important as tying in with the capital, and the important commercial cities.

Mr. COLLIER. I understand this. And I understand the journey of a thousand miles starts with one step.

What I am trying to establish is that I gather that many folks are under the impression that we can get this show on the road, which we probably can, at a minimum cost, but we might just as well realize, sir, that the cost of this thing is going to run into several billion dollars by the time it becomes an effective system that will reach into any given number of nations, particularly those who obviously are not in a position to finance the equipment and the facilities that are going to be necessary to participate in a global program.

Now, I want to ask one thing.

About a year ago I communicated with the State Department relative to surveys made for a communications system in Honduras. At that time I was advised that one of the reasons why more American experts from this country did not participate in many of these programs is because of the costs involved; that is, their fees and their requirements were higher than some of the foreign countries.

Subsequently, the contract involved here went to a German firm.

Would it be practical, do you think, in establishing this system, to provide that when a borrowing country establishing a communications system or some part thereof, that is unable to provide its own technicians from its own country, be required to use American firms or American engineers in their development?

Mr. McGHEE. Mr. Collier, as you are aware, because of our unfavorable dollar balance it is the policy of our aid program to require expenditures—

Mr. COLLIER. Our entry into the Common Market will cure the unfavorable dollar balance.

Mr. MCGHEE. We very much hope so; yes, sir. But at the moment, these purchases are restricted to the United States, with very few exceptions.

Mr. COLLIER. So this would be a feasible program, then, if we went into this development on a broad scale abroad, where our technicians and experts in this field could provide the engineering surveys and services necessary to set up these programs?

Mr. MCGHEE. Excuse me. Your question was is it feasible?

Mr. COLLIER. It would be feasible to expect this reciprocal consideration if, in fact, we were loaning the money to some of these countries?

Mr. MCGHEE. Yes. Of course, the borrowing country has no real alternative—if the Export-Import Bank or the AID furnishes the funds, the expenditure has to be made here. But, of course, it would be our expectation that a great deal of these foreign systems would be privately financed, which is the present case, in which case there will be no demand on public funds.

And taking up the line you were developing earlier, sir, these local communications neither are, by and large, justified in themselves, apart from their relation to the global network. I do not believe they should necessarily be considered a charge against the global network, since that is a decision that can or cannot be made, depending on the availability of funds, apart from the decision to make the global network.

Mr. COLLIER. Would it be a case of robbing Peter to pay Paul?

In other words, there is a limited amount of money available for communications research, I presume, with all the other means that exist, and, therefore, in developing this program, would it mean sacrificing part of those funds that are presently being used to develop the very sadly needed communications systems in Latin America, for example?

Mr. MCGHEE. Insofar as it came from private sources, of course not, because it would not be in competition with anything except the general availability of domestic funds, or funds from European countries, who are investing on a very large scale in communications services abroad. Insofar as it came from limited aid funds, yes. I do not believe the availability of funds is necessarily the limiting factor in the case of the Export-Import Bank. So it may not be competitive with these other needs insofar as those funds are concerned.

Mr. COLLIER. I have just one other point I would like to get an answer on. Since here with our own domestic communications system, as you know, we have had one dispute after another over frequency allocations and programing, and associated problems, should we not anticipate that there are going to be international disputes of the same nature over frequency allocations and so on?

Mr. MCGHEE. The ITU has already allocated a band for experimental purposes in this field.

The expectation is there would be adequate channels. There is no question, if you get competing world satellite systems, that the competition for frequencies would be very great, and there might not be enough to go around.

Mr. COLLIER. Do you then envision that the ITU would become the equivalent in this program of the FCC in our domestic communications field?

Mr. MCGHEE. No, sir; it does not have any authority going beyond the allocation of frequencies. And this is a function that it has been fulfilling for very many years.

Mr. COLLIER. Who then would settle a dispute that might arise over the allocation of a given frequency?

Mr. MCGHEE. If the ITU cannot settle it?

Mr. COLLIER. No. We now have a dispute. Who moves in to settle this dispute between two nations over a frequency?

Mr. MCGHEE. Well, assuming that they will not accept the judgment of the ITU, I assume it just has to be settled by negotiation between the two countries. I am informed that the ITU settles it on the basis of priority of registration and usage. But if, for example, the two countries refused to accept the judgment of the ITU, I assume there is no other suitable forum. It would just have to be worked out bilaterally between the countries concerned.

Mr. COLLIER. Who would settle a dispute over some phases of the use of this system that might develop between two countries?

Mr. MCGHEE. If the ITU could not make itself effective, it would have to be settled by international negotiation, which means the Department itself would have to represent the Corporation in attempting to work this out.

Mr. COLLIER. But the matter undoubtedly, of course, would go to the ITU first, just as it would to the FCC, if it were a domestic matter?

Mr. MCGHEE. Yes, sir. I am informed that the rulings of the ITU have been accepted; that there is very little encroachment upon frequencies. And this has not, up to this point, been a major problem.

Mr. COLLIER. But, as you said, sir, we are moving into a new field which is going to compound the number of problems.

Mr. MCGHEE. That is correct. A lot of these frequencies which were only used locally are going to be used globally.

Mr. COLLIER. So then there would be some possibility, let us say, that the ITU, or some other similar international body, would have to assume the role of regulation, such as the FCC has in our domestic communications system?

Mr. MCGHEE. With respect to frequencies. Of course, the FCC has many other regulatory powers which it is not envisaged would be made a responsibility of the ITU. In fact, the ITU does not wish to get into these matters.

Mr. COLLIER. I am sure they do not. I know many times the FCC does not want to get into them, but they do so.

Thank you very much.

The CHAIRMAN. Mr. Kornegay?

Mr. KORNEGAY. Thank you, Mr. Chairman.

Mr. McGhee, as I understand it, you are here today testifying on behalf of 10115—in other words, that is the bill that the State Department prefers over the others that have been introduced in connection with this legislation?

Mr. MCGHEE. That is correct.

Mr. KORNEGAY. Now, the provision of the bill that we are talking about, 10115, relative to the authority of the State Department, contained in section 402—is that correct?

Mr. MCGHEE. That is right.

Mr. KORNEGAY. It defines the duties and responsibilities of the Department of State?

Mr. MCGHEE. Yes, sir.

Mr. KORNEGAY. I believe that is the only reference in the bill to the State Department.

Mr. MCGHEE. No, sir; there is an earlier reference referred to, where we recommended the creation of service to a country where it has not been considered economic to do so. Then the FCC decides.

Mr. KORNEGAY. Where is that, sir?

Mr. MCGHEE. 201(c)(3)—page 9. Right at the last line—24.

Mr. KORNEGAY. That may answer my question. Under section 402, as I would interpret it, the State Department does not take the initiative in any of the negotiations; is that correct?

Mr. MCGHEE. No, sir. I think the initiative for a negotiation could come from either the Corporation or the Department.

I would expect normally the Corporation would see the necessity for having an agreement.

Mr. KORNEGAY. 402 would not come from the Department, would it?

Mr. MCGHEE. Under section 201(a)5, the President has authority to insure that timely arrangements are made for foreign participation in the establishment and use in a communications satellite system, and for the determination of the most constructive role of the United Nations. These are matters in which the President will undoubtedly look to the Secretary of State to exercise his responsibility. But I think you are correct, sir, that normally the necessity for an agreement would derive from some plan of the Corporation.

Mr. KORNEGAY. In other words, as I see it, the Corporation would initiate the movement toward an agreement?

Mr. MCGHEE. Yes, sir.

Mr. KORNEGAY. International agreements.

But this act would prevent them from entering into an agreement without prior notification to the State Department?

Mr. MCGHEE. That is correct.

Mr. KORNEGAY. And would prevent the carriers or the Corporation from entering into an agreement without the approval of the Department of State?

Mr. MCGHEE. That is correct.

Mr. KORNEGAY. But you interpret the other provisions, under 201, to give the State Department the authority, either initially or by virtue of the President's authority, to initiate agreements?

Mr. MCGHEE. Yes, sir, it is more an obligation than an authority, to initiate actions which we perceive as being in the foreign policy interest.

Mr. KORNEGAY. Now, what is going to happen when—and this may have been already touched on to some extent—what will happen if, in the opinion of the Department of State, some country should have a ground station; there should be a contract with them; and, yet, it would be economically unfeasible for the Corporation to enter into it?

Do you have any ideas on that type of situation?

Mr. MCGHEE. Well, under the earlier provisions that were mentioned here, if the Department felt this to be the case—that the foreign policy objective was sufficiently strong that the facilities should be supplied, even though it were not, say, economically justified—

that we would make a recommendation to the FCC to this effect, and the FCC would have the authority.

And, presumably, since the rates which they set for the Corporation are calculated to enable it to make a profit, they would adjust the rates in some other respect, so that this uneconomic operation could be financed.

This is, as I understand it, quite parallel with the existing domestic and other provisions.

Mr. KORNEGAY. Now, once these international agreements have been negotiated, by and with the approval of the State Department, is it your feeling that the responsibilities of the State Department cease to exist in connection with them?

Mr. MCGHEE. Of course, I am sure that there will be a continuing need to negotiate new agreements and to renegotiate old agreements.

Mr. KORNEGAY. I understand that. But I am speaking now about agreements, once they are put into effect.

Mr. MCGHEE. Yes, sir, the operations will be conducted by the Corporation.

Mr. KORNEGAY. In other words, the State Department's responsibilities will end until such time as a new agreement needs to be negotiated, or an old one renegotiated?

Mr. MCGHEE. That is correct—or an international problem arises which impinges on the work of the Corporation.

Mr. KORNEGAY. You do not anticipate the State Department would take the position that they should have any say-so, control, over programing, who uses the facility, the rentals, and that sort of thing?

Mr. MCGHEE. No, sir.

Mr. KORNEGAY. It would be entirely up to the Corporation?

Mr. MCGHEE. Yes, sir.

Mr. KORNEGAY. Now—

Mr. MCGHEE. And the FCC, which is the regulatory body responsible for rates and technical matters.

Mr. KORNEGAY. Yes, I understand.

Now, if, by some chance, the U.S.S.R. should put up its own development, put up its own system, before we get ours up, what would the State Department's position be with reference to subscribing to their system?

Mr. MCGHEE. This seems unlikely. I am not sure this has actually been considered. But I would assume that we would go ahead with ours.

Mr. KORNEGAY. In other words, there is that remote possibility that there could be two systems?

Mr. MCGHEE. This is a subject which has been proposed as a matter of cooperation between the U.S.S.R. and the United States in the response that the President made to Mr. Khrushchev's proposal.

Mr. KORNEGAY. I believe there was some testimony last year during the hearings that the life of one of these satellites would be approximately 5 years, is that right?

Mr. MCGHEE. Sir, they hope to get into this, but this is not there yet.

Mr. KORNEGAY. My point is, is there any later data on the life of the satellite?

Mr. MCGHEE. The experiments this year are very critical. But, as I understand it, we do not have that life yet. And, of course, the assurance of a longer life is very important from the standpoint of making this an economic operation.

Mr. KORNEGAY. How many satellites would it be necessary to put into orbit in order to have a full system?

I realize that probably has a bearing on the height of the satellite.

Mr. MCGHEE. The estimates vary. For the low systems it varies between 40 and 70; and for the high system, 3. O. course, there is a great deal of difference in the ground stations, too. They are much cheaper under the high system.

Mr. KORNEGAY. I understand that you testified that the ground stations for high satellites are much less expensive than for low.

Mr. MCGHEE. Yes, sir.

Mr. KORNEGAY. The number of satellites would be much less. Why is there any question about whether we should have the low or the high system, in view of those facts?

Mr. MCGHEE. As I understand, the high system is so much more desirable for a variety of reasons that there is no question, if this is achievable, that this is the best system.

You do not have to have the tracking systems below, and you can get world coverage.

The low system, as I understand it, provides only intermittent service.

Mr. KORNEGAY. In other words, the high system is to be desired if scientifically possible to put them in orbit?

Mr. MCGHEE. Yes, sir, and keep it in a fixed position.

Mr. KORNEGAY. Now, once this system is in operation, it would just about put the Voice of America out of business, would it not, as we now operate it?

Mr. MCGHEE. No, sir.

It would still be useful. Just like the other communications facilities would, by and large, still be useful.

Mr. KORNEGAY. We could use the international system for the Voice of America, could we not?

Mr. MCGHEE. That is correct, yes, sir. It could lease time like any other system.

However, the short-wave broadcasts from the Voice of America overseas relay stations would always be necessary in order to reach private radio sets in cases such as behind the Iron Curtain where the Government tries to keep our broadcasts out.

Mr. KORNEGAY. That is all. Thank you.

The CHAIRMAN. Mr. Nelsen?

Mr. NELSEN. Thank you, Mr. Chairman.

In your statement earlier, referring to the \$1,000 figure on the investments, you suggested it was a very risky investment. Now, is it your opinion that this is a venture that is filled with a good deal of risk, which would be difficult to finance?

Mr. MCGHEE. I do not really have an honest judgment in this, Mr. Nelsen. I am not sure anybody does. This is so novel. The expression of the existing communications companies as to their willingness to invest is perhaps the only real tangible evidence we have in this regard. However, there is widespread interest in the country in this. There is, I think, great potential profit here. So

it is quite possible that there will be widespread demand for this stock.

Mr. NELSEN. Now, there seems to be sort of a unanimous feeling that private enterprise should operate this system and furnish the capital. The thought occurs to me that if we were to have this layer of governmental supervision and management on top it would discourage venture capital, because they are putting the risk capital in there and they would be afraid of losing the opportunity of management of their investments.

Probably one of the most important things in this whole thing will be to get the capital to do the job. So I am wondering about the provisions of this particular bill which provide for a management superstructure. I would be afraid of it, if I were one of the big investors.

Mr. MCGHEE. Yes, sir. I think there are some countervailing factors here. There is one, for example, that the U.S. Government is endowing this Corporation with the benefits of a very substantial investment, which I have heard mentioned up to \$135 million, which it has made in this field. In other words, the Corporation starts with that investment. That may give some consideration on the side of Government.

It is true, I believe, that many of the functions here which Government assumes are functions which can assist the Corporation. I would like to think, for example, that the things we could do for it in the State Department under this act will assist the Corporation in achieving its objectives, rather than constitute a hindrance.

In other forms of regulation, such as that provided by the FCC, it is quite similar to regulation now provided companies which have no difficulty in providing their capital. And we have even found at least a rough parallel between the role the Department of State plays with respect to aviation contracts as compared with the role it would play under this act.

So I think there is a balance of factors here that would not serve to frighten away the investor.

Mr. NELSEN. I hope you are right. Judging from the trend in the national debt and what have you, I do not have a great deal of faith in some of the business judgment of the operation of Government.

That is all, Mr. Chairman.

The CHAIRMAN. Mr. Keith?

Mr. KEITH. Mr. Chairman—Mr. McGhee, I have been concerned, as I listened to the discussion here today, about the very significant role that the Government is going to be playing, not only in the creation, but in the operation of this system. And I am afraid it is going to be, in the international area, more of an instrument of foreign policy than it is of communication. Now, just what is it in this particular scheme of things that is going to require such unique governmental control and participation?

Mr. MCGHEE. I would like to state, first of all, of course, the obvious fact that most foreign communications systems are owned by governments. So the fact that our Government controls a private entity does not give it any aura internationally which differs from that now existing.

Mr. KEITH. Except, I would like to point out, that we have been so very successful in ours because it has not been controlled by Government, and now we are sort of adopting this philosophy.

Mr. MCGHEE. Yes, sir. We feel that this system is so different, its implications so far reaching, so universal—

Mr. KEITH. You used the word "drastic."

Mr. MCGHEE. Yes, sir; so drastic, that it brings into play many relationships between governments which have not been brought into play by the existing systems. In the first place, it immediately involves all or most of the nations of the world, and a tremendous number of individual agreements are going to have to be reached which must bear some relationship to each other, which must provide, for example, for these governments participating in the ownership of whatever world entity is created, and some way of influencing the operations of this entity—some allocation of frequencies, some determination of the time which will be allotted, and the various media, type of transmissions which will be put through these satellites.

I raised earlier the hypothetical question of four or five countries, not each justifying a ground station, that are going to have to make some decision as to where their common ground station is to be located. You can envisage systems whereby a group of local countries will use this for their local communications, without regard to communications between them and us, which is a new situation.

The situation that involves the various blocs of the world—I mean to penetrate the Iron Curtain, in this regard, will take a governmental negotiation.

There are many of the countries of the world that are somewhat defensive against private interests, and where it will be easier for the Government to negotiate than it would for a private company. You can envisage a wide variety of things, Mr. Keith, which do not arise now, or arise at least only in seriatim or occasionally, as happening all at once, and which require cooperation between nations on a scale which has not really been faced.

Mr. COLLIER. Will the gentleman yield?

Mr. KEITH. Yes.

Mr. COLLIER. Do you suppose this could be the means for the first mutual inspection system, sir?

Mr. MCGHEE. Well, that is very interesting. It could be a very useful thing, if the nations would voluntarily open themselves up as a result of being a part of this system. I do not think we would want to utilize it as a tool for this purpose.

Mr. COLLIER. It would be an excellent byproduct.

Mr. MCGHEE. Yes, sir. Otherwise, we might defeat its purposes, if we attempted to use it as a tool.

Mr. KEITH. Basically, I would rather see us try to sell the American businessman than the U.S. Government as we enter the world scene in this particular area.

Mr. MCGHEE. It is quite clear the Corporation which will conduct the operation, and which will, by and large, conduct most of the commercial and technical negotiations, will be business. But most of the nations in the world are not hesitant in dealing with governments.

Mr. KEITH. Well, government changes from time to time in these countries with whom we are dealing. But the facilities remain. It would seem to me it would be some advantage—and the government changes in this country.

Mr. MCGHEE. Yes, sir; but the agreements continue.

Mr. KEITH. I would rather see as much of the negotiation as possible in the hands of the free enterprise system, even though I recognize that when we deal with telephone companies and satellite communications systems, they are pretty close to being monopolistic.

Mr. MCGHEE. Mr. Keith, if I would attempt to speculate on the relative actual participation of the State Department and the Corporation, I would assume that the bulk of negotiations would, in fact, be done by the Corporation, with very, very light supervision by the Department, because the Department is not qualified to conduct detailed technical-commercial negotiations; it does not have the personnel to do it; it is only interested in the foreign policy implications of it. But these are so far reaching that it is necessary, I believe, for the State Department to make the general arrangements under which the detailed negotiations can go forward.

Mr. KEITH. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Curtin?

Mr. CURTIN. Thank you, Mr. Chairman.

Mr. McGhee, section 3—201, subsection (c)(3), as I understand it, provides that whenever the Secretary of State feels it is in the public interest, then the Federal Communications Commission will require, and I quote—

the establishment of such communication by the Corporation on the appropriate common carrier or carriers.

Now, does that mean that the FCC, under the terms of this act, can for example, require the appropriate common carrier to install ground stations in a foreign country?

Mr. MCGHEE. The provision is not specific as to what actual facility will be required. I have before me section 214(d), which, as I read it—provided it is with adequate facilities. Now, I would assume, if there were no ground station, that this would include the ground station.

But the cost of the ground stations, under either assumption of high altitude or low altitude, is not a large amount in comparison with the cost of communications facilities in the country already, or likely to be established, or with the system.

Mr. CURTIN. My question is how the FCC can compel a private common carrier to put such facilities in a foreign country in the possible absence of consent of such foreign country.

Mr. MCGHEE. The authority, of course, would be exercised with respect to the Corporation, not with respect to our common carriers?

Mr. CURTIN. That is not what the act says. It says it is going to require the Corporation to do certain things, and also require the common carrier to do certain things.

Now, as I understand the purpose of such private common carrier as expressed in this act, its jurisdiction in this matter is going to end when this message reaches the point that it takes off into the air. Therefore, I see no reason why there would be any need for legislation to require them to get the message to that point, because they would do that anyhow.

Now, what are they going to have to do further that requires this section of the act?

Mr. MCGHEE. I am not sure this has all been thought through. The Corporation, I would assume, is the entity normally involved here. Now, insofar as the common carrier has domestic facilities,

which relate to the facilities of the Corporation, I assume that they could be compelled by the FCC under 214 in our own country.

Mr. CURTIN. You admit that it seems as if it is an unneeded provision, to require that the local common carrier must be required to establish a communication which is thought to be in the national interest, since they would seem to have no jurisdiction beyond, or required to do anything, except to get this message to the place where it is taken over by this new proposed Corporation?

Mr. MCGHEE. Well, I would assume, if this common carrier had a subsidiary in another country, that the FCC might feel that it was in the national interest, that it establish facilities there to tie in with the global network. This is the only interpretation I can place on that.

Mr. CURTIN. In view of that answer, then, do you feel that this proposed legislation could give the FCC jurisdiction to compel a private common carrier to establish facilities in another country?

Mr. MCGHEE. I should not attempt to interpret the intention of this act, sir. This is beyond my competence, in this particular point. I can only read the act.

Mr. O'BRIEN. Will the gentleman yield for one question?

Mr. Secretary, assuming that all the authority that you think is necessary or desirable is granted, do you think the State Department would be hampered to any great degree if we gave private enterprise greater control over our domestic Corporation than is envisioned in H.R. 10115?

Mr. MCGHEE. Sir, I don't believe this question impinges on the success of the Corporation.

Mr. O'BRIEN. The makeup of the Corporation, then, would not add to or detract—

Mr. MCGHEE. No, sir, I consider this our internal affair.

Mr. CURTIN. That is all, Mr. Chairman.

The CHAIRMAN. Mr. Thomson?

Mr. THOMSON. Mr. Chairman, I would like to ask the Secretary if he said in response to a question by Mr. Keith that the Satellite Corporation would be a corporation controlled by this Government.

Mr. MCGHEE. No, sir.

Mr. THOMSON. In contrast to government ownership in other countries, I understood you to say that this would be a private corporation controlled by the Government of this country.

Mr. MCGHEE. It is a private corporation, over which certain controls are specified. But many of the decisions of the Corporation, of course, will be purely corporate decisions.

Now, this is different from a government corporation abroad. As I recall the reference, it was whether or not the Government association with this, even partial control, would affect the success of its relations with others. And I responded that I didn't think it would, because other governments, by and large, control their own communications facilities completely.

Mr. THOMSON. Well, would you characterize this as a corporation that is regulated by this Government, or one that is controlled by this Government?

Mr. MCGHEE. Sir, I am not sure that these words themselves fully describe it. In part, there is involved regulation—the FCC's relationship to it is by and large regulation. In part, there is prescribed partial control, control, for example, where an important foreign

policy interest were involved in a negotiation. So I assume that we could say it is regulation and partial control.

Mr. THOMSON. That is all, Mr. Chairman.

The CHAIRMAN. Mr. Dominick?

Mr. DOMINICK. Mr. Chairman—

The CHAIRMAN. Mr. Hemphill?

Mr. HEMPHILL. I will defer to Mr. Dominick. He has been sitting here.

Mr. DOMINICK. Thank you.

Mr. Secretary, you have read this act, I am sure, in some detail. But for the purposes of the record I would like to relate some of the provisions in the act. First I would like to go to section 403, on page 13.

This act makes the Corporation subject to equitable remedies by a district court, upon petition to the Attorney General, if the Corporation engages in or adheres to any actions inconsistent with the policy and purposes of section 102.

So, in order to see what the Corporation can or cannot do you then have to go over to section 102.

Section 102 declares that it is the policy, in cooperation with other countries, as expeditiously as practical, to start up a communications satellite system as part of an improved global communications network, responsive to public needs and national objectives, which will serve the communications needs of the United States and other countries, and which will contribute to world peace and understanding.

Now, this very first section means, as far as I can see, that any time that the Board of Directors of the Corporation wants to take any action, they have to interpret that language.

Then you go on, in subsection (b) of 102, to say:

The new and expanded international communication services ought to be made available as promptly as possible—

it does not say practical—

and ought to be extended to provide global coverage at the earliest practicable date.

Now, it strikes me that the Board of Directors are subject to injunctive proceedings every time they blink their eyelashes on this, and I don't see how they can operate as a private corporation under those conditions. I would like to know whether you feel that section 102 is absolutely necessary in order to have this Corporation form a useful communications service in world communications.

Mr. MCGHEE. Mr. Dominick, it would seem that some such provision would be necessary. This is a very unusual Corporation that is proposed.

The U.S. Government is taking an initiative in creating it for a particular purpose—it seeks to endow it with the benefits of a very large sum spent in research, and that the Government then has some right to look to this Corporation to achieve certain objectives. Its purpose is presumably to make a profit. And the regulation by the FCC would, of course, be of such nature as to make this possible—if the commercial services and relationships can be established.

As to whether this particular wording would be impossible of achievement and would lend itself to, as you say, injunction being sought because they had not been met, it is difficult to say.

I would certainly think that the Attorney General would view the achievement of this objective in very broad perspective, just as the board itself would, in attempting to set policies for the Corporation which conform to this act. The first requirement, which is spelled out throughout this legislation and I hope throughout our presentation, is the necessity for creating quickly an effective system. And this must be done. The practical requirements of this objective certainly must have some status alongside the more general objective stated in the sections that you referred to.

Mr. DOMINICK. Well, now, again, in section 201(c)(3), on pages 9 and 10, you have the right, after consulting with the administration, to require this Corporation to provide communication to any foreign point, wherever it is in the national interest—presumably, the national interest is again spelled out in section 102.

This, again, would mean that you are going to provide global coverage at the earliest practical date.

Now, what do you mean by earliest practical date—financially feasible? Because it doesn't say so in this other section I just referred to.

Mr. MCGHEE. May I first point out that our responsibility in this regard is limited to recommending to the FCC that this facility be established.

Mr. DOMINICK. No, sir, I beg your pardon. They are required, under that section 3, subsection 3, to go ahead with this if you say that they should do it, provided it is technically feasible.

Mr. MCGHEE. As I read it, sir—I am not a lawyer—but institute proceedings to require.

Now, I have before me section—

Mr. DOMINICK. Institute proceedings—

to require the establishment.

Mr. MCGHEE. But it is under 214(d), and 214(d) says:

The Commission may, after full opportunity for hearing—

et cetera, et cetera—

authorize or require.

It states further, in part:

But no such authorization or order shall be made unless the Commission finds that such provision of facilities—

that it is reasonably required in the interest of public convenience and necessity, or, as to such extension of facility, that the expense involved therein will not impair the ability of the carrier to perform its duty to the public.

This, it seems to me, gives the balance which is required to a desire on the part of the State Department to request this facility.

Mr. DOMINICK. Would you then have any objection, on page 10, if we should use this act, to strike lines 8, 9, and 10, put a period after the word "amended" on line 7, so that the words "to require the establishment of such communication by the corporation and the appropriate common carrier or carriers," would be stricken?

Mr. MCGHEE. Sir, I am not in a position on behalf of the administration to agree to this change. I am not really qualified to contest your interpretation.

On the other hand, it does seem to me that section 214(d), which is specified, is quite clear—that it can only be done after a proper hearing.

Mr. DOMINICK. Now—

Mr. MCGHEE. And, presumably, the FCC will or will not make its judgment, depending upon that hearing.

Mr. DOMINICK. Mr. Secretary, would you say that the stock in this Corporation is speculative?

Mr. MCGHEE. There is no question that any corporation which starts without a visible existing business or profit involves a degree of speculation. I would say, however, the opportunities afforded here are so great that it would be attractive to investors.

Mr. DOMINICK. Is this one of the reasons why the minimum floor was set at a thousand dollars a share, because it was felt that it was speculative?

Mr. MCGHEE. I didn't participate in the drawing of this legislation. I am told this is a consideration which has occurred to people.

Whether or not this was a major consideration affecting this point, I don't know.

Mr. DOMINICK. One more series of questions that I would like to ask: There is a limitation on the amount of foreign ownership—by subsection (e), I think it is, section 304—of 20 percent. The 20 percent figure has been mentioned throughout. Is that 20 percent of the authorized stock or 20 percent of the outstanding stock?

Mr. MCGHEE. This comes under the Communications Act. I would have to refer to the act.

This says one-fifth of the capital stock owned of record. That would defer to stock outstanding.

Mr. DOMINICK. Would this be open to purchase by countries controlled by Communist governments?

Mr. MCGHEE. I know of no limitation that has been set on the purchase of this stock. There may be provisions under the existing law. The intent is to apply the same provisions that now exist, so there is nothing new here with respect to communications companies.

Mr. DOMINICK. Is it the position of the State Department that we should put up a communications satellite to facilitate communications between Communist countries?

Mr. MCGHEE. Yes, we feel that it is to our advantage, if there is going to be a satellite, that we all use it.

Mr. DOMINICK. Including the Communist countries?

Mr. MCGHEE. Yes, sir.

Mr. DOMINICK. Even if this should improve the communications between, we will say, Red China and Russia?

Mr. MCGHEE. That may be a byproduct. I am sure you realize that it is impossible to conceive of the Chinese as coming under this system, and also that the communications between Russia and her satellites, being over a contiguous land mass, are probably quite good already, so this wouldn't greatly augment it.

Mr. COLLIER. Doesn't this pose some kind of a problem in view of the fact that in this country we have mass reception through radio and television, whereas in these other countries the comparative number of people who would have access to reception is a great deal smaller?

Mr. MCGHEE. The use a country would make of the channel would depend upon the country itself. Each country would use the channel in accordance with existing policies.

I would like to point out, of course, that we are integrated with the bloc communications system as of the moment. It is possible to communicate with the bloc. So this, again, isn't anything new.

Mr. DOMINICK. But the effect of this, then, would be that the U.S. Government and the majority of the funds there in an enormous system would be spent, and in the process of perfecting this system, would provide better communications with the very conspiracy that we are trying to fight against?

Mr. MCGHEE. This is one way of putting it, Mr. Dominick. Of course, under the plan envisaged here, if the bloc countries participated, they would presumably pay their full share. So you might say that we would profit in part from their expenditure.

It is the feeling that they have the capability of creating a satellite system, so that we are not—if we denied them access to this one—denying them the ultimate ability to do it.

And this would be the advantage that we wouldn't compete with each other, that we would share the cost of it.

Mr. DOMINICK. But we would require them to put up their own effort in trying to put up their own system?

Mr. MCGHEE. It is hoped that this is a field in which we can cooperate. We don't necessarily have to compete with rival systems which double the cost, and could result in interference in frequencies and orbits and competition.

Mr. DOMINICK. Is this 20 percent of ownership figure in the Communications Act restricted to any one country or a total of 20 percent for all foreign countries?

Mr. MCGHEE. It is the total.

Mr. DOMINICK. It is entirely probable, is it not, that the 20 percent would be taken up by friendly countries?

Mr. MCGHEE. Indeed. Of course there is no evidence that it will be taken at all.

Mr. DOMINICK. That is what I understand.

Mr. MCGHEE. The other countries may wish to reserve their own expenditures for their own system which will be a part of the net.

Mr. DOMINICK. Thank you, Mr. Chairman.

The CHAIRMAN. Yes, sir.

Mr. Hemphill?

Mr. HEMPHILL. Yes.

Are you familiar with the I.T. & T.'s expansion and investments abroad?

Mr. MCGHEE. In general, yes.

Mr. HEMPHILL. What part did the State Department have in that growth?

Mr. MCGHEE. The State Department has no direct responsibilities at the moment in connection with the negotiating of agreements as is specified here.

Mr. HEMPHILL. So the State Department had nothing to do with that growth and expansion of that particular company?

Mr. MCGHEE. There are many instances, we have cited three here, where the State Department negotiated with other governments an agreement which then permitted our companies to take

advantage of certain expansion. And I am sure that one can cite many illustrations where the local embassy helped in establishing proper relations with the other government precedent to a negotiation along technical lines.

Mr. HEMPHILL. But you had nothing to do with the operation and control?

Mr. MCGHEE. No, sir. But, of course, that is not envisaged under this act.

Mr. HEMPHILL. Well, what are you getting into the picture for? This company has done such a good job without interference, why should it be hampered now?

Mr. MCGHEE. I would be delighted to go into this at considerable length, and I have done it throughout the day.

Basically, this creates an entirely new situation. This is a dramatically new method of communications which involves immediately all or most of the nations of the world. It involves intergovernmental relations on a new scale.

In the past, the existing forms of communication have developed relatively slowly in standard forms. They involved one country and then another, never large groups of countries, never in situations where the governments of the country will have so many concerns and interests in the new system. We have given illustrations, for example, where four or five countries may want to tie in with this system, but they don't have the money each to build a ground station, so some consideration has to be given to where the ground station is to be built that will service all the countries—in international agreement involving our Government and the countries.

We envisage that these countries will want to know how they can participate in the ownership and control in whatever world system is created. We can't get into a bloc country without a governmental negotiation. There are many of the countries that are very sensitive to direct contacts with companies, and the government itself may prefer to conduct a preliminary negotiation setting a sort of umbrella for the subsequent negotiations. You can envisage scores and scores of situations where governments just have to come into the picture. Now, the ordinary sort of agreement involving commercial and technical considerations, which will flow from these more general agreements, I would think, would be done by the Corporation. We are not set up to do it, we don't have the people to do it, and there is no foreign policy interest involved.

We are not really seeking work. But this thing is important to us in carrying out our foreign policy objectives, and the Government is needed in order to make the way for the Corporation to achieve its objective. So we feel the Government must come in.

Mr. HEMPHILL. What is the foreign policy objective that you speak of?

Mr. MCGHEE. For example, it is very much in our foreign policy interest to develop communications links with countries in the world where we don't have them—so television programs from this country will be more reliable and more economical—as well as commercial and personal messages and telegrams and telephone calls from this country.

Mr. HEMPHILL. I was just wondering if this isn't just another expression of the one-world idea that seems to exist today.

Mr. MCGHEE. The facts about the world speak for themselves.

Mr. HEMPHILL. The American people will pay the check through taxation, and really it is more for the benefit of other countries. I am just wondering about that.

Mr. MCGHEE. Insofar as the foreign facilities are concerned, there is an expectation that the countries themselves will provide them, or in many cases private capital will come forward from various countries, Europe and this country.

Mr. HEMPHILL. You say expectation; what have the other countries said they will do?

Mr. MCGHEE. Well, we have a number of countries that have already expressed interest. A number of countries, the United Kingdom, France, and Germany, are already building ground stations with their own funds, and engaging in experimental work which is required in order to tie in with this system. Most countries in the world the communications facilities are either financed locally by governments or privately or by international private subscription.

Mr. HEMPHILL. By the American taxpayers' money through some international organization?

Mr. MCGHEE. No, sir. Communications are, by and large, either owned by foreign governments or by private companies; many American companies, of course, own facilities in other countries.

Mr. HEMPHILL. Now, if four or five nations set up a mutual ground station, as you pictured a minute ago, and then some of these nations become involved in some altercation, a major quarrel, how would the matter be settled?

Mr. MCGHEE. Well, if the quarrel, for example, were a matter involving frequencies, the International Telecommunications Union exists. If the quarrel, for example, were a matter of commercial arrangements, I would envisage that the Corporation would first attempt to work it out with the particular telecommunications entity. If not, then there is nothing that can solve it except by bilateral or multilateral discussions between governments. That is a situation in which the governments would quite likely have to come back into play.

Mr. HEMPHILL. I have been wondering while we have been having this dispute over the quasi-public or private ownership of this satellite, whether or not we are just slowing down the whole thing so that the Russians can beat us to it. That has been bothering me a great deal.

Mr. MCGHEE. This is a private corporation, and we strongly propose a private corporation. We feel that this is an industry which has been well served by the private corporations. And we don't feel that the control is beyond that which now exists, except insofar as it is required by the new nature of this world communications net that would result.

Mr. HEMPHILL. I imagine the State Department itself has to depend on the I.T. & T. and other private companies for communications, does it not?

Mr. MCGHEE. Indeed we do.

Mr. HEMPHILL. And the FCC can, of course, set the domestic rates, and we can have agreements about the foreign rates, I assume.

Mr. MCGHEE. The FCC would regulate this Corporation, sir, not the State Department.

Mr. HEMPHILL. I was just wondering why the State Department has to be in the picture at all unless it just wants some power in this particular field.

Mr. McGHEE. Naturally I would justify the actions of the State Department. However, I sincerely feel that we don't seek power; we have ample tasks to perform.

Mr. HEMPHILL. You have got ample power now.

Mr. McGHEE. But we do have responsibilities in connection with the foreign policy of the United States which the President has delegated to us as his agent. And we see here such a vast variety of involvements of the foreign policy of the United States that we feel that the Department must be involved.

Mr. HEMPHILL. Thank you, sir.

Mr. YOUNGER. Would the gentleman yield?

Mr. HEMPHILL. I will be happy to yield.

Mr. YOUNGER. Just one thing. I admire your ability to find words—you are a Phi Beta Kappa and a Rhodes scholar—but I do want the record to show that you can't sell me on the idea that the bill that you are proposing is a private corporation, because it is in no sense, as far as my definition is concerned, a private corporation, not even resembling one.

Mr. COLLIER. Will the gentlemen yield?

Mr. HEMPHILL. I would be happy to yield.

Mr. COLLIER. Wouldn't it be fair to say, in view of what has already been written into the annals of history on cooperative programs that over a sustained period of time private funds in foreign countries notwithstanding, that we would probably pick up the tab for at least 50 percent of the global satellite communications programs?

Mr. McGHEE. Do you refer to the satellite system itself or the facilities in other countries required to gear into it?

Mr. COLLIER. The dollars-and-cents cost of the operation, the facilities as we might project them 10 years from now.

Mr. McGHEE. I don't believe anyone would have any basis for such a projection.

Mr. COLLIER. Well, I have a basis for such a projection, the fact that in 40 nations today we are picking up the tab for 60 percent of the cost of the domestic communications systems.

Mr. McGHEE. Do you refer to the Government?

Mr. COLLIER. And before we get through with the program in Latin America—which I supported—you and I both know that that is one of the most serious problems down there, and we are going to be picking up the tab for the better part of their communications system.

Mr. McGHEE. Do you refer to the combined private and public investment?

Mr. COLLIER. Yes, sir.

Mr. McGHEE. Certainly you raise no question about American private investment being made in these countries.

Mr. COLLIER. Goodness knows, I would hope that 99 percent of it is private investment.

Mr. McGHEE. But then what would concern you, I assume, would be the public investment.

Mr. COLLIER. That is right.

Mr. McGHEE. This isn't as large as you mention. I don't know what the figure is in Latin America.

Mr. COLLIER. Well, getting into the broad program that we are faced with in Latin America, and realizing, as we all do, that one of

the greatest inadequacies there is communications system—I don't think anyone could dispute that—as this program progresses we are going to pick up, necessarily, I presume, at least 50 percent of the cost in these nations, because private enterprise without loans down there is going to be unable to develop the communications system to the degree that is demanded.

Mr. MCGHEE. I just wouldn't link these two things in the same degree that you do. I think the pressure for the conventional communications system will exist regardless of the creation of the satellite system. So these are two separate variables really. There is no question that the creation of the satellite system will provide greater incentive for expanding the other facilities. But there are adequate incentives already. And I don't think there will be a decisive additional incentive. In a sense, I don't think you will need to charge the satellite system with the possible increased expenditures for conventional systems that you refer to.

The ground stations themselves are not a costly item in comparison with all of the other facilities. And that is the only unique aspect in the system in the recipient country.

The satellites are going to be put up anyway, and they have an adequate capacity for handling the communications of the world for a considerable period in one system.

Mr. COLLIER. I am sure you are not under any impression that the obligations that we might incur in this connection are going to stop with the ground station.

Mr. MCGHEE. I wouldn't admit that we had any immediate obligation to endow another government with increased conventional ground communications just because we tied them into a world satellite system. Brazil greatly needs an expanded conventional communications system. But the fact that she links in with our satellite system does not give her any, in my judgment, any particular—

Mr. COLLIER. Incidentally, this will be a unique approach in the field of communications as compared to other fields of industrial progress in foreign nations where we have in fact provided the financial systems that we have.

Mr. MCGHEE. In my view, sir, this supplements what is going on anyway.

Mr. COLLIER. I am sorry, I didn't mean to take so much time.

Mr. HEMPHILL. The thing that bothers me is that, looking back on your policy with American industry, that the State Department has existed on policies from time to time that either furnish money or competition which eventually ran the American businessman out of the market, or which preferred a foreign business venture by its policies. Now, what are the chances of this communications field getting into that pit?

Mr. MCGHEE. Well, naturally, as a representative of the State Department, Mr. Hemphill, I would not be willing to agree that we are in any way antagonistic to private business. I personally come from private business as do many of the high officers of the Department. Nor would I agree that we favor foreign over domestic business. In most of the negotiations or decisions in which we are involved, we think we can show you considerations that have flowed from both sides, when an advantage might have appeared to have been accorded to a foreign business entity. And I would like, if I may—

and I hate to impinge upon your question—but it is one that was raised earlier by Mr. Springer, and since he has not returned I would like the opportunity to reply to it, if I may.

It illustrates this point: Mr. Springer raised the question about Air France's right to fly to Mexico City as being what he termed then a giveaway, that there was no reciprocal advantage.

Now, we will file a complete statement in answer to this.

But, in brief, the original right which Air France got to fly there was negotiated with us back in 1946. At that time, there were advantages which accrued to our carriers and to us as a nation which we felt balanced, giving them the right to go beyond New York. Later that right was extended to include landing in Houston.

Now, the fact that they started in Mexico before we did, was a matter between them and the Mexicans. We didn't get to acquire rights to go into Mexico until 1957; they apparently did it in 1954. But our records will show that in the negotiation which took place in 1946 which gave rise to this flight.

(The information referred to above follows:)

AIR FRANCE TRAFFIC RIGHTS BETWEEN NEW YORK AND MEXICO CITY

In 1946 the United States negotiated an air transport agreement with France which provided for the exchange of air routes between the two Governments. Eight routes were secured by the United States for the use of its airlines and five routes were granted to the French including a route "France via intermediate points over the North Atlantic to New York and beyond to Mexico; in both directions." (This total route exchange attached.) In 1950 and 1951 additional negotiations took place and at that time additional rights were exchanged, including the grant of Houston as an optional intermediate stop on the French route between New York and Mexico City, and Rome for the United States as a point on its route through southern Europe to the Middle East and beyond around the world. However, Air France could not utilize immediately the Mexico rights because of lack of agreement with the Mexican Government.

In 1954 the French airline secured authorization from the Mexican Government to commence the service previously authorized under the United States-French agreement between New York and Mexico City. This right had also been sought by the United States from Mexico for a considerable period of time but numerous negotiations between the two Governments had not resulted in conclusion of a satisfactory bilateral agreement. Subsequent negotiations in 1957 did secure for the United States the right for its airline to conduct nonstop service between New York and Mexico City. Until that time all U.S.-flag services between New York and Mexico City were required to stop at Dallas.

Hence, the difficult situation created by the commencement of the French operations to Mexico City prior to U.S. nonstop operations grew out of a lack of agreement with the Mexican Government and in no way reflected an imbalance of rights exchanged between the United States and France.

[Attachment]

SCHEDULE I. ROUTES TO BE SERVED BY THE AIR CARRIERS OF THE FRENCH REPUBLIC

(Points on any of the routes may, at the option of the air carrier, be omitted on any or all flights.)

1. France via intermediate points over the North Atlantic to Boston, New York, and Washington, and also the site of the United Nations organization; in both directions.
2. France via intermediate points over the North Atlantic and Montreal to Chicago; in both directions.
3. France via intermediate points over the North Atlantic to New York and beyond to Mexico; in both directions.
4. Martinique via Guadeloupe and via intermediate points to Puerto Rico and beyond via the Dominican Republic to Haiti; in both directions.

5. Indochina via points in China and Hong Kong to Manila; in both directions (provided that this route is subject to the approval of the Government of the Philippine Islands).

SCHEDULE II. ROUTES TO BE SERVED BY THE AIR CARRIERS OF THE UNITED STATES

(Points on any of the routes may, at the option of the air carrier, be omitted on any or all flights.)

1. The United States via intermediate points over the North Atlantic to Paris and beyond via intermediate points in Switzerland, Italy, Greece, Egypt, the Near East, India, Burma, and Siam to Hanoi, and thence to China and beyond; in both directions.

2. The United States via intermediate points over the North Atlantic and Spain to Marseille and beyond via Milan, Budapest, and points south of the parallel of Budapest to Turkey, and thence via intermediate points to a connection with route 8 and beyond on said route; in both directions.

3. The United States via intermediate points over the North Atlantic, and Spain to Algiers, Tunis, and beyond via intermediate points to Egypt, and beyond via route 1; in both directions.

4. The United States via intermediate points to Dakar, Pointe Noire, Brazzaville, and beyond via intermediate points to the Union of South Africa; in both directions.

5. The United States via intermediate points to Guadeloupe, Martinique, and beyond via intermediate points to French Guiana and beyond in South America; in both directions.

6. The United States via intermediate points in the Pacific Ocean to New Caledonia and beyond on one or more routes to Australasia (including Australia and New Zealand); in both directions.

7. The United States via intermediate points in the Pacific Ocean and Manila to Saigon, and beyond to Singapore and Batavia; in both directions.

8. The United States via intermediate points in the Pacific Ocean, Manila, Hong Kong, Macao, and China to Hanoi and beyond via Siam, Burma to India and beyond; in both directions.

The CHAIRMAN. Let the Chair interrupt, Mr. McGhee.

The Chair may be very lenient in permitting these hearings to discuss almost everything involving transportation, communications, and foreign relations. But we have invited other witnesses to testify on this proposal, and I hope that we will not keep wandering from the principal subjects of discussion and can proceed with the matters that are before us.

I know that is a very important matter, and I know it was raised this morning, and I gave permission to file a statement. But I do not want you to take time away from other people. I would like to try to hold the discussion within the bounds of reason.

Mr. MCGHEE. Very good. I have concluded my remarks on that subject, Mr. Chairman, I apologize for taking too much of your time on that particular subject.

Mr. HEMPHILL. The reason for my question is the fact that I witnessed the State Department policy of putting up a plant in Turkey, with U.S. funds, that ran a friend of mine out of his domestic business. But the thing that is bothering me is the question of whether or not the private company has got to make the profit, it has got to be sound business methods as opposed to what the Government has to do, because the Government gets the money whether it produces or not, whether or not that is best for this country to have the thing run by this private company, or best for the future of this particular program. I am deeply concerned.

And I am also concerned about the delays that have come about because of this grasp for Government control at a late date after it looks like to me we are getting along pretty well with the program

from a private standpoint. And I do not own any stock in any communications company. So my interest is purely for the people of this country. And that has concerned me much in the course of these hearings.

And it looks to me as if the I.T. & T. has been able to expand and produce, which it has been able to do successfully, with a minimum of interference, but I suppose with some help, that maybe that is the pattern of success, and we could well follow the FCC's style.

That we could well follow. The FCC is still going to have control over the situation as far as rates, reports, profits, and revenue is concerned.

Mr. MCGHEE. I will not repeat what I have said previously on this same subject. I would just add that we would expect this Corporation to act to the maximum extent possible as a private corporation.

Mr. HEMPHILL. Thank you.

The CHAIRMAN. Mr. McGhee, I think everything has just about been covered. You have been very cooperative in testifying on almost anything and everything that is involved in this beyond any possible purpose and interest of the State Department, which is your home bailiwick. In view of that, I would ask you if you or the State Department have had any discussions or would have any interest or concern about the type of system that might be involved.

I assume you would not have any direct interest or control in that?

Mr. MCGHEE. Mr. Chairman, do you refer to the technical satellite system?

The CHAIRMAN. The type of system; whether it will be one not so far out, 7,000 miles, or the one 22,300 miles. What the technical name would be I would not know.

Mr. MCGHEE. I may have personal views, but I would not be in a position to speak officially.

The CHAIRMAN. Of course, I think whatever system is determined upon would have a lot to do with participation in it.

As a matter of fact, your primary interest in this bill, in addition to the overall administration responsibility and authority, is with those policies and provisions having to do with the State Department's responsibilities?

Mr. MCGHEE. Yes, sir; the responsibilities for carrying out the foreign policy of the United States. But I would like to add, sir, that this is a very great part of this proposed program.

The CHAIRMAN. Well, now, I think you have read a lot into it regarding the role of the State Department. And I think that there has been a lot read into it. But let me remind you and others who have been going over it—and I do not want to be repetitious here—that the bill creating the Corporation provides, section 301:

The authorization of a Corporation for profit to be known as the Communications Satellite Corporation, which will not be an agency or establishment of the U.S. Government.

So I think we had better get that straight right off, that this would establish a private corporation.

Mr. MCGHEE. That is correct.

The CHAIRMAN. Now, later on in the bill, it provides how that organization shall be set up, with a Board of Directors, the usual way

that we know. And it shall be operated by that Board of Directors in the regular established way.

Now, in the third place, it provides for the financing. And all it does is to require, after setting up the policy that is proposed in this bill—I do not say that I agree with all of that policy—but it is necessary to have some kind of a setup for financing—that the private corporation shall comply with the regulations of the various agencies that would be involved just as all other corporations must comply with it.

In this instance the Federal Communications Commission regulates and the Securities and Exchange Commission has something to do with the issuance of the stock.

Now, that is all, period. Private.

That is all a private business operation; is that not right?

Mr. MCGHEE. That is correct.

The CHAIRMAN. Now, your interest stems from the section that has been referred to three or four times, and that is, will the Secretary of State, perform certain functions, and so forth. And that is there solely for the purpose, as I understood you to say this morning, solely for the purpose that if it is determined, due to our foreign relations, that a particular station in some part of the world is necessary, in the interest of the United States, that you could recommend to the Federal Communications Commission that such be established.

Now, if the Corporation decided it did not want to do it, and the Corporation did not go to the Federal Communications Commission and meet the requirements and say, we will spend our capital in this venture, is there any law that can require them to do it?

Mr. MCGHEE. Only the 214(d) section of the Communications Act of 1934, which has been referred to. This is the basis of the authority cited in the proposed bill.

The CHAIRMAN. That, as I gather from your reading, did not give the Commission the authority to require it, it gave the Commission the authority to determine whether or not such expansion of service would in any way impair their service to the public.

I think there is a question there that had better be given some thought.

Mr. MCGHEE. I think the act is clear on this. I could read it, sir.

Authorize or require by order any carrier party to such proceeding to provide itself—

et cetera, with the safeguards which were referred to earlier.

The CHAIRMAN. That is true.

And if there is any question as to what would happen to the Corporation with respect to the soundness of this organization, then that would have to be resolved.

Now, the other provision in which the State Department would have any authority would be in connection with 302, and that would be only through the action of the President.

It would seem to me insofar as the authority that is granted—well, 402 is the one I was looking for, page 17:

The conduct of foreign negotiations.

Now, is that any different from the actual practice we have today with reference to foreign negotiations when international carriers come and ask the assistance of the State Department?

Mr. MCGHEE. Yes, sir. This is different from the present situation, in that foreign carriers, not being required by law to, very seldom—I have cited only three instances to the contrary—come to us and ask us to conduct their negotiations.

The CHAIRMAN. You mean they very seldom ask you to do it?

Mr. MCGHEE. Yes, sir.

In the three cases I have cited—I am not sure whether the initiative arose from us or from them—but these are illustrations of instances where we have negotiated in their behalf. But this is exceptional.

The CHAIRMAN. What would be your reaction to carrying on negotiations according to the established precedents, providing that where it is necessary, then the Corporation could seek the assistance of the State Department?

Mr. MCGHEE. Yes, sir. It is felt that this would then cover all the possible contingencies, if the decision were made by the Corporation as to whether it sought the assistance of the State Department in this regard.

The CHAIRMAN. What I had reference to is your statement that you intended the Corporation to act as such as a nonprofit corporation, and under our enterprise system, why not give the Corporation leeway to act wherever it needs to act, and so long as it is within the framework of our own interest, as has been practiced in the past, but in case conditions arise where your assistance is needed, to give you the right to go to the Corporation and talk with them about it.

Mr. MCGHEE. Of course, this legislation gives us the right to waive our right to supervise or negotiate in their behalf. And presumably in a given circumstance, to say that we see no foreign policy interest, to go ahead and negotiate the agreement within this or that framework. And I would envisage, as I discussed earlier, that most of the negotiations would take place in that way, that they would involve commercial and technical matters that we would not involve ourselves in.

The CHAIRMAN. Well, I will not go over these any more. I think the record is fully developed.

Let me, on behalf of the committee, thank you for your appearance and presentation today.

Mr. MCGHEE. Thank you, Mr. Chairman, for your patience.

The CHAIRMAN. Mr. Henri Busignies is vice president and general technical director of the International Telephone & Telegraph Corp.

Mr. Busignies, you have some of your associates with you. You may identify them for the record.

STATEMENT OF DR. HENRI G. BUSIGNIES, VICE PRESIDENT AND GENERAL TECHNICAL DIRECTOR OF INTERNATIONAL TELEPHONE & TELEGRAPH CORP., ACCOMPANIED BY BERTRAM TOWER, PRESIDENT, AMERICAN CABLE & RADIO CORP., AND JOHN HARTMAN, COUNSEL

Mr. BUSIGNIES. Yes, Mr. Chairman.

With me are Bertram Tower, president of American Cable & Radio Corp., A.C. & C., which is our international communications operating unit in the United States, to my left, and John Hartman, our counsel, to my right.

The CHAIRMAN. Very well.

Mr. BUSIGNIES. Thank you, Mr. Chairman.

I will not repeat my own introduction. And I will only add to it that I have served for 34 years with the ITT system.

We appreciate the opportunity to express our views with respect to the space satellite communications legislation you are considering. The subject is an important one from many viewpoints. Satellite systems properly created and managed can become highly useful additions to the communications facilities of the world, and their possible use as instruments of governmental policy is one reason for your inquiry here today.

Four times before—one a week ago—I have had the privilege of appearing before committees of the Senate and the House of Representatives on the subject of satellite communications. It may be not without interest to you that on the first occasion, nearly 3 years ago—March 3, 1959—I presented to the House Committee on Science and Astronautics a solution of the technical problem very much in line with present thinking.

I believe that you have before you copies of my prepared statement. You already gave me your approval that I proceed and present it.

ITT is very much interested in the space satellite communication legislation under consideration by the committee. We are interested from a research and development and manufacturing standpoint as well as in the use of satellite systems for communications purposes. A few facts and figures will tell you why.

ITT is the largest American-owned international enterprise engaged in research, manufacture, service, and operation of telecommunication and other electronic equipment on a global scale. We have more than 150,000 employees in 49 countries.

We own and, through subsidiaries, operate radio facilities in Argentina, Bolivia, Brazil, Chile, Cuba, Ecuador, Peru, Puerto Rico, and the Virgin Islands, which provide international telephone and telegraph services. International radio telegraph stations are operated also in the new State of Hawaii, the Philippines, and in Tangier, Morocco. We also have a joint and equal interest with A.T. & T. in telephone cable facilities providing communication services between the United States and Puerto Rico and between the United States and Cuba.

We own 100 percent of American Cable & Radio Corp., the largest American-owned international telegraph carrier providing service by both cable and radio. A.C. & R. telegraph cable circuits extend to the United Kingdom, the continents of Europe, and to Central America, South America, and the West Indies, as well as linking the various countries and territories of Latin America and the Caribbean with one another. A. C. & R. operates radio-telegraph circuits between the United States and most of the principal countries of the world; also between several countries of South America and the United States, Europe, and the Far East, as well as among Latin American countries. Circuits are maintained also between the Philippines and Far Eastern points.

Our communication companies have been in business for almost 80 years. American Cable & Radio has invested over \$80 million in operating plant. The investment in other ITT communications operating plant outside continental United States is in excess of \$200 million.

Our manufacturing companies overseas are the world's largest suppliers of telecommunication equipment outside the United States. Their markets include every major country in Europe and most developed and underdeveloped countries elsewhere in the free world.

Our research laboratories have contributed basic developments to telephone switching, wire and cable, radio, radar, air navigation, and now to the new field of missiles and space. An ITT engineering company designed and is building for NATO the command communication network from northern Norway to eastern Turkey, and an ITT service organization maintains and operates the DEW line of radar defenses from Alaska to Greenland.

The committee may be aware that ITT laboratory and manufacturing units have already made substantial contributions to electronic developments in the satellite field and are continuing their work in that area. They developed and built the entire ground communication system for the Courier satellite, which was the first communication satellite designed for message or, if you prefer, teletype operation on a worldwide scale. We participated in the development of the Transit satellite program.

We applied to and received from the Federal Communications Commission a license to track satellites and space probes, and to bounce signals off the Moon for propagation and component testing in anticipation of intercontinental communication by this means. This was the first allocation of radio frequencies to private industry by the U.S. Government for such a purpose.

Pursuant to this license, we have designed and built a complete ground-terminal space station entirely at our own expense. This station, constructed at the site of our laboratories in Nutley, N.J., is equipped with a 40-foot parabolic antenna, high-power transmitter, and sensitive receiver, and it will be used in the Project Relay satellite communication program of NASA. This satellite is expected to be in orbit by the middle of the year, and our ground station is ready for operation with it 6 months ahead of the required time for participation.

We made this possible by initiating work on our installation more than 2 years ago. We are training our people now for the job they will have to do when the Relay satellite is in orbit by having them regularly send signals to, and receive them back from, the moon. In the near future we expect to establish communication via the moon with our laboratories in England, for further experimentation and training.

We are presently developing and constructing entirely at our own expense two mobile ground stations, installed in trailers and equipped with large demountable antennas. These two stations may be shipped complete to any part of the world and placed in operation in a matter of days. One is intended to be the South American terminal of NASA's Project Relay.

The expense involved in this one effort is of the order of \$1 million. The cost of the fixed terminal at our Nutley laboratories represents a large fraction of another million dollars. This does not include large expenses of research and development on components and equipment applicable to space communication.

We have designed these fixed and mobile stations with the medium and small capacity needs of a very large number of the world's nations in mind. They provide between 12 and 60 voice channels and are economical and practical in design.

ITT communications companies in the United States and Puerto Rico participated in the work of the ad hoc carrier committee and signed the report made by that committee to the Federal Communications Commission. We adhere to the principles and concepts of the recommendations made in that report.

Therefore, we find ourselves in disagreement with some provisions of the bills before you. We will limit our discussion to these areas of disagreement but will confirm later some of the important points of agreement.

We recognize the presence of a conflict that can be resolved. The normal business interests of the common carriers call for the development of satellite communication along competitive and economical lines which may require several years to develop with progressive application as markets for services develop.

On the other hand, the needs of the U.S. Government for the very early application of satellites to communications for prestige, cold war situation, propaganda, et cetera, will require non-profitable communication with many nations for a long time.

The Government likewise requires television services in vast areas where such a service would also be in deficit for undetermined periods.

The Government wants both goals to be achieved very early with techniques and equipments which necessarily would be too costly and inefficient for private operation at a profit; probably requiring a number of systems which will have to be replaced many more times than good business judgment would support.

This conflict is basic, and it appears to account for a number of provisions in the bills with which we disagree.

1. We do not agree under the conditions set forth that it is proper to legislate a new, general public ownership of the corporation.

2. We think that the international common carriers should own directly the ground stations, at least. We think that the international common carriers should also own the U.S. interest in the satellites and related tracking facilities, as recommended by the ad hoc committee.

3. However, we suggest that because of U.S. Government requirements, well recognized, which will result in much greater expense and relative inefficiency in business operations, the Government should support this part of the program directed toward these requirements.

We will now develop these points further.

It is useful at this point that we confirm our support of competitive bidding for all material and equipment involved in the satellite, the United States end of the communications network, the vehicles, and the space equipment. We also recognize that satellite communication must be available to all entitled to it, without discrimination.

Finally, we are agreed that satellite communications services must be subject to the well-established controls of the FCC.

The first point: public ownership. We do not believe that the broad-based public stock issue proposed by H.R. 10115 and H.R. 10138 is sound. At best the Satellite Corporation will need a number of years to be self-supporting and dividend-paying under the most advantageous conditions; that is, when designed to provide for the efficient and marketable services exclusive of the special needs of the U.S. Government. Even after that time it would be earning at a strictly limited, regulated rate of return. The per-share price of class

A stock is suggested at a figure, \$1,000, which may be high enough to avoid any possible entrapment of the small investor. Yet there is nothing about the program to attract the larger or institutional investor.

If the satellite system on its own and under separate and new public ownership, is expected to earn a profit from the time it becomes operational, its costs must be reflected in rates to the user much higher than those now in effect through other existing means of communication. It may not soon or ever earn a profit if the needs of the U.S. Government are to be satisfied. Yet the rates to the public for service through the satellite system cannot be and should not be at a much higher level than for existing facilities if the satellite systems are to attract use.

On the other hand, if the satellite system is owned by the international common carriers, the costs of such operation, combined with the costs of operating existing facilities, can be averaged and we can so avoid the necessity for highly increased rates during the early years of the satellite program.

The effect of creating a new corporate entity with new public stockholders would be to add still another element in the communications service, whose owners would properly expect a fair return on their investment.

It has been suggested that one purpose of the stock issue is to give the general public an opportunity to invest in this new development of public concern. Yet it should be observed that the common carrier's ownership of the satellite systems would in itself immediately create a substantial public investment interest in the satellite systems, and one that is already widely spread throughout the public. All of the major U.S. communications carriers, either directly or through their parent companies, are owned by the general public. Thus, there are millions of Americans who already have a financial interest in the use of satellite systems by the common carriers. To establish a new public stock issue corporation for satellite systems alone, apart from the existing systems, would have the effect of seriously diluting the investments that the public, represented by the existing stockholders of the communications carriers, has in existing plant.

It would then be the duty of the common carriers to their stockholders to avoid such dilution, insofar as possible, which would undoubtedly tend to reduce their use of the satellite systems in favor of the existing systems which the carriers own.

There are all the elements of conflict between the existing investors in international common carriers and the possible new investors in a satellite corporation. How can the FCC establish two rates? Or impose loss operations on the investors of the Satellite Corporation? Or decide what traffic will go to the present network or to the satellite system?

This seems difficult, if not impossible, to administer. How will the users decide what system they want to use? And if they are not allowed to decide, who will decide for them—thereby arbitrarily placing losses or profits in one or the other system.

The new public investors cannot know at all what to expect in the future under these conditions, and very damaging and contradictory pressures will develop in the running of the Satellite Corporation.

The considerations of the ad hoc committee were based upon the usefulness of satellite systems for common carrier purposes as such.

We contemplated a far less pretentious financial program than is visualized by the bills before and as has been suggested by public officials in recent months. To serve U.S. governmental aims, with which we are fully in accord, it will be necessary to develop the satellite systems far more rapidly than can be justified economically for common carrier purposes alone. Neither the communication nor television markets of the economically less developed countries can support the addition of satellite service economically for many years to come.

We suggest, therefore, that it is entirely appropriate for the satellite program to be supported financially by our Government insofar and in the degree to which added costs are occasioned to meet U.S. governmental objectives. The common carriers have the capability to create satellite systems for commercial communications purposes for which there is foreseeable need. But the amounts now being suggested for capitalizing the program envisaged by the Government suggest that our Government's support in some manner and to some degree is essential.

In these connections, we recommend that, if the U.S. Government wants these services, contracts be entered into between the Government and the Satellite Corporation at rates which would permit a normal operation of the Satellite Corporation.

The second point: Ownership of ground stations. To be effective, the international communication system satellites must be joined with other facilities, both here and abroad, which are required to provide communication services. The satellite will be a relay station in space for very high frequency or microwave radio transmission, just as similar stations on earth function today on a smaller scale of altitude and distance. The satellite will provide operation over much greater distances while, at the same time, producing far larger capacity than is made available through conventional means of radio communication.

We suggest, in terms of present legislative considerations, the principle that a satellite system should be the responsibility of those who will use it to provide public service.

As presented in the report of the ad hoc committee, we believe that the licensed users—the regulated common carriers—should own the satellite system so that they can make use of all their knowledge and talent to provide the best and most economical service.

For most people, the telephone subset or the teleprinter and a pair of wires fading rapidly out of sight represent the science and business of communications. Because this is so, there is, generally speaking, a complete lack of understanding of the fantastic complexity of the problems and techniques involved in making it possible for millions of people to talk to each other the world over, or exchange messages, or in transmitting television pictures across a continent. Many of the world's most talented scientists and engineers have devoted a lifetime of tremendous effort to resolve these problems.

Think for one minute of the millions of relays, transistors, diodes, and radio beams; of the problems of getting the many different systems in different areas to interwork with one another; of the semi-automatic or automatic signaling systems which actuate the circuits and must respond over vast areas to the proper impulses representing the proper numbers. Now think of the considerable added complexity

resulting from the fact that a single synchronous satellite over the Atlantic may serve 50 to 100 nations, must respond to all channel assignments, and must permit exchange and full allocation of the communication capacity at all times.

The satellite proper will probably be wide-band, accepting and faithfully retransmitting the thousands of signals received. Without underestimating the problems of placing it there in space and keeping it working for long periods, which are scientific problems of large magnitude, the great complexities will be in the ground system, the organization and distribution of the channels, the interface with all other ground communication systems the world over—operated by the U.S. common carriers and their counterparts abroad. The knowledge and talent to resolve in reasonable time all these problems is located with the telephone and telegraph carriers which, over a long period of years, have placed in service the remarkable systems now in existence.

The technical equipment on the ground, which connects the various communication systems, should be specified and controlled by these men of experience. To allow this specification and control, this equipment should be owned by their companies. This places the technical responsibility for the satellite system squarely where it belongs. Otherwise, the responsibility will be split.

The Satellite Corporation under separate ownership and without this experience would have to find hundreds of scientists and engineers to resolve all these problems. Conflicts with the international communication carriers would almost inevitably develop. Where will all these experienced men be found?

It should be noted also, as the pending bills provide, that the satellites themselves must be made available in some degree to foreign ownership and control. It is not desirable, however, that the ground transmitting and receiving facilities in the United States be included in such foreign ownership interest and, to the contrary, foreign ownership of radio transmitting facilities in the United States is contrary to present law.

By the same token, it is highly probable that the foreign government administrations or companies which operate radio facilities abroad will not welcome American ownership in their ground transmitting and receiving facilities. To include the U.S. ground transmitting and receiving stations in the satellite corporation undoubtedly would complicate the negotiations for foreign participation in the satellite systems.

Both of the bills before you contemplate ownership of the ground transmitting and receiving stations by the Satellite Corporation, as well as of the satellites and associated tracking facilities. In our view, this is not desirable. Control of transmitting and receiving facilities is a fundamental part of the responsibility of the carriers providing communications service. They should not be deprived of such control if they are to remain responsible for the rendering of such services.

We do not presume at this time to present you with final solutions or wordings of the modifications corresponding to our views, but we offer our cooperation to participate in any consideration that you may wish to give those views.

This, Mr. Chairman, completes our testimony.

The CHAIRMAN. Thank you very much, Mr. Busignies.

Mr. O'Brien, any questions?

Mr. O'BRIEN. I have two or three, Mr. Chairman.

Doctor, obviously from your testimony you envision a truly global system of communications. I would like to ask you this question: Do you think if we refrain from entering into this field because some Communist countries might participate that we would do ourselves more harm ultimately than we would do to them?

Mr. BUSIGNIES. I do believe it, because the free world probably handles between 80 and 90 percent of the total international communications of the world. And among that share of international communications, 75 percent of the total touches the United States, either coming or originating or using the United States as a relay point. I believe that our position is so strong that we may not have to be concerned about the relatively smaller aspect of their communications at this time.

Mr. O'BRIEN. I note that 3 years ago in your testimony you were a prophet. And I wonder if perhaps today you are in that area, because you mentioned bouncing signals off the moon. Ultimately, isn't it your idea and the idea of many people that the true satellite, the ultimate satellite in this field may very well be the moon?

Mr. BUSIGNIES. Sir, I do not think so, because of the time it takes a radio signal to get there and come back, and because the moon is not available at all times, even though the use of the moon might be practicable for telegraph communications and message communications.

Mr. O'BRIEN. Now, as a businessman, if you were asked by a friend for advice on the purchase of an economic interest in this new field, would you feel free to recommend to a friend that he invest any substantial amount in this proposed public offering?

Mr. BUSIGNIES. I would have to tell him honestly that I don't recommend it, because I wouldn't do it myself.

Mr. O'BRIEN. In other words, under that there might be a benefit possibly for your friend's grandson. Now, if you were to recommend another form of investment, the investment in private carriers now entering into this field, would you think it would be wise for your friend to invest in those private carriers in view of their entry into this new field?

Mr. BUSIGNIES. I think I would recommend that this could be good. However, I would add one comment. I would say, you probably would have to watch this new undertaking to see that it remains an economical and a commercial service, because if it has to cover many unprofitable areas of the world, or if it would have to provide services like television in broad areas which would not be economical for a long period of time, then this undertaking might not be a profitable one. So I would recommend it on the basis of regular normal expansion of the commercial communications facilities of the international communication carriers.

Mr. O'BRIEN. Now, several witnesses have referred repeatedly to this proposed public stock offering as private enterprise. They have emphasized that, it seems to me. Do you think if this is to be a test of accomplishment between private enterprise and the totalitarian system which has had some spectacular success out there, that it would be the fairest possible test of those two systems through the proposed public sale of the Corporation?

In other words, what I am trying to say is, do you think that private enterprise could do a better job if we took some of the shackles off private enterprise and let it go ahead?

Mr. BUSIGNIES. I am sure that private enterprise could do this job.

Mr. O'BRIEN. Well, private enterprise as represented by you and your company have done quite a job already in this field; is that not true?

Mr. BUSIGNIES. I think so, sir.

Mr. O'BRIEN. Mr. Chairman, I think that is all I have. Thank you very much.

The CHAIRMAN. Mr. Younger?

Mr. YOUNGER. I will have to congratulate you on a very good statement here. Several things ought to be covered here. One, you mention that the ground stations and transmitting stations ought to be owned by the carriers and not by the Corporation; is that true?

Mr. BUSIGNIES. Yes, sir.

Mr. YOUNGER. How about the investment in these foreign countries; will the common carriers be encouraged to make the investments of receiving stations or transmitting stations in these foreign countries if the foreign countries are going to be free to take those investments over without any compensation?

Mr. BUSIGNIES. Well, sir, I could probably explain briefly this as follows: I see three categories there in terms of ground stations. First, the U.S. terminals: One station with high capacity would serve for quite some time, and perhaps an additional or two smaller stations of smaller capacity. Those, in our views, would be owned by the international common carriers. They are ready to build them. They have done it already, as a matter of fact.

The other category is the developed countries. We know by past experience that these countries will want to own their stations; that the British Post Office, the French PTT, the German Bundespost, will build their own ground stations and invest in that; therefore, the Satellite Corporation does not have to worry about that expenditure.

There remain the less developed countries. The less developed countries will want to participate in this program, I am sure. And in some areas, for instance, where our company has terminal rights that is, that we are in business already furnishing communications service, we would certainly in these cases offer the service and negotiate to establish terminal points.

Now, in these cases which are not covered by this condition which is the most common case—I am still in the less developed countries—these countries will want stations; they will probably not assign terminal rights to any company in particular; they will probably want either to rent the service from the Satellite Corporation or they might wish to be given—I wouldn't be surprised at all—the station as part of a foreign-aid program.

Therefore, there are many ways by which the world network can develop without requiring a direct investment by the Satellite Corporation.

Mr. YOUNGER. Now, you mention about the Government being interested in this system for propanganda, prestige purposes, and so forth. What do you envision in connection with that?

Mr. BUSIGNIES. Sir, I have read the statement of the President in July of last year, and I have read many other statements, and

they all have given us the impression—and we do not necessarily disagree—that the policy of the Government would be to take advantage of our technical leadership in communications and in space to show the world our capabilities and to furnish services to the world which contribute to the prestige of the United States, and to better relations between all the countries of the world. That would be in terms of terminal points in many places where operations would not be profitable, in many small countries where even a relatively small capacity station might be a burden.

Another application that we have seen proposed is worldwide television, coming from the United States as a means of distributing culture, propaganda in some cases, to make the United States better known, and to know better the other countries.

Now, if we equip a number of less developed countries with television transmitting and receiving equipment, the overall satellite project becomes quite uneconomical.

So in our views we separate the normal commercial operations which the international carriers can provide satellitewise, from these requirements of the United States that I am not qualified to fully evaluate, except that as a citizen I think they do have great importance.

But if this is U.S. policy, and that the satellite system has to provide for television, and cover large areas where communications are not profitable, then we think that these special requirements of the U.S. Government could be satisfied by the Government engaging into contracts with the Satellite Corporation to furnish services at rates which might be higher to compensate for the added costs involved.

Mr. YOUNGER. Do you think that the negotiations between the Corporation and the Government could be rather easily settled?

Mr. BUSIGNIES. Yes, sir.

Mr. YOUNGER. Do I understand that your company is willing, ready and able to participate and take a part in a privately owned corporation?

Mr. BUSIGNIES. Yes, sir, we positively indicated this at the time of the study of the ad hoc committee, and we haven't changed our minds.

Mr. YOUNGER. That is all, Mr. Chairman.

The CHAIRMAN. Mr. Nelson?

Mr. NELSON. No questions, except to thank the gentleman for the fine statement, which was very informative and which must have represented a lot of work.

Mr. BUSIGNIES. Thank you.

The CHAIRMAN. Mr. Dominick?

Mr. DOMINICK. Just one question, Mr. Chairman.

Is there any necessity that you see to permit the Soviet bloc to participate in the ownership of this type of corporation?

Mr. BUSIGNIES. No, sir. However, I do not know all the international rules and regulations, and, therefore, my statement has to be taken with some qualifications. It may be that within the international telecommunications union we have made agreements—I am sure we have—and we are engaged with these countries to the point where it might be highly embarrassing to change our normal relationships on communications because there is a new system. I have not studied this.

Mr. DOMINICK. Thank you for a very fine statement.

The CHAIRMAN. Mr. Busignies, I want, also, to compliment you on your statement. I assume from what you say here that you envisage a program here to supplement existing international communications.

Mr. BUSIGNIES. Yes, sir.

The CHAIRMAN. And you would have in mind that the two systems would be dovetailed together to provide the best possible service.

Mr. BUSIGNIES. Yes Mr. Chairman. I could give you one example, for instance. We believe strongly that the synchronous satellite system is a very good system for the future, and that it is the simplest, with the smallest number of satellites, and the simplest ground equipment. But there is a problem when we have two such satellites in succession, as needed if you want to cover the whole world.

It takes a little time for the signal to go up to the satellite and come back. So when you have only one relay up to 22,000 miles and back, in our opinion the time delay is not excessive, and this relay provides for a satisfactory communication. But if you have two such relays in succession, then the total delay begins to be noticeable. You have to wait a little time after you finish talking to get the answer; this waiting period would be of the order of one and a-half seconds. Mr. Chairman, by using the existing system with the satellite system, we could avoid the second delay of the second relay for the communications reaching the other side of the world by using the extending or expanding telephone cables for that relay and the satellite for the other. This is one of the advantages of having a combined technique available in a single ownership.

The CHAIRMAN. Would your company participate in a program if it were to follow the public ownership participation proposal as in some bills here, and the other provisions of broadening the operation, and so forth?

Mr. BUSIGNIES. No, Mr. Chairman. We looked at it very carefully. And we do not think that we could participate on the basis of the administration's bill.

The CHAIRMAN. Your company does not feel, if you can say categorically, your company does not feel that it would participate in a private corporation set up as recommended here by the administration bill?

Mr. BUSIGNIES. You see, sir, with the type of controls which are placed on this Corporation, and under the description of it that we have seen in the bill, we do not see that we could participate in the running of this operation. We would just be an ordinary investor in this organization.

The CHAIRMAN. Would you participate in a program envisaged where the common carriers themselves would have the minimum stockholdings of \$100,000?

Mr. BUSIGNIES. Certainly, we would immediately participate.

The CHAIRMAN. Do you have any estimation as to what degree, how many shares at \$100,000 your company would take?

Mr. BUSIGNIES. Well, sir, we considered this seriously at the time of the study of the ad hoc committee; our participation has to be related to our own use of the system. So we calculated our share, if I am right, one of our companies indicated that they could participate about \$5 million, and another about \$800,000. This participation is in the satellite itself; the ground stations would be additional.

The CHAIRMAN. I wish I had the opportunity to ask you several other questions, but the House is calling us now, and we must go.

Thank you very much for your statement. We appreciate it.

Mr. BUSIGNIES. Thank you, Mr. Chairman.

The CHAIRMAN. The committee will adjourn until 10 o'clock tomorrow morning.

(Whereupon, at 4:55 p.m., the committee recessed, to reconvene at 10 a.m., Friday, March 16, 1962.)

1. The first part of the paper is devoted to a general survey of the history of the subject. It begins with a brief account of the early attempts to explain the phenomena of life, and then proceeds to a more detailed consideration of the various theories which have been advanced from time to time. The author then discusses the progress of the science of life, and the various methods which have been employed to study it. He then concludes with a summary of the present state of the science, and a few remarks on the future prospects of the subject.

COMMUNICATIONS SATELLITES

MARCH 16, 1962

HOUSE OF REPRESENTATIVES,
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D.C.

The committee met, pursuant to recess, at 10:17 a.m., in room 1334, New House Office Building, Hon. Oren Harris (chairman of the committee) presiding.

The CHAIRMAN. We are resuming hearings this morning on legislation for the establishment of a commercial communications satellite system. We are glad to have Mr. James E. Dingman, executive vice president of American Telephone & Telegraph Co. here.

Mr. Dingman, we shall be glad to have your statement at this time. If you have anyone else with you, on whom you might call, or who you would like to identify for the record, you may do so at this time.

Mr. DINGMAN. If the occasion arises, Mr. Chairman, I will do so.
The CHAIRMAN. All right.

STATEMENT OF JAMES E. DINGMAN, EXECUTIVE VICE PRESIDENT, AMERICAN TELEPHONE & TELEGRAPH CO.

Mr. DINGMAN. My name is James E. Dingman. I am executive vice president of American Telephone & Telegraph Co. I appreciate the opportunity to appear before your committee to express my company's views.

I believe there is unanimous agreement with the declaration contained in H.R. 10115—

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 * * *

And it is certainly a fact, as the President has stated, that—

the actual operation of such a system would provide a dramatic demonstration of our leadership in this area of space activity, our intention to share the benefits of space for peaceful use, and the ability of this Nation and its economic and political system to keep pace with a changing and complex world.

What is essential now is that an organization be established promptly to push the job forward aggressively so that these objectives are attained as rapidly as possible.

It is well recognized that we in this country cannot unilaterally construct a communications satellite system and impose it on our foreign friends. They will wish to participate in ownership of the satellite system. Their agreement must be obtained with respect to its technical specifications. They will also provide the ground stations within their borders which will receive from and transmit to the

satellites. But as was done in the case of existing oversea radio and cable communications facilities, we can initiate the program and through our technical competence and leadership bring this new international communications facility into being.

The magnitude of this task is very great. It will require an organization having technical competence of the highest order, and this competence must be recognized both here and by the communications agencies abroad. Expertness in the communications art must be accompanied by a thorough understanding of the communications business and an ability to deal with our foreign counterparts with respect to the many intricate commercial and technical arrangements which must be made. Above all, the organization must be service minded, must sincerely believe in the objectives of the whole program, and must be willing to take the very real risks inherent in the speedy establishment of this new and untried communications facility. There can be no conflicts in objectives within this organization, no overabundance of caution, no pennypinching spirit. This organization must also be free, under appropriate regulation, to exercise initiative and leadership and to move forward promptly.

It is with these basic thoughts in mind that we have carefully and objectively examined the proposals contained in the pending bills for the organization, financing, and operation of the U.S. interest in the proposed system. Briefly, our comments are these:

First, we believe that the ownership of the stock in the proposed Satellite Corporation should be limited to communications carriers approved by the FCC to own shares of such stock.

Second, we believe that the ground stations (referred to in H.R. 10115 as "satellite terminal stations"), which transmit and receive communications signals to and from the satellites, should be owned and operated by the carriers and other authorized users and not by the Corporation.

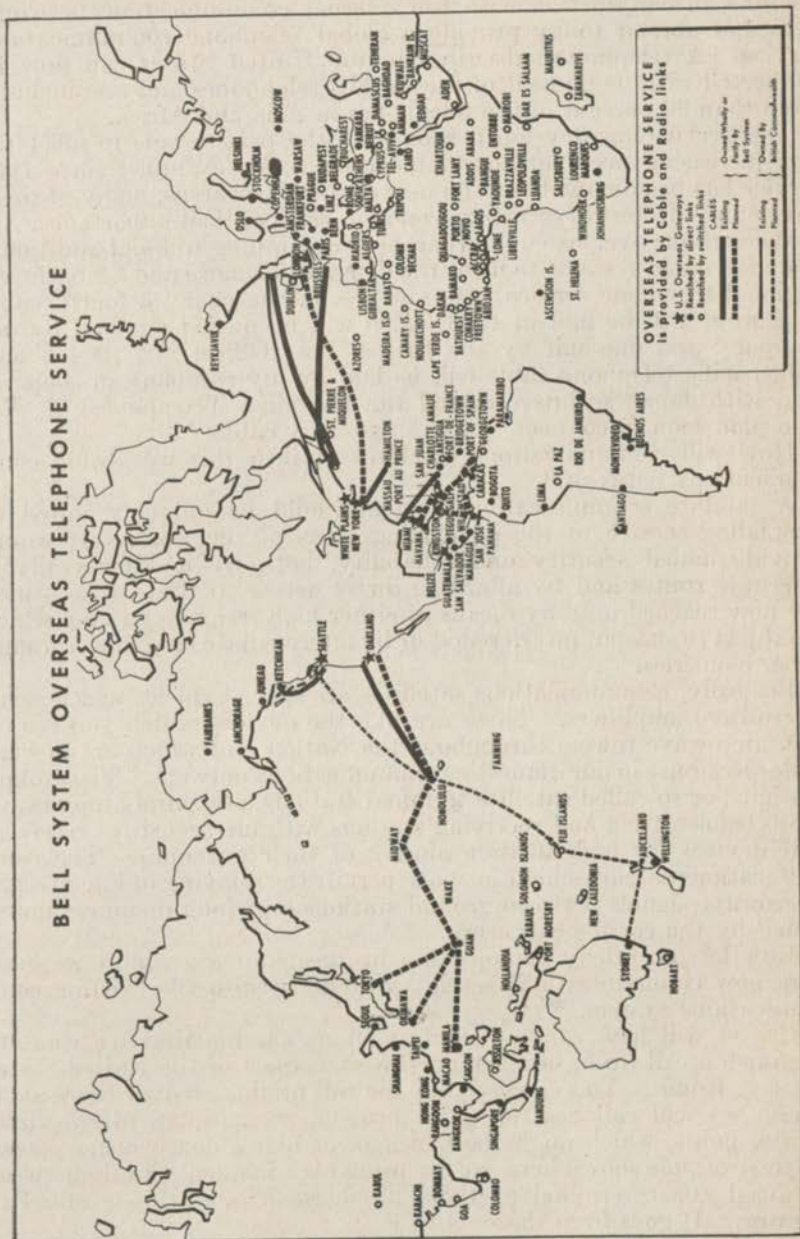
Third, we believe that the proliferation of governmental supervision provided by H.R. 10115 could result in conflict and confusion which might smother the initiative and leadership which are essential to the accomplishment of the national purpose involved.

SATELLITES IN A COMMUNICATIONS SYSTEM

In discussing these comments, I think it will be helpful to explain briefly how communications satellites will fit into the existing worldwide telephone communications network. We inaugurated international telephone service on a commercial basis in 1921 in Cuba. The first regular service to Europe was provided between New York and London in 1927 by means of longwave radio. Since then there have been many improvements in the facilities used in oversea service—shortwave radio, troposcatter radio and, since 1956, submarine telephone cables have been employed. These facilities are, of course, only connecting links between the internal communications networks both here and abroad. Without these networks the international facilities would have little or no use or value.

The attached map shows the existing and presently planned submarine telephone cable facilities and also the many points which are reached by radio facilities.

(See facing page for map mentioned.)



I may say that map is a small replica of the big one that is over there on the chairman's right. It is in the testimony here. These facilities in conjunction with the internal communications networks here and abroad today provide a global telephone communications service. A telephone subscriber in the United States can now be connected with 98 percent of the world's telephones and this includes more than 90 percent of the telephones in Asia and Africa.

This service has developed rapidly in the past decade to meet the ever-increasing need for communications. For example, since 1950 service has been extended to 60 new countries or areas, many of them developing regions of growing economic and political importance.

We and our overseas counterparts are continuing to build additional undersea cable systems to meet the demand for more and better international telephone service. As you see on the chart, a fourth cable to Europe will be laid in 1963 which will be owned one-half by my company and one-half by the British Post Office. In 1964 a new transpacific telephone cable will be laid by my company in cooperation with Japanese interests and the Hawaiian Telephone Co. We also plan soon to connect South America by cable.

How will communications satellites fit into this worldwide communications network?

A satellite communications system would be uniquely suited to expanding service to the developing areas of the world. It would provide added security and reliability, both by making available alternate routes and by affording direct access to those areas which are now reached only by means of either high frequency radio, which is subject to sunspot interference, or by intermediate land links through other countries.

Basically, communications satellites are space vehicles which carry microwave amplifiers. These are like the devices which you see on the microwave towers throughout the Nation and which are in very widespread use in our domestic communications network. The ground stations, or so-called satellite terminal stations, are simply microwave radio transmitting and receiving stations with ultrasensitive receivers and devices for high-altitude aiming of their antennas. The communications satellites high in space permit the relaying of line-of-sight microwave signals between ground stations over long distances unimpeded by the earth's curvature.

Now let me briefly demonstrate by means of an exhibit we have here how communications satellites would fit into the existing communications system.

If you will look at that exhibit, let us assume that we want to establish a call from, say, the northwestern part of the United States to, say, Rome. You can see that the call originates over there at A, which we will call Seattle, goes through, perhaps, an intermediate switch point, which might be Chicago, or half a dozen other places. In the example shown here, we are using high frequency radio between the east coast terminal of the United States and the terminal in Europe. It goes from there on to F.

Now, another example—a call may go via San Francisco, rather than Chicago. In actual practice, it might go any one of a half a dozen ways.

Now, this same call, going across the Atlantic Ocean—since 1956, it might well have been handled by a cable, as you see there. The

customer who originated the call wouldn't know or wouldn't care, as long as he got a good conversation, which is basically what he wants.

Now, if we get a satellite system, it could be that the same call would be handled by the wave going up to the satellite, being relayed and amplified, and received again, and ultimately put into the same switching system as the other circuits are.

A satellite communications system is a point-to-point system. It will give you channels between D and E, as illustrated in this exhibit here. It must be integrated into the network, just like the other facilities are.

Now, the ground stations could be the ones illustrated as D and E there. Those are the places where people are going to have to be. There are going to be no people up in that satellite. And the satellite, once designed, can be used with a number of ground stations. It is not limited to working with just one ground station. And in a way, the satellite really becomes a part of the ether, if you look at it from that concept, and can be a commonly used device. The people at the ground stations are the ones who are really going to determine the kind and grade of service and the design of the equipment you use in the ground stations is important.

That is why we want the ground stations to be in the hands of the carriers.

I think it is obvious from this brief demonstration that satellites will be evolutionary, not revolutionary, in character. They will not constitute a communications system in themselves but will merely serve as an intermediate link in a system that provides complete communications service. The degree of their usefulness in providing communications services will depend upon their proper integration, on an economically sound and operationally efficient basis, in the vast complex of domestic and international common carrier facilities.

GROUND STATIONS

I have said that we believe the ground stations should be owned and operated by the carriers. I think you can now see that the ground stations will be the key to the proper coordination of the communications satellite channels into the domestic network. As such, we look upon them as an integral part of that network.

We therefore believe ground stations should be owned and operated by the carriers who are responsible for the operation of these networks. Based on my personal experience of many years with our long lines department coordinating the operations of our domestic and oversea long-distance networks, I strongly believe that any other arrangements providing for divided responsibility for operation of these facilities will prove impractical and will degrade service to the public.

We can see neither need nor justification for the Corporation owning the ground stations. It will not own the ground stations abroad. These will be owned and operated by the agencies or entities who operate the terrestrial networks there. So there can be no operational reason for the Corporation owning the ground stations in this country. Nor do we see any economic or other reason for this. The ad hoc carrier committee recommended that each carrier be permitted under FCC regulation to establish and operate its own ground stations or participate in joint ownership of ground stations with other carriers

or rent capacity in other carriers' ground stations, and that appropriate provisions be made to assure equitable access and use of the ground stations on reasonable terms by any authorized carrier. We believe this recommendation should be followed.

OWNERSHIP OF THE SATELLITE CORPORATION

I have also said that we believe the Corporation should be owned by the carriers. This position may be construed by some as stemming from the selfish interests of my company which is the largest of the carriers involved. Let me assure you that it is not. I am not before this committee as a special pleader. I am here to express our ideas as to the best way, in the public interest, to achieve the common objective.

I am fully aware of the concern which has been expressed in some quarters that A.T. & T. should not be permitted to "dominate" this new communications facility. Let me say here and now that this is not our motive or intent. We agree that no carrier should be allowed to elect more than two directors to the board of any corporation organized for the purpose here under consideration. We also agree that there should be appropriate governmental regulation to see to it that no carrier shall gain any competitive advantage from its investment in communications satellites. These principles we fully embrace and urge.

At the beginning of my remarks I described the kind of organization which we believe is necessary to reach the agreed goals. It is our belief that an organization owned by the carriers will provide the type of management which is so urgently required to get this job done. It is they who own and operate the networks in which the communications satellites will be but one supplemental part. It is they who have had the responsibility for developing the existing facilities with which the public is now being served. There can be no question as to their competence to undertake the development of the satellite system. Their experience and success in the arrangement with their foreign counterparts for the construction and use of international communications facilities over a long period of time also testify to their ability in this area. Moreover, it is the research and development work done by the carriers that has brought communications technology to the point which makes satellite communications possible.

If the U.S. common carriers had failed to meet their public responsibilities to provide the best possible service consistent with communications technology, then I would say let someone else manage the Satellite Corporation. But it is generally recognized that the U.S. communications industry is the leader in the world. The U.S. carriers have not only fulfilled their past responsibilities to the public but as I have said they have pioneered in the field of satellite communications. What reason is there now to separate this alternative communications facility—communications satellites—and entrust it to other hands? If the existing carriers are thus to be sidetracked, there could result an organization which is incapable of achieving the national purpose expressed in H.R. 10115.

You may say, however, that H.R. 10115 does not exclude the carriers from ownership. They may buy class A voting stock along

with the public, subject to the percentage limitations stated in the bill. In answer, I would suggest that this arrangement creates an uncertainty which could place the whole future of this program beyond the decision of Congress. Under this scheme the future of the program must necessarily depend on who buys the class A stock and thus controls the management of the Corporation. Consider two possibilities. The first is that the class A stock, which will show a loss for a substantial number of years and will never have more than a regulated return, will not be attractive to the investing public because of the substantial risks involved.

In this event, the carriers will be expected to purchase the stock and manage the Corporation. The second possibility is that the stock, which will carry the glamour of space and the appearance of Government support in a "federally developed enterprise," catches the fancy of that large body of investors who are looking for "space stocks" and who may see in the very congressional action establishing the Corporation an implied governmental guarantee. Were this to happen, the initial stock issue may be oversubscribed. This could result in control being lodged in these investors, and a newly formed management consisting of people without experience or competence in communications whose principal objective is to maximize profits for speculative gain.

For these reasons, I suggest it is possible under this arrangement that the accomplishment of the national purpose here involved would be placed at the mercy of the stock market and the answer which it gives to the simple question, "Is this stock a good buy?" This seems wrong indeed.

At best it seems clear that the inclusion of both common carrier and noncommon carrier investments, as proposed in H.R. 10115, would result in conflicting points of view. The common carriers will look upon the satellite facilities as alternative or supplemental to existing cables and high-frequency radio facilities. They will also wish to push forward with the establishment of an operable satellite communications system at the earliest feasible time and to take economic risks inherent in such an undertaking. The interest of the other investors will be to maximize both the security of their investment and the return to be received from it. This will dictate a more cautious approach at the outset and will tend to retard both the establishment and use of the satellite facilities.

In line with the views I have expressed, I would recommend the elimination of the class A stock provisions of H.R. 10115. This would leave a single class of stock which would be owned by the carriers. The investment represented by the stock would be included in the rate bases of the owning carriers for ratemaking purposes, a procedure which would be consistent with established ratemaking principles and which would have significant advantages to the public, and the regulatory agency and the carriers alike.

GOVERNMENTAL SUPERVISION AND REGULATION

Finally, it will be observed that H.R. 10115 gives the President very broad powers of supervision over the development and operation of the communications satellite system and the activities of the Corporation. He is further empowered to coordinate the activities

of the governmental agencies having responsibilities in the field of international communication. These provisions would appear to involve a departure from the policy, expressed in the Communications Act of 1934, of "centralizing authority" of both interstate and foreign communications in the FCC. This raises a basic question for congressional determination. It is important to point out, however, that the bill as written imposes on the whole program a duplication of governmental supervision and regulation which is without precedent. The FCC still retains its full authority under the Communications Act, and other parts of the bill give still further supervisory powers to NASA, the FCC, and the Department of State. As I have said, this proliferation of governmental supervision seems destined to result in conflict and confusion, and to smother the initiative and leadership which are essential to the accomplishment of the national purpose involved.

CONCLUSION

May I emphasize, in conclusion, the urgency of the enactment of workable legislation at this session of Congress. In our view it is of utmost importance that the issues be resolved at the earliest moment. Not until then can this country start to get this program off the ground:

The CHAIRMAN. That concludes your statement, Mr. Dingman?

Mr. DINGMAN. Yes, sir, Mr. Chairman.

The CHAIRMAN. Personally, I want to thank you for a very fine and clear statement on the position of your company. It is brief, it is concise, and I think very easy to understand. No doubt there will be a good many questions by the members and further clarification of some of these positions.

Mr. Williams?

Mr. WILLIAMS. Mr. Dingman, I would like to join my chairman in expressing our appreciation for a very clear statement of your company's position. I am inclined to agree with the general approach that is taken in your testimony to the effect that we should give free enterprise, insofar as possible, an opportunity to participate in the management of this Corporation.

Now, you have suggested that the ownership of the stock in the proposed Satellite Corporation be limited to communication carriers approved by the FCC.

Approximately how many carriers do we have that will be eligible and who will be large enough to participate in a program of this type?

Mr. DINGMAN. In the American oversea carriers, there is a group of six that indicated a willingness in the ad hoc committee's discussions to put money into the system as envisaged by that group.

There are four other oversea carriers that are smaller and who might or might not put money into it.

Mr. WILLIAMS. Are you referring to American carriers?

Mr. DINGMAN. American carriers.

Now, then, of course, we did not limit this in our thinking to just oversea carriers. That is, if economics or other reasons indicated that it made good sense to use it for intra-U.S. or intra continental facilities, and the FCC approved the use of the satellite by those carriers for intra-U.S. usage, they ought to be in there, too. That is what we meant by such other companies, or such companies as approved by the FCC.

Mr. WILLIAMS. How many individual stockholders do you have owning stock of A.T. & T.?

Mr. DINGMAN. As of the end of the year we had 2,050,000 individual stockholders.

Mr. WILLIAMS. Insofar as public participation is concerned, you have 2-million-plus people already in a position to participate; isn't that correct?

Mr. DINGMAN. Yes, sir.

Mr. WILLIAMS. Now, in addition to that you have all of the stockholders of the other carriers?

Mr. DINGMAN. Yes, sir.

Mr. WILLIAMS. Do you feel that would give as wide a participation on the part of the public as the bill which has been proposed?

Mr. DINGMAN. That is more stockholders than any other corporation in the United States, by quite a large margin. So I think it is entirely reasonable to infer that the ownership of the stock of the Corporation by A.T. & T. and the other carriers would give a much wider dispersion of ownership than any other way.

Mr. WILLIAMS. Mr. Dingman, I would like, if you would, to have you elaborate a little bit further on the term that you used on page 3, or the phrase that you used—"proliferation of governmental supervision."

You have covered that, of course, in your statement, but I would like for you to go a little more in detail as to the difficulties that might be encountered in connection with that.

Mr. DINGMAN. Well, I could go into some detail here. If we are looking at the bill, section 201, we have under 201(a) that the President shall plan, develop, supervise the execution of a national program. He shall provide for a continuous review of all phases of the development and operation of a system, including the activities of the Satellite Corporation. He is responsible for coordinating the activities of governmental agencies with responsibilities in the field of international communication. He exercises general supervision over relationship of the Corporation with foreign governments or entities within international bodies. And I might say that section 402 says the State Department is responsible—so we have got the President and the State Department.

Insure that timely arrangements are made for foreign participation in the establishment and use of a communications satellite system, and for determination of the most constructive role for the United Nations.

And we have in section 201(7)—the President shall exercise his authority to insure the technical compatibility of the system with existing communications facilities, both in the United States and abroad.

Section 201(c) says the FCC is responsible for that.

Section 8—designate an official or officials to assist in the accomplishment of the purposes of the act. He shall make certain that what is being done and what needs to be done, both by the Corporation and by the Department, are known at all times.

Then you have the National Aeronautics and Space Administration—advises the FCC on the technical characteristics of the communication satellite system. NASA has to consult with the

Corporation with respect to the technical characteristics of the communications system.

And then NASA has to approve the—201(5) says:

Furnish to the Corporation on a reimbursable basis satellite launching and associated services required for the establishment, operation, and maintenance of the satellite system, approved by the Commission, and by the Administration.

So those words seem to indicate that both the FCC and NASA has to approve the type of system.

Then, as I mentioned earlier, the FCC's responsibilities, one of theirs is to insure that the facilities of the communication satellite system are technically compatible with existing communications facilities.

And, earlier that was prescribed as a function of the President.

On page 10, paragraph 6, the FCC is empowered to specify the technical characteristics of the operational communications satellite system. Whether we like it or not, that is something that is going to have to be agreed to by the oversea people who are going to be part owners of this.

Then we get into page 17—we run into a point where if the Corporation engages in or adheres to any action or policies inconsistent with the policies and purposes declared in section 102 of this act, they may get into trouble with the district court of the United States, upon action or petition by the Attorney General. And section 102, without going through it in great detail, is a declaration of policy and purpose.

So that those are some of the points that give me the feeling that there is a real proliferation of—

Mr. WILLIAMS. Do you feel that in view of that proliferation of governmental supervision to which you referred, that if the approach contained in H.R. 10115 were accepted by the Congress, there would be any danger of this system's becoming involved as a vehicle for political manipulations?

Mr. DINGMAN. Well, it would be possible, Mr. Williams.

The CHAIRMAN. Mr. Younger?

Mr. YOUNGER. I, too, want to thank you very much, Mr. Dingman, for taking us laymen through the intricacies of this satellite system. Much of it is very difficult to understand, not being an engineer.

But I do have some knowledge of corporations.

Can I get your opinion on the question of whether a satisfactory corporation could be organized by the carriers—I mean could you get together with the other carriers and proceed to organize a corporation if authorized by a Federal law.

Mr. DINGMAN. Yes, I have no doubts of that.

Mr. YOUNGER. In other words, you do not anticipate that you are going to need someone appointed by the President to start you off as long as you had the legal basis under which to incorporate.

Mr. DINGMAN. Yes, sir; I have no doubts of that.

Mr. YOUNGER. Should your Corporation have additional powers to issue stock in the form of power to issue bonds and debentures and other classes of securities?

Mr. DINGMAN. I think the Corporation should be empowered to finance itself in any way that makes good practical sense at the time you are doing the financing.

Mr. YOUNGER. That seems to have been left out of the administration bill—no power, or no financing, really, other than class A or class B stock.

It would seem to me that it would be advisable to have the power, in this bill, for the Corporation to finance itself under any form that the SEC would approve. I think the SEC would have to pass on that, would they not?

Mr. DINGMAN. Oh, yes.

Mr. YOUNGER. If the securities were offered to the public?

Mr. DINGMAN. I agree with that.

Mr. YOUNGER. In the organization of a corporation, have you ever run across one that was organized by a group in which that group did not later become the directors and the managers of that group?

Mr. DINGMAN. I know of none.

Mr. YOUNGER. That is the fear that I have in this—when you call it a private corporation—where the President appoints the organizers.

There is nothing in the bill which says that after the organizers organize it that they must retire and have nothing more to do with it.

It seemed to me that the logical thing would be that they would then step into the management and the directorships, and you would have a Government-controlled organization instead of a free enterprise system.

Mr. DINGMAN. That possibility definitely exists in the bill as written.

Mr. YOUNGER. I want to join my colleague, Mr. Williams—and your suggestion and also the suggestion made by the FCC to the committee seems to me to offer the basis of a very sound piece of legislation which I think is necessary and we ought to proceed with that kind of legislation as soon as possible.

That is all, Mr. Chairman.

The CHAIRMAN. Mr. Kilgore?

Mr. KILGORE. Mr. Chairman, I, too, would like to say to Mr. Dingman that I very much appreciate his statement. I have a few questions.

Mr. DINGMAN. In response to a question by Mr. Williams, I believe you said that your company had something over 2 million stockholders. Among those 2 million-plus stockholders, what is the largest percentage of your stock held by any one individual or corporate entity?

I don't need a detailed answer.

Mr. DINGMAN. No one owns as much as 1 percent.

Mr. KILGORE. That is adequate for the purposes of my question.

Mr. DINGMAN. Of these stockholders, there are almost a million that own from 1 to 30 shares, and then there is another million who own between 30 and 299. So that that would give you a feeling, Mr. Kilgore, that most of these 2 million are not large owners.

Mr. KILGORE. Rather broadly held?

Mr. DINGMAN. It is broadly held.

Mr. KILGORE. Both in numbers and in percentages.

I am sure you are aware, Mr. Dingman, that a part of the controversy surrounding this issue is the feeling on the part of some people that A.T. & T. would dominate this field. I would like to make some inquiry into the scope of your operations.

For example, what percentage of the total international communications business, telephone and telegraph, does A.T. & T. have? What share of that market is yours?

Mr. DINGMAN. Well, of the international carriers revenues in 1961, A.T. & T. had roughly a third. The other carriers had twice as much revenue as we did. And, of course, they handle considerably more messages.

I haven't seen the statistics on the messages yet—that is the other carriers—but they handle somewhere between five and six times as many as we do.

Mr. KILGORE. They received approximately two-thirds of the revenue from international messages, and handled five to six times as many total messages as A.T. & T. did?

Mr. DINGMAN. That is right.

Mr. KILGORE. Was Project Echo a communications experiment in the main?

Mr. DINGMAN. It turned out to be.

Mr. KILGORE. Did A.T. & T. have any part to play in that experiment?

Mr. DINGMAN. When we first heard of National Aeronautics and Space Administration's desire to put up a satellite with a reflecting surface, some of our scientists called our attention to the fact that this could be a very good initial space communications experiment.

When Echo was launched, we had a ground station that was working on what we call a research basis, at Holmdel, N.J., and we worked with that satellite and another ground station that was operated by the Jet Propulsion Laboratories for NASA, so that we were involved in that initial communications experiment.

We established, with the Jet Propulsion Laboratory and Echo a telephone circuit across the country, and later made other experiments with oversea countries.

Mr. KILGORE. That was physically merely a matter of bouncing a signal off the satellite, was it?

Mr. DINGMAN. That was just using the satellite much the same way a ray of light would use a mirror. We sent a beam of microwave radio up to the satellite, and a certain percentage of it got reflected, and was received at the other end.

Now, the communications satellite that we believe, and I believe most other communications companies and NASA believes, that are needed, would act, not as a reflector, but as a receiver of the transmitted wave, amplify it, and send it back to another ground station.

Mr. KILGORE. Now, do you have any such satellite under development now?

Mr. DINGMAN. We have a project called Telltar wherein we have made arrangements with the National Aeronautics and Space Administration to orbit that satellite, and we are paying NASA for the costs of that orbiting, which is estimated by NASA to be at around \$2,700,000 per shot. And the satellite is being built by our research and development associate, the Bell Telephone Laboratories. We hope to orbit that the latter part of May of this year and to work with it we have built a ground station in Andover, Maine. And that picture, you see, in the rear, there is a picture of the receiving antenna. This is in existence; it is working. There is other gear up at Andover, very sensitive receivers and transmitters, and so forth. So that this is in

being, being given its final test. And if the satellite which has been built and is now undergoing final shakedown tests and so forth—we will hope to have an experiment going with this active satellite around the end of May.

Mr. KILGORE. Now, this satellite is of the more sophisticated type—it receives and transmits?

Mr. DINGMAN. It will receive, transmit, and also has a large number of electrical components in it which will send back information on the amount of radiation that it experiences up in space.

We also hope to get information on how fast the solid state components in it are deteriorating, how the solar cells are behaving, and what the storage batteries are doing, and so forth.

So it is a flying laboratory, as well as being satellite communication.

Mr. KILGORE. Well, do you expect to gain enough information from this experimental satellite to enable you to proceed with the ability to launch a functioning communications satellite?

Mr. DINGMAN. Well, we hope to get a lot of advance information—information which will advance this cause. Now, if everything works right, we could move along pretty fast from there on. If we run into some unexpected problems, we may have—you would have to do some other experiments.

So it is hard to say, Mr. Kilgore, that you are going to be able to proceed right away. This is a research project, and you don't always get things to turn out just the way they were planned.

Ordinarily, our research is done in a laboratory. But here is one, we are doing it in a great big goldfish bowl.

Mr. KILGORE. What sort of costs—total costs—you mentioned the launching costs you are paying NASA—what sort of costs will your company have in TelStar and the ground station?

Mr. DINGMAN. By the time we get through with the work this year, we will have in excess of \$50 million spent on this. We have already spent over \$30 million.

Mr. KILGORE. Now, are there any tax funds, particularly any Federal funds, either in TelStar or in the ground station?

Mr. DINGMAN. None whatsoever.

The CHAIRMAN. May I say to the gentleman that 10 minutes is up.

Mr. KILGORE. I will conclude, then, Mr. Chairman.

Thank you very much, Mr. Dingman.

The CHAIRMAN. Mr. Springer?

Mr. SPRINGER. Mr. Dingman, the question of regulation is always raised about any large corporation that moves into another field where there is a broad break into another field. There is no proposal of any kind of yours that you will not be regulated as a public utility in all of that future business.

Mr. DINGMAN. We fully expect to be regulated as we have been for many years. We have no desire to be unregulated.

Mr. SPRINGER. It is the duty of the FCC to regulate these lines. I am talking about lines that will be formed by this communications satellite. And they have charge of regulating you in the public interest. In any effort that you would undertake in this field, you would be regulated as to profit, and what could be charged to profit, all the way, would you not?

Mr. DINGMAN. We would expect to be regulated in this field exactly as we are at present, where they have the powers to initiate investigations, prescribe rates, approve rates.

The CHAIRMAN. The Chair observes a number of visitors, obviously representing some group or organization, in view of the tags on the lapel of each individual. Let me say we welcome you here. We are very glad to have you observe the proceedings of this committee, the hearings underway now, which have to do with the establishment of a worldwide satellite communications system.

The witness is Mr. James E. Dingman, executive vice president of the American Telephone & Telegraph Co. He has concluded his statement and is now responding to questions.

We would like our guests to have a seat, if you will—if you can find a chair—in order to be more comfortable.

I am advised that you are representatives of the Communications Workers of America. We are expecting a representative of your organization to testify next week.

Thank you, Mr. Springer.

Mr. SPRINGER. Mr. Dingman, the State Department testified yesterday. In these international lines which you have formed both in radio and cable, have you had good relations with the State Department in all of the negotiations necessary to establish those lines?

Mr. DINGMAN. I would say the relations have been very fine.

Mr. SPRINGER. The State Department has served you well, and also served well our country in these negotiations?

Mr. DINGMAN. I couldn't praise them more. They have been very helpful.

Mr. SPRINGER. Now, I know this problem is a problem that is going to be raised by the Attorney General on Tuesday, and that is the question probably of serving some areas of the world which may not be immediately profitable.

Would you be willing, as a company, to undertake the communications with areas which in the beginning may not be profitable?

Mr. DINGMAN. We not only—

Mr. SPRINGER. If you are so directed by the State Department and the Government?

Mr. DINGMAN. They don't have to direct us. All they have to do is suggest that we ought to be serving some place or the other and I think the history of the discussions between the State Department, FCC, and our company have indicated that where the other end is willing we have put service in, whether it is profitable or not.

Not too long ago, we had to put service into part of the United Arab Republic, and it cost us several hundred thousand dollars investment. We are only doing about 3,000 messages a year. There is no profit in it. But we don't look at our business as one that every segment has got to make a profit. We look at the overall operations. We want to make a fair profit on the overall. But we are entirely willing and have demonstrated that, to put service in places where in the national interest it is necessary.

Mr. SPRINGER. I am happy to hear that, because, as you well know, the new countries coming into the United Nations—more than a third, 40 percent, I believe, of the membership of the United Nations has come into being since the end of World War II. We had some 20 nations, I believe, in the last 18 months from Africa alone.

The State Department may have to do something with reference to the communications in those areas.

You are perfectly willing to undertake these areas, if the Government indicates that this has to be done in the national interest?

Mr. DINGMAN. Again, I want to stress this one word. The other fellow has got to be willing. That is, we work with our oversea counterparts on the basis that there is a need for communication between our countries.

Ordinarily, the other end provides the facilities at the other end.

In this case, we are talking satellite communications—the ground station.

Now, we have not—we, A.T. & T., have not made a practice of owning the communications in foreign countries. We have found, through long experience, and as a result of the national pride of all these countries, that they want to own their own end. Now, we appreciate that in some of these newly developing countries they are going to have some financial problems, and if not financial they will have some technological problems. I am sure that ways would be found whereby they could finance their end.

And I am also sure that ways could be found to get the technological information to them so that they would have the necessary ways and means of getting this job done.

Mr. SPRINGER. Just one further question.

I am sure this problem will be raised by the Attorney General on Tuesday, as well.

In all of this international communications, you are presently subject to all the antitrust laws, are you not?

Mr. DINGMAN. Yes, sir.

Mr. SPRINGER. And in this operation you would expect to be subject to the same antitrust laws as you are at the present time, in the public interest?

Mr. DINGMAN. Yes, sir.

Mr. SPRINGER. You expect to be subject to every law of this country in this international system, do you not, insofar as the Constitution says you are?

Mr. DINGMAN. Yes, sir.

Mr. SPRINGER. That is all, Mr. Chairman.

The CHAIRMAN. Mr. Rogers?

Mr. ROGERS of Florida. Thank you, Mr. Chairman.

Mr. Dingman, I was concerned somewhat by the testimony of the State Department, that they desire additional power under this proposed legislation to actually conduct negotiations. I wondered if you could comment on the additional requests by the State Department to get into the field of negotiation, which I understand they are not presently in, and in which your company, in dealing with foreign nations in our international communications field conducts itself. Do you feel it is necessary for the State Department to get into this field?

Mr. DINGMAN. No, I don't believe it is.

Now, that should not be construed, Mr. Rogers, to believe that we think the State Department should be excluded from knowing what is going on. And we would not want to arrive at any agreements that were against the national interest. But we would want the State Department to be fully informed of what we were proposing to do, and are entirely willing to keep them so informed. But we believe we ought to be permitted to conduct our own negotiations on communications matters.

If our State Department conducts the negotiations, I think it is very probable that the state departments of the other countries that

are involved are going to want to be in there. If you have communications interests, plus all of the other interests involved, I think you can well complicate a situation which is complicated enough anyway.

Mr. ROGERS of Florida. The State Department testimony brought out that they felt it might be necessary, if we got into an area where some of the other countries wanted to purchase stock in this proposed corporation—would you think it necessary to have State Department negotiations there?

Mr. DINGMAN. I don't see why that would be necessary. A foreigner can own a certain percentage in an American corporation today. And as long as that percentage is not exceeded, they can buy it.

Now, we would not visualize that these satellites would be solely owned by this Corporation. I don't think that is practical, or it won't work out that way. For example, the cables that we have today, and which are sometimes looked upon as being quite simple, that it is just two partners, are not that way.

The cables that we have are jointly owned in title—for example, the one from North America to—that lands on the French coast, is owned jointly by the French PTT, the German Bundespost, and the A.T. & T. But we three partners have agreed to sell what we call an indefeasible right of use to a number of other countries, which gives them the absolute right to use a certain amount of capacity any time they want, and they are consulted about any of the things that go on.

Now, nobody owns stock in these cables as such. They become partners, if you will. So we would visualize that a satellite system, as long as you keep it just to the satellite, could be owned in a similar way. That the countries would sit around together and decide upon how many communications channels they needed between various and sundry points where they communicate with.

Mr. ROGERS of Florida. What agency is used to coordinate the use of channels?

Mr. DINGMAN. That, today, is just done between the communications carriers themselves. We don't work through any organization. We have sat down with the communications companies or agencies—

Mr. ROGERS of Florida. Is there a communications, what they call the union?

Mr. DINGMAN. The International Telecommunications Union serves functions in regard to the desirable allocations of frequencies. They also through other organizations of this same group make studies and recommendations on the technical characteristics of telephone circuits or telegraph circuits, or what noise limits you ought to work to, and so forth, but they have never entered into any discussions with how do we provide 10 more telephone channels between New York and London.

Mr. ROGERS of Florida. That is done by the carriers?

Mr. DINGMAN. That is done by the carriers. By the people who have a common problem. They have the business, and we have the business, and we sit down together and say, this looks like a good way to do the job.

Mr. ROGERS of Florida. Are most of the communications systems, for instance, in Europe, government-owned or private enterprise?

Mr. DINGMAN. Most of the systems in Europe are government-owned. The long distance facilities in Italy are under a private corporation. The local facilities within the cities are owned by a branch of the Italian Government. Other than that, they are mostly government owned.

Mr. ROGERS of Florida. And would you anticipate that probably the communications systems that will develop in the new nations, for instance in Africa, will probably be of a government-owned nature? Does the trend seem to be that way?

Mr. DINGMAN. I would say the trend seems to be that way, but that is a speculation, of course.

Mr. ROGERS of Florida. Yes, I realize that.

Does this create any problem, since you will be dealing in a number of instances with the government-owned systems in carrying on negotiations for your satellite system without bringing in our governmental negotiators?

Mr. DINGMAN. Well, as I mentioned, we started commercial telephone service to England in 1927. That was the British Post Office that was at the other end. We were at this end. We owned cables jointly with the French and the Germans and other countries with government-owned communications companies. And we have no more difficulty dealing with those than we do with other communications people.

Mr. ROGERS of Florida. Now, you probably would not tie in a satellite communications system with, for instance, Africa and the new nations there until they develop internal systems, would that be true?

Mr. DINGMAN. Not necessarily. Let's suppose that the capital city of one of these newly developing nations had even a small communications system, it might serve the state and other governmental departments of that nation, whatever it may be, and be connected to doctors, and so forth, and so on, in which case a ground station of a simple type might well be justified so that you would have communications between that capital city and the rest of the world.

Mr. ROGERS of Florida. What would the cost of these ground stations be? Have you any projected estimate?

Mr. DINGMAN. They can vary and will vary by the capacity that you want to put in them.

Now, a big station that is going to handle several hundred or a thousand or more circuits could cost somewhere from \$5 to \$10 million, of the type that we have in Andover. We think that after we learn a little more and make more than one, that price can go down.

On the other hand, the ground stations, for, say, a couple of dozen circuits for a high altitude synchronous satellite system could be on the order of from \$500,000 to \$700,000.

Mr. ROGERS of Florida. You don't anticipate that our carriers would bear the cost of ground stations abroad, these would be done either by local people there or some other means of financing?

Mr. DINGMAN. I would assume that the cost of the ground stations abroad would be borne by the people there. If a private company is organized, they will own it. If it is a government operation they would own it. If they were broke and we wanted to give them economic aid, that is one way of doing it.

Mr. ROGERS of Florida. And the last question, Mr. Dingman, is there any difficulty in jamming; in other words, if we get our satellite system in operation, and Russia were to decide not to join in, or some other country, could they effectively jam the satellite communication system?

Mr. DINGMAN. In a high altitude system, that is a synchronous satellite, at 22,300 miles, it is standing still over a point on the equator, it is visible over a large part of the earth's surface, call it one third, if you will. If the Russians can see it and put a radio wave up to it they could jam it. On the random orbit system where, say, it is in polar orbit, when the satellites are out of visibility of any of the Iron Curtain countries, they couldn't jam it. So that there is not a clean-cut answer saying they could. The probabilities are, if they wanted to they could make trouble.

On the other hand, you have got to realize that high frequency radio is used today in great quantities to and between all the countries of the world. That could be jammed, and in general it isn't. So the Iron Curtain countries have not indicated by their actions that they are out to jam commercial communications.

Mr. ROGERS of Florida. Thank you, Mr. Dingman.

Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Nelsen?

Mr. NELSEN. Thank you, Mr. Chairman.

I wish to join with my colleagues in thanking Mr. Dingman for a very fine statement.

My question, with the Corporation set up in 10115, and with the wide overlap being authorized between the FCC and NASA, the State Department and the President, do you feel that there would be some reluctance on the part of investor capital to move into such an arrangement?

Mr. DINGMAN. I am moving into a field there where I can only speculate. Space has an awful lot of glamour. And if it was a Federal corporation that had the aura, not of a Federal guarantee but something of that nature involved in it, plus the magic word "space," I think a lot of people would put up money. How much, I don't know.

The difficult part would come when, after several years, no dividends are forthcoming, and some of them would undoubtedly meet up with financial problems during those years, and they would have to sell their stock, perhaps at a discount, and you could get into quite some difficulties.

But I think a lot of people would buy stock in it.

Mr. NELSEN. Now, the carriers involved, do you not feel that they would be more willing to invest if the management was set up as you suggest than they would under 10115?

Mr. DINGMAN. Oh, definitely.

Mr. NELSEN. Thank you. No more questions, Mr. Chairman.

The CHAIRMAN. Mr. Hemphill?

Mr. HEMPHILL. Thank you, Mr. Chairman.

I missed part of your statement, I am sorry, maybe you went into this with someone else.

There has been a cry here that if private enterprise were allowed to do this job, which I think it can do, it would create a monopoly. Would you care to comment on that?

Mr. DINGMAN. Well, when you give any company a franchise to perform a certain operation, to that extent they have a monopoly at that particular time.

Now, the Nation's way of coping with that problem has been regulation. So we would have an example of one corporation being assigned a given job, but we have our watchdog, the FCC, plus other Government bodies looking at it to make sure that it is being run properly.

Mr. HEMPHILL. I gather that you feel as I do, that since the FCC will have the regulatory powers, that it would be very difficult to create a monopoly in the sense the term is being used in order to get the Government into this picture. Do you feel that way?

Mr. DINGMAN. I agree with that.

Mr. HEMPHILL. And I suppose that if the Government has a right to authorize this particular project and to implement it by giving the boost rocket that puts it into orbit, the Government could always pass a law to protect anybody that needed protecting, don't you think so?

Mr. DINGMAN. Yes, sir.

Mr. HEMPHILL. I would direct your attention for just a moment to pages 6, 7, 8, and 9 of the bill, starting off on page 6, section 201 of H.R. 10115. It says, "Implementation of policy." I share the feeling of the gentleman from Florida here, after hearing the State Department testimony yesterday. And after hearing you testify today, that, of course, you would perform anything necessary for the good of the country and consult the State Department when necessary to effect that purpose.

Do you feel that these provisions on the implementation of policy puts the Government in control?

Mr. DINGMAN. Yes, I think the Government would be in effective control.

Mr. HEMPHILL. That is my feeling about it, because, as I understand the provisions proposed, the President of the United States would appoint the original incorporators; is that correct?

Mr. DINGMAN. That is correct.

Mr. HEMPHILL. So initially there would be people who might want to be on the Board of Directors and engage in the empire building so prevalent here in Washington today, and I am afraid it will be tomorrow.

Now, if the Corporation were incorporated under the direction of the President, is there anything in this legislation you see to prevent the Government from allocating the million shares of stock at \$1,000 a share to various Government agencies so that the Government would actually have control of it?

Mr. DINGMAN. I don't know whether Government agencies would have the authority to invest money without action of Congress, no.

Mr. HEMPHILL. If they thought they could get away with it, I will guarantee they would try it.

Another thought that occurs to me: What is to prevent, if you can buy 15 percent, four of the biggest corporations in American with each investing 15 percent and controlling the Corporation?

Mr. DINGMAN. That could be done.

Mr. HEMPHILL. And what is your feeling on the \$1,000 that somebody dreamed up, one of these egghead theories dreamed up to put the stock at?

Mr. DINGMAN. Of course I indicated, Mr. Hemphill, that I thought the carriers ought to own this, and that the public would participate through ownership in the carriers.

But the thousand dollars, I assume, was put in there to mitigate against the small speculator getting in. And I suppose that this might deter some people from buying who really couldn't afford to speculate. If we lowered the price it might well get in a lot of people who really couldn't afford to have their money tied up for an indefinite period without a return, and that could, in turn, force or have a tendency to force the Corporation to take some action which might be foolish.

Mr. HEMPHILL. As a practical matter, the way this legislation is set up, if it were a thousand dollars a share with no potential income from 6 to 8 years, nobody but people with a whole lot of money could afford to fool around with that sort of stock, could they?

Mr. DINGMAN. That would appear to be the case, although I suppose it would be entirely possible for some mutual funds to be started which would buy the \$1,000 shares and then sell pieces in the mutual fund for \$10.

Mr. HEMPHILL. But the mutual funds are fortunately competitive enough to where they have to show a growth in order to compete and sell on the market today, as I understand it. And I understood also the testimony here that there would not be any possibility of income in the form of dividends for probably 6 to 8 years.

Mr. DINGMAN. That is the best speculation, that it would take a period of that time before profits would be forthcoming.

Mr. HEMPHILL. I want to thank you, sir, for coming here. And I appreciate your testimony.

The CHAIRMAN. Mr. Thomson?

Mr. THOMSON. Thank you, Mr. Chairman.

Mr. Dingman, I am interested in knowing just what the difference in satellite communication will be with existing methods that carriers now use, such as microwave and radiotelephone.

Is it just the location of the relay station?

Mr. DINGMAN. It comes down to just about that, Mr. Thomson.

Today on the surface of the United States we use coaxial cables; we use cables with ordinary wires in them; we use microwave radio to connect the various cities and towns of the United States with one another.

Overseas we have radio, high frequency radio, and we have coaxial cables.

We have never put microwave radio overseas because microwave radio beams travel in straight lines, and the curvature of the earth is such that after you have gone 25 to 30 miles, depending upon the precise formation of the earth, the waves get so high above it that you have got to capture them and bring them back down again.

So we could not use microwave over long hops. We did use the so-called tropospheric scatter to get a communication system by a form of microwave to Cuba. We have a so-called tropospheric scatter system there.

So Cuba has television from the United States; it has every kind of service that we have in the United States.

And the satellite communications, in effect, give us the chance to have the same kind of communications overseas that we now have in the United States.

It is nothing new; it is just extending what we now have overseas. And, of course, they have that overseas—I mean in Europe and Japan, and, to some extent, in Africa. So, to us, that is why we call this an evolutionary development, rather than a revolutionary.

It is just extending overseas what we do here.

Mr. THOMSON. Will it greatly extend your relationship with foreign countries by sending a signal via satellite rather than tropospheric scatter procedures, or coaxial cable, or any of the other present methods?

Mr. DINGMAN. The big users of telephone communication—and, while I am not an expert in that field, I would assume telegraph communication also is the ordinary individual user who either sends a telegram to Europe or he picks up the telephone and says, "I want to call Paris"—he would not know whether he is talking over a satellite, a cable, or high-frequency radio, and he would not care, as long as he gets his connection.

To the extent that we are interested in television, live, broadband current television, the satellite will permit that between the United States and Western Europe, or elsewhere in the world, and today we cannot have it.

But we do have live television in Cuba. So there is one country where we have all these fancy communications arrangements already.

Mr. THOMSON. So the technology of this type of revolution in communication is simply that your technicians must discover how to get a certain life of a satellite and where to locate that satellite; is that about it?

Mr. DINGMAN. To us the problem is not how to do it, but it is to lick the problem of economics, to get a satellite that will last long enough up there so that your costs are in line with what we now get in the way of costs on cables, and to get the system going.

It is not something that is going to create a whole new revolution in communications, as we see it.

Mr. THOMSON. Once you get that satellite up, you will be doing just about the same things that you are doing now in your everyday service?

Mr. DINGMAN. Today, if we send a message to Chicago, we send it off of our transmitting station, it goes to an intermediate relay point that is on earth, and it may go to several of them and then come to the receiving station in Chicago.

We would do the same thing, except we would send the beam up to the satellite, and it would come down in France or Belgium or Angola, or wherever else it might be.

Mr. THOMSON. Your problems in the management and operation of the Corporation would not be greatly different after the satellite is up, will they?

Mr. DINGMAN. As we see it, it will just be more of the same.

Mr. THOMSON. Now, in your ordinary corporate experience, have you found it necessary to amend the articles of incorporation that the company has filed?

Mr. DINGMAN. Not frequently, but it does happen.

Mr. THOMSON. Do you know of any precedent in corporate experience up to this time where a corporation must ask the approval or the initiation of the President of the United States to amend or change its corporate articles?

Mr. DINGMAN. I know of no such situation.

Mr. THOMSON. No precedent that you know of?

Mr. DINGMAN. None that I know of.

Mr. THOMSON. Do you know of any precedent requiring a representative of the President to sit in on the meetings of the board of directors and the stockholders of private corporations?

Mr. DINGMAN. I know of none.

Mr. THOMSON. Are you aware of any great compelling reason why this would be required in the public interest in the operation of a satellite corporation as contrasted with the operation of present private corporations which are performing today essentially the same service?

Mr. DINGMAN. I know of none, Mr. Thomson.

And I agree, this Corporation needs regulation. But it seems to us that the Federal Communications Commission is the body to do it. They have the experience and the background and are familiar with the problem.

Mr. THOMSON. And you are hopeful that if this is to be regulation, rather than domination, that there would be some limit to the number of agencies that are going to be providing advice and direction and supervision?

Mr. DINGMAN. We would surely hope so.

Mr. THOMSON. Thank you very much.

The CHAIRMAN. Mr. Kornegay?

Mr. KORNEGAY. Mr. Dingman, you have already indicated that in the case of transmission lines jointly owned, it is in the nature of a partnership, or the ownership of it is reflected by a partnership, rather than a stock proposition in the Corporation, is that correct?

Mr. DINGMAN. That is the way we run the oversea facilities now.

Mr. KORNEGAY. And you anticipate that the foreign corporations or foreign countries, any ownership in these satellites could be worked out in that same fashion?

Mr. DINGMAN. Yes, sir.

Mr. KORNEGAY. The problem, of course, would be a little more difficult in the case of a satellite than it would be in the case of a line extending between two terminal points, would it not?

Mr. DINGMAN. It would be, except that, as I mentioned earlier, although a cable goes between two terminals, it branches out at the terminals.

And the oversea cable to France is already owned by three, and several others have these indefeasible rights to use.

So on a smaller scale we faced up to some of the problems, and they seem to work all right.

Mr. KORNEGAY. But it would be highly improbable that you could bring in to the ownership picture all of the countries or corporations of the world that might be interested in utilizing the facilities of the satellite, is it not? As I understand it, this satellite system eventually, when it is perfected, could carry a television show; for example, the coronation of a king or queen, or the inauguration of our President could be carried virtually over the entire world, whereas in telephone lines you have a rather small number of participating parties.

That is the point I am raising, and I am just wondering what your feeling is about how it could be handled, whether certain select countries throughout the world would actually participate in the ownership, with rental agreements with others who did not participate, or just how would it work?

Mr. DINGMAN. I think it could work either way. You see, a satellite system has a capacity just like, say, an automobile that can carry a certain number of tons—a truck.

You could say that a satellite system—let us pick an easy one—say it has a capacity of a thousand circuits, it will handle 1,000 simultaneous voice channels. And the way we would envisage starting the thing would be to sit down with the communication companies and say, "Well, now, how many circuits do you want between the places you talk to?"

Now, remember, this is not going to be from Charlotte to Atlanta; we are not going to get involved in that. It is a question of long haul circuits.

So country A could say, "Well, I need 300."

Country B could say, "I need 200 for my business."

And country C could say 150.

So you could add them up and arrive at the percentage that they needed, what that was of the whole capacity, and say, "If you need 300 circuits out of a 1,000-circuit satellite, then you ought to put up 30 percent of the money."

Now, the fellow that wants to rent, he would come in and say, "I do not want to get into this act at the beginning, I want to rent."

And we could say, "How many do you want to rent?"

And he would say, "I want to rent the capacity for 20 circuits."

If the satellite cost a certain amount and it was good for a thousand, you could say, "All right, for a rental in a relation of 20 to 1,000, you can use 20."

Now, we say, "All right, there are 165 countries around the world that might want to get into this."

And the computer would figure up these things very easily and fast, and set the rates, and would also keep track of the usage.

Mr. KORNEGAY. You anticipate no problem with that phase?

Mr. DINGMAN. No serious problem. The biggest problem will be to get people to agree on what they need to use. But that is still a commonly carried out thing among communications companies.

They apportion expenses among one another by what they estimate their 1965 requirements are going to be, or 1970, or whatever period seems reasonable.

Mr. KORNEGAY. Now, this satellite could simultaneously transmit telephone messages, television, radio, any other means of communication that can be sent by a wave, is that correct?

Mr. DINGMAN. It is essentially a microwave radio system. So a TV channel roughly occupies a space of 600 telephone channels. When you see a TV channel or TV picture in the United States, it is occupying the frequency space of roughly 600 telephone circuits.

Or, to say it in another way, we can put 600 telephone circuits on the same channel. So if a country wanted to transmit television consistently and regularly, it would pay the costs involved in the 600 telephone circuits.

So you can measure it just like you can a liquid, or coal, or anything else that you can get your hands on, if you understand the business.

And it is well understood by the communications countries of the world.

Mr. KORNEGAY. Now, I note in your statement that you feel that the ground stations should be owned by the individual companies rather than a corporation?

Mr. DINGMAN. Yes, sir.

Mr. KORNEGAY. Would that involve duplication of facilities?

Mr. DINGMAN. I do not see why it should. Let us assume that company A, an oversea carrier, wants a ground station. They go to the FCC and apply for a license to operate it. And the FCC goes into the question of whether it is in the public interest, the same as they do now, when you go for a radio license; if you demonstrate that it is used and useful, why, they give you the license.

So that if another carrier comes along and says, "We want to build a ground station," the FCC says, "Is it in the public interest?"

And they might say, "Why don't you rent or go join with the first fellow," or whatever the situation may be.

And this fellow says, "I can show that I can get it cheaper running my own than by going with the first one."

And if the FCC, looking the evidence over, agrees with him, they give him the right to build a ground station.

In practice that is how it would work out. So that there should be no duplication that way, or at least no uneconomical duplication.

Mr. KORNEGAY. Actually there would be competition between carriers?

Mr. DINGMAN. You would have competition, because—

Mr. KORNEGAY. Within the total framework of the system?

Mr. DINGMAN. That is right.

But the first fellow who takes the risks might wind up with a station that is not as good as the one that could be built 5 years from then. And the latecomer might well be in a good, competitive position by building a separate one. And that would be perfectly all right.

Mr. KORNEGAY. Now, Mr. Minow testified the other day and made the statement that in the event of a loss by the Corporation, that the Corporation would average it out, average out their costs among their other activities.

I would like to have some expression from you on that phase of this business as to how it would be averaged out?

Mr. DINGMAN. In basic principle this is no different, Mr. Kornegay, than the situation we have today: that is, when we put in a cable in North Carolina or any other State, we do not fill it up the day we put it in; that does not make sense; because if you wait until you have got a use for everything that you put in, somebody is waiting, and that is no good.

So you put in a cable with a thousand pairs, and you put in 60 to 70 to work, you have got the idle ones that are sitting there and not earning any money for you. But they are going to be used up in a reasonable period, 3 or 4 years.

The utility is allowed to put in its rate base the whole cable, because it is going to be used and useful. And so you are averaging that partially filled cable with the filled ones, and you can thereby get a reasonable price for all the facilities used.

Now, this satellite is going to be the same way. When you first put it in, you are only going to use a part of the capacity. The idle capacity is waiting for customers. And the carriers having the other cables that are in use and the high-frequency radio that is in use can average these costs in with the others, and their stockholders are still getting a return.

But if you are only getting a return on that one bite, that one piece, you obviously are going to have lean living in the early years.

Mr. KORNEGAY. I think we anticipate that situation, and that is the reason I wanted to make the point.

Mr. DINGMAN. We anticipate that.

So the carriers have a cost averaging position which is part and parcel of the communications business, because you have to put your stock on the shelf before you can sell it. And the separate outfit has to put the capacity there with no revenue from anything else to carry it. So Mr. Minow was just saying that if the carriers own it, they will put this satellite communication facility in with the cost pot of all the others they have got.

Mr. KORNEGAY. In other words, the international business, as well as the domestic business of the company?

Mr. DINGMAN. We keep them all in one account, that is the interstate account.

Mr. KORNEGAY. Now, just calling your attention to this, so it will be in the record, the question is raised about whether the Corporation would be authorized to issue securities, bonds, debentures or other certificates of indebtedness.

I believe that is provided for in 10115, section 304, subsection (c), is it not, Mr. Dingman?

Mr. DINGMAN. Yes.

Mr. KORNEGAY. I want to thank you, sir, for a very fine, clear, concise and frank statement about this. It has been illuminating.

The CHAIRMAN. Mr. Dominick?

Mr. DOMINICK. Mr. Dingman, I also want to join in congratulations on the statement. It is clear, and it seems to make a reasonable program.

And I also want to add, I think you have been very moderate in some of the governmental gobbledegook that is in this bill.

In answer to Mr. Williams' questions you outlined in detail some of the governmental regulation that would be true under 10115.

Now, in addition to all these agencies, and having a Presidential representative sitting in the Board of Directors meetings, you also have the provision where the Attorney General is entitled to enjoin the directors and the officers of the company any time they violate section 102, which sets forth the national objectives.

Mr. DINGMAN. That is correct.

Mr. DOMINICK. And one of them is that you must do what will contribute to world peace and understanding, without any definitions in the bill.

Now, how are the Board of Directors and the officers going to operate under those kinds of circumstances?

Mr. DINGMAN. Frankly, I don't know.

Mr. DOMINICK. I do not know either, because there seems to be definite disagreement among a lot of people as to what contributes to world peace and understanding.

I would like to ask one more question. You have a television receiver in here. Is that set up so that it operates on your mockup of your system here (referring to exhibit set up in hearing room)?

Mr. DINGMAN. Yes. This is a miniature satellite communication system. And you can see that one end of it is labeled "United States" and it has a miniature little horn there. The other is labeled

"Europe." It could be Africa, if we wanted it, or it could be any place else.

And we have a microwave radio beam that is going from the horn of the United States up to the satellite—in this case it is acting as a moving satellite—and it is received by the one in Europe.

That television camera you see on the left side there is taking a picture of this audience and sending it through the satellite, and it is being displayed on the screen. So it is working just as a satellite system would work if it were in operation.

Now, of course, the little horns that are up there are just replicas of this big fellow which is actually in existence in Andover, Maine. And you can get some idea of the real size by the man crawling up the side there.

So we have here a replica of a satellite communication system. We could put the camera on the committee here.

The CHAIRMAN. It looks to me as though you have got it on them.

Mr. DINGMAN. We can point it up to the Chairman. That is what it is, Mr. Dominick.

Mr. DOMINICK. That is really very interesting.

Mr. Chairman, that is all I have. Thank you.

The CHAIRMAN. Well, tell me, since you mentioned it, how are you transmitting this picture here? You have got a camera back there, and the picture shows up on the television screen. Is there a transmitter back there?

Mr. DINGMAN. There is a transmitter associated with the exhibit back there, and the electrical signals are obtained from the light going in the camera there and are amplified.

The CHAIRMAN. And there is a transmitter in that thing that he is moving back there (referring to man in rear of hearing room)?

Mr. DINGMAN. That has the gear in it.

The CHAIRMAN. That is interesting.

I was wondering all the time how you managed that inside the room.

Mr. DINGMAN. Well, it is really a true replica—

The CHAIRMAN. I see where he has jammed it back there.

Mr. DINGMAN. He is jamming it now. So we are playing Iron Curtain at the moment.

We would not anticipate that anybody would be up in space like he is.

The CHAIRMAN. The signal actually is going up to that little satellite, then?

Mr. DINGMAN. Yes, sir.

This is a true replica, Mr. Chairman.

The CHAIRMAN. And is that a demonstration, where he held something up around the satellite, of jamming operations?

Mr. DINGMAN. That is not the way jamming would be done in real life, because you could not get somebody up there.

The CHAIRMAN. Well, I am not sure.

Mr. DINGMAN. A few years from now, maybe. But the jamming would come from other transmitting stations sending waves on the same frequencies.

The CHAIRMAN. I would hasten to say, Mr. Dingman, that I am not an applicant to be one of those who try jamming it.

Mr. DINGMAN. We may have some of the communication workers of America going up there a few years from now.

The CHAIRMAN. I will leave that to the experts.

Mr. Fulton, of Pennsylvania, who is a member of the Committee on Science and Astronautics, has been sitting with us in some of these hearings and is here with us today.

He wants to raise the question with you, Mr. Dingman, as to just where does space begin insofar as this whole application is concerned.

Mr. DINGMAN. I am not sure that I know, and I am not sure that anyone else does either. But we, of course, want to get satellites up quite a distance from earth. In one system it would be up 22,300 miles, and in some others it would be up 8,000 or so. So I do not believe there is much question but what that is in space.

The CHAIRMAN. What about 2 inches from the ground station?

Mr. DINGMAN. I think that is still in the country that the ground station is in.

The CHAIRMAN. I do not want to be facetious about it, and I know he does not pretend to, but the reason for the question is to bring about consideration of just where the rule applies so far as space application is concerned and the Corporation's authority.

I think it has been agreed by everyone that the Corporation should have authority with reference to the space element, and with particular reference to the satellite being in space.

But the purpose of raising this question is to discuss the advisability or inadvisability of the application of the law having to do with what ownership the Corporation would have. In other words, as I understand, if you are talking about space, with a ground station having facilities up a few feet from the air, so to speak, would that be in space; and, if so, could not the same rule of law apply to the ownership of the satellite out 22,000 miles with reference to the facility up 100 feet?

Mr. DINGMAN. The reason that, as I view it, you have to have some organization to own the satellites, if you can be said to own anything 8,000 miles up in space, or 22,000, is that it has to be a cooperative effort—when I say "it has to be," of course, some one entity could put the satellite up, say, and everybody has a right to use them as you please. But if you do want people to put investment in them, some organization has to coordinate the activities of the various owners. And you do not have that problem, of course, on the ground.

You can have them separate, and they can be owned in the traditional manner.

The CHAIRMAN. I suppose, then, that the application here would be if the rules were changed with reference to any object such as a satellite in this case when it is not actually physically in contact with the ground. I suppose the ground stations all would actually have contact with the ground, would they not?

Mr. DINGMAN. Oh, yes.

We would anticipate that that would be built on earth; in fact, we go to quite a lot of pains and expense to be very precise, because we want the antenna to point very accurately and not have any shifting due to the movement of the earth in the spring and fall, and so forth. So it is definitely a part of earth.

The CHAIRMAN. I gather, then, that your views are that anything in connection with the satellite operation beyond any of the facilities which are attached to the ground would be the responsibility of the Corporation?

Mr. DINGMAN. Broadly, I think that is it. And we would envisage that the actual operating satellites would be up thousands of miles, seven or eight in any event, and they are more likely to be higher than that. So that there would not be any argument as to an overlap.

The CHAIRMAN. Of course, from a practical standpoint, and not considering it in this narrow form, that what is intended here is a satellite out 150 miles or 300 miles, or 7,000 or 8,000, or 22,300, whatever it might be, that is what we need.

And we refer to the ground station as something on the ground that receives a signal, or transmits and receives a signal through the satellite in outer space.

Mr. DINGMAN. Yes, sir; that is right.

The CHAIRMAN. I have several more questions myself, but I think I will give an opportunity to other members of the committee.

Did you get through?

Mr. WILLIAMS. With most of them, Mr. Chairman.

I would like to ask just one or two more questions, though.

Your company is willing to invest its money in this program in accordance with their proportionate share?

Mr. DINGMAN. Yes, sir.

Mr. WILLIAMS. Do you consider that a definite risk on the part of your company, or is that a sure thing?

Mr. DINGMAN. Well, there is an element of risk. We hope that by the time the actual investment has to be made that, through the experiments, we will have cut down a lot of the risk; that we will know how to build a satellite that will last and that the life will be long enough so that economies will be obtained.

Mr. WILLIAMS. I understand that at best there is still an element of risk involved?

Mr. DINGMAN. At best there is still an element of risk, Mr. Williams.

Mr. WILLIAMS. Now, I am wondering, if the plan for incorporation followed in H.R. 10115 were to be adopted, and these several thousand should buy up these \$1,000 shares of stock, presuming that the experiments should become a failure and they should suffer losses, and the fact that it was set up as a Government corporation, can you see where that might give some grounds to the Federal Government to make up the losses of these stockholders?

Mr. DINGMAN. Well, I am sure some people would advocate such a process.

What would actually happen, of course, I can only speculate, but if you have a lot of small investors who lose a large sum of money, inevitably they are going to start a movement to get reimbursed somehow or other.

The CHAIRMAN. And the fact that that was a Government-created corporation would certainly lend substance to their claim, would it?

Mr. DINGMAN. It would let them believe there was some substance to it.

The CHAIRMAN. That is what I mean.

Now, if your company, associated with other companies in free enterprise, should undertake this operation, and it should become a failure, then there would certainly be no cost to the taxpayers, would there?

Mr. DINGMAN. It would be a loss to the stockholders of those companies, and, in effect, it would be no different than the situation we

have today, where we build a plant and a hurricane or some other big storm carries it away, that is gone. And that is one of the risks of running this particular business.

The CHAIRMAN. Any further questions by any members of the committee?

(No response.)

The CHAIRMAN. Mr. Williams has just posed a question which has been in the minds of some members, Mr. Dingman, and that is, by the company investing its funds in a project of this kind, the stockholders of that company would be the losers?

Mr. DINGMAN. If there was a loss.

The CHAIRMAN. Of course, that was the question that he raised.

Now, there are those who feel that if that would be the result, it would give rise to a request for an increase in rates, and the general public would have to pay for it. What would be your comment to that?

Mr. DINGMAN. In order for a situation of that kind to develop, Mr. Chairman, it would seem to me that it would have to turn out to be some sort of a catastrophic situation which, frankly, I cannot imagine.

We would have to demonstrate that this was a fair and reasonable thing to the Federal Communications Commission, and if we made an unwise decision of a kind that we could not demonstrate that had good sense to it, why, I believe the FCC would most likely say, "You, the management of the company, made a bum decision, and it is a loss to your stockholders, and we can only set rates based on what your present facilities are costing; no more, no less."

The CHAIRMAN. Of course, in that case, I could understand why, in order to protect the interest of the stockholders, why you would want to go to the FCC and ask for increased rates.

Mr. DINGMAN. I do not think that we could expect rates based on anything except the cost of the facilities we had left, which were working.

The CHAIRMAN. Let me say that my own personal feeling is that I have great confidence in the capability of our international and other communications common carriers.

I believe that there is the ingenuity and the capability of good judgment so that this is not going to be a venture that will fail. From what I have heard from all people in this field, the potential capability is proven already; it is just a question of carrying it out.

But, while we are talking about that, where would you get the funds to invest or to put into this venture as far as your own company is concerned?

Mr. DINGMAN. It would have to come from our securityholders.

The CHAIRMAN. You would not use reserves?

Mr. DINGMAN. Well, in any event, when you say we would not use reserves, it would still be the basic responsibility of our stockholders to raise these funds.

The CHAIRMAN. And, of course, that would come through the judgment of the Board of Directors primarily?

Mr. DINGMAN. That is correct.

The CHAIRMAN. Now, on page 12 of your statement, in the last paragraph, you recommend that the class A stock provisions in H.R. 10115 be eliminated, leaving a single class of stock. What would be

the effect if Congress were to follow this suggestion but also included a provision contained in the bill that referred to limiting any carrier to 25 percent of the outstanding stock and 15 percent of the authorized stock?

Mr. DINGMAN. It would depend somewhat on whether the ground stations were included in the Corporation or whether they were excluded.

If the ground stations were excluded, the investment in the satellite alone, at least the portion that the American carriers ought to carry, would probably be within the resources of the carriers to do the job.

The CHAIRMAN. Do you think such a provision would be advisable or not?

Mr. DINGMAN. I do not think it would be advisable. I think the carriers should be permitted to invest in proportion to their expected usage.

What I mean by that is that if the carriers giving voice services need a larger percentage of the satellite in order to furnish their service, they should be permitted to invest accordingly. And the way to prevent the domination is, as was suggested in the ad hoc carrier committee group, restrict their representation on the Board of Directors.

The CHAIRMAN. Are you in a position that you could indicate, with what you know about the six carriers—and, by the way, while I am thinking about it—I wish you would supply for the record the names of those carriers, including the other information, who may or may not participate under the suggestion that you made.

Mr. DINGMAN. I could read them now, if you want, or I can do it later.

The CHAIRMAN. It will be all right, you just might as well get it now.

Mr. DINGMAN. Well, the carriers that agreed to put money in were American Cable & Radio Corp., the American Telephone & Telegraph Co., the Hawaiian Telephone Co., the Radio Corp. of Puerto Rico, the Western Union Telegraph Co. Press Wireless made a statement that they desired to participate by means of capital contribution toward part ownership, but they did not at that time make a specific commitment as to amount.

In addition, General Telephone later indicated to the Federal Communications Commission that they were willing to make a capital contribution.

Now, the companies that did not, of this international carrier group, were RCA Communications, the South Puerto Rico Sugar Co., and the Tropical Radio & Telegraph Co.

The CHAIRMAN. How much capital stock do you think this Corporation should have?

Mr. DINGMAN. If it just owns the satellites or the American portion of the satellites, it would seem to me that \$150 million would be ample.

The CHAIRMAN. In other words, in your judgment the extent of the authority of the Corporation should determine the capitalization of the Corporation?

Mr. DINGMAN. The extent of its liability for expenditures—the reason I say \$150 million, Mr. Chairman, is that we estimate, or the ad hoc committee estimated, that the three pairs of satellites in synchronous orbit would cost from \$155 to \$160 million.

The CHAIRMAN. Would that include getting them out there?

Mr. DINGMAN. That includes getting them out there.

The CHAIRMAN. Somebody told me that it would probably cost \$180 million to launch these things.

Mr. DINGMAN. This committee went into this at quite great length, consulted with NASA and the manufacturers of boosters, and the potential makers of communications satellites, and I believe these costs are at least worthy of consideration. So that the booster for this experimental satellite that I mentioned we were going to put up in May, plus the launching pad services, is going to cost \$2.7 million.

Now, that is a small booster, and it is not to be thought of as one that would do this job, but even so the Atlas-Agena B is something in the order of \$9½ million, and an Atlas-Centaur is around \$10½ million. So that those kinds of boosters begin to do the job for commercial satellites.

So if we did have three pairs of satellites in synchronous orbit, \$150 million, picking the high figure, if the American portion of usage of the satellite was, let us say, 50 percent, which on a usage basis would be just about the maximum, that would be \$55 million. So when I suggest \$150 million, I have doubled that figure to give it room to maneuver in.

The CHAIRMAN. Do you think there should be a limitation placed on the amount of money that this Corporation should have?

Mr. DINGMAN. I don't think that a limitation as such is particularly important. If the Satellite Corporation is well managed, what they will do is estimate, after they get started, what their expenses are going to be, and raise enough funds to meet their expenses.

The CHAIRMAN. It seems to be generally conceded by everyone that it is going to be several years before you can really reach any return. Do you share that view?

Mr. DINGMAN. Yes, sir. And we have, of course, looked in a speculative sort of way at what amounts of cash would have to be advanced before you expect to start getting some back in. And if you look at the whole system, that is all, the world ground stations and all, and satellites, as if they were going to be owned by one entity, the probabilities are that all of the investments and experiments and whatnot would require in excess of a half a billion dollars in cash before you got some return.

But if the satellite company only owns the satellite, and the ground stations are owned by the different entities around the world, and by the carriers here, you cut down the liability of the Satellite Corporation quite considerably.

The CHAIRMAN. Then would it be correct to say that what your company would have in mind is to have this become a part of your overall communications system?

Mr. DINGMAN. That is correct.

The CHAIRMAN. And this is to supplement your already developed and existing service?

Mr. DINGMAN. That is exactly the way we would look at it.

The CHAIRMAN. And you would have in mind, just lumping it all together and having your company operate it as one service?

Mr. DINGMAN. That is a part of our regular communications service.

The CHAIRMAN. Now, could you give any estimate of the percentage of this Corporation that your company—I go back to the point raised by Mr. Kilgore, because this is going to be raised, it has already been raised—in the consideration of the ad hoc committee and others, what percentage of this capital outlay would your company expect to make?

Mr. DINGMAN. If it was done on a usage basis, we probably should take a percentage somewhere around 75 to 80 percent.

Now, that should not immediately be picked upon, thinking that we would handle 80 percent of the business because, as I brought out earlier, the telephone oversea revenues are roughly one-third of the total. But the telegraph business can operate on channels that you can get from 15 to 20 in the space that you get 1 voice channel, so that we, being in the voice business, have to buy a larger share of the frequency spectrum of the satellite. So that is why we would figure that on a usage basis we would have to put up 75 to 80 percent of the investment of the satellite.

The CHAIRMAN. And you would be willing to do that under a program such as you suggest, or something complementary to it?

Mr. DINGMAN. Yes, sir. And we so indicated in the ad hoc carrier committee.

The CHAIRMAN. Would that mean that you would have 75 or 80 percent of the stock, or you want to have 75 or 80 percent of the control of the Corporation as well?

Mr. DINGMAN. In the ad hoc carrier committee, with a structure such as that, where the carriers put their money in based on approximate usage, we agreed and went along with the recommendation that each carrier who put in as much as a half million dollars would be entitled to two directors, no more. So we with our \$65 million got two directors, and some other company with \$500,000 got two directors.

The CHAIRMAN. How many directors would you think that this Corporation should have?

Mr. DINGMAN. Obviously there is some upper limit, but in the ad hoc carrier committee with six companies contributing, we would have had 12 directors.

The CHAIRMAN. And do you think there should be any public directors?

Mr. DINGMAN. In the case of the ad hoc carrier committee, we went along with a group that recommended, or part of them, that the President or whomsoever he designated could appoint three public directors. With that kind of an arrangement, we went along with that.

The CHAIRMAN. And you would be—you would be satisfied with that kind of arrangement?

Mr. DINGMAN. That kind of an arrangement under the ad hoc carrier recommendation would be satisfactory. My company concurred in that report.

The CHAIRMAN. Would you think that some of the stock should be owned by someone else other than carriers?

Mr. DINGMAN. We believe that the best operation would result from the carriers alone owning the company.

The CHAIRMAN. Suppose there were some who did not subscribe, would it be necessary, then, to sell it to noncarriers?

Mr. DINGMAN. Obviously you would have to get it going. But with the Corporation that was set up that the carriers had in mind

when they set their ad hoc report up, there wouldn't be any need, there was enough money pledged in that particular operation to take care of the American portion of the satellite. So I don't believe that that contingency would arise.

The CHAIRMAN. Do you think there should be authority for the floating of securities in order to raise funds if needed by the Satellite Corporation?

Mr. DINGMAN. Yes, sir.

The CHAIRMAN. And you think that that should be permitted?

Mr. DINGMAN. Yes, sir.

The CHAIRMAN. What would be your reaction to the proposition that the carriers owned, say, 60 percent, or are permitted to purchase or subscribe up to 60 percent of the total capacity outlay, and the other 40 percent by noncarriers?

Mr. DINGMAN. Well, I think that would be an improvement over the arrangement contemplated in H.R. 10115.

The CHAIRMAN. But you would not recommend it?

Mr. DINGMAN. I would not prefer it.

The CHAIRMAN. You would prefer the other arrangement?

Mr. DINGMAN. I would prefer the ad hoc committee arrangement.

The CHAIRMAN. Now, I asked the I.T. & T. witness yesterday this question, and I want to ask you. Should the principle in the bill H.R. 10115 be adopted by the Congress, are you in a position where you can state whether or not your company would participate in such a venture?

Mr. DINGMAN. Of course, Mr. Chairman, our board of directors has not acted on this matter, because experience has shown that bills very rarely get enacted in precisely the form they are presented and worked on, and even small changes in bills change their value in consideration by a company.

On one side of this, we think we are a forward-looking company, we want to be active in this, we want to go ahead, and we think it is very important. We have indicated our willingness to put up real money to back a satellite corporation.

But, despite all those considerations, if this bill became law exactly as written, I believe the officers of the company would have considerable difficulty in recommending any substantial investment.

The CHAIRMAN. You think it is impracticable and unworkable?

Mr. DINGMAN. We think it is impracticable and liable to be unworkable.

The CHAIRMAN. Do you support an affirmative statement in any legislation for provisions that all carriers may have the opportunity to use this vehicle?

Mr. DINGMAN. Yes, sir.

The CHAIRMAN. In other words, you think that if a carrier is not in a position to participate in the initial capital outlay of this but is in the business and can obtain approval from the Federal Communications Commission that that carrier should have the privilege of using the facilities?

Mr. DINGMAN. By all means. Of course I am assuming that that carrier would pay a fair rental, but they definitely ought not to be excluded because they didn't have ownership.

The CHAIRMAN. Well, it would be only reasonable to expect that. I assume all carriers would have to pay a fair rental or whatever you might call it for the use of it.

Mr. DINGMAN. Yes, sir.

The CHAIRMAN. Even though your own company, if it has an investment, part ownership, would have to pay a reasonable rental.

Mr. DINGMAN. That is correct.

The CHAIRMAN. For the use of it.

Now, there was a great deal of discussion about the State Department.

Under your present procedure, you have had to negotiate with foreign countries, I guess, in a number of instances.

Mr. DINGMAN. We negotiate with the communications agencies in those foreign countries.

The CHAIRMAN. Is it not true that you are operating now with or through some 37 international agreements?

Mr. DINGMAN. We have more than that, Mr. Chairman. We have some 165.

The CHAIRMAN. 165?

Mr. DINGMAN. Yes, sir.

The CHAIRMAN. I was cutting you short.

Were those agreements negotiated in cooperation with the State Department and foreign governments?

Mr. DINGMAN. Most of them. We didn't need the help of the State Department. We notify the State Department when we are negotiating. And in a few of them the State Department was helpful in one phase or the other. But for the most part the matters that are discussed involve communications, ownership, the way you are going to divide the revenues, and the kind of service, the hours of service, and so forth. And we didn't need the help of the State Department in such matters.

The CHAIRMAN. But where you did need the assistance of the State Department, you did not hesitate to ask for it?

Mr. DINGMAN. We didn't hesitate. And, as I said earlier, we did not consider that we have had any problems with the State Department. They have been helpful.

The CHAIRMAN. That arrangement, then, that you have pursued during these years has proven satisfactory?

Mr. DINGMAN. In our opinion, it has proven very satisfactory.

The CHAIRMAN. It is your position, then, that the State Department should be available if needed, and that the Corporation should advise the State Department of any negotiations going on?

Mr. DINGMAN. Right.

The CHAIRMAN. And you think that should be the extent of their participation?

Mr. DINGMAN. Yes. And we could go a little further, that if the State Department took the position that any particular agreement was not in the national interest we would do something about it.

The CHAIRMAN. Do you think it would be advisable for the State Department to have authority to look into any such arrangement to see whether it is in the public interest?

Mr. DINGMAN. We would have no objection to that.

The CHAIRMAN. Now, with reference to ground stations, the Federal Communications Commission suggested in their statement

here that the determination of the ownership of ground stations should be left flexible.

You prefer that it be positive and owned by the private carrier organizations?

Mr. DINGMAN. We prefer it that way.

The CHAIRMAN. What would be your reaction to leaving the Federal Communications Commission authority to decide who should own the ground stations on the basis of the channel allocation and so forth, with the general direction or policy that where feasible it should be owned by the carriers?

Mr. DINGMAN. Well, that would be a big improvement over the present bill.

The CHAIRMAN. Can you visualize a circumstance where such a facility might be needed that the carrier would not provide?

Mr. DINGMAN. I can't visualize any, Mr. Chairman.

The CHAIRMAN. You say you cover about 75 or 80 percent of the globe now?

Mr. DINGMAN. No, a little more than that. From the United States we can connect you with 98 percent of the world's telephones today.

The CHAIRMAN. Suppose the Government were to decide that a far removed point such as the Antarctic would require some such facility, do you think that the existing international carriers would if requested establish such a station?

Mr. DINGMAN. Yes, I think that that would be done.

The CHAIRMAN. But you do not think that the law should extend the authority to the Government to require it to be done?

Mr. DINGMAN. I don't think that it is necessary.

The CHAIRMAN. I once made a trip to the Antarctic, and to the South Pole, and I had the very thrilling experience of talking from Antarctica to my wife in Arkansas. Now, I wouldn't attempt to describe to you just the various ways the signal got through, but it was a very pleasant experience.

Mr. DINGMAN. I hope it was a good connection.

The CHAIRMAN. Very good, as though it was next door.

Mr. DINGMAN. That is fine.

The CHAIRMAN. But it seems to me that those are some of the questions that the Government has a right to raise with reference to a service where the interest of the Government would require it.

Mr. DINGMAN. Well, you get into this sort of a situation, Mr. Chairman. Most places around the world belong to somebody—

The CHAIRMAN. This is the biggest continent, I think, maybe the biggest or one of the biggest, where there is nobody there to do it.

Mr. DINGMAN. That is right. I am not just sure who owns that part of the world.

The CHAIRMAN. Nobody else is sure under the circumstances. We do have an agreement, which I am glad to say that I think our visit had something to do with. But there is no private enterprise operating down there. But it is one of the most important areas in the whole world, I will say that.

And insofar as the future is concerned, I think it should have material effect.

Mr. DINGMAN. I am pretty sure that if the United States common carriers were asked to establish a communication system from Ant-

arctica and it was on United States soil there, where we were the sole deciders, meaning the Nation, not the carriers, why it would be done.

The CHAIRMAN. That is just the question I would like to raise. Under the circumstances, you cannot say that the United States owns the soil, and we have operations down there, the Navy and the Army, and the Air Force, and we are down there, and they are putting up their own facilities.

Now, there is a small atomic energy generating plant being built there, which is an interesting situation.

But the Government has had to do all this. As a matter of fact, it has been an experience in which the Government had some difficulty even in getting Pan American to establish a commercial flight in there. They finally got them to do it, but it did require a great deal of work.

Mr. DINGMAN. The reason I stressed the ownership of the territory, if that is the right term to use, is that if some other country does own the territory, no U.S. carrier can go in there and establish service without that country's permission.

The CHAIRMAN. Well, is it your viewpoint, then, when you say the American carriers should own the ground station, to limit that to the United States in our possession of the territory?

Mr. DINGMAN. Not necessarily. Some American carriers own communications facilities overseas, and—

The CHAIRMAN. Maybe I do not get my point over.

You do not feel that the Corporation should own ground stations?

Mr. DINGMAN. That is correct.

The CHAIRMAN. Would you object, if the interest of the Government required it, to the Corporation owning ground facilities outside of the United States and our possessions?

Mr. DINGMAN. That would not be as objectionable to their owning them within the United States.

The CHAIRMAN. But if it developed in a far remote situation that I have spoken of that the military is down there carrying out a mission, a highly important one, and they should have need of such an installation, you wouldn't object to their doing it?

Mr. DINGMAN. Not if all of the U.S. carriers were given a chance to do it. And had refused to do so.

The CHAIRMAN. Decided against it.

I might say, we have the station at the South Pole. And we were advised by the scientists there that that was the only stationary point at which a satellite can be tracked every minute of the day. And we felt that that being true it was highly imperative that we keep the station. And, as I say, in 1958 we came close to giving it up. But suffice it to say, we are still there.

Mr. DINGMAN. I am glad.

The CHAIRMAN. And I don't know how many discoveries we are going to make out in outer space or some other planet, or somewhere else, where we might have to have a Mars station or an Earth station or something like that.

I am talking way over my head now, I will tell you that.

But it does seem to me that your company and the companies involved, in thinking through this whole thing, want to leave private enterprise do this job. But to give ample assurance that where it is necessary in the interest of our country with our farflung military

foreign relations commitments I just have a feeling there ought to be some provision where, if it cannot be provided by private carriers on a feasible basis, then there should be some other way to get to it.

Mr. DINGMAN. I find it difficult to think of any situation where the U.S. carriers wouldn't do the job if the U.S. Government wanted it done.

The CHAIRMAN. I am glad to get that comment from you, because I know that the same situation prevailed when the Civil Aeronautics Act was provided.

And I also know that there had to be special arrangements for such a requirement on the basis that the Government would pay for it. And many years have passed since that time, and the requirements have changed, too, but there were times when that had to be done, because the carriers then were not in a position to do it.

Mr. DINGMAN. A number of years ago, right after World War II, when the U.S. forces were occupying Germany, the question of communications for our troops; that is, personal communications, arose. And the German situation was such that we could not expect them to build the radio terminals on that side. And A.T. & T. did actually start radio stations in Germany and operated them so that the troops got communications with their folks back home.

After the country became organized and took over their communications again we withdrew. So that is the sort of situation that I suppose will happen again someday, I don't know when and where. But we thoroughly understand the situation and took steps to do something about it.

The CHAIRMAN. Well, that is encouraging, indeed.

Are you familiar with the provisions of the Federal Communications Act where the Federal Communications Commission under certain circumstances can require the carrier to perform certain services?

Mr. DINGMAN. Yes, sir.

The CHAIRMAN. Do you think that the existing provision is sufficient, that if a certain service is required now, that the Federal Communications Commission could require it?

Mr. DINGMAN. Yes, sir.

The CHAIRMAN. I wish there were time to ask some questions about the jamming operations that you mentioned a moment ago. I would like to know more about it. I had been of the impression from what I had heard that these satellites could be established where it would be impossible to jam the signals. And I understood from you, it is very likely that it can be done.

Mr. DINGMAN. With the equatorial high altitude satellites, to use them at high frequencies would make them susceptible to jamming.

Now, there are antijamming techniques that you can use. In a very rough way it revolves about the practice of changing your frequency very rapidly so that the jammer can't anticipate what your frequency is going to be seconds ahead, and you can outwit him in that way to some extent. But that uses a tremendous amount of frequency space and keeps your satellite from being an efficient tool of communications.

The CHAIRMAN. If you had all three of the systems that you referred to earlier, would there be relays from one to the other, or could that be a way of avoiding the possibility of jamming?

Mr. DINGMAN. A system working, say, in polar orbits at 7,000 or 8,000 miles, there would be many times when the satellite would be mutually visible between two points on earth, but still wouldn't be visible to the jammer. In that case, you are communicating despite his jamming action.

So that, for this and other reasons, my company feels that there are virtues in having both kinds of systems, that is, the high altitude system and the medium altitude system. So they will live together and coordinate, at least we believe they will. And you do get some protection against being jammed out completely in the event things got out of hand.

The CHAIRMAN. Let's see. You have the high altitude satellite, is that what the Army refers to as the Advent?

Mr. DINGMAN. The Advent is supposed to be a high altitude system.

The CHAIRMAN. And you have the equatorial system.

Mr. DINGMAN. That, of course, is high altitude equatorial, and then you can have a low altitude equatorial if you want it.

The CHAIRMAN. And then we have the polar orbits.

Mr. DINGMAN. You have the polar orbits.

The CHAIRMAN. And what is that other one out 300 miles?

Mr. DINGMAN. 300 miles is too low for a useful system, you need too many satellites.

The CHAIRMAN. One other question. We have had some discussion about complying with the SEC legislation. Would the question of who shall own the ground stations have to be decided before your securities are issued in order to include this information in registration statements with the Securities and Exchange Commission?

Mr. DINGMAN. If the Corporation was not prohibited by the act from owning them, or it was put in the bill that they might own them under certain conditions, it would seem to me that if you were talking about a public issuance of stock, you would have to make a disclosure that it is possible that the Corporation may own ground stations, but at present we have no plans or no authorizations, or they would have to say whatever the truth was.

The CHAIRMAN. And say what?

Mr. DINGMAN. They would have to say whatever the facts were. But I don't believe it would have to be absolutely nailed down that they would or wouldn't.

The CHAIRMAN. You do not think, then, that the decision has to be made now in consideration of this legislation rather than waiting later as suggested by the FCC?

Mr. DINGMAN. No; I don't think you would.

The CHAIRMAN. Mr. Dingman, I suppose you could very well see that I have been out over my head—is that the way we refer to it in outer space—in some of these questions, but they have been raised during the course of the hearing, and I think they are very important for this record.

Again, I want to thank you for your testimony, your presentation here, and the assistance which you have given to the committee with your presentation.

Mr. DINGMAN. Again, I appreciate the opportunity of being here.

The CHAIRMAN. I am sorry we have kept you so long. I did not intend to run to this hour. But I did want to conclude with you before you stepped down.

I imagine you are ready to take a little recess. But we do thank you for your patience and the very fine way that you have responded to the questions, as well as your presentation.

We have one other important witness this afternoon, Mr. Ralph O. Beck, vice president of the Hawaiian Telephone Co., a constituent of our colleague, who has been here since these hearings have been established (Hon. Daniel Inouye, of Hawaii).

I believe in view of the hour now we will try to come back at 2:15.

The committee will recess until 2:15.

(Whereupon, at 1:05 p.m., the committee recessed, to reconvene at 2:15 p.m., the same day.)

AFTERNOON SESSION

The CHAIRMAN. The committee will come to order.

We were honored by our colleague, the distinguished Senator from Hawaii, Senator Oren Long, who was with us this morning at the time we adjourned. He will be back with us this afternoon. We will be glad to have him back with us for the meeting.

I could not help observing at this time that Senator Long has an excellent first name, and it is spelled correctly, too.

We also had with us our distinguished colleague from Hawaii, Congressman Inouye, and we were glad to note his presence and interest, too, in this important problem and the recommendations of both of them of the witness we have before us this afternoon—Mr. Ralph O. Beck, vice president of Hawaiian Telephone Co., Honolulu.

Mr. Beck, we are glad to have you on this important subject. We would be glad to have your statement.

Mr. BECK. I have a statement, Mr. Chairman, and with your permission I will read it.

The CHAIRMAN. Very well, you may proceed.

STATEMENT OF RALPH O. BECK, VICE PRESIDENT, HAWAIIAN TELEPHONE CO.

Mr. BECK. My name is Ralph O. Beck. I am a vice president of Hawaiian Telephone Co. Our company is a communications utility operating throughout the State of Hawaii and providing services between Hawaii and the mainland United States and to other parts of the world. Our company owns an interest in the transpacific telephone cable facilities connecting Hawaii and the mainland United States. We recently signed an agreement and have been authorized by the Federal Communications Commission to become a joint owner in the proposed Hawaii-Japan cable, and to participate in the construction and operation thereof.

Hawaiian Telephone Co. is an investor-owned public utility with about 18,000 stockholders. We are an independent company not affiliated with any other organization. Our stock is widely held throughout the United States.

Our company is subject to regulation by the Hawaii Public Utilities Commission and by the Federal Communications Commission.

We are vitally interested in satellite communications and in the two bills now before this committee: H.R. 10115, introduced by Mr. Harris, and H.R. 10138, introduced by Mr. Miller, which we understand are

identical and are commonly referred to as the administration bills. We are also interested in H.R. 9696 as well as H.R. 10104, referred to the Committee on Science and Astronautics. We were a member of the Federal Communications Commission's Ad Hoc Carrier Committee and supported its recommendations.

Because of our geographical location and the projected traffic forecast in the Pacific area, we believe that the use of space satellites as another medium for communications is ideally suited to our operations.

We would like first to state that we are in hearty agreement with the idea of private ownership and operation of the Satellite Communications Corporation, which is one of the basic premises of the bills listed above. We endorse and support President Kennedy's views as expressed in his policy statement dated July 24, 1961, on the importance and desirability of continued private ownership and operation of our international communications systems, subject to Government regulation of rates and service. We question, however, whether the administration bills, H.R. 10115 and H.R. 10138, are fully consistent with the President's policy statement.

Traditionally international common carriers have provided communications between the United States and oversea points in the amount and kind necessary to satisfy the need for such services. Negotiations between the U.S. oversea carriers and the communication administrations of foreign governments have been necessary and have been successful. These services have been provided under supervision by the Government as specified in the Communications Act of 1934. Communications by satellites can and should be provided under the same regulatory principle.

Provisions of the administration's bills, H.R. 10115 and H.R. 10138, which call for unnecessary and undesirable controls, in our opinion, include:

Section 201(a)(8) detailing the extent of supervision over management of day-to-day affairs of the Corporation.

Section 201(c)(3) granting to the Secretary of State the right to institute a proceeding under section 214(d) of the Communications Act to require the provision of service to specified foreign points.

Section 201(c)(6) reserving to the Federal Communications Commission the right to specify technical characteristics of the system.

Section 402 specifying that the Department of State will conduct or supervise negotiations with foreign carriers. (See also section 201(a)(4).)

Regulation of any common carrier must necessarily infringe to some extent on the "rights" of private management and surely the national interest is and has been an influence on the management of international carriers, but it is not carrying out the national policy of private ownership and operation, merely to organize a "private" corporation and employ "private" capital while reserving to the Government the right to make major management decisions. The above provisions of the bill taken together deprive the management of the Satellite Corporation of rights which are needed to manage the enterprise effectively.

The administration bill provides for overlapping regulation of the Satellite Corporation by several agencies of the Congress and of the executive branch of the Government. We suggest that more efficient and productive regulation would result if there were only a single

Federal regulatory body, preferably the Federal Communications Commission, which would deal with the Satellite Corporation.

The administrative bills, as well as H.R. 9696, provide that the Satellite Corporation will own and operate the ground stations and related equipment. Our company is primarily interested in a ground station to be located in Hawaii. We consider that such a station would be merely an extension of our own terrestrial network of communication facilities, which now embraces landlines, submarine cable and radio facilities. We believe that we can more efficiently and economically integrate space communications with our own system if the ground system is owned and operated by our own company, either alone or jointly with other communication carriers, rather than having the divided responsibility which would exist if the ground station in Hawaii were owned by the Satellite Corporation. We, therefore, favor the provisions of H.R. 10104 which provide for the ownership of ground stations by the participating carriers.

The present provision for class A and class B stock in the administration bills appears to result in two conflicting, and perhaps irreconcilable, interests in the Corporation—the interest of the class A stockholders who are primarily interested in earnings, which will come from charges to the carriers using the facilities of the Corporation, and the interest of the class B stockholders who will be concerned primarily with efficient services and low rates.

A preferred arrangement, in our opinion, would be to provide for only one class of stock to be owned solely by communications common carriers authorized by the Federal Communications Commission to use satellite facilities as proposed in H.R. 9696 and H.R. 10104. Such investment, in our opinion, should become a part of the carriers' rate base. Voting rights should be restricted to insure no single carrier could dominate the Corporation.

These, then, are the salient points that we call to your attention today. I want to emphasize that Hawaiian Telephone Co. feels that its future is inextricably part of any proposed worldwide space satellite communications system. As evidence of this interest, I feel I need only call your attention to our participation in the discussions of the Federal Communications Commission's ad hoc carrier committee, our stated willingness to invest \$2 million in a common carrier joint venture as proposed by that committee, and my presence here today, some 5,000 miles from our base of operations in the newest State of the Union.

Our sincere thanks to you for giving us this opportunity to present our views.

The CHAIRMAN. Mr. Beck, we appreciate very much your statement explaining your organization and your interest, your suggestions with reference to this important proposal.

Mr. HEMPHILL, any questions?

Mr. HEMPHILL. Thank you, Mr. Chairman.

I want to congratulate you on the fact that you have pointed out the fact that the interference of the State Department could do nothing to help this program. I haven't been here long, but I haven't seen the State Department do anything really successful for this country in the 6 years I have been here. I have been so afraid that they would get their hands in the pie in this and really ruin the prospects—I just delight in the fact that you point out that they are not

necessary, and that you feel that they would not be the proper agency to be in this picture.

Now, as I understand your statement, you said that the FCC would supervise the rates and also the regulations, and that is what you prefer—is that right?

Mr. BECK. Yes, sir.

Mr. HEMPHILL. I notice you made some mention of service. Actually, the service will be the same kind of service that we have expected from private ownership and operation in the past, will it not?

Mr. BECK. Yes. We feel that space satellite communications is just an extension of another means of communication, supplementing that which we already have—high frequency radio and submarine telephone cable.

Mr. HEMPHILL. And you feel that the thing would be more efficient, give better service, if it were left in the hands of a private company, rather than have the Government interfering, is that correct?

Mr. BECK. Yes, I do. And that is particularly important when one understands the complexities of the operation of a distribution network such as a telephone company organization has.

There is your key point of coordination with the ground station. And if we owned our ground station facilities in Hawaii, we would be better able to control those facilities and coordinate them to give service to the customers, which is our primary responsibility, anyway.

Then, insofar as the satellite corporation is concerned, if we have investments in that corporation and directors on the board, we will be represented accordingly at that level.

Mr. HEMPHILL. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Younger?

Mr. YOUNGER. Mr. Beck, I also want to associate myself with the position that you have taken in regard to these bills advocating what I believe to be the private enterprise approach. I differ a little bit with my colleague, Mr. Hemphill, in that I think we will have to have certain associations with the State Department.

You have that association now with your cables, somewhat—although you make your own deals, you deal with Japan or you deal with other countries. But in the satellite, where it is worldwide, you may have to have some relationship through the State Department as we do with the common carriers. As was pointed out by Mr. McGhee, the State Department hopes to do a better job in giving the routes to the foreign carriers, which in many cases work a great hardship on our own carriers.

Mr. BECK. If I may say so, sir, if we would be in a position to call upon the aid of the State Department when we thought it was desirable, that might be something that we prefer.

Mr. YOUNGER. That is true. I think they should have no regulatory authority over you. That should be vested in your main contract with the Government, the FCC.

Mr. BECK. That is the way we look at it.

Mr. YOUNGER. That is the way I would envisage such a corporation action.

Are you prepared to invest money in this Corporation?

Mr. BECK. We feel we have made a commitment in the form of an organization as described in the ad hoc carrier committee report. We would invest money in any organization permitted to incorporate along similar lines.

Mr. YOUNGER. You have had no trouble getting along with joint ownership with the cables, have you?

Mr. BECK. No, sir. As a matter of fact, we have been a partner with the American Telephone & Telegraph Co. in the operation of the telephone submarine cable between Hawaii and the coast of California. That cable was put into operation in October 1958, at which time we owned 15 percent of the total investment in the cable.

Our relationship with that company has been eminently satisfactory. We are able to express our own opinion and are regarded by them as a full-fledged partner. We increased that partnership investment to 35 percent of the total this past year, and, furthermore, we are entering into a partnership agreement with the American Telephone & Telegraph Co., and a Japanese organization, the Kokusai Denshin Denwa Co., of Tokyo, to operate the Japan-Hawaii cables, and to lay them in 1964.

I submit we would not have increased our investment in the telephone cable to California, nor would we have considered entering into any further partnership agreement with A.T. & T. if our relations were anything but satisfactory. We are not afraid of any domination of any carrier that size.

Mr. YOUNGER. In fact, your 15-percent investment to start with did not hamper you at all in dealing with them as a partner, did it?

Mr. BECK. Not at all, sir.

Mr. YOUNGER. And they treated you as a partner?

Mr. BECK. Yes, sir.

Mr. YOUNGER. That is all.

The CHAIRMAN. Mr. Rogers?

Mr. ROGERS of Florida. Mr. Chairman, just a question or two.

Mr. Beck, I appreciated your statement.

You expressed concern about some of the unnecessary and undesirable controls, which I have some concern about, too, in the proposed legislation. Particularly you mentioned one, section 201(c)(3) on page 3, which is granting to the Secretary of State the right to institute a proceeding under section 214(d) of the Communications Act, to require the provision of service to specified foreign points.

It is my understanding that the bill as presented says that the Secretary would not necessarily be a party to the proceeding, but simply would request such service, and then the FCC would institute the proceedings, as they would now. Is that your understanding?

Mr. BECK. My understanding of this is that the Secretary of State, or whomsoever he should designate, could institute the proceedings that they feel that service should be extended to a foreign point.

Mr. ROGERS of Florida. It wasn't my understanding that they could institute it. I think it might be well for us perhaps to have the staff clarify that for us, as far as the language goes, because I believe the understanding is, from my discussion with the staff, that the Secretary of State himself would not institute it, or someone he designates, but it would be instituted by the Commission at a request in effect by him—but he would not become a party as such.

Mr. BECK. You are correct, sir.

Mr. ROGERS of Florida. Now, how would you have a request for service to specified foreign points determined where it is not economically feasible to include them in the system, and yet because of a foreign policy objective our Government feels it is necessary to service that point?

Mr. BECK. That is a matter that I feel would probably not affect the operations of Hawaiian Telephone Co. as such. I think the answer that Mr. Dingman gave to a similar question this morning is one that should be the attitude of the satellite corporation, specifically, that if the U.S. Government were to ask for service to a particular point on this globe, they should be ready and willing and able to serve.

Mr. ROGERS of Florida. I think he qualified that.

Mr. BECK. Because of the policy—yes—of the overall earnings of their particular company, taken into consideration, rather than one point-to-point service standing on its own feet.

Mr. ROGERS of Florida. I think he qualified that by saying that if the country they would deal with, or the company, or whatever group, in the recipient country might also agree and ask for that service. I think he qualified it to that degree.

Mr. BECK. Yes, he did.

Mr. ROGERS of Florida. In effect, I think Mr. Dingman was saying wherever the Government really wanted service they would get it there, he felt that they could.

Mr. BECK. Yes, he was speaking for his company, which, admittedly, has had far more experience in that than a company of the size of Hawaiian Telephone Co.

Mr. ROGERS of Florida. I understand. But I don't see, frankly, where there is great objection to the Secretary of State asking that the FCC institute a proceeding to require service to a specified point if in effect the company will want to do it anyhow. I think maybe that may be a technical objection that I do not see too much criticism to. But I do have concern about too much control of the State Department in the negotiations in this whole field.

Mr. BECK. The items that I mentioned in my statement were not intended to include all such items of control, merely illustrations.

Mr. ROGERS of Florida. Thank you, sir.

Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Beck, I have noticed with interest your statement, your presentation here today—though it is somewhat brief—but on the major provisions it appears to me that you hold the same views, primarily and fundamentally, expressed to this committee in the presentation this morning of Mr. James E. Dingman.

Were you in the room during his testimony?

Mr. BECK. Yes, sir; I was.

The CHAIRMAN. Would you say that that was a correct statement—that your views and Mr. Dingman's views were about the same?

Mr. BECK. They are substantially the same, sir.

The CHAIRMAN. You heard the various questions by the committee that were asked of Mr. Dingman. Would you say that his responses to the various and sundry questions are primarily and fundamentally the same views you would express on similar questions?

Mr. BECK. In general, they were.

The CHAIRMAN. You have indicated that if something in your judgment was decided upon in the Congress that would be workable

and practical, that you would participate to the extent of about \$2 million?

Mr. BECK. I indicated that if the Congress were to approve legislation patterned after the recommendation of the ad hoc carrier committee, that we would be prepared to invest approximately \$2 million in a satellite corporation.

The CHAIRMAN. In other words, that would be about 20 shares, should the program in H.R. 9696 be adopted?

Mr. BECK. Yes.

The CHAIRMAN. If the principle in the bill, H.R. 10115, and an identical bill by Mr. Miller, were to be approved by the Congress, are you in a position to state whether your company would participate in such a program?

Mr. BECK. I am not in a position to state whether or not we would participate. This would be contingent upon a decision of the board of directors of our company. The operating characteristics of the satellite corporation as proposed in H.R. 10115 are considerably different from that considered by our board of directors as described in the ad hoc carrier committee. I would not be able to speak for our directors under the new circumstances.

The CHAIRMAN. You do feel that a program to obtain the full benefits of satellite communications system is highly imperative?

Mr. BECK. Yes sir, I do.

The CHAIRMAN. Is it your view that this will be supplementary to existing facilities?

Mr. BECK. Yes, very much so.

The CHAIRMAN. And could not be practical or even successful if it were not used in connection with existing facilities?

Mr. BECK. Would you repeat your question, sir?

The CHAIRMAN. That it would not be practical if it were not used in connection with carriers' present facilities.

Mr. BECK. It could be used separately, or together, as a supplement, with the existing facilities that we operate and other companies similarly established operate.

The CHAIRMAN. Could there be any broad extensive use of the satellite system if it were used separately from existing facilities?

Mr. BECK. Yes. To develop areas that we already would not be using our cable facilities or high frequency radio.

The CHAIRMAN. You were a member of the ad hoc committee, or your company was?

Mr. BECK. Our company was a member of the ad hoc committee. I represented our company on that committee.

The CHAIRMAN. And you support that general approach to the problem?

Mr. BECK. Yes, very much so.

The CHAIRMAN. Thank you very much. And again I want to compliment you for your statement. We are very glad to have your presentation.

Mr. BECK. Thank you, sir.

The CHAIRMAN. The committee will adjourn until Tuesday morning at 10 o'clock, at which time the Attorney General will be the witness.

(Whereupon, at 2:55 p.m., the committee recessed, to reconvene at 10 a.m., Tuesday, March 20, 1962.)

The first part of the book is devoted to a general history of the United States from its discovery to the present time. It is divided into three periods: the colonial period, the revolutionary period, and the federal period. The colonial period is the longest, and is divided into three sub-periods: the early colonial period, the middle colonial period, and the late colonial period. The revolutionary period is the shortest, and is divided into two sub-periods: the pre-revolutionary period and the revolutionary period. The federal period is the longest, and is divided into three sub-periods: the early federal period, the middle federal period, and the late federal period.

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COMMUNICATIONS SATELLITES

TUESDAY, MARCH 20, 1962

HOUSE OF REPRESENTATIVES,
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D.C.

The committee met, pursuant to recess, at 10:10 a.m., in room 1334, New House Office Building, Hon. Oren Harris (chairman of the committee) presiding.

The CHAIRMAN. The committee will come to order.

In continuing the hearing this morning on H.R. 10115 and other bills regarding the matter of a communications satellite system, we are very glad to welcome back to the committee the Attorney General of the United States, the Honorable Robert Kennedy.

Mr. Attorney General, we are pleased to have you with us. You, of course, know the importance of the subject matter under hearings here.

The administration has sent up a bill which you are familiar with. There are various other proposals.

It is a matter that is going to be difficult to work out, but it is one that must be worked out in the best possible way to do the job.

We do appreciate your taking the time from your busy schedule to be with us. I believe you have a prepared statement.

Mr. KENNEDY. I do, Mr. Chairman.

The CHAIRMAN. You may proceed.

STATEMENT OF HON. ROBERT F. KENNEDY, ATTORNEY GENERAL, DEPARTMENT OF JUSTICE, ACCOMPANIED BY NICHOLAS deB. KATZENBACH, ASSISTANT ATTORNEY GENERAL, OFFICE OF LEGAL COUNSEL

Mr. KENNEDY. Mr. Chairman, I appreciate this opportunity to appear before the committee to testify in support of H.R. 10115. As you know, this bill has the strong support of the administration and I urge its prompt enactment.

This committee is thoroughly familiar with the provisions of H.R. 10115, and, therefore, I will not explain the bill in detail. Many of the provisions are of a technical nature, and I would prefer to confine my testimony to the major policy considerations.

We are all anxious to create a global communications satellite system as rapidly as possible. We all want the United States to lead in this peaceful development of space resources. The global communications system which we envisage for the near future has a great potential for linking the world closer together and for demonstrating ways of peaceful cooperation among nations in space activities. The President attaches high importance to this program.

In this legislation we are dealing essentially with the means by which the United States should participate with other countries in this global system. From the outset certain factors have been clear.

First, for the foreseeable future, there can be only one American participant just as, in all probability, there will be only one commercial communications system using satellites. In that sense, at least, this legislation proposes a national monopoly. And that fact raises certain special problems which make this Corporation unique.

Secondly, it has been clear from the outset, for reasons I have already briefly touched upon, that there are important foreign policy considerations involved. We are, for example, anxious to make this system truly global—to make certain that the benefits of space technology are shared by all nations and are not confined only to the developed countries.

Thirdly, the administration believes that the Government has a special responsibility with respect to this legislation. The reason is that space communications are made possible only because we have invested large sums of taxpayers' money. It is difficult to appraise the exact amount of tax money properly attributable to space communications, but the total would be something in excess of the \$175 million which NASA has programmed for this activity through fiscal 1963. In this sense communication by satellites is subsidized and thus vested with an important public interest which must be adequately protected.

Finally, it has been clear that American participation in this system requires legislation and that the administration was faced, as the Congress is now faced, with three possible approaches. This could be a Government-owned and operated enterprise. It could be an enterprise confined to the international carriers it will serve. It could be a publicly owned corporation in which all Americans, including carriers, could be permitted to invest.

Arguments can be made for any one of these alternatives. It is the administration's considered conclusion that a corporation with wide public participation, which recognizes the special role of existing carriers, and which is subject to appropriate governmental controls, best meets our policy objectives.

Let me state these objectives and let me give you the reasons for my belief that a publicly held private corporation best serves them.

The President in setting forth these objectives on July 24, said:

Private ownership and operation of the U.S. portion of the system is favored, provided that such ownership and operation meet the following policy requirements:

1. New and expanded international communications services be made available at the earliest practicable date;
2. Make the system global in coverage so as to provide efficient communication service throughout the whole world as soon as technically feasible, including service where individual portions of the coverage are not profitable;
3. Provide opportunities for foreign participation, through ownership or otherwise, in the communications satellite system;
4. Nondiscriminatory use of and equitable access to the system by present and future authorized communications carriers;
5. Effective competition, such as competitive bidding in the acquisition of equipment used in the system;
6. Structure of ownership or control which will assure maximum possible competition;
7. Full compliance with antitrust legislation and with the regulatory controls of the Government;

8. Development of an economical system, the benefits of which will be reflected in oversea communication rates.

In very brief form these objectives could be said to be speed, global coverage, competition, and development of an efficient and economic system.

The administration places great importance on competition because the communications industry is particularly susceptible to domination by one company—A.T. & T.—and this possibility could extend to this proposed corporation. I am not impugning the motives of A.T. & T. but pointing to an objective fact. This situation is demonstrated by the report of the ad hoc industry committee filed with the FCC last October 12. When the nine international carriers were asked to indicate their willingness to invest in the space communications system, A.T. & T. said it was prepared to invest \$65 million; the other eight carriers said that together they would invest a total of \$13 million.

In such a situation, even though other safeguards are included, the possibility of domination by this single large corporation, through its superior financial resources, is virtually inevitable unless we open the Corporation to investment by the general public.

One consequence of this domination could relate to speed of development. I have no doubt that the interest already demonstrated by A.T. & T. will continue, for it is the largest potential domestic user of the satellite system. But it is also true that most of existing cable facilities are owned and controlled by this company.

Unavoidably the satellite system will compete with, as well as supplement, existing facilities. This creates a possible conflict of interest with respect to both the speed and the expansion of the satellite system, for it would be only natural for A.T. & T. to consider in its policies the extent to which speedy expansion of satellite facilities would make obsolete facilities in which it now has huge investments.

A corporation which was truly independent would have no such conflict of interest and thus no possible motivation to slow down development.

We wish to have effective competition in the acquisition of equipment used in the system. One of the large potential suppliers of such equipment, Western Electric, is a wholly owned subsidiary of A.T. & T. This fact creates objective problems in enforcing competition in this field unless we avoid A.T. & T. domination.

It is even more important that in areas of competition within the communications industry all participants will be treated equally. One such field is that of data transmission. This is a growing and profitable field in which several companies, including A.T. & T., compete. A satellite corporation dominated by A.T. & T. would, despite other provisions, not have the same interest in promoting and guaranteeing nondiscriminatory use and equitable access to the system by competitors as would an independent corporation.

We can seek to maintain such access by law and regulation. We can attain it more certainly by an independent corporation interested in sales to all carriers and not in protecting another aspect of its own separate activities.

We do not, of course, wish in any sense to exclude existing carriers from participation in this important new development. I am fully aware of the communications system which we have developed in this

country and of its superiority to other communications systems in the world. Carriers have a major stake in space satellites and we are anxious that they participate in this new Corporation. We have recognized their special role by providing that such carriers may invest in class B stock and that their investment therein be part of their rate base.

Conceivably their special role could be recognized in other ways. But I do not believe that there is any justification for turning over this whole program, so heavily subsidized by the Government, to the existing communications industry, unless there are compelling reasons for doing so. I know of no such reasons.

It is our firm conviction that the general public should be permitted to participate in this proposed Corporation. A monopoly created by legislation should not be turned over to a favored few. This is even more true when the probable success of this venture has been assured by governmental research and development at considerable cost to the taxpayers.

Public participation will help us to avoid domination by a single carrier. It will help to insure competition in all its ramifications. It will help to insure speed. Such a corporation would be interested in developing the widest possible usage of the system as soon as possible. It will help to insure adequate private financing if we do not close the door to noncarrier investment.

The personnel of this Satellite Corporation—its officers and employees—will have to be qualified fully from a technical viewpoint. Undoubtedly we will have to draw upon the experience and knowledge of the communications industry, and those connected with it.

This is not an argument, however, which can be transposed to the field of investment. No expertise in communications should be required for the purchase of stock. None has ever been required to buy stock in existing communications carriers.

I would like to turn briefly to other aspects of the legislation.

I have emphasized the public interest in this program and that the administration bill seeks to take account of that interest by providing for appropriate governmental responsibilities.

Inevitably, and whether this legislation contains explicit provisions or not, NASA, the FCC, and the Department of State would all have responsibilities for aspects of this program. The powers given in this bill to the FCC and to NASA by this legislation are not new powers. They do clarify existing responsibilities and existing statutes.

We have gone somewhat further in the formal provisions with respect to the Department of State because of the foreign policy implications of this system. It was not our intention in doing so to interfere needlessly or unwisely with the negotiations which this Corporation would conduct with foreign entities with respect to usage, charges, and the repayment of investment which other countries might make in the satellite themselves.

Such negotiations should, in general, be conducted in customary private channels. But we also believe that the Department of State should be informed and should, in appropriate cases, take necessary measures to further the foreign policy of the United States.

Certain provisions of this bill also deal with the President, and thus the executive branch generally. I do not think there can be any question that Presidential leadership with respect to this program

is important. These provisions merely emphasize this. They are designed to put the full weight of his office behind the policy objectives stated in the bill.

I have heard it said that we were creating here, in the representative of the President, a "czar." The act does not provide for any such czar. It does provide an appropriate means for the President to be informed as to what is going on in the Corporation, and in the agencies of Government, so that he may use his office to expedite the development of the global system which we feel is so important.

That is all that is intended. That is all the bill provides.

Mr. Chairman, let me conclude by emphasizing the great importance I attach to this legislation. I believe it is essential to the public interest that provision be made for public participation and that we do not turn this Corporation over to a select few companies.

I recognize the special role of the communications industry. We want them to participate, as they are now participating, in this program.

But we believe that the general public, which has made this program possible through its tax payments, should be given an opportunity to invest and that investment will protect the public interest and promote the speedy realization of this program.

I thank you Mr. Chairman.

Mr. Chairman, I would like to introduce Mr. Katzenbach, the Assistant Attorney General in charge of the Legal Office of the Department of Justice.

The CHAIRMAN. Yes.

Will you give your full name for the record?

Mr. KATZENBACH. Nicholas Katzenbach.

The CHAIRMAN. Mr. Attorney General, thank you very much for your statement.

It is somewhat brief but certainly very pointed and clear as to the position of the administration and particularly the Department of Justice.

It is a great, outstanding, and important Department which you head. We are very glad to see positive testimony on this subject in order to make as good a record as we can and in order to point up clearly the issues involved.

I am glad you have Mr. Katzenbach with you.

As I understand it, your office participated in the development of this legislation or was consulted in the consideration of it?

Mr. KENNEDY. That is correct, Mr. Chairman.

The CHAIRMAN. Is that true?

Mr. KENNEDY. That is correct, Mr. Chairman.

The CHAIRMAN. And so that all members might know, if they don't already, Mr. Katzenbach, I believe, was assigned to this responsibility?

Mr. KENNEDY. That is correct, Mr. Chairman.

The CHAIRMAN. Did your Department have anything to do with the development of this program prior to the policy statement of the President on July 24 of last year?

Mr. KENNEDY. We participated in some meetings about that period of time, Mr. Chairman. Now, I do not know whether it was before. It might have been in May or June of 1961, but it was about that time that we became intimately involved with the program.

The CHAIRMAN. The Council was asked by the President to give consideration to the policy objectives and problems in this field and to make recommendations, was it not?

Mr. KENNEDY. Asked the Council?

The CHAIRMAN. Yes, the Space Council.

Mr. KENNEDY. Yes, that is correct.

The CHAIRMAN. And the Space Council did, in carrying out the request of the President, consider the policy matters, and ultimately did make a recommendation to the President?

Mr. KENNEDY. That is correct, Mr. Chairman.

The CHAIRMAN. As Attorney General, are you not a member of the Space Council?

Mr. KENNEDY. I am not, Mr. Chairman.

The CHAIRMAN. The Department of Justice is not a member?

Mr. KENNEDY. We are not.

We were brought in at a very early date, however, in view of the efforts that were going to be made to define and draw up some language in connection with this program. We were brought in and participated actively in most all of the meetings.

The CHAIRMAN. I believe the Space Council then is composed of the Department of Defense, the Department of State, NASA, the Atomic Energy Commission, and one other?

Mr. KENNEDY. The Vice President is chairman of it.

The CHAIRMAN. Oh, the Vice President, yes. There are five members.

Do you know whether the Council consulted the various other agencies of the Government who are not members of the Council?

Mr. KENNEDY. I believe they did, Mr. Chairman.

The CHAIRMAN. And it was in this way that the policy statement was adopted by the Council and recommended to the President of the United States?

Mr. KENNEDY. That is correct, Mr. Chairman.

The CHAIRMAN. Then the President issued his policy statement, on July 24 of last year?

Mr. KENNEDY. That is correct.

The CHAIRMAN. We have had testimony before the committee that the President then asked the various interested agencies and Departments of the Government for their comments and suggestions for getting a bill together, and Dr. Welsh, according to the testimony before the committee, who is executive secretary of the Council, was requested by the President to bring together the ideas of all of the agencies and departments of the Government for the purpose of forming the bill.

Are you familiar with that procedure?

Mr. KENNEDY. I am, Mr. Chairman.

The CHAIRMAN. Then you know that that is the way the bill was actually developed?

Mr. KENNEDY. That is correct.

The CHAIRMAN. Do you know whether the President ever asked the Space Council as such, just the five members, to try to recommend a bill; that is, the language of a bill?

Mr. KENNEDY. I understand that was their responsibility.

The CHAIRMAN. We have had some question about it here, and the testimony has been that the President did not ask them to provide a bill.

The President asked them for a policy statement, and I understood from previous testimony we had here that the President asked Dr. Welsh to get all these views together; and Mr. Katzenbach cooperated, assigned by you from the Department of Justice, to help out with the legal phase of it; and, in this way, a bill was formulated.

However, it was never presented, and the Council itself, as such, was never asked for its recommendation on the positive language.

Mr. KENNEDY. Yes. There was no formal presentation to the Council of the language, but on this question of whether the President expected the staff of the Council, and through the Council, to consult with all the agencies and departments of Government and draw up a bill, the President did expect that.

The CHAIRMAN. What I was trying to clear up, Mr. Attorney General, was some discussion during the course of the hearings on the question as to why the Council was not asked, as a Council, for its recommendation, and there have even been some implications that there has been division within the Council itself.

That we do not know, I do not know, the record does not show any, but I was trying, for clarification purposes, to develop the record as to where the responsibility was in each field. Apparently, from what I understand has been developed, the President asked the Council to consider the broad objectives and policy matters, but then, after that decision had been made, he then used the usual method of reaching language for developing certain programs by going to all of the agencies and departments involved, not only those that might be members of the Space Council, but the Federal Communications Commission, the Department of Justice and many others who might be involved with it.

Mr. KENNEDY. That is correct, I believe, Mr. Chairman.

The CHAIRMAN. Now, you have discussed one phase of the problem, as I see it here, that has evoked a great deal of attention, and that is the question of ownership.

There seem to be three basic points that are in dispute, and on which there is a great deal of controversy. One is the problem of ownership of the Corporation itself; the other one, with reference to the ownership of what is referred to as ground facilities; and the other one, primarily the type of stock to be issued.

There are others, of course, many others, but, to me, those are the basic ones.

Now, do you envisage that this Corporation—let us forget about who may own it now—that this Corporation is to make available appropriate satellites in order that this kind of a system can be used in connection with our communications, both domestically and internationally?

Mr. KENNEDY. I do.

The CHAIRMAN. Regardless of who might own, whether it would be A.T. & T. or whether it would be the carriers themselves or whether it would be the general public, are you familiar with the proviso in each of these proposals where all who are engaged in this business will have the opportunity of utilizing this facility?

Mr. KENNEDY. I am, Mr. Chairman.

The CHAIRMAN. You think that should be a requirement of law?

Mr. KENNEDY. I do.

The CHAIRMAN. That, by itself, would take some of the fear from the question of whether it would become dominated by one company or not, would it not?

Mr. KENNEDY. Well, I think that the great problem in that area, Mr. Chairman, would be for the future. I think if you had this Corporation dominated by this one company, namely, A.T. & T., that there would not be the efforts in the future to develop new systems, new ways, new ideas for improving communications, because they already have their facilities across the United States, and facilities in connection with other countries of the world.

It is possible and conceivable, as this corporation develops, that more revolutionary ideas will develop. Then, as I said in my statement, there would develop an obvious conflict of interest between the A.T. & T., which has put millions or hundreds of millions of dollars into investment in the facilities that already exist, whether to go ahead and try to develop new and revolutionary ideas which might put their present facilities out of business. I think that is the great danger.

The CHAIRMAN. My time is up, but I want to ask you one other question. There are many questions I have in my mind about these proposals.

You did not mention if you had any views with reference to the ownership of the ground facilities.

Mr. KENNEDY. I know this has concerned you and a number of the members of the committee, Mr. Chairman. In our bill we leave it flexible, and it seems to me that that is the best way to deal with this problem.

The CHAIRMAN. Do you think the Federal Communications Commission should have authority to determine who should own a certain ground facility in the public interest?

Mr. KENNEDY. Yes, I do.

I think it is possible, Mr. Chairman, that the Corporation might find it necessary in the public interest to have a ground facility.

The CHAIRMAN. I have been trying to find out if that is true. That if the reason I wanted I wanted to ask the question, but I will not pursue it at this moment.

Mr. Springer?

Mr. SPRINGER. May I say to the distinguished gentleman that last week, on a far less important subject, we had a witness that took 39 pages and 47 minutes to make his statement.

On a very important subject you have come here with nine pages and delivered it in 11 minutes and have given an excellent, clear and concise statement of your position.

Mr. KENNEDY. Thank you, Congressman.

Mr. SPRINGER. Mr. Chairman, I have no further questions.

The CHAIRMAN. Mr. Williams?

Mr. WILLIAMS. General, throughout your testimony, there is a continuing reference to the desire for a maximum public participation in this Corporation.

As I understand it, under the administration's bill there would be participating stock known as class A stock sold to the general public at \$1,000 a share up to \$1 billion, I believe, maximum?

Mr. KENNEDY. That is correct.

Mr. WILLIAMS. In order to ensure the widest participation possible, would you suggest the addition of language that would restrict the purchase of these shares to one per purchaser?

Mr. KENNEDY. I think, Congressman, I would be in favor, rather, of lowering the limit from \$1,000 down to maybe \$100, or a figure that perhaps you gentlemen would suggest. I do not think that we should be wedded to \$1,000, by any means.

Mr. WILLIAMS. The bill carries a thousand dollar figure.

Mr. KENNEDY. Yes. And I think that we——

Mr. WILLIAMS. That brings up the question.

Assuming that the \$1,000 figure were carried into the bill, there could be a maximum of 1 million stockholders at \$1,000 each.

Mr. KENNEDY. Yes.

Mr. WILLIAMS. Presume, for example, that the principle of carrier ownership were followed. I understand that the vice president of A.T. & T. testified the other day that they had some roughly 3 million stockholders in their corporation.

Now, would it not appear that if they were given the opportunity, even though they might dominate the whole system, as it appears to be feared by the administration, that there would still be a wider participation through their ownership with 3 million shareholders than would be true under the administration's program of 1 million shares being sold at \$1,000?

Mr. KENNEDY. Well, there are——

Mr. WILLIAMS. In other words, you would already have 3 million "built in" participants.

Mr. KENNEDY. Yes.

There are a number of points that I would make.

First, as I said, I would not be wedded to the \$1,000. I think that could be lowered.

No. 2, assuming that the A.T. & T. was permitted to dominate, to control the Corporation, in order to invest, therefore, in this Corporation in space satellites——

Mr. WILLIAMS. You understand, I am not suggesting A.T. & T. domination, of course.

Mr. KENNEDY. I understand, but, as I understood your question, we are presuming that.

Mr. WILLIAMS. That is right.

Mr. KENNEDY. In order to invest in the satellite program, which is terribly important, one would have to buy some stock of the A.T. & T. Co., and it does not seem to me that that is a proper way to proceed.

I think if somebody wants to invest in this very revolutionary process, that they should be permitted to invest directly and not have to go through the A.T. & T. Co., where your investment is obviously diluted.

Mr. WILLIAMS. Have you had an opportunity to read Mr. Minow's testimony?

Mr. KENNEDY. I read it.

Mr. WILLIAMS. On page 11 of his statement, after giving a list of reasons why serious doubt should be raised as to the desirability of common carrier participation, he adds this language. He says:

On the other hand, permitting ownership of the Corporation only by the common carriers would give maximum assurance that its facilities and operations will be responsive to the communication needs of the public. It would facilitate the

orderly integration of satellite facilities in the existing worldwide communication networks. It would simplify the establishment of agreements and arrangements with foreign governments and interests who will share in the ownership and use of the satellite system. It would, finally, in our judgment, expedite maximum use of the system on a worldwide scale.

Then he proceeded to discuss the charge that has been made that there might be a possibility of one-carrier domination of this system, and on page 12 he says:

Because the Commission shares these concerns, we strongly recommend the imposition of specific safeguards.

He said these safeguards, in effect—

will limit each carrier, regardless of the amount of its investment, to equal representation on the Board of Directors of the Corporation, require the Corporation to use such measures as competitive bidding in the procurement of equipment and services, authorize the Commission to determine the appropriate technical characteristics of satellite facilities, and empower the Commission to allocate satellite channels among authorized carriers, and to take such other measures as are required to insure all authorized carriers nondiscriminatory use of the system upon reasonable terms. These and other safeguards, in combination with continuing governmental surveillance of the affairs and operations of the Corporation, should effectively serve the public interest in the prevention of abuses of dominance or conflicts of interest.

Following that, he proceeded to state that unrestricted ownership of the Corporation is not necessary or desirable as a means of preventing such abuses. Would you like to comment on that?

Mr. KENNEDY. You want me to make some comment?

Mr. WILLIAMS. On the position taken by the FCC.

Mr. KENNEDY. I would say on the first point—there are a number of points—on the question of whether it makes it more difficult if there are a lot of stockholders, I do not see that the testimony—I would raise a question of the consistency, Congressman, on the testimony.

They say that it is possible to regulate the A.T. & T. Co., and yet they have some 3 million investors.

I do not think that the problem of how many investors you have in a particular company or corporation is going to affect the degree of regulation that the FCC can impose. I do not see that that raises a very great problem.

As Mr. Minow says, they have had no difficulty enforcing their rules as far as the Telephone & Telegraph Co. is concerned. That would be No. 1.

The second point that I think is very strong, Congressman, is the fact that the U.S. taxpayers have invested \$175 million in this. We have invested \$175 million. I think that this should not just be turned over to one company. I think Americans generally are interested in this very farseeing and revolutionary idea, into which they have put so much money already and will put more, and I just cannot see the argument for turning it over to one company, which is, in fact, all we would be doing.

That is the central—

Mr. WILLIAMS. I quite agree with you.

No one is suggesting turning it over to one company. That is the very point of Mr. Minow's testimony that I just read to you.

No company would be permitted to elect more than two members to the Board of Directors. Therefore, you have a wide distribution of

carrier ownership which would prevent one-company domination, in my opinion.

Mr. KENNEDY. You would not allow people, though—we are interested in the free enterprise system. That is what has been effective. And we in this administration feel very strongly about that.

We feel that everybody who wants to and can invest in this company should be permitted to invest, and it should not be restricted to just three, four, or five companies in the United States.

That is the center of this whole problem, in my judgment. We are not wedded, Congressman, to this particular and specific language in our bill.

I mean we are wedded to this principle, but we are not wedded to the particular language, and I would hope that maybe through these hearings and through your interest in these efforts that maybe some suggestions or ideas will come about which will improve the language and improve the method of operation.

This is the best we could come up with over the period of the last 6 or 8 months, but I think that there have been suggestions that have been made during the course of this hearing which will improve the language and improve the ideas and improve the bill, and we would be glad to incorporate many of those things.

I do think, though, the principle on which we feel extremely strong, and in which I am completely opposed to the statement of Mr. Minow and some others and the representatives of the A.T. & T., is on the question of who should participate.

We feel very strongly that Americans generally should be permitted to participate in this Corporation.

It has been American money, American know-how, American taxpayers' money that have made this possible, and I think everybody should be permitted to participate.

Mr. WILLIAMS. The question is how to get the widest participation possible, and I am quite surprised that the administration should submit a bill providing for thousand-dollar shares of stock, if they are really looking for wide participation.

Now, you have indicated that you would like to see the stock reduced to \$100 per share?

Mr. KENNEDY. Yes, and the administration would accept that, Congressman.

Mr. WILLIAMS. I beg your pardon?

Mr. KENNEDY. The administration generally would accept that.

Mr. WILLIAMS. I am wondering if you would feel also that there should be a limitation on the amount of stock sold to any individual.

Mr. KENNEDY. I think that is a possibility. It is something that should be studied. I would not have any immediate viewpoint on it. We have a limitation now, you know, of 15 percent of the authorized and 25 percent of the outstanding, whichever is greater.

That limits it some.

Maybe you would want to limit it further.

The CHAIRMAN. Mr. Schenck?

Mr. SCHENCK. Mr. Chairman, I, unfortunately, did not get here in time to hear Mr. Kennedy's statement. I shall read it very carefully.

The CHAIRMAN. Mr. Mack?

Mr. MACK. I would like to join with the Chairman and Mr. Springer in commending you on a very fine statement. I was particularly

pleased that you discussed the major policy considerations. I have two or three questions on basic policy.

At the present time our Government has exclusively handled all of the research and development with regard to the satellite program, is that correct?

Mr. KENNEDY. Not completely, Congressman.

Mr. MACK. Up to within the last 6-month period, is that correct?

Mr. KENNEDY. I do not know when the contracts, arrangements, were made with the RCA, the Hughes Co.; and A.T. & T. is also building its own satellite.

We have done the military one which is Advent, and these others are in the course of development, and I do not know when all of that started, but I think that some private companies, corporations, have contributed in some fashion to this program.

But, generally, in answer to your question, generally, the majority of the effort has come through the Government.

Mr. MACK. Do you envision a separate military satellite system?

Mr. KENNEDY. I think that they intend to use this Corporation for transmission of regular messages. They, very likely, will use the satellite operated by this Corporation.

But they will also have developed their own satellite, the Advent satellite, which will deal with and handle military messages.

Mr. MACK. And they would continue their research and development in this field after the establishment of a corporation?

Mr. KENNEDY. Yes.

Mr. MACK. To promote the satellite program?

Mr. KENNEDY. That is correct, Congressman.

Mr. MACK. In your statement you mentioned you wanted to create a global communications satellite system as rapidly as possible. Progress up to this time has been satisfactory, has it not?

Mr. KENNEDY. It has, Congressman.

Mr. MACK. And up to this time it has been operated primarily and almost exclusively by the Federal Government?

Mr. KENNEDY. That is correct.

Mr. MACK. Do you feel that it is at all premature at this time to turn this responsibility over to any type of private corporation?

Mr. KENNEDY. I think we are getting to a stage now where we can take this step, Congressman.

As I mentioned, RCA, Hughes and A.T. & T. are developing their own satellites. They will be ready in 1963 to have them placed in the skies, and so I think the decisions along the lines of what we are discussing here today will have to be made in a very short period of time.

Mr. MACK. Under your program, how do you envision these satellites will be placed in the skies?

Mr. KENNEDY. By the Government.

Mr. MACK. By our Government?

Mr. KENNEDY. Yes.

And I do not think there is any dispute about that. That has to be done through boosters furnished by the Government.

Mr. MACK. Yes.

And we have not yet determined what type of a satellite system will be utilized, have we?

Mr. KENNEDY. No.

There are a number that have been suggested, Telstar, Advent, and Relay. It is a question of whether it is going to be an upper orbit system or whether it is going to be a lower orbit system.

There are some advantages and disadvantages in both, and that will have to be worked out and will have to be developed. And, again, I think it is another argument against having this controlled or dominated by just one company, Congressman, because A.T. & T. is working on their own satellite, and theirs is a lower orbit satellite; it is possible that the upper orbit satellite might be better, and that might cause a conflict of interest.

Mr. MACK. You have indicated in your statement that there would only be one commercial communication system.

Mr. KENNEDY. That is correct.

Mr. MACK. Who will make this determination as to which system is to be used?

Mr. KENNEDY. That will be done by the Corporation in conjunction with the Government and foreign countries, because foreign countries, of course, where the communications are with foreign countries, are going to be making efforts and attempts themselves in this field.

Mr. MACK. And do you envision that the private Corporation would continue experimentation in this area?

Mr. KENNEDY. That is correct.

Mr. MACK. And ultimately the private Corporation would decide which system is to be utilized for this purpose?

Mr. KENNEDY. Well, it is going to have to be done with the Government, with NASA, with the Federal Communications Commission, and with other countries, because other countries are going to have to use these satellites also, if we want to communicate with other peoples.

Mr. MACK. Then the Government does have a great interest in this matter, and at this time, at least, it would be inadvisable to completely discharge this responsibility?

Mr. KENNEDY. That is correct, Congressman.

Mr. MACK. That is all I have right now, Mr. Chairman.

The CHAIRMAN. Mr. Younger?

Mr. YOUNGER. I think the Attorney General has made his position very clear. I have no questions.

The CHAIRMAN. Mr. Friedel?

Mr. FRIEDEL. I want to compliment the Attorney General for his very brief statement.

He has covered it very well, but there is one thought in my mind that I am a little disturbed about. As I understand it, there will be two classes of stock.

Mr. KENNEDY. That is correct.

Mr. FRIEDEL. Class A and class B. Class A will be the voting stock. Class B will be owned by common carriers. The common carriers will be regulated so far as rates are concerned?

Mr. KENNEDY. That is correct.

Mr. FRIEDEL. The class A stockholders are going to be looking for dividends?

Mr. KENNEDY. That is correct.

Mr. FRIEDEL. Now, I am wondering whether the greatest investors, if it is spread out at \$100 or \$10 to try to get the maximum number of public investors, whether their purpose or motive will be in getting dividends, much more so than giving the public a real communica-

tions system that it should have? You will have men running the Corporation, the A stockholders telling the common carriers what to do and what not to do.

I do not know if that is the right procedure. I am a little worried about that, and I would like to pursue that a little bit further.

Mr. KENNEDY. I think, first, that what is extremely important is:

That this satellite system is going to have to compete and its operators are going to have to be successful if they are going to pay dividends.

They are going to have to compete with communication facilities that already exist, within the United States and exist as far as foreign countries are concerned, and if they do not compete effectively and successfully, then there are not going to be any dividends because nobody is going to use these facilities.

So I think that is a very strong argument that they are going to do the best possible, take the best possible steps to try to make this Corporation a success.

They will have to call upon expertise and know-how in this field in order to make it successful.

It seems to me, watching American business, the success and effectiveness of American business during our history, that they will do that. So I am optimistic about how it will be run, Congressman.

I cannot give you any guarantee, but I would think that people who are running it and have a say in it, especially with Government looking over their shoulders to make sure it is run in the public interest, will run it properly.

Mr. FRIEDEL. The Corporation, the A stock directors, their main interest will be in making dividends for the stockholders.

The common carriers' main interest is trying to get communications satellites where they will have more participation from other countries all over the world.

I am wondering which should be first. I notice you said in your opening statement:

We are anxious to create a global communications satellite system as rapidly as possible.

Now, what is the best and fastest way to get this communications job done, by the common carriers, now, the A.T. & T. and the other companies that want to do it, or by this private Corporation?

I think the A.T. & T. and the other corporations are willing to invest \$65 to \$78 million immediately. They are willing to do that right now and they have the know-how. I think they could speed it up much faster than the Corporation could.

Mr. KENNEDY. Yes.

I think, to my judgment this bill, the administration bill that has been offered, gives sufficient guarantees so that this matter will move ahead expeditiously. I think that there will be investments, in my judgment, Congressman. Again, I do not know and I cannot give any guarantee, but I think that there will be investments by many people in the United States.

Mr. FRIEDEL. I am very much for the bill, but this is the one thought that has me a little concerned.

One more question—

Mr. KENNEDY. Of course, carriers, I might say, Congressman, are interested in profits as well as the private individual.

Mr. FRIEDEL. Yes, but their rates will be regulated.

Mr. KENNEDY. And, of course, so will these, Congressman.

Mr. FRIEDEL. We do not know, 8 percent, 10 percent?

Mr. KENNEDY. They will be regulated by the same group that is going to regulate the A.T. & T.'s rates, the carrier's rates. These will all be regulated.

Mr. FRIEDEL. I would like to see that in the bill. I raised that question the other day, and, as I understand it, these investors in the A stock will be looking for dividends. It is going to be a long-range thing. They are not going to get dividends in a year, 2 years, or 5 years.

Mr. KENNEDY. First, it describes this Corporation as a common carrier within the meaning of existing law, which regulates them, and then page 10, paragraph 5, "prescribe such accounting regulations," this tells what the power of the communications, the FCC, is.

At the top, under section 214(d) of the Communications Act, as amended—

requires the establishment of such communications by the Corporation, the appropriate common carrier or carriers. Paragraph (5). Prescribe such accounting regulations and systems, engage in such ratemaking procedures as will insure that any economies made possible by a communications satellite system are appropriately reflected in rates for communications services.

It is quite specifically in there, Congressman.

Mr. FRIEDEL. Doesn't that cover just the common carriers?

Mr. KENNEDY. Oh, no, no, this is about the Corporation. This all deals with the Corporation as well as the common carrier.

Mr. FRIEDEL. Would they set a rate for the common carriers to look out for themselves? Whatever they charge the common carriers, they are going to have to make a profit.

Mr. KENNEDY. But the common carriers are regulated by the FCC.

Mr. FRIEDEL. Yes.

Mr. KENNEDY. And the Corporation is regulated, and their rates are regulated by the FCC, so there is not going to be any difference. Both of them are going to be regulated by the FCC, Congressman.

Mr. FRIEDEL. Then what will be the great interest of the American public to invest money?

I think it is going to work out eventually, but the interest and dividends will be regulated.

Mr. KENNEDY. Well, I suppose for the same reason that 2.5 million people invest in A.T. & T.; it is regulated and yet people invest in it. They want profits.

This is the system of the future, and I suppose people feel that there are going to be great possibilities and they want to be a part of it, and they will invest.

I think it is indicated, that A.T. & T., which has had a good deal of experience in this field, is willing to put up \$65 million in it, so they must think it is going to be successful, and I think a lot of other people think it will be successful.

Mr. FRIEDEL. I do, too.

I notice in the bill you are bringing in the State Department. I wish you would correct me if I am wrong. I think at the present time the common carriers have to report to the State Department any contracts they make with a foreign carrier or foreign government; is that true?

Mr. KENNEDY. Foreign countries, I believe. It is customary to do so.

Mr. FRIEDEL. It is customary.

Well, in your bill here—and that is what I want to know—do you know whether the common carriers have had any difficulty in making their own arrangements with foreign countries or with foreign carriers?

Mr. KENNEDY. No, it does not change that at all.

Mr. FRIEDEL. It does not change it?

Mr. KENNEDY. Congressman, it does put some specific language in as far as this Corporation is concerned, which is section 402:

The Corporation shall not enter into negotiations with any international agency, foreign government or entity without prior notification to the Department of State, which will conduct or supervise such negotiations. All agreements and arrangements with any such agency, government or entity shall be subject to the approval of the Department of State.

I think that language could be changed and modified, Congressman.

Mr. FRIEDEL. In other words, it would just be advisory?

Mr. KENNEDY. I think, in view of the fact that this has such strong foreign policy implications, and the fact that we do not want to build up this satellite system so it just is a system between the wealthy countries, that it should also be utilized and used in the less developed nations.

That is a foreign policy consideration.

There are others, because a lot of this will have to take place between the governments.

That paragraph was placed in there—I think perhaps the language is stronger than it has to be—and I think that it could be modified. But I think we would have to recognize the interest of the Government.

Mr. FRIEDEL. At the present time we have never had any difficulties with our carriers and foreign governments' carriers?

Mr. KENNEDY. I would not be able to say "never have had any difficulty," but I think, generally, it has worked very well.

Mr. FRIEDEL. Thank you very much.

The CHAIRMAN. Mr. GLENN?

Mr. GLENN. No questions, Mr. Chairman.

The CHAIRMAN. Mr. Rhodes?

Mr. RHODES of Pennsylvania. Mr. Chairman, I would like to ask the Attorney General this:

One of the objectives mentioned in your statement, Mr. Attorney General, is to provide the opportunity for foreign participation through ownership or otherwise. Do you see a future possibility of the development of an international monopoly?

Mr. KENNEDY. There is going to be probably one commercial satellite system, Congressman, and so, from that point of view, I suppose it is an international monopoly.

However, England will make its own arrangements; the Soviet Union will make its arrangements; other countries will be making their arrangements; and they will be negotiating as a separate entity with this Corporation that the United States and the American people are establishing.

So there is monopoly in the fact that there is just this one communications system, but it takes it out of the monopoly in the fact that they will have to negotiate with one another.

Mr. RHODES of Pennsylvania. Do you have any way to know whether the foreign countries interested in developing their own systems will all operate with government-owned monopolies?

Mr. KENNEDY. You mean whether they are going to do it under the aegis of the government themselves?

Mr. RHODES of Pennsylvania. Yes.

Mr. KENNEDY. I would think that probably certainly the vast majority will do that, will have the government do it.

Mr. RHODES of Pennsylvania. That is all, Mr. Chairman.

Mr. KENNEDY. I think it is a very good bet as far as the Soviet Union is concerned.

The CHAIRMAN. Mr. Devine?

Mr. DEVINE. I have no questions, Mr. Chairman.

The CHAIRMAN. Mr. O'Brien?

Mr. O'BRIEN. Just one question, Mr. Chairman.

General, would it not be likely that the rates for the use of the new satellite system would have to be much higher for a much longer period of time if they were divorced for ratemaking purposes from the existing profitable operations of the carriers?

Mr. KENNEDY. I think it is too early to determine that, Congressman.

I think it is a possibility, but I think it is going to depend on the cost of the estimate. The estimate cost now is somewhere between \$100 million and \$400 million. It is going to partially depend on that. It is going to depend on many points, I believe, so I think that is very doubtful.

Mr. O'BRIEN. Thank you.

That is all, Mr. Chairman.

The CHAIRMAN. Mr. Keith?

Mr. KEITH. No questions.

The CHAIRMAN. Mr. Dingell?

Mr. DINGELL. No questions, Mr. Chairman.

The CHAIRMAN. Mr. Curtin?

Mr. CURTIN. No questions, Mr. Chairman.

The CHAIRMAN. Mr. Rogers.

Mr. ROGERS of Florida. Thank you, Mr. Chairman.

Mr. Attorney General, I have been impressed by the fact—and I think certainly the administration should be commended—that rather than adopting the approach that the Government, itself, should develop this, you have come forth with a very strong program for the private enterprise system.

Mr. KENNEDY. That is correct.

Mr. ROGERS of Florida. Which I think is most commendable, and I think is received extremely well by this committee, and I am sure the Congress.

I am somewhat concerned about the provisions of the control given the Department of State in negotiations that we have gone into with some of the prior witnesses.

I believe I heard you state just previously that you thought perhaps this provision for the State Department might be a little strong in the bill.

Mr. KENNEDY. Yes.

Mr. ROGERS of Florida. And perhaps might be modified some?

Mr. KENNEDY. Yes. And we would be glad to work on language with this committee to try to determine that.

Mr. ROGERS of Florida. I think that might be helpful, because I think it does need some modification there. Also, I wondered—

Mr. KENNEDY. And I think particularly the language, "which will conduct or supervise such negotiations," should be changed.

Mr. ROGERS of Florida. Yes. That would be a provision that I would be very much concerned with, having the State Department carry on negotiations which normally have been done by the carriers themselves.

Mr. KENNEDY. I think we would have to recognize, as I said, the role of the Government.

Mr. ROGERS of Florida. Yes.

Mr. KENNEDY. In this, because other countries are just beginning to develop their satellites. We want to make sure, as I said earlier, that the underdeveloped countries have possibilities.

We have to make sure that if this Corporation got into existence and wanted to make some arrangements with a country that would be against our foreign policy to make such arrangements, that the State Department was informed; the President was kept informed.

I think that was the only purpose of section 402, which I think is a necessary and laudable purpose, but I think that the language can be altered, and we would be delighted to work with this committee to try to work out mutually acceptable language.

Mr. ROGERS of Florida. I think that would be helpful.

Just one last question: It has been suggested to the committee that perhaps the carriers be allowed to be the ones to buy the stock, as we have discussed earlier this morning.

I wondered if your concern was based on this: That if you had one class of stock which was owned only by the carriers, and each carrier, though—it was proposed—would be limited to two Directors, say A.T. & T. invested \$65 million and the other carriers \$13 million, do you feel that this larger investment would carry with it a de facto leverage that then might come in and made a decision as to whether it would be the satellite system that would be placed in the farthest altitude or the lower satellite system, which I believe is what A.T. & T. feels might be more reasonable?

Mr. KENNEDY. That would be my second argument against it, which I think is a good argument.

The first one, of course, is what I mentioned: The fact that the American taxpayers have paid most of this already, at least \$175 million.

I have heard it argued before this committee, Congressman, that, well, if you allow A.T. & T. to come in here, they will be able to change their rates to account for this investment, and, therefore, this is another advantage.

Of course, that, again, is coming back to the American taxpayers, because the rates for communications, for telephone calls, are going to go up, based on A.T. & T.'s investment in this Corporation.

So, again, it is coming back to the American taxpayers who are going to, for the most part, pay for this whole operation, and yet not have really any great rights for investment.

I think that at least they should have the right, if they want to, to invest in this. I think that is the first, the strongest and most compelling reason, and the second is what you mentioned.

Mr. ROGERS of Florida. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Sibal?

Mr. SIBAL. No questions, Mr. Chairman.

The CHAIRMAN. Mr. Hemphill?

Mr. HEMPHILL. Thank you, Mr. Chairman.

I want to see if I get you clearly on the question of jurisdiction.

As I conceive the constitutional powers as expressed by the creation of the FCC by the Congress, the Congress still has inherent powers over communications, as I understand it.

Mr. KENNEDY. That is correct.

Mr. HEMPHILL. And the reason that the President of the United States seeks the Executive power which is sought in this bill is because of the international relations only?

Mr. KENNEDY. Well, international relations and also, of course, the fact that the United States owns space up to a certain distance.

Mr. HEMPHILL. It has always owned the space up to a certain distance, and I assume that it has been recognized that the FCC, itself, has no power over communications except those powers imposed or sanctioned by Congress?

Mr. KENNEDY. That is correct.

Mr. HEMPHILL. And wherein does the Executive get any powers over communications?

Mr. KENNEDY. Excuse me?

Mr. HEMPHILL. Wherein would the executive branch of the Government get powers over communications unless we sanction them in this particular legislation?

Mr. KENNEDY. I think under the Constitution, Congressman, that there are certain powers that are given generally to the President of the United States and the executive branch of the Government to negotiate—

Mr. HEMPHILL. What about in the field of communications?

Mr. KENNEDY. Well, negotiate in foreign affairs, for instance, the fact that the executive branch of the Government has developed these satellites all along, I think, indicates quite clearly the authority that the executive branch of the Government has.

Mr. HEMPHILL. I would agree with you on the foreign relations, but in the other field I think we might well draw a parallel between the quarter of a billion dollars we have put into the development of these jets, and we did not say at that time that the private companies should not have the right to utilize them fully, which I am happy to say they are doing.

Now, in connection with what you say the Presidential powers are, on page 2 of your statement you stated that you are anxious to make the system global, and that the technology should be shared by underdeveloped countries as well as developed, and that was also included on page 2 of the House bill here.

Would that be accomplished by assigning channels to be held back to those countries developed that have got the experience and know-how, with a loan from some place to get into the business, or how would that be effective?

Mr. KENNEDY. You mean how is it going to be effective—

Mr. HEMPHILL. As far as the undeveloped countries which are presently without experience, without technology, without money and without ambition.

Mr. KENNEDY. Well, in the first place, of course, they have to develop their own communications within their country for this to be effective.

We want to insure that as they do develop in these countries, that there are arrangements made so that they can participate. Because it is immediately profitable to have an arrangement with England, France, or some of these other countries, the more undeveloped countries which have not developed their systems yet could be ignored—we want to insure that their interests are watched and cared for because this plays such a major role as far as our foreign policy is concerned.

Mr. HEMPHILL. Directing your attention to page 7 of your statement, the last paragraph, you said:

Public participation will help us avoid domination by a single carrier. It will help insure competition in all its ramifications.

As I understand the present situation, A.T. & T. dominates in the field of international communications today to such an extent that the Government uses 85 percent of its communications, is that not correct?

Mr. KENNEDY. I believe so.

Mr. HEMPHILL. And, so far, the Department of Justice has not found it necessary to bring any suit to disparage that effort on the part of private business of America?

Mr. KENNEDY. Well, there was a suit that was brought some years ago, Congressman, because of concern in this whole field, which ultimately led to a consent decree which was signed by the Department of Justice, but which those attorneys from the Department of Justice who had participated in the suit refused to sign because they thought it was so unreasonable and unfair to the Government.

These matters obviously receive continued attention from the Department of Justice, and others.

Mr. HEMPHILL. But you do not contemplate reinstating that particular litigation?

Mr. KENNEDY. I would not get into any of those matters here, Congressman.

Mr. HEMPHILL. On page 9 of the—

Mr. KENNEDY. I would say, in answer to that question, that we are not going to reinstate a suit that has already been litigated.

Mr. HEMPHILL. As to the consent decree, if you found out there had been departures from that decree, certainly you would reinstate the suit, I would assume?

Mr. KENNEDY. That is correct.

Mr. HEMPHILL. On page 9 of the proposed legislation, you set up certain things which the Federal Communications Commission shall do, and that is not only its authority, but its congressional direction, as I understand it. It is 201(c) on page 9.

Mr. KENNEDY. Yes, that is correct.

Mr. HEMPHILL. The thing that concerns me is that we have a Federal Communications Commission, the adequacy of which no one has questioned in this hearing so far.

Why could not a private company be subject to such regulations or why would not a private company be subject to such regulations that actually the Federal Communications Commission could at all times express the will of the Congress and, thus, the will of the people in this particular field?

Could it not?

Mr. KENNEDY. I think there are limitations in what they can do, however.

Mr. HEMPHILL. If we wrote it into the legislation authorizing the communications satellite, what they could do and what they could not do, would it be your judgment that that would be the law of the land?

Mr. KENNEDY. Let me say this, Congressman: I think that it gets beyond what the FCC was set up and established to do.

I think there are many areas where they cannot operate as effectively as other branches of the Government, for instance. I think, as I said a number of times, this has broad foreign policy implications which must be taken into consideration. For the two major reasons that I gave you, I do not think that this should be turned over to just one company and dominated by one company:

No. 1, the fact that the American taxpayers have already contributed so much; and,

No. 2, for the future, on the question of competition.

I think that the FCC can do very little about either one of those things.

Mr. HEMPHILL. The purpose of my question was to ask, because you are the Chief Attorney of the United States, whether or not you thought that Congress had the power in legislating in this field to write into the authority of the Federal Communications Commission the authority to restrict this thing from being such a monopoly or to write into it the guidelines for future administration?

Mr. KENNEDY. I think that they do. I would like to look at the language. I do not know that it is practically possible, in my judgment.

Mr. HEMPHILL. Of course, the language is set out in this administration's—

Mr. KENNEDY. I do not think that resolves the points I made, Congressman. I think you have to have the other language in here as well. Not just what is set out as far as the power of the FCC is concerned. I think the other language is necessary as well.

Mr. HEMPHILL. Well, when the Department of State representative was here the other day, and also when representatives of the industry were here the other day, I understood the testimony to be that while there might have been some little difficulties, there had always been cooperation between the industry and the Department of State in effectively protecting and promoting the interests of this Nation.

Do you know of anything to the contrary?

Mr. KENNEDY. No, I do not. As I said, I am not familiar with all those negotiations or discussions that have taken place, so I could not testify on that. I do not know anything to the contrary, however.

Mr. HEMPHILL. I want to join the others in thanking you for a very fine presentation.

Mr. KENNEDY. Thank you, Congressman.

The CHAIRMAN. The chairman feels it would be appropriate at this time that we consider ourselves in a temporary recess.

(A short recess was taken, after which the hearing was continued.)

The CHAIRMAN. Mr. Thomson?

Mr. THOMSON. Mr. Chairman, I just have one subject that I would like to present to General Kennedy.

I am disturbed by what I consider to be an extreme departure from the ordinary concept of regulated free enterprise in the structure of the Corporation which you recommend.

I am not aware of any precedent in American corporations for the President to have an observer who has the right to the records, papers, correspondence, and files of the Corporation—that is, a private corporation—the right to attend any and all meetings of the Board of Directors or the stockholders of the Corporation.

I am wondering how we can assert to the world that this is an activity of a true free enterprise system with participation of the Government to that extent in free enterprise.

Mr. KENNEDY. There would be a number of things I would say to that.

In the first place, the FCC, Congressman, has access to all of these books, records, correspondence now.

Mr. THOMSON. That is correct.

Mr. KENNEDY. So that is not terribly revolutionary, because they have that right and have had that right for many, many years. That is not a great departure.

This is a new concept and a new idea. It is going to be extremely important, this Corporation, not only for permitting or allowing Americans to invest in a new company, in a new corporation, and perhaps make profits, but it also is going to have a tremendous effect on our foreign policy, and perhaps even the future of the country, in its relationship with other countries, in relationship with some of the underdeveloped countries.

Therefore, obviously, the U.S. Government is going to have a very, very intimate interest in what occurs as far as this Corporation is concerned.

We tried to write in some language which would indicate that, so that the U.S. Government would still have something to say and have some rights if, for instance, this Corporation wanted to go off and start into some relationship with Communist China at a time we felt that this was inadvisable, the President of the United States, who was in control of foreign policy, would have some say in that.

Now, again, we are not wedded to this particular language, Congressman.

This is what we developed and evolved out of our discussion as to how to accomplish that purpose. I think we are all agreed that that purpose is necessary, and we would be glad to sit down with you or with the staff of the committee or with members of the committee and try to develop some new language or approach this in a different fashion, if you think that advisable.

That is a method which we developed, but there is the very distinct possibility that there are a number of other methods which might be much better, and I would hope that during the course of these hearings, if you have any suggestions to give us, we would be glad to send

someone to your office and try to work something out and develop it so that we have new language.

I think that the chairman realizes—and I want to make sure that all of the members of the committee realize—that we are all interested in trying to accomplish the same thing; that this is a new and revolutionary idea, and the language might not be the best possible.

But we would be glad to work out with the chairman, or anybody that he designates, to try in these areas that cause concern to you such as this, to try to develop other language.

We are very interested in certain of these principles which I have tried to enunciate today. But, as far as the specific language is concerned, we are ready and we do not think that this is the end-all, as far as that is concerned, Congressman.

Mr. THOMSON. General, I am very encouraged at your statement. I think it is important to America, if we are representing this effort in space communications to be free enterprise, that it must be solely and completely that or we will suffer from the opposition pointing to the relationship between our operation through Government and their operation through Government domination.

Now, would your suggestion that you are not wedded to the language in the bill apply also to page 11, lines 16, 17, and 18, which says essentially that the President shall designate the incorporators who shall arrange for initial stock offering and take whatever other action is necessary to establish the Corporation—

including the filing of articles of incorporation which shall thereafter be amended only upon the initiation or by the approval of the President.

Mr. KENNEDY. Let me take that point by point.

I think on the question of the President of the United States shall designate the incorporators, I do not think that is terribly important.

The incorporators get the Corporation started.

It seems to me that the best person to do that probably would be the President of the United States.

They then withdraw and they are out of there, but somebody has got to be designated as incorporators, and it seems to me that as good a person as possible is the President.

There may be other suggestions or recommendations. We suggested the President, just to get the Corporation begun properly. He is out of there immediately after the Corporation comes into existence, but somebody has got to start it.

I do not offhand have another candidate. You might have a suggestion. I do not think that is terribly serious, Congressman.

On the question of whether filing would thereafter be amended, changing and filing articles of incorporation shall be initiated only via the approval of the President, that can be changed.

What we did not want to do is to have the approval of Congress to get this Corporation begun and started and then have these new people come in, and within 6 months or within a few months, go ahead and change the whole thing and change the operation.

We think that some kind of guarantees should be given.

Now, maybe you would want to limit it in a period of years that it would not be changed for the first year until we saw how it got started, and then that Congress would have to be notified and the executive branch of the Government would have to be notified, if these things were changed or altered.

But I think, again, that we would want to keep—I say I am not wedded to the language. I am wedded to the principle, Congressman, and I think we all agree on that, that this Corporation is so very important, has such a major effect, that we have got to be very careful in what way it proceeds.

These pieces of language that you point out are different from incorporations generally, but I think that realistically they would have to be different.

This is something different than anything that has ever been conceived in the United States. This is a revolutionary idea.

We can change and alter some of this language as long as we remain with the principle, but I would be glad to discuss those things also.

Mr. Katzenbach pointed out that the ad hoc committee, Congressman, suggested that there be Presidential Directors, Directors appointed by the President, and maybe that is the solution. Maybe that is the better way of proceeding, and I think that has a good deal in its favor.

Mr. THOMSON. I think it is terribly important for our position in the world that if we represent this to be free enterprise, we should be very careful that there can be no suggestion by the opponents of our philosophy that it is not free enterprise; and we want it to succeed.

Mr. KENNEDY. I think that the administration and you certainly agree on what we think needs to be a major effort to make this free enterprise and open to the public.

Mr. THOMSON. Thank you very much, General.

That is all.

The CHAIRMAN. Mr. Healey?

Mr. HEALEY. Mr. Attorney General, there are a few questions that I want to get straightened out in my own mind. You stated before that this would cost roughly \$400 million?

Mr. KENNEDY. I believe I said the estimates are somewhere between \$100 and \$400 million.

Mr. HEALEY. Suppose, for example, this got out of hand and went to, say, \$800 million. Would the homeowner in any way be made to foot part of this bill?

Mr. KENNEDY. The who?

Mr. HEALEY. The homeowners, the telephone subscribers.

Mr. KENNEDY. Again, that would be according to what the FCC determined to be the rates based on the investment of the A.T. & T. Co. and other companies.

We do not expect that it is going to get out of hand like that.

Mr. HEALEY. No other questions, Mr. Chairman.

The CHAIRMAN. Mr. Dominick?

Mr. DOMINICK. Mr. Kennedy, would you say this was a speculative security that should be offered to the public?

Mr. KENNEDY. It is a speculative security, I would say, Congressman.

Mr. DOMINICK. Were the provisions proposed in the bill cleared with the Securities and Exchange Commission at all?

Mr. KENNEDY. I do not believe so, but maybe I can check and find out. I think there was some discussion with them. I do not know that it was cleared formally, Congressman.

Mr. DOMINICK. Generally speaking, in a private enterprise corporation the board of directors controls the policy of the corporation and

the officers control the day-to-day operations. Would you say that was true under the bill that you have proposed here?

Mr. KENNEDY. Generally.

Mr. DOMINICK. I am not sure that "generally" is enough, because I notice here that the Attorney General is given the right to bring a suit for the granting of equitable relief in the event that the Corporation does not carry out policy and purposes consistent with section 102.

And section 102 provides that the Corporation must be responsive to the national objectives, must serve the communication needs of the United States and other countries, and contribute to world peace and understanding.

Mr. KENNEDY. That is why I said "generally."

Mr. DOMINICK. I just wonder whether any Board of Directors is going to be able to determine whether they are doing that or not doing that whenever they make any decision.

Mr. KENNEDY. As I think I have pointed out, Congressman, on a number of occasions, that this plays a very major role in the foreign policy of our Government.

There were three alternatives:

Because it plays such a major role, you could have it run, operated and directed by the Government, itself; or you could have one of these other two alternatives: Have it open to all of the public with a certain amount of controls that have to exist because it plays such a major role; or have it open to just the common carriers, with the same kind of control.

And it was our judgment that it should be open to as many people as possible, but because of the Presidential interest, the Executive interest and the Government interest in this matter and congressional interest, there must be certain amounts of ties with the Government that would not otherwise exist.

Mr. DOMINICK. Would you not, in fact, say that in view of this Executive interest which you have indicated, that the Government, in fact, is controlling the Corporation?

Mr. KENNEDY. No.

Mr. DOMINICK. That is all I have, Mr. Chairman.

The CHAIRMAN. Mr. Kornegay?

Mr. KORNEGAY. Mr. Attorney General, my question is along the line that Mr. Hemphill has raised.

I gather from your answer to his question that you feel that the limitation on the number of directors representing any particular carrier would be insufficient to safeguard against domination by a carrier such as A.T. & T., is that correct, sir?

Mr. KENNEDY. That is correct.

Now, would this be under the bill that has been suggested by others?

Mr. KORNEGAY. Yes. I am just going into that line.

In other words, the Corporation would be set up whereby the investment would be limited to one class of stock which would be purchased by the carriers.

Those who support that theory say that it could be safeguarded, domination could be prevented, by limiting to, I believe two, the number of directors representing or sponsored by any particular carrier, irrespective of the amount of the investment in the Corporation.

Mr. KENNEDY. I understand.

Mr. KORNEGAY. But I gather that you feel that that would be insufficient to safeguard against domination?

Mr. KENNEDY. That is correct.

Mr. KORNEGAY. Would you mind just giving me some of your reasons or some of your thinking for your position?

Mr. KENNEDY. Well, I think I have mentioned a number of reasons, Congressman.

The fact that this tremendous investment, where even the figures that have been offered so far of \$65 million by one carrier and \$13 million by seven other carriers, I think, will play a major role in the policy decisions that would be made by that Corporation.

I think that is quite clear. In my judgment, that is what would happen.

Mr. KORNEGAY. All right, sir. That is all, Mr. Chairman.

Mr. DINGELL. Mr. Chairman?

The CHAIRMAN. Mr. Dingell.

Mr. DINGELL. Because I came late, I did not ask any questions earlier. Could I be recognized very briefly?

The CHAIRMAN. Yes, you may proceed.

Mr. DINGELL. Mr. Attorney General, you have been concerned, I am sure, with the antitrust aspects of the legislation before us. Am I correct?

Mr. KENNEDY. That is correct.

Mr. DINGELL. As a matter of fact, this was one of the important criteria that went into the consideration both by the Executive and by the FCC, I am sure, was it not?

Mr. KENNEDY. It was.

Mr. DINGELL. Now, let me get your comments on the antitrust aspects of this insofar as the stockownership proposals are concerned in the different bills.

As a general principle, would I be correct in understanding that if a group of carriers were to get together to accomplish the purposes of setting up a system of space satellite communication without statutory authorization, that the Department of Justice would look very carefully at such a joint effort to determine their function, and, to determine the impact of that consortium upon the antitrust laws and the impact of the antitrust laws upon such a consortium; is that correct?

Mr. KENNEDY. It would, that is correct.

Mr. DINGELL. Do you have any feelings at this time with regard to the antitrust aspects of a joining together of a group of carriers in a consortium to establish a system of space satellite communications without outside ownership, insofar as the antitrust laws are concerned?

Mr. KENNEDY. Yes.

Mr. DINGELL. Would you tell the committee what your feelings on that are?

Mr. KENNEDY. I think that to have this once again dominated and controlled by just a few companies who would get together to set up or establish such a corporation, I think, would cause a good deal of concern in the Department of Justice, in the Antitrust Division.

No. 2, I think not only that activity per se, but also the implications as far as the future is concerned when that corporation would be competing with, or supposedly in competition, particularly with one of those companies, the A.T. & T. Co., which has the facilities on the ground, I think that would cause a great deal of concern.

Mr. DINGELL. Or with any of the other constituent companies?

Mr. KENNEDY. Overseas.

Mr. DINGELL. Which happened to be the principal shareholders?

Mr. KENNEDY. That is correct.

Mr. DINGELL. Is this the reason that the executive has recommended a different form of stockownership?

Mr. KENNEDY. No, it is not the major reason.

Mr. DINGELL. Is it a consideration?

Mr. KENNEDY. It is a consideration.

Mr. DINGELL. You have indicated that it is not the major reason. What is the major reason?

Mr. KENNEDY. I mentioned, No. 1, the fact that the U.S. taxpayers have paid so much of this already, some \$175 million, through 1963.

So, therefore, we feel that the American taxpayers who have paid so much of it so far should have the right to invest in it if they want to.

No. 2, just the mere fact, getting away from the antitrust laws, of the domination of one company, A.T. & T., would have under the other recommendations or the other suggestion, domination that they would have at the present time, and the fact that, in our judgment as far as the future is concerned, as to developing new ideas, new ways, new experimentation, that they would not be as enthusiastic about doing it as would a corporation that was not dominated by them. There would be a conflict of interest with facilities that they already own and control.

Mr. DINGELL. Does this last concern also involve itself in antitrust considerations, too?

Mr. KENNEDY. Yes; to the extent that I mentioned.

Mr. DINGELL. I am grouping a little bit, Mr. Attorney General; I hope you will bear with me. I would like to see this be as good a bill as possible.

Mr. KENNEDY. Yes.

Mr. DINGELL. I am firmly committed to private ownership of the facility, and think that that concept is a wholesome one. Assuming that the proposal were to go through with one type of stock whose ownership was limited to the carriers as set forth in the one form of legislation before this committee, would that in your mind raise any antitrust questions?

Mr. KENNEDY. It would.

Mr. DINGELL. As you read that particular piece of legislation, do you read into it any exemption from the antitrust laws by reason of the authorization from the Congress to set up a specific type of stock ownership?

In other words, would the mere existence of the stock ownership as provided in the one bill—

Mr. KENNEDY. I think I can answer that question.

I think that that is a very difficult question, Congressman. Where on the face of it, this kind of activity would appear to be a violation of the antitrust laws, the fact that Congress should pass such a bill, and if such a bill was signed by the President of the United States, would it then be authorization by Congress to circumvent what would be an apparent violation of the antitrust laws? I think that it is a difficult question, but something that would have to be taken into consideration.

Mr. DINGELL. You have indicated that this would arouse a great deal of concern on the part of the Department of Justice with regard

to antitrust laws and the broad, general policy of the United States under those antitrust laws.

Do you then feel that the provisions of H.R. 9696 dealing with stock ownership being vested entirely in one small group of international common carriers would constitute a change or a violation or an exemption from the existing antitrust laws?

Mr. KENNEDY. I think that the way I answered it earlier, Congressman, would be as far as I could go here. I think it would raise a serious question, and it would be a matter that would receive our study, if it was done just by themselves without the approval of Congress and without Congress setting up a special Corporation, as they are doing. Now, the effect of Congress doing that, as I say, would again have to receive study.

Mr. DINGELL. In the event that Congress chooses to take this course, would you recommend that we put in language into H.R. 9696 expressly stating that this does not give exemption from the antitrust laws, the authorization to utilize this form of stock ownership?

Mr. KENNEDY. I think if they put that in, Congressman, it would raise a question whether just on the face of it corporations were not violating antitrust laws.

Mr. DINGELL. Thank you very much, sir.

Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Attorney General, did I understand you to say earlier that you felt that this system should be inaugurated as early as possible, and its purpose would be to supplement our present communications system?

Mr. KENNEDY. That is correct, Mr. Chairman.

The CHAIRMAN. In other words, it makes available, then, an additional method of transmission of communication to what we have today?

Mr. KENNEDY. That is correct, Mr. Chairman.

The CHAIRMAN. Which is by the various methods that were explained to us rather indelibly a few days ago in the description we heard of the present domestic and international operations, and the history of the whole communications program as we have it now.

You said in response to a question a while ago that you think that there should be a provision requiring that all users, that is, all carriers, should have the privilege of using this system?

Mr. KENNEDY. I think it is—

The CHAIRMAN. I believe that is incorporated in each of the bills.

Mr. KENNEDY. That is what I believe, Mr. Chairman.

The CHAIRMAN. You mentioned that you thought that the Commission's suggestion for equal representation by carriers on the Board would be preferable, or did I misunderstand you?

Mr. KENNEDY. I do not think I got into that, Mr. Chairman.

The CHAIRMAN. You did indicate that you would favor competitive bids?

Mr. KENNEDY. That is correct.

The CHAIRMAN. I am trying to develop the record further with reference to the implications that would be involved with a proposal of this kind.

To what extent should the Government, through one of its agencies, participate in the operation or decisional process of the Corporation?

You stated at page 9 of your statement that the Department of State should be informed. We have had some testimony on that subject.

Further, you say:

In appropriate cases, take necessary measures to further the foreign policy of the United States.

I developed this with some witnesses previously in an effort to try to clear my own mind as to what authority the Department of State should have.

I think it has been clearly shown that the State Department on any international extension of service in this field should be informed of any actions that were taken.

I believe we are all in agreement on that thus far. I have not noted any differences of opinion.

The representative of the State Department did so state and the representative of the A.T. & T. so stated that it was their present procedure, and they thought it should continue.

But there is a question as to whether or not the State Department should have further authority to require certain service or have any authority with reference to the extension of operations of the service.

I proceed first on the basis, Mr. Attorney General, that there may be some situation that would arise where the State Department would find it advisable to put a station, say, in some remote place of the world but in developing that point we learned that it is thought that the Federal Communications Commission would have the authority under its supervision and regulatory authority to require any common carrier to provide a service where it was needed, I think with only one restriction, and that is that it would not in any way jeopardize the soundness of the organization.

That raised a question in my mind as to just how far we should go in giving the State Department authority in the affairs of the Corporation.

As I say, I started out with the idea that it probably would be a good thing, but, going beyond the requirement that the State Department would be informed, I am not so sure now.

If you have any further views on that, for my own information I would be glad to have them.

Mr. KENNEDY. I think that we are probably referring to section 402.

The CHAIRMAN. Yes, that is the part of it.

Mr. KENNEDY. The other part where it is mentioned is section (3) or subsection (3) of section (c) of 201, where it says:

In any case where the Secretary of State, after obtaining the advice of the Administration as to its technical feasibility, is advised that commercial communications with a particular foreign point by means of a communications satellite system should be established in the national interest, institute forthwith appropriate proceedings under section 214(d).

The CHAIRMAN. Yes.

Mr. KENNEDY. So that is the authority.

And then, in view of that, whether it is necessary to have the language in section 402:

The corporation shall not enter into negotiations with any international agency, foreign government, or entity without a prior notification to the Department of State, which will conduct or supervise such negotiations—

and:

All agreements and arrangements with any such agency, government, or entity shall be subject to the approval of the Department of State.

The CHAIRMAN. This has been discussed and it has been before us so we are quite familiar with it.

Then we go back to section 201, page 6:

In order to achieve the objectives and to carry out the purposes of the Act, the President shall—

and it goes ahead and enumerates a number of objectives, and it appears that the overriding objective here is with reference to the relationship with foreign governments.

Mr. KENNEDY. Yes.

The CHAIRMAN. Our international bodies and so forth, which seems, when you consider the whole thing together, that it gives the State Department rather far-reaching authority.

Mr. KENNEDY. Yes.

The CHAIRMAN. It seems to me that way, I may be wrong.

Mr. KENNEDY. As I said earlier to Congressman Thomson, we would be glad to modify some aspects, particularly the language which is of concern to you, obviously, "conduct or supervise such negotiations," particularly the word "conduct"; and "all agreements and arrangements with any such agency, government, or entity shall be subject to the approval of the Department of State." I think the power that is given under section 201, subsection (4) section 201(c)(3), and perhaps some of the language in section 402, I think that that would cover it, Mr. Chairman.

The CHAIRMAN. Well, I call that to your attention in order that you might be thinking about it in case we have an opportunity to consult your Department further.

Mr. KENNEDY. We would be glad to.

As I said, if the principle is recognized, we would be glad to work out the language, Mr. Chairman.

The CHAIRMAN. Now, just two or three questions that I asked the witness for A.T. & T. on which I would like to have your comment. I asked Mr. Dingman questions with reference to a single class of stock, what would be the effect if Congress were to follow the suggestion that would limit any carrier to 25 percent of the outstanding stock and 15 percent of the authorized stock.

He commented that, as far as he is concerned, it would depend on whether or not the ground stations were included in the Corporation or whether they were excluded. He seemed to think if the Corporation did not control or own the ground stations, that A.T. & T. could live within that limitation.

Would you have any comment on such a limitation, or is that something new that you would want to think about?

Mr. KENNEDY. I think if the public is permitted to invest, that that would be satisfactory, Mr. Chairman.

The CHAIRMAN. That would be the next question, in which I asked Mr. Dingman what would be his reaction to a suggestion that carriers, international carriers, would own, say, 60 percent or be permitted to purchase up to 60 percent of the total, and the additional 40 percent would be subscribed by noncarriers. I have no particular reason why I said 60 percent. I could have said 50 or 70 just as well, but

what I had in mind is perhaps for the carriers to have authority to purchase some amount more than 50 percent, and the public would be permitted to participate in the additional authorized capital.

Mr. KENNEDY. I would like to study the figures. If anything along those lines was worked out, I would be in favor of having it at least 50-50, Mr. Chairman.

The CHAIRMAN. The reason my mind is cloudy on the present proposal is that you have a limitation of \$1 billion capital in the Corporation, at \$1,000 a share.

That is in the administration bill, and it is proposed that no carrier be permitted to have more than 25 percent of the total outstanding capital stock or 15 percent of the total authorized stock.

Mr. KENNEDY. That is right.

The CHAIRMAN. In view of the testimony we have had here, it appears that some of the carriers, some six carriers, may very well—under the program that was worked out—participate, and there are four carriers that would be questionable.

It is quite obvious that the ones that were interested in it, as you indicated earlier, would have a very small subscription, comparatively speaking, to the entire stock issue.

It is not clear to me just how much you would expect the 10 carriers to subscribe to, if they change their mind and come in and want to subscribe to the stock—they might take up the whole thing. There is no limitation except it says that no one carrier can have more than so much.

But suppose the others come in and say, "We want to take 20 percent," and the first thing you know, they have got 100 percent of the stock, and the public does not have any opportunity to take any.

Mr. KENNEDY. I think if there was an agreement along those lines, Mr. Chairman, that we could also have an agreement, as I said, maybe not limiting it to people who purchased a \$1,000 piece of stock. Also, it would not be necessary to have this limitation of \$1 billion.

The CHAIRMAN. I want to make it clear that I certainly do not intend to imply that there has been any agreement, anywhere, on this problem yet.

Mr. KENNEDY. I understand, Mr. Chairman. I did not mean to imply that, either.

The CHAIRMAN. I do not know just what will come about. We are endeavoring to take the basic policies, which I think are very important, and then try to bring them together in a program that would be practical, advisable, wise, and advance the cause of our country.

I know that is what you want.

Mr. KENNEDY. Yes. As I said earlier, we have these ideas. It is a new concept, and we have been studying it, and I think that through these hearings and through your efforts, Mr. Chairman, and the efforts and interest of the members of this committee, that I would hope that out of all of this, that we are going to come up with the best possible ideas and the best possible language. That is what we are all interested in.

The CHAIRMAN. Thank you very much.

Again, let me compliment you on your presentation here this morning. You have been exceedingly helpful. Let me thank you

on behalf of the committee for your appearance here and your testimony.

Mr. KENNEDY. Thank you, Mr. Chairman.

The CHAIRMAN. The committee will adjourn until 10 o'clock tomorrow morning.

(Whereupon, at 12:10 p.m., the hearing was adjourned, to reconvene at 10 a.m. Wednesday, March 21, 1962.)

COMMUNICATIONS SATELLITES

WEDNESDAY, MARCH 21, 1962

HOUSE OF REPRESENTATIVES,
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D.C.

The committee met, pursuant to recess, at 10:20 a.m., in room 1334, New House Office Building, Hon. Oren Harris (chairman of the committee) presiding.

The CHAIRMAN. The committee will come to order.

Continuing the hearings this morning on legislation to provide for a commercial communications satellite system, we are very glad to welcome to the committee our colleague and the distinguished and able chairman of the great Committee on the Judiciary of the House of Representatives, Mr. Celler.

Mr. Celler, we are very glad to have you with us. If you will take a seat or stand, whichever you prefer.

STATEMENT OF HON. EMANUEL CELLER, A REPRESENTATIVE IN CONGRESS FROM THE 11TH CONGRESSIONAL DISTRICT OF THE STATE OF NEW YORK; ACCOMPANIED BY LOUIS ROSENMAN, ASSOCIATE COUNSEL, ANTITRUST SUBCOMMITTEE OF THE COMMITTEE ON THE JUDICIARY

Mr. CELLER. I do not mind standing.

I remember once a story told about Lord Sherwood in the House of Lords. He came into the chamber one day and he did not feel very well and he was seated and he addressed the Chair in the House of Lords and somebody made a point of order that you have to stand when you address the Chair in the House of Lords. So he got very angry and in high dudgeon he said, "If I can't speak standing, I shall speak sitting. If I can't speak sitting, I shall speak lying."

And several members said, "Which you will do in either event."

The CHAIRMAN. Very well, you may stand or sit.

Mr. CELLER. Mr. Chairman and members of this very splendid committee, with which our committee always works in complete liaison, I appreciate the opportunity of appearing before this distinguished committee to present my views on a matter of fundamental national importance.

The early development of the space satellite communications system, under the leadership of the United States, is a national objective with global benefits. Such a system gives promise of revolutionizing world communications, and offers the unprecedented opportunity for greater understanding among nations.

I warmly endorse the President's decision to permit the American public and private industry to take its rightful place in this new

venture. I am confident that a broadly based public corporation under adequate Government regulation can effectuate the national policy.

However, we are creating here a private monopoly. The administration's bill does not contain, in my estimation, sufficient safeguards to protect the public interest. It is for this reason that I have introduced H.R. 10772. This bill adopts the President's approach and incorporates the additional safeguards necessary to protect the public interest.

The Federal Communications Commission appears determined to deliver into the grasping hands of the communications industry the fruits of the labor of the American taxpayer. It is like a fool making a feast for a wise man to eat it. It is difficult to determine accurately the amount of public expenditures related to space activities. However, it would be greatly in excess of the \$175 million which the National Aeronautics and Space Administration has programed through fiscal 1963 for space communications.

In truth and in fact, I tried to get the amount of money that the Government had spent for research and development on space. It is almost impossible to secure. The amount of money, as I said, is incalculable, and the \$175 million is minuscule as far as the total expenditures are concerned.

Take, for example, the cost of the experimentation with boosters and launching apparatus. That goes way beyond \$175 million. All those expenditures made a space communications satellite system possible.

So, when we speak of \$175 million, this is far below the amount that has actually been spent to make possible a communications system.

To make a gift to a few companies of a potentially multimillion-dollar-a-year monopoly, made possible by the expenditure of these substantial amounts of taxpayers' money would be unconscionable and would frustrate the national interests for generations to come.

A.T. & T. has been boldly picketing—and I use that term advisedly—boldly picketing the Halls of Congress advancing the argument that the communications companies should be the sole beneficiaries of the communications satellite system. They do not even want to include those who make the hardware, concerns such as General Dynamics, Westinghouse, and General Electric. They have experimented almost to the same degree as A.T. & T. But the A.T. & T. wants those companies excluded.

From A.T. & T.'s viewpoint, this is quite understandable. This would mean that A.T. & T. would have a dominant and very probably a monopoly position in ownership and operation of the space communications system. In effect, A.T. & T. would be the chosen instrument of the U.S. Government to own and control civilian space communications to the detriment of the public interest.

As the Department of Justice has stated—

the continuing opportunity (for A.T. & T.) to favor its own facilities would always be present and would inevitably result in discrimination or suspicion of discrimination no matter how strict might be the policy of A.T. & T.) to provide equal service to its competitors.

Furthermore—

the opportunity to favor the purchase of equipment produced by A.T. & T.'s subsidiary, Western Electric Co., would be irresistible.

The head of the Justice Department's Antitrust Division has testified that—

the degree of concentration in this field may very well be one of the reasons why America is not further advanced in the field today than it is * * *. Our system has not produced as it should, and the public interest has suffered because there has been undue concentration in this field.

Judge Loevinger, head of the Antitrust Division, warned:

The Department of Justice firmly believes that a project so important to the national interest should not be owned or controlled by a single private organization irrespective of the extent to which such a system will be subject to governmental regulations.

Let me tell you, gentlemen, A.T. & T. is not lily white. It is an old offender. After protracted hearings in 1957 and 1958, the House Antitrust Subcommittee of the Committee on the Judiciary, of which I am chairman, concluded that the FCC—

has neglected in the 24 years of its existence to establish fundamental principles or standards by which to judge the reasonableness of Bell System's interstate telephone rates.

It was only after continuous prodding by the Antitrust Subcommittee did the FCC "negotiate" with A.T. & T. a \$50 million annual reduction in interstate toll telephone rates. In other words, it was only because of insistent prodding by our committee that we compelled the FCC to ask and petition and then negotiate with A.T. & T. to reduce exorbitant rates that the American taxpayers pay amounting to \$50 million a year.

I would like to emphasize that this rate reduction was through "negotiation" with A.T. & T. and was not regulation by the FCC as envisioned by Congress.

Moreover, the FCC has candidly admitted that it has never regulated A.T. & T.'s overseas rates. On July 6, 1961, the FCC wrote A.T. & T.:

As you are aware, the Commission has never had before it data on which to properly evaluate the level of earnings on your overseas communications services.

Secondly, the FCC has done little or nothing to regulate international rates. The A.T. & T. seems to be a law unto itself, impervious to regulation. And now we are going to give them this monopolistic, monolithic satellite system, as they would say in some parts of my district, on a silver platter.

I am not for it, I can assure you.

Mind you, the FCC has still not instituted a formal rate hearing. It is content to slowly crawl along the route of an "informal inquiry" to determine the investment, expenses, and revenues associated with A.T. & T.'s overseas communications services.

It appears almost impossible to regulate A.T. & T. on earth. We would need divine guidance to regulate A.T. & T. if it is permitted to capture the space communications system. H.R. 10722, with its safeguards, give us, in my humble opinion, the best chance of preventing A.T. & T. from escaping effective regulation of its space communications activities.

Anyone reading the various proposals now pending before the Congress must be impressed by the multitudinous complexity of the

functions that must be carried out by the various departments and agencies, if we are to have a successful space satellite system. The Federal Government would be required to:

1. Furnish launch vehicles.
2. Launch the satellites and provide launch crew and associated services.
3. Insure that the Corporation provides communication services to areas of the world where such services may be uneconomical, if it is determined that providing such services would be in the national interest.
4. Coordinate continuing governmental research and development with the activities of the private corporation.
5. Regulate the ratemaking process.
6. Insure that the satellite system established is technically compatible with existing facilities with which it will interconnect.
7. Consult with the private corporation regarding technical specifications for satellites and ground stations and in determining the number and location of such facilities.
8. Insure that present and future access to the system on an equitable and nondiscriminatory basis is made available to all authorized communications carriers.
9. Preserve competition in the field of supplying goods and services to the Corporation.
10. Insure that opportunities are provided for foreign participation in the system.
11. Supervise any change in the internal structure of the private corporation.
12. Supervise the relations of the proposed Corporation with foreign governments and with international bodies.

It would be intolerable from the standpoint of public interest to relegate the U.S. Government to the role of a passive observer when it has made and must continue to make the major contributions toward a successful space satellite communications system at an inordinate public expenditure, and then require the Government to go through all these 12 functions.

The mere mention of those obligations of the Government are staggering.

It is for this reason that, under H.R. 10772, the Board of Directors of the proposed Corporation would include the Attorney General, the Secretary of State, the Administrator of the National Aeronautics and Space Administration, and the Chairman of the Federal Communications Commission. These are the operating heads of the departments and agencies most crucially involved in effectuating the national policy for a space satellite communications system. If these agencies are to have the responsibilities of contributing to the success of this program, they must be cognizant of all the activities of the Corporation. These officials must have the opportunity to express their views reflecting the overriding national policy and interests.

They are not made directors, I want to indicate, in the administration's bill. But let me toy a minute with that idea of the need of having these public officials as part of the Board of Directors of the Corporation.

For example, if this system were bad and A.T. & T. were in control, the Soviets might put up a better system, and the propaganda loss to us would be incalculable.

If the system were bad, the United States would have to bail A.T. & T. out and pay for a new system.

Take the matter of jamming. A.T. & T. would be compelled to use our State Department to help them out. A.T. & T. does not wish, as it has indicated in the public prints, direct supervision over the foreign aspects of the system. But it would jolly well rush to the State Department to get intervention in case of difficulties. Witness the fact that the International Telephone & Telegraph only recently ran to the State Department when they got in difficulties with Brazil when one of the governors of the province in Brazil expropriated the property of I.T. & T.

The ultimate responsibility for effectuating the national policy regarding global communications through space satellites must rest with the President. The recent proposal by President Kennedy to Premier Khrushchev of a five-point cooperative program of space exploration, including communications by satellites, is the best example of this responsibility. I read this morning in the newspapers that the Soviet promises to cooperate on space data with the United States through the United Nations. It is for just such reasons that I have incorporated in H.R. 10772 a provision giving the President discretionary power to disapprove all acts, both by the Corporation and departments and agencies of the Government, in order to attain full compliance with the national policy regarding communications through space satellites.

H.R. 10772 provides that nine members of the Board of Directors be elected annually by the class A stockholders. This class of stock can be purchased by the American public and the communications common carriers. However, H.R. 10772 limits the ownership of class A stock by any person or corporation to not more than 10 percent of the authorized stock, or more than 15 percent of the outstanding stock. Under my proposal, all carriers put together would not be permitted to own more than 45 percent of the authorized or outstanding stock or elect more than six directors.

Under the administration's proposal no person or corporation would be permitted to own more than 15 percent of the authorized stock, or more than 25 percent of the outstanding stock. The administration's proposal does not limit the amount of stock that all communications carriers may own or the number of Directors that they may all elect. They could control six Directors or more absolutely.

The safeguards which I have incorporated in H.R. 10722 are necessary to protect the public interest by preventing any one company or consortium of companies from gaining control or dominance of the Corporation.

The decision of the President to broaden the base of ownership and participation to include not only the communications carriers, but also the general public, is fraught with great benefit to the Nation and to the future. It is for this reason I propose that the class A stock, as initially issued, shall be sold at a price of not less than \$100 per share, instead of \$1,000 per share.

The distinguished Attorney General, who yesterday appeared before this committee, said he would be willing to accept a reduction from \$1,000 to \$100 per share.

In addition, H.R. 10722 specifies that the stock be issued in a manner to insure the widest distribution to the American public. I believe

that the administration's proposal that the stock be sold at \$1,000 per share with no provision requiring wide distribution would exclude a great many Americans from participating in this new venture.

It appears to me that when we are preparing to break through into a new dynamic era of communications, that the American public would be willing overwhelmingly to support such an endeavor. I must reject the contention by A.T. & T. that the American public should be prevented from making a long-term investment in a national program for the betterment of all mankind.

Both the administration's proposal and H.R. 10722 recognize the special role of communications carriers by providing that they shall be the sole owners of the nonvoting class B stock. In addition, both proposals authorize the Corporation to issue other nonvoting securities, bonds, debentures, and other certificates of indebtedness.

H.R. 10772 provides that these investments will not be eligible for inclusion in the rate base of carriers for domestic service, but will be eligible for inclusion of the rate base of the carriers for other international communication services. The administration's proposal does not make this distinction.

The safeguards included in H.R. 10722 are necessary to protect the millions of American telephone owners, who will never make an overseas call, from being shackled with the heavy burden of continuously paying the communications carrier for facilities they will never use.

Under the administration's proposal the Corporation could own the ground stations, but is silent and ambiguous as to whether individual carriers may also own the ground stations. H.R. 10772 specifies that the ground stations of the American part of the space satellite system shall be owned and managed by the Corporation. This would not preclude communications common carriers from leasing the facilities of the ground stations, or owning and managing other ground stations outside the United States, its possessions, or territories.

Much of the revenue from the satellite system will come from handling the messages on earth. This safeguard is necessary to prevent any one company from gaining a dominant economic position in using the system to the detriment of other competing companies.

The FCC and the communications companies have contended that the satellite communications system is merely another link in an existing system. This is a gross distortion of the facts and shows lack of vision and desire to have this system operating as rapidly as possible. We already know that this system is likely to be of great value to meteorology, navigation, and space research. Only time, effort, and the freedom to innovate will determine what other uses may be developed for the benefit of the Nation.

The rapid development and full use of the space satellite communications system is a national goal and paramount to the selfish interests of a monopoly. A.T. & T. has proposed a low-random orbit system which would require approximately 400 satellites in polar orbit in order to obtain worldwide coverage. This proposal is made at a time when there is general agreement on the ultimate desirability of a system of three or four high-orbiting synchronous satellites, which would give global coverage and would be cheaper to both set up and maintain. If the existing communications companies are permitted to own and operate a system of their choice, they will have a strong motiva-

tion to retard its development and use in order to protect their vast investment in existing equipment and facilities.

On the other hand, a broad-based public corporation will have the incentive of profits to spur it in rapidly developing and utilizing this revolutionary means of communications.

Space satellites will revolutionize communications as the airplane revolutionized travel. Air travel as we know it today would still be in the realm of the future if Congress had delivered the airlines into the hands of the existing and established railroads. If Congress delivers this revolutionary facility into the hands of a few vested-interest companies, it will retard progress and make such giveaways as Dixon-Yates look like petty larceny.

The creation of a broad-based public Corporation within a framework of Government regulation is an opportunity to demonstrate to the world the strength and vigor of our system of government.

We are on the brink of taking a great step forward into a new dimension of progress. It would be a disgrace to our free enterprise system if, at this critical juncture, a few companies would take a step backward and state: "If you don't give us this monopoly, we will not cooperate."

Actually, A.T. & T. and I.T. & T. have stated they would not be interested if they could not go whole hog, grab it all. They said they would not invest. They say: "If you won't play the game our way, we are going to pick up our marbles and walk away."

I am sure that the many millions of stockholders of these communications companies would wish their companies to walk hand in hand with their Government for the benefit of the Nation.

I do not advocate outright Government ownership. I want nothing of that. On the other hand, I rebel against the idea of private ownership, where the control and destiny of the system would be the means of lining the pockets of a select group of companies. We arm ourselves with a sea of troubles if we embrace any legislation in this field which does not tether A.T. & T. and thereby safeguard the public interest.

You know, there is an old saying, Mr. Chairman, the horse neighs according to its rider.

If A.T. & T. desires to ride and we let A.T. & T. ride, the system would be compelled to follow its rein.

Thank you very much, Mr. Chairman.

The CHAIRMAN. Mr. Chairman, thank you very much for a statement of your views regarding this.

You certainly have given to the committee an entirely different type of discussion, and I believe a different solution to the problem, than any other witness has thus far given. I think it just about pinpoints all the various approaches to the problem now except the one final and only one left, and that is for an outright Government owned, controlled, dominated operation.

Mr. CELLER. That I would oppose.

I do not want that.

The CHAIRMAN. And we have had many other witnesses here. We have heard I.T. & T. It is true they did state pretty much the same as you have said they did.

A.T. & T., however, did not ever admit that they would not cooperate. I doubt if you can get that out of them.

Mr. CELLER. I just read in the newspapers that A.T. & T. had stated that if the administration's bill becomes law "the officers of

our company would have considerable difficulty in recommending any substantial investment."

The CHAIRMAN. They never did state categorically that they would not participate, regardless of the program. They did say they would have to wait and see.

I am sure there could be innumerable questions by members of the committee. Our time is limited, so we will have only a brief opportunity for such challenging questions as the members might want to ask.

Mr. Rogers?

Mr. ROGERS of Texas. Mr. Chairman, let me compliment you on your statement.

But do you not think the primary issue involved here is getting this thing into operation with the greatest possible speed?

Mr. CELLER. I do not see why it cannot go into operation with the greatest possible speed with the proposed Corporation.

The communications companies, if the administration bill is followed or my bill or a combination of the two is followed, would be embraced in the system.

We expect them to be embraced in the system.

Much of the research, development, and the expertise of the communications system already lies in the Government. I do not see why there would be any delay at all.

Mr. ROGERS of Texas. I gather from your statement you do not feel that the greatest speed in bringing about the orbiting of this satellite and putting it into play could be occasioned by turning it over to those companies that are presently engaged in the communications business and have been for a number of years?

Mr. CELLER. No, I do not think that they would accelerate the process at all.

For example, leave out the proposition of turning it over to the communications companies, leave out all the hardware manufacturing companies—I use that term—who have experimented to a great degree, and they are going to feel disgruntled and recalcitrant if they are left out in the cold.

What about the moneys that they have expended?

They would not continue to keep feeding the A.T. & T. with all their properties and all their inventions, which are in some respects highly important in this situation, if they are going to be left out.

We have very wonderful technicians in the National Aeronautics and Space Administration and in other Government agencies. We have a wonderful corps of men—men with tremendous expertise on this subject—the Department of Defense—

Mr. ROGERS of Texas. Mr. Chairman, with regard to that, what I am thinking about is the mechanics of moving this thing forward.

Now, you advocate selling this stock, of course, at \$100 a share and making it available to the public. Does your bill provide any limitation on the amount of stock that can be held by the public or the amount of stock that must be held by the communications companies?

Mr. CELLER. We have a limitation that no company can hold more than a specified amount and no combination of communications companies can hold more than 45 percent. We have that in there.

Mr. ROGERS of Texas. But would it not be possible, if we spread this stock throughout the country, that it would create a rather cum-

bersome situation from a voting and action standpoint on the part of that Corporation if this stock became so widespread that it would become unwieldy?

Mr. CELLER. Then you have to apply that same situation to the A.T. & T. A.T. & T. is a company that has the widest distribution of stock, has over 2 million stockholders, so you have to address yourself to that company, too.

That objection, if there is an objection, could be resident in the situation today with A.T. & T. If they are going to take over this great burden, it would be even more resident with them.

Mr. ROGERS of Texas. Your reference to the class B stock, what benefit would flow from the ownership of class B stock other than private users in the rate determination—

Mr. CELLER. That is the way they would get a return on their investment. It would be a defense of their own investment in the system, and they would also put the amount represented by that stock into their international rate structure. In that sense, they would get their money back.

Mr. ROGERS of Texas. There would not be any other benefit, because it would be nonvoting?

Mr. CELLER. That is right.

Mr. ROGERS of Texas. And the only benefit they would get would be to use it in their rate base?

Mr. CELLER. That is right.

Mr. ROGERS of Texas. Now, with regard to their rate base, you would, of course, feel, I am sure, that if this was turned over to a private communications company presently in existence to move forward with it, that it should be a separate and distinct entity with specific provision in there that whatever investment they put in this, they could not use in determining their rate schedule for domestic operations?

Mr. CELLER. The only limitation I have is that the investments will not be eligible for inclusion in the rate base of carriers for domestic service.

Mr. ROGERS of Texas. Yes.

Mr. CELLER. Only abroad and in space.

Mr. ROGERS of Texas. It was my understanding from their position that they did not intend to use their investment in the satellite operations or your international operations in moving in, in using it or employing it for their benefit of their domestic rate schedules.

Certainly, I think I am correct in that.

Mr. CELLER. Then there should be no objection to putting it in the bill.

Mr. ROGERS of Texas. I say I think you are correct in that particular. I think probably there was a misunderstanding.

Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Younger?

Mr. YOUNGER. Mr. Celler, after violently and with a great deal of feeling condemning all of the communications systems, along with the FCC and other Government agencies, who have you got left to run this system?

Mr. CELLER. I did not condemn all other Government agencies. I criticized the FCC for its failure to regulate interstate telephone rates. They have been laggard over the years. It was left to a congressional

committee to compel the FCC to do what they should have done years ago; namely, see that the American taxpayers' rates for telephone calls between States were adequate, reasonable, and just. As a result of the investigation of the House Antitrust Subcommittee of the Committee on the Judiciary, there was a reduction to you and to me and to the other American taxpayers, who use the telephones, of \$50 million a year.

We have a right to criticize the Federal Communications Commission and A.T. & T. for that situation. Beyond that, I think we have a right to criticize the FCC for their failure and for the failure of A.T. & T. to cooperate, if there was any action at all on the part of the FCC, concerning interstate or oversea rates.

I therefore criticize them.

I did not criticize any other agency.

Mr. YOUNGER. Here is your statement:

The Federal Communications Commission appears determined to deliver into the grasping hands of the communications industry.

Now, if that is not a clear violation of the public interest oath that the members of the Commission have taken, I do not know what it is. I am not a lawyer like you, but I cannot put any other interpretation on it.

Mr. CELLER. I used the words "grasping communications industry" advisedly, and I will defend that statement.

Mr. YOUNGER. Well, "deliver into the grasping hands."

Mr. CELLER. I beg your pardon?

Mr. YOUNGER. You say "deliver into the grasping hands." In other words, that is a violation. They are doing something against the public interest, which they have taken an oath to protect.

Mr. CELLER. I am referring to the proposal of Chairman Minow of the Federal Communications Commission—

Mr. YOUNGER. No; that is a unanimous opinion of the Commission.

Mr. CELLER. It is called, for convenience sake, the Minow proposal, and, therefore, I address myself to the Federal Communications Commission, and I criticize them for their delivery of this system, fraught with so much possible good for the Nation, completely over to the communications industry.

Mr. YOUNGER. "The grasping hands"?

Mr. CELLER. What is that?

Mr. YOUNGER. "The grasping hands"—

Mr. CELLER. Yes.

Mr. YOUNGER (continuing). "Of the communications industry"?

Mr. CELLER. I say "grasping hands" advisedly. I ask the gentleman, if he has time, to read the report on the "Television Broadcasting Industry" issued by the Antitrust Subcommittee of the Judiciary Committee to see what the communications systems have done with reference, for example, on television network practices, the chapter dealing with cable and coaxial cable charges by A.T. & T. to small TV companies in your district and in the districts throughout the land. They are exorbitant; therefore, I speak of A.T. & T. as grasping.

Just read the facts that we unearthed.

Mr. YOUNGER. You do not say the A.T. & T. "Into the grasping hands of the communications industry." You condemn everybody. We know your opinion on the A.T. & T. That is well understood by

everything you have said on the floor and through your committee, but you condemn the whole industry?

Mr. CELLER. I can go on and give you chapter and verse, if you wish. Therefore, I used that term advisedly, "the grasping hands of the communications industry," and I stand by it. I do not want to give them the fruits of the labor of the American taxpayer. As I said, I am not going to be a fool to make a feast for the wise men to eat.

Mr. YOUNGER. I cannot see the logic of your presentation other than a Corporation owned and controlled and operated by the President of the United States. There is no other conclusion that can possibly be drawn from your testimony and from the bill.

That is all, Mr. Chairman.

Mr. STAGGERS. Mr. Rhodes, any questions?

Mr. Devine?

Mr. DEVINE. No, I do not believe I have any questions. I might say, Mr. Chairman, however, that the statement of our colleague from Brooklyn, to me, just appears to be a wholesale condemnation of the free enterprise system, and you are apparently trying to destroy what might be described as a small dragon by creating a monster, another governmental monster.

You refer to Dixon-Yates as petty larceny. This will make the TVA look like a trickle on the desert.

Mr. CELLER. This is not TVA. This is not Government control. This is not Government ownership. I said I inveigh against Government ownership. You probably were not in the room when I read that.

Mr. DEVINE. Government control.

Mr. CELLER. You cannot compare this to TVA. There is no Government ownership here. Private initiative, enterprise, would play a very important part in this operation.

Mr. YOUNGER. Will the gentleman yield for one question?

Mr. DEVINE. Yes.

Mr. YOUNGER. You realize that the Under Secretary of State who was here representing the administration, under a direct question, said that he could not possibly recommend the investment to any individual.

Do you remember that?

Mr. CELLER. I did not hear that. Which Secretary was that?

Mr. YOUNGER. Mr. McGhee.

Mr. CELLER. Who was that?

Mr. YOUNGER. George C. McGhee of the State Department.

Mr. CELLER. Well, it must have been at a moment of mental aberration when he said that. I am willing to invest.

Mr. STAGGERS. Mr. Dingell?

Mr. DINGELL. I wanted to express my warm feeling toward the distinguished chairman of the Judiciary Committee, my thanks to him for his presence this morning, my warm appreciation to him for the kindnesses he has bestowed upon me in the past, and I compliment him for an excellent statement.

Mr. CELLER. Thank you.

Mr. DINGELL. It is a privilege to have had you with us, Mr. Chairman.

Mr. STAGGERS. Mr. Kornegay, do you have any questions?

Mr. KORNEGAY. Mr. Chairman, I appreciate your coming here today and being with us and bringing us this statement. Thank you, sir.

Mr. CELLER. Thank you.

Mr. STAGGERS. Thank you, Mr. Chairman, for your able presentation.

Mr. CELLER. I am much obliged.

Mr. STAGGERS. Is Mr. Webb present?

Mr. WEBB. Yes, sir.

Mr. STAGGERS. The Administrator of the National Aeronautics and Space Administration.

STATEMENT OF JAMES E. WEBB, ADMINISTRATOR, NATIONAL AERONAUTICS AND SPACE ADMINISTRATION; ACCOMPANIED BY JOHN A. JOHNSON, GENERAL COUNSEL, NASA; AND MORTON J. STOLLER, DIRECTOR, OFFICE OF APPLICATIONS, NASA

Mr. STAGGERS. We are glad to have you with us, Mr. Webb. You can proceed with your statement.

Mr. WEBB. Thank you, Mr. Chairman.

I have with me Mr. John Johnson, who is the general counsel of the National Aeronautics and Space Administration; and Mr. Morton Stoller, who is the director of NASA's Office of Applications, under which the communications satellite research and development programs of the agency fall.

May I say, Mr. Chairman, I appreciate very much the opportunity to be here today, particularly since the Congressman from my own home district, Mr. John Jarman, is here and a member of this committee, so I particularly appreciate this opportunity to be here.

Mr. STAGGERS. We are sorry we did not know that, or we would have asked Mr. Jarman to make a few remarks. Do you have anything to state, Mr. Jarman?

Mr. JARMAN. Mr. Chairman, I counted on a later opportunity to welcome our distinguished Oklahoman, Mr. Webb, and his associates, before our committee.

We are mighty proud in Oklahoma of the part that Mr. Webb has played in this position of great national responsibility.

Mr. WEBB. Thank you very much, Mr. Chairman and Mr. Jarman.

Mr. Chairman, I appear here today on H.R. 10115, the legislative proposal recommended by the President to provide for the establishment, ownership, operation, and regulation of a commercial communications satellite system.

The research and development programs carried out by the National Aeronautics and Space Administration have now reached a point of development from which it is possible to plan for an early operational capability for satellite space stations that can add a tremendous additional resource to meet the increasing needs for worldwide communications facilities. Legislation is now needed to provide a policy and operational framework within which we may build on our research and development efforts, and it is my purpose here today to recommend the early enactment of H.R. 10115.

Just as it has led the world in research and development in this field, the United States now has the further challenging opportunity to provide leadership in developing an operational pattern through

which this dramatic new means of communications can prove to be not only technically feasible but a practical and economic reality.

However, if we are to meet and fulfill this opportunity, we must provide without delay for the organization and the financing which are essential in order that the planning for the system can go forward at a rapid pace. Although spectacular accomplishments in space, such as manned space flight, do dramatize a nation's capability in science and technology, the demonstration of our purpose and ability to use our new space tools to accomplish tasks of practical benefit, such as providing a more efficient means of increasing our present communications workload capacity, will give an image of a nation at work in space that will, perhaps, be as important in eliciting international cooperation as any but the most spectacular events.

Today, the United States needs to place the strongest emphasis on the necessity for getting a driving effort going within and among the communications companies with the know-how to solve the technical problems involved in bringing an operating system into being, and also on providing the strongest incentives to establish a commercial communications satellite system at the earliest practicable time. H.R. 10115 provides the organizational framework for this effort, and, in keeping with our system of free enterprise, places it under private ownership.

The functions and responsibilities NASA will have in connection with the operation of the communications satellite system and the Corporation which would be created under H.R. 10115 are set forth principally in section 201(b) beginning on page 8 of the bill.

If H.R. 10115 is enacted, NASA will not have regulatory or supervisory powers over the Corporation. Under section 201(b) NASA will have, however, the responsibility to advise the Federal Communications Commission on the technical characteristics of the system. The term "technical characteristics" includes such factors as the number of available channels in the satellite system, its transmission quality, the capability for multiple access, the percentage of available time for reliable communication between designated points, the capability to expand services at a future date, and such items. The responsibility to advise the FCC on these things is a corollary of NASA's responsibility to consult with the Corporation on the technical characteristics of the system which is provided for under section 201(b)(4) of the bill. It will be essential, we believe, for NASA and the new Corporation to establish a close and continuous relationship for the purpose of determining the design and technical characteristics of the initial system, as well as of subsequent modifications and improvements. There should be a constant cross-feeding of engineering and scientific information, R. & D. results, test results, and the data on the actual operation of the system. The technical characteristics of the system may also be affected by work done by NASA in fields other than satellite communications—for example, the development of improved antennas and receivers for deep space communications may indicate the adaptability of new techniques for the communications satellites.

It will also be essential for NASA to keep the FCC fully and regularly informed on the technical characteristics of the system, as they evolve and change, so that the FCC can carry out its responsibilities for approving the operational system, planning for the allocation of

the facilities of the system among users, and similar matters. Conversely, the FCC may ask NASA to work on changing the characteristics of the system in order to improve compatibility with existing communications systems, to provide more efficient or economical service, and such items.

In connection with this NASA responsibility, I might note that the basis for the coordination of the activities of NASA and the FCC in space telecommunications was established in a memorandum of understanding between us, dated February 27, 1961. Both before and since that date, NASA and the FCC have worked closely, and, I think, effectively, on the many matters of common interest to us in the field of space communications. We would expect that this coordinated effort will continue.

NASA's second responsibility under the bill will be to coordinate its research and development program relating to space communications with that of the Corporation. This, again, is a corollary of our responsibility to consult with the Corporation on the technical characteristics of the system. In the course of such consultation, we believe it can be expected that NASA and the Corporation will agree on how they might complement the R. & D. programs of each other, in order to expedite the development of an operating system.

In addition, after this initial communications satellite system has been developed and is in operation, NASA and the Corporation should continue to coordinate their R. & D. projects directed at developing new and advanced techniques in space communications, which might eventually be incorporated into the new system. I would stress in this connection that the research and development necessary for the immediate improvement of the system so as to make it more efficient and economical, as contrasted with long-range improvement through the development of advanced techniques, will be the responsibility primarily of the new Corporation. However, NASA might also assist the Corporation in R. & D. projects with these aims, subject to reimbursement of NASA's costs by the Corporation. Further, NASA would continue to consult with the Corporation on the effect such improvements might have on the technical characteristics of the system.

NASA's third function in relation to the activities of the Corporation will be to furnish satellite launching and associated services, including launch vehicles, in connection with the development and operation of the system. We will have two separate responsibilities in this respect, which are prescribed by sections 201(b)(3) and (b)(5) of H.R. 10115: First, to furnish vehicles and launching and tracking services during the development phase of the system, and, second, to furnish them for the operational system.

The only distinction between these responsibilities would be that during the development phase NASA would be required to furnish only such vehicles and services as it considered necessary to the expeditious and economical development of the system. This limitation is, of course, a practical necessity. The demand on launching vehicles and launch facilities available to NASA is very great, and we must be able to balance the requirements of the space communications program against those of other programs which are of equal importance in NASA's and the Nation's overall scientific effort. It would not be desirable, therefore, to require NASA to furnish launch vehicles and facilities for a satellite which, in the judgment of NASA's own scientists

and technicians, would not contribute to the expeditious and economical development of the operating system. However, in connection with the operational system, it will be mandatory on NASA to furnish all the launching and associated services required for the establishment, operation, or maintenance of the approved system, and we would expect to fulfill this responsibility.

This is an important difference, Mr. Chairman, between the research and development launchings and the operational launchings.

NASA's final responsibility, and this is more in terms of an authorization, will be to furnish other services to the Corporation, on a reimbursable basis, and to the extent we are capable of doing so. What is contemplated in this regard is that the Corporation may request NASA's assistance for services other than launching and tracking, such as environmental testing of components, for example, or data analysis, when it does not have the facilities to perform them itself. To the extent feasible, NASA would furnish such services to the Corporation, on a reimbursable basis.

Here, again, Mr. Chairman, there is an analogy to the old National Advisory Committee for Aeronautics programs for using the research facilities in governmental installations to assist the commercial airline industry or other industries who may have had technical problems, such as were encountered with the Electra or other types of aircraft that are in commercial service.

NASA would have only one other function under H.R. 10115. Under section 201(c)(3), we would advise the Secretary of State as to the technical feasibility of furnishing communications services by means of the satellite system to a particular foreign point, before the Secretary requested the FCC to consider whether a carrier should be required to furnish such services. This function is, of course, entirely consistent with NASA's responsibility to advise the FCC on the technical characteristics of the system.

Quite aside from the specific responsibilities NASA would assume under H.R. 10115, I should like now to comment on the significance of the President's proposals. The bringing into being of a worldwide communications satellite network should, it seems to me, be considered in the light of recent developments growing out of World War II, when we developed the capability for large-scale organized effort in science and technology. I know the President holds this view.

Since the end of the war, we have gone through a great national debate as to the peacetime application of the war and postwar lessons derived from the work of scientific and technological teams in atomic energy, in radar, in rocketry, and in many areas involving new metals, materials, and techniques. We have learned that these developments have revolutionized the conceptual framework against which we must judge what is possible and what is impossible at the particular time.

In aviation, it took this Nation 45 years to move from the first flight of the Wright brothers to the modern, readily available jet air service which we know today. It has taken but 4 years from the flight of the first manmade satellite to the point where we are actively considering, as a nation, participating with other nations in three major innovations of vast potential which involve the establishment of worldwide services.

I refer, of course, first to the use of the meteorological satellite to vastly expand our worldwide reporting of weather phenomena; second, to the worldwide communications satellite operational system envisaged by H.R. 10115; and third, to the possibility of expanding the use of navigational satellites into a worldwide system available to ships and planes that travel the conventional oceans of water and air and, indeed, to extend it on to those new vehicles, spacecraft, which are required to sail the oceans of space.

The decisions made by the United States since World War II, which are embodied in the Atomic Energy Act of 1946, in the National Science Foundation Act of 1950, in the National Aeronautics and Space Act of 1958, and in the Arms Control and Disarmament Act of 1961, comprise a pattern through which this Nation is moving on, step by step, to work with other nations, using the tools and capabilities of science and technology for the benefit of all mankind. Any view of the President's proposals in H.R. 10115 that does not recognize them as a part of this continuing pattern has not caught the vision toward which the President reaches.

Before closing, I should like to speak briefly about the aspect of this legislation which has probably caused the greatest amount of discussion to date—namely, the question of ownership and control of the new Corporation to be created. I can assure the committee that when H.R. 10115 was being formulated within the executive branch, this question was given the most extensive and careful consideration. The decision was made by the President that a corporation in which investment is open to wide participation would more readily attract the large amounts of capital required for the rapid development and establishment of the satellite communications system, and would be able to function effectively and efficiently in operating the system. He also felt that this would best serve the broad public interest by avoiding the placing of control of the system in a small group of companies, with the possibility of domination by one of these.

The committee, I know, is familiar with the arguments which have been made concerning the practical advantages which might result from limiting ownership of stock in the Corporation to communications common carriers. The arguments have merit; but I suggest that the decision on the base of ownership involves broader issues of public policy than may be apparent from these arguments. To realize the full potential of a system of communications satellites will require the utmost in advanced research and new operational concepts. Strong incentives to create these conditions are needed. However, the marrying of the know-how of industry with the requirements of a forward-looking governmental policy requires something more from our investment in space than commercial utilization. It requires also that the instruments through which this marriage is made effective look to reinforcing and strengthening the total pattern of our relations with other peoples. Increasingly, these peoples look to us for leadership in bringing the practical benefits of science and technology to them as well as to ourselves. The President, in viewing our total opportunities and responsibilities in space, has a strong feeling that a new, widely held private corporation, free from domination by any one element, can best work with the Government agencies and industries involved to realize our opportunities and discharge our responsibilities. As the President stated in recommending this legis-

lation, the communications satellite system will be by its very nature a Government-created monopoly, and it would not be in the public interest to limit ownership and control of the Satellite Corporation to a few existing companies.

By way of illustration of this, Mr. Chairman, I was handed just before I left my office a report from the press wire dated this morning in Moscow stating that Premier Khrushchev has told President Kennedy that the Soviet Union is following up his suggestion for Soviet-American cooperation in the exploration of peaceful uses of outer space.

This Tass report said Mr. Khrushchev had told President Kennedy that the Soviet representatives in the United Nations Outer Space Committee will be instructed to meet with American representatives to "discuss practical problems of cooperation."

Premier Khrushchev made the statement in a message replying to President Kennedy's March 7 note, suggesting that the United States and Soviet Russia join in such ventures.

Mr. Khrushchev was quoted as saying: "It is most desirous to work out and conclude an international agreement which would provide for rendering assistance in the search for the rescue of satellite spaceships and capsules in case of emergency landings."

Further, Mr. Khrushchev expressed satisfaction that his February 21 suggestion for such joint space operations "met necessary understanding on the part of the U.S. Government." He further said that all nations should have equal opportunities and international cooperation in the exploration of space, and that Soviet-American cooperation could help in using Earth satellites for "superlong distance" communications—that "superlong distance" is in quotations—in organizing worldwide weather observation through satellites, in pooling operational means of observing and studying the Moon, Mars, and other bodies in cosmic space, and studying the physics in interplanetary space and celestial bodies.

Mr. Chairman, I have been handed a note just as I came to the stand which is a confirmation, I think, from the State Department of these matters reported in the press report.

I should like to take just a brief moment to confirm that that is so, because if there is additional information in the official message, I should like to call it to your attention. I might just read this. I have not read it myself, and I assume that this is probably the best thing to do.

The letter from Premier Khrushchev to President Kennedy covered cooperation in, first, communications satellites; second, meteorological satellites; third, organized optical and radio observations, under a joint program, at objects launched toward the Moon, Mars and other planets; fourth, pooling the efforts in the study of space physics; fifth, cooperation in aid and rescue of spaceships; sixth, charting the Earth's magnetic field; seventh, exchange of information on space medicine; eighth, cooperation in solving legal problems in outer space; ninth, that no nation create obstacles for peaceful research in outer space.

Apparently, these proposals are tied to disarmament in some way that is not clearly spelled out in this note that I have. But there is a very interesting observation in a report this morning from New York about regional international patterns which I believe relates to this

last sentence in this note: That apparently Premier Khrushchev said that the area of agreements would be limited unless we get together on disarmament.

Well, that is not exactly right, but the phrase to which I refer was used by the Soviet representative yesterday in New York, and this is quoted from the "United Nations Special Report" by Mr. Hamilton of the New York Times, and I quote:

The Soviet representative promised the government's cooperation regarding the use of satellites for relaying radio and television messages but attached the limitation that this would be on the basis—

and this is a direct quotation from the Soviet representative—
of international agreements.

I am sorry I cannot clarify whether that is tied to regional developments in disarmament or to regional developments with respect to space.

But, in the light of this and the total requirement of the President for leadership in this field, I think it might be well to review very briefly the development of policy in the U.S. Government since President Kennedy took office.

First of all, I have already referred in my statement to the agreement of the 27th of February, 1961, between the National Aeronautics and Space Administration and the Federal Communications Commission, and I should like to very briefly mention several items from this agreement.

First, the statement in the agreement is a mutual recognition that future Presidential or congressional actions may necessitate modifications. So it was recognized in the beginning this was a fluid, developing area of governmental policy, and that both Congress and the President had certain important roles to play in the ultimate decision as to national policy.

The agreement was based on, first, the fact that the present state of technology of communications satellites strongly suggests the feasibility of utilizing them to expand and improve existing facilities for worldwide communications services.

Second, that a substantial amount of further research and development is necessary to demonstrate both the technical and economic feasibility of utilizing such communications satellites on a commercial basis.

That, in accordance with traditional policy in the communications fields in this country, oversea public communications are provided by private enterprise, subject to Government regulation.

That, at the present time, oversea voice communications are provided primarily by a single company; oversea record communications are provided by several companies.

That the FCC and the National Aeronautics and Space Administration are concerned with the Nation's total communications capability.

In that regard we have some responsibility to the Defense Department, Mr. Chairman, as you so well know, to see that the common carrier networks have capability to meet all of our needs as a nation.

That, from the points of view, respectively, of civil communications policy and the commercial utilization of space technology, we must work together to perform these responsibilities.

That existing common carriers and others are interested in participating in the development of space telecommunications technology to expand and improve worldwide channels of communications through private expenditures; and, lastly, that the congestion and technical limitations of the radio spectrum presently useful for worldwide communications are such that, without communications satellite technology—and I think this is the meat of governmental policy—the spectrum probably cannot support the very substantial increases in capacity necessary to satisfy new services.

Now, the text of the agreement based on those understandings and assumptions were:

First, that the earliest practical realization of a commercially operable communications satellite system is a national objective.

Second, that the attainment of this urgent national objective in the field of communications may be accomplished through concerted action of existing agencies of Government and private enterprise.

Again, I am skipping through these.

Another important provision of the agreement is a recognition that, in accordance with traditional policy of conducting international communications through private enterprise, subject to Government regulation, private enterprise should be encouraged to undertake and develop the utilization of the satellite system, and that both NASA and the FCC will conduct their activities with a full exchange of information so as to accelerate necessary research and development and to coordinate governmental actions in this regard.

That we will work together to advance space technology and its applications to the field of communications.

With appropriate cooperation with other Government agencies, we will continue to direct our activities toward the development of a communications policy and the implementation and utilization of space technology.

And that the FCC will take into account the total Government needs for communications services in its action in this field.

That, consistent with the policies of the Government as laid down by the Department of State, that we both will facilitate international cooperative activities in the field of space telecommunications within the framework of this Nation's international operations and aims.

That is the first document, Mr. Chairman, coming in less than 2 weeks from the time that I became the Administrator of this agency.

The CHAIRMAN. I think it would be a good thing to have the entire text of the agreement included in the record following your statement here today.

(The text of the agreement is as follows:)

MEMORANDUM OF UNDERSTANDING BETWEEN THE FEDERAL COMMUNICATIONS COMMISSION AND THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

The purpose of this memorandum is to provide a basis for coordinating the activities of the National Aeronautics and Space Administration and the Federal Communications Commission in the application of space technology to civil communications in order that their respective statutory responsibilities may be carried out in the national interest. It is mutually recognized that future presidential or congressional actions may necessitate some modification of this memorandum.

Following full and complete discussions of the present situation and future objectives, certain conditions of fact and policy guidelines were agreed upon. Both NASA and the FCC recognize as conditions of fact—

(1) that the present state of the technology of communication satellites strongly suggests the feasibility of utilizing such satellites to expand and improve existing facilities for worldwide communications services;

(2) that a substantial amount of further research and development is necessary to demonstrate both the technical and economic feasibility of utilizing communication satellites on a commercial basis;

(3) that in accordance with traditional communications policy in this country, oversea public communications are provided by private enterprise, subject to Government regulation, and that at the present time oversea voice communications are provided primarily by a single company and oversea record communications are provided by several companies;

(4) that the FCC and NASA are concerned with the Nation's total communications capability from the points of view, respectively, of civil communications policy and the commercial utilization of space technology; and that existing common carriers and others are interested in participating in the development of space telecommunications technology to expand and improve worldwide channels of communication through private expenditures; and

(5) that the congestion and technical limitations of the radio spectrum presently useful for worldwide communications are such that without communication satellite technology the spectrum probably cannot support the very substantial increases in capacity necessary to satisfy new services, such as transoceanic TV and wideband data transmission, or to satisfy the anticipated expansion of ordinary types of services.

On the basis of the foregoing observations, both NASA and the FCC affirm the following propositions as guidelines for the coordinated conduct of their respective activities:

(1) The earliest practicable realization of a commercially operable communication satellite system is a national objective.

(2) The attainment of this urgent national objective in the field of communications may be accomplished through concerted action by existing agencies of Government and private enterprise.

(3) The statutory authority of NASA and the FCC appears adequate to enable each agency to proceed expeditiously with the research and development activities necessary to achieve a commercially operable communication satellite system. Special problems which may arise in connection with the regulation of a commercially operable system are being explored by both agencies, and may result in legislative recommendations at a later date.

(4) In accordance with the traditional policy of conducting international communications services through private enterprise subject to governmental regulation, private enterprise should be encouraged to undertake development and utilization of satellite systems for public communication services.

(5) Both NASA and the FCC will conduct their respective activities with a full exchange of information so as to accelerate necessary research and development and to coordinate governmental actions necessary to attain the national objective.

(6) NASA in appropriate cooperation with other Government agencies, will continue to direct its activities in this field toward the advancement of space technology and its application to civil communications.

(7) The FCC, in appropriate cooperation with other Government agencies, will continue to direct its activities in this field toward the development of communications policy and the implementation and utilization of space telecommunications technology through the licensing and regulation of U.S. common carriers. In this connection, the FCC will take into account the total Government needs for communication services where such needs normally are provided by privately owned facilities.

(8) Both NASA and the FCC, consistent with the policies of the Department of State, will facilitate international cooperative activities in the field of space telecommunications within the framework of this Nation's international obligations and aims.

(9) Existing interagency organizations and procedures for coordination will be employed with respect to the allocation and assignment of frequencies

necessary to support both the research and development and the operational phases of a civil communication satellite system.

NATIONAL AERONAUTICS AND SPACE
ADMINISTRATION,
HUGH L. DRYDEN,

Deputy Administrator.

By direction of the Commission:

FEDERAL COMMUNICATIONS COMMISSION,
FREDERICK W. FORD, *Chairman.*

FEBRUARY 27, 1961.

The CHAIRMAN. While we are doing so, I think it would be a good thing to have in the record the recommendations of the ad hoc committee.

Mr. WEBB. I will be glad to furnish this to the reporter, Mr. Chairman.

The CHAIRMAN. I do not know how long the report of the ad hoc committee is. We will see if it is appropriate to include it in full, but, if not, we will do so by reference. But, also, I think it would be advisable to include in the record following that the statement of the President on July 24th.

Mr. WEBB. I was going to refer to that next, Mr. Chairman, and I will supply that for the record, if you wish.

The CHAIRMAN. Yes, I think we should have that in the record.

(The recommendations of the ad hoc committee and the statement of the President of July 24, 1961, follow:)

AD HOC CARRIER COMMITTEE,
October 13, 1961.

Re: Docket No. 14024.

Mr. BEN F. WAPLE,
*Acting Secretary, Federal Communications Commission,
Washington, D.C.*

DEAR SIR: The Ad Hoc Carrier Committee, consisting of representatives of the international communications common carriers, herewith submits its Report to the Commission looking toward the formulation of a plan of organization or joint venture to establish a commercially operable communications satellite system.

The Ad Hoc Carrier Committee recommends in summary, as follows:

1. Research, development and experimental trials should be expedited by Government and industry and all resources drawn upon to establish the best communications satellite system at the earliest practicable time.

2. A nonprofit satellite corporation should be created to develop, construct, operate, manage and promote the use of communications satellites, for the United States interests therein, in accordance with the public interest objectives specified in the President's Statement and the Commission's Supplemental Notice—the satellite corporation to have three directors appointed by the President of the United States or by whomsoever he shall designate to make the appointments, two directors designated by each authorized participant in ownership of the satellites, and a director designated by the carriers which do not own but which may lease satellite facilities.

3. The United States carriers which are authorized by the Commission to provide communications services via satellites should be allowed to participate in joint ownership of the satellites and to include their investments in their rate bases for ratemaking purposes, so that rates would continue to be established as at present under regulation by the Commission.

4. Each United States carrier should be permitted to establish and operate its own ground stations, participate in joint ownership of ground stations with other carriers or rent capacity in other carriers' ground stations, and to obtain equitable access to and use of the ground stations and satellites, in accordance with public interest objectives set forth in the Supplemental Notice and as authorized by the Commission.

5. The Commission should, expeditiously, take such further administrative action as may be necessary and proper in furtherance of the plan proposed herein.

The Committee concludes in its Report as follows:

"We believe that this plan conforms to the public interest criteria specified by the President and in the Commission's Supplemental Notice. The policy of the Communications Act has been to encourage progress through a private enterprise communications system under Government regulation in the public interest. The merits of this approach have been amply demonstrated over the years by the record of achievement attained by our communications industry in providing to the public a high quality of service at reasonable rates. This Report and the Carriers' Responses to Paragraph 10 of the Commission's Supplemental Notice indicate that there will be adequate financial support to meet the expected United States portion of the capital requirements involved in the proposed plan."

The Committee's Report consists of 57 pages and is the result of extensive efforts by the Committee since it was established pursuant to the Commission's Supplemental Notice of July 25, 1961.

Respectfully submitted,

AD HOC CARRIER COMMITTEE,
By OMAR L. CROOK, *Chairman*.

THE WHITE HOUSE, July 24, 1961.

STATEMENT OF THE PRESIDENT ON COMMUNICATIONS SATELLITE POLICY

Science and technology have progressed to such a degree that communication through the use of space satellites has become possible. Through this country's leadership, this competence should be developed for global benefit at the earliest practicable time.

To accomplish this practical objective, increased resources must be devoted to the task and a coordinated national policy should guide the use of those resources in the public interest. Consequently, on May 25, 1961, I asked the Congress for additional funds to accelerate the use of space satellites for world-wide communications. Also, on June 15, I asked the Vice President to have the Space Council make the necessary studies and policy recommendations for the optimum development and operation of such system. This has been done. The primary guideline for the preparation of such recommendations was that public interest objectives be given the highest priority.

I again invite all nations to participate in a communication satellites system, in the interest of world peace and closer brotherhood among peoples throughout the world.

The present status of the communications satellite programs, both civil and military, is that of research and development. To date, no arrangements between the Government and private industry contain any commitments as to an operational system.

A. POLICY OF OWNERSHIP AND OPERATION

Private ownership and operation of the U.S. portion of the system is favored, provided that such ownership and operation meet the following policy requirements:

- (1) New and expanded international communications services be made available at the earliest practicable date;
- (2) Make the system global in coverage so as to provide efficient communication service throughout the whole world as soon as technically feasible, including service where individual portions of the coverage are not profitable;
- (3) Provide opportunities for foreign participation through ownership or otherwise, in the communications satellite system;
- (4) Nondiscriminatory use of and equitable access to the system by present and future authorized communications carriers;
- (5) Effective competition, such as competitive bidding, in the acquisition of equipment used in the system;
- (6) Structure of ownership or control which will assure maximum possible competition;
- (7) Full compliance with antitrust legislation and with the regulatory controls of the Government;

(8) Development of an economical system, the benefits of which will be reflected in oversea communication rates.

B. POLICY OF GOVERNMENT RESPONSIBILITY

In addition to its regulatory responsibilities, the U.S. Government will:

(1) Conduct and encourage research and development to advance the state of the art and to give maximum assurance of rapid and continuous scientific and technological progress;

(2) Conduct or maintain supervision of international agreements and negotiations;

(3) Control all launching of U.S. spacecraft;

(4) Make use of the commercial system for general governmental purposes and establish separate communications satellite systems when required to meet unique Government needs which cannot, in the national interest, be met by the commercial system;

(5) Assure the effective use of the radiofrequency spectrum;

(6) Assure the ability to discontinue the electronic functioning of satellites when required in the interest of communication efficiency and effectiveness;

(7) Provide technical assistance to newly developing countries in order to help attain an effective global system as soon as practicable; and

(8) Examine with other countries the most constructive role for the United Nations, including the ITU, in international space communications.

C. COORDINATION

I have asked the full cooperation of all agencies of the Government in the vigorous implementation of the policies stated herein. The National Aeronautics and Space Council will provide continuing policy coordination and will also have responsibility for recommending to me any actions needed to achieve full and prompt compliance with the policy. With the guidelines provided here, I am anxious that development of this new technology to bring the furthest corner of the globe within reach by voice and visual communication, fairly and equitably available for use, proceed with all possible promptness.

Mr. WEBB. Now, following this first activity in President Kennedy's administration in this field, work was done in the National Aeronautics and Space Council by request of the President, led by the Vice President, to see how the various governmental agencies could contribute their know-how to establishing policy. I should like to refer very briefly to a few sections of the President's statement of July 24, to show how they reinforce both the original agreement that was made between NASA and FCC and how they led on logically to the bill proposed by the President.

First of all, in the statement of the President, he stated that—

Science and technology have progressed to such a degree that communications through the use of space satellites has become possible.

He mentioned that through this country's leadership this competence should be developed for global benefit at the earliest practical time.

Again, I am running rapidly and skipping a lot, Mr. Chairman.

He stated that, to accomplish this practical objective, increased resources must be devoted to the task, and a coordinated national policy should guide the use of those resources in the public interest.

He stated the primary guideline for the preparation of policy recommendations by the Space Council was that the public interest objectives should be given the highest priority.

He went on to state that, to date, no arrangement between the Government and private industry contains any commitments as to an operational system, and, therefore, policy should take into account that no commitments had been made.

He then stated eight policies to be followed by the Government with respect to ownership and operation. These all emphasize that private ownership and operation of the U.S. portion of the system is favored; that the system should be global in coverage so as to provide efficient communications service throughout the whole world; and that the structure of ownership or control will assure maximum possible competition.

There were other important items, but these are the matters which I think led on to the bill before you.

Now, he stated further, with respect to Government responsibility, over and above the question of ownership and operation, that, in addition to its regulatory responsibilities, the U.S. Government would conduct and encourage research and development to advance the state of the art and give maximum assurance of rapid and continuous scientific and technological progress.

Second, conduct or maintain supervision of international agreements and negotiations; control all launchings of U.S. spacecraft; make use of the commercial system for general governmental purposes, and establish separate communications facilities for military or other purposes only when they could not be handled through the commercial system; assure effective use of the radiofrequency spectrum; and a number of technical matters such as ability to discontinue the electronic function of satellites, and this item:

Provide technical assistance to newly developing countries in order to help attain an effective global system as soon as practicable.

And, on the subject of the coordination of the activities of the Federal Government, he had this final word to say:

I am anxious that development of this new technology to bring the farthest corner of the globe within reach by voice and visual communication, fairly and equitably available for use, proceed with all possible promptness.

Now, in implementation of those policies, the President agreed to eliminate a feature of the budget submitted by President Eisenhower which would have required the contribution of \$10 million by a private company in anticipation of negotiations with respect to a role in the communications satellite field.

It was felt by the President—and I may say I recommended this to him—that this was such an important matter we should not start out negotiating as a government by saying that anybody who wants to negotiate with us should contribute some \$10 million to the work before we would begin the negotiations.

The President, further, on recommendation of Secretary McNamara and myself, ratified by the Vice President and the Space Council, put into his supplemental request for budget funds an item of \$50 million to expedite the research and development in the communications satellite field and to take advantage of any opportunities that would be available for bringing in an operational system.

One of the reasons the Defense Department is extremely interested in this, and was willing to endorse this addition of \$50 million to the budget, was the need they have for worldwide, effective communications, in spite of atmospheric and solar disturbances, and a need to expand the available facilities. They saw in these satellites an ability to communicate in out-of-the-way places on a commercial system where service is rendered—and they would pay for it, just as they

do for any other common carrier services—that would make military operations much more effective.

This does not preclude the activities the Defense Department is carrying on for its own military communications satellite communications system, a program called Advent.

Now, further, it seems to me that we might very briefly show that the program recommended by the President in this communications satellite field is only one part of a major effort being made by the Government in the area of space to do the research and development work required to get the practical benefits from these programs; to recognize that a satellite which flies continuously around the world does provide opportunities for working with other nations, for furnishing services which they need and which will be to our advantage, and the beginning of a system that will reinforce all of our other foreign policy actions based on the policy of establishing a viable economic, social, and political system for a stable world.

This space activity on a very broad front runs through the scientific study of the universe, and the forces of nature which we use on the surface of the earth. This study in space—the ability to use rockets, to go out beyond the earth's atmosphere and make measurements in areas where we heretofore have only been able to make multitudinous observations and synthesize the results—gives us the ability to understand additional increments of usability of many of the laws of nature on which our use of energy, our communications, and many, many facets of our organized society in the world today are based.

So this particular aspect of the space program is one of leadership by the United States, an active desire for participation by many other nations, and a desire on the part of the President and this Government to use all facets of the program, whether it be weather satellites—Government-operated weather system, since there is no privately operated weather system; or a privately owned and operated communications satellite system; or a semi-Government semiprivate navigational system, which, of course, will be required, because certain parts of the navigational system are really based on the military needs of this country, and the supplemental benefits to be derived by ships and airplanes in commercial service would be just an added facet to get the whole benefit from the system.

So I think it is worth taking just this moment to point out that this communications satellite system is only a part of an overall program.

Very briefly, as to the utilization of the funds provided by the President to do this job in communications satellites, proposals were competitively evaluated for the building of a research and development satellite called Relay.

The Radio Corp. of America was chosen to build this experimental satellite.

After that, the American Telephone & Telegraph Co. came in and said they had capacity to contribute to an area of research and development that was beyond anything envisaged in the Government program—the Relay program. On examination this proved to be true.

We made a contract, which was explained to this committee last year, with A.T. & T. through which they would spend their own money in the development of the satellites and would reimburse the Government for the launching services, and made agreements to make available to any corporation brought into being to establish and

operate the communications satellite system the benefits of this research work.

Now, since Relay and Telstar, the A.T. & T. satellites, are relatively low-altitude satellites, this left in a not very aggressive state of development the high-altitude synchronous satellite, to fly at 22,300 miles.

The Hughes Aircraft Co. came in with a proposal which was financed out of the additional \$50 million recommended by the President, to build a satellite called SynCom, which will be experimentally flown about the first of next year, and which will give a great deal of experience of value to the Advent program, and which will also supplement in a very important way the work with these low-altitude satellites.

Syncom will fly in an equatorial orbit at some 22,300 miles above the earth, and will have the advantage of remaining in approximately the same position over one spot on the surface of the earth, thereby eliminating many of the tracking and "latching on" and releasing of satellites that can be held for only a few minutes as they move at low altitudes from horizon to horizon of the ground stations.

Just one more very brief word with respect to the President's policies.

I think it is fair to say that he has recognized, in his policy statement that I have read to you, and that NASA and the FCC have recognized, in our written agreement, that many of these matters can only be determined through the legislative process, but that the executive branch has an important role.

Moreover, there is a joint role to bring into being the kind of very important practical benefits that can be derived from this area of research and technology.

In that regard, I think that the proposals the President has put forward are designed to create a thorough examination of all of the items that may be involved in this, and they are a very important precedent for policymaking in this field.

I am sure you recognize in this latter point that this cuts across many areas of legislation, the meteorological satellite being in the Weather Bureau for operational funds, and the National Aeronautics and Space Administration research and development involving problems of the jurisdiction of congressional committees, as well as cooperation within the executive branch. The communications satellite does the same.

The President has asked that the closest working relationship be evolved in the executive branch, and with the independent agency mostly involved, the FCC. He has set the policy that we will not duplicate each other's resources and facilities, but will employ the resources of the Government wherever they may be.

And I think this may account for some of the seeming scattering of authority in H.R. 10115.

I believe that we are moving rapidly toward a point when this scattering will be consolidated into an ondriving effort in which we will all have a better view of what can be done.

Now, in conclusion, may I say that the enactment of legislation to carry out the President's recommendations in this area of satellite communications is a matter of extreme importance and urgency. Our country has a great opportunity—and a great stake—in being

the first to establish a commercial communications satellite system to serve the communications needs of the entire world. By achieving this, we will demonstrate again to the world not only our technical capabilities, but that the activities of the United States in space are, as the Congress declared in the National Aeronautics and Space Act they should be, truly devoted to peaceful purposes, for the benefit of all mankind.

The strongest impetus which can be given at this time to the task of developing a system which is technically feasible as quickly as possible will be by creating the organization for getting the job done. The President's recommendations provide a sound and comprehensive plan for such an organization, and I would urge the committee to take prompt and favorable action on them.

Thank you for the opportunity to present these views.

The CHAIRMAN. Thank you, Mr. Webb, for a very fine statement to the committee, and a full explanation of this problem from virtually the inception to the present time and pointing up the importance of this vast undertaking, as well as the imperative necessity for a joint Government-private enterprise undertaking and cooperation to bring it about.

Mr. Springer?

Mr. SPRINGER. You have made a far-reaching statement here, some of which I understood and I am sure there are parts I did not understand.

However, I wanted to be sure that I was separating and did understand what you were doing under this piece of legislation which has been introduced.

Are you talking about a corporation which is going to do more than the normal communications system that we would expect as a result of the necessities of international life?

Mr. WEBB. Yes, sir; I believe I am, Mr. Springer.

I think the point here is that the normal way of expanding international communications is to serve the traffic lanes where there is a traffic load. Submarine cables, and other types of communications, run primarily with the need for service.

The common carriers, of course, have the obligation to anticipate need and avoid having the industry and commerce of the world suffer by a lack of communications.

Therefore, the development does not always run with the need. It frequently is based on an anticipation of a need.

Governmental policy is generally aimed at being certain that there is a common carrier service available so that any person will not suffer who wants to be in trade and commerce by reason of not having access to ready means of communications.

Now here, the communications satellite is not a submarine cable going from one point to another and then fanning out through a distribution network. It is a vehicle that, by its very nature, must continue to travel around and around the earth, that can be used intermittently at any point on the surface of the earth, or between two points if it is a low-altitude satellite.

In the case of the high-altitude satellite, it is relatively fixed just as a star that is overhead at all times. You then can use it over about one-third of the surface of the earth at all times.

So we really are talking here about the utilization of a tremendously new and powerful force for bringing new types of utilization of communications services into play.

I think this is one reason the President has recommended that he personally give direct supervision to this effort, so that the opportunities that may be available, which we cannot foresee at this time, to this Nation will not be lost by our being frozen in a pattern which is primarily aimed at serving the commercial or economic needs that run with the present main-traveled routes of the world.

Mr. SPRINGER. Let me ask you this: Would you say that presently the systems that are serving this country are not doing the job, are not anticipating needs?

Mr. WEBB. I think they are anticipating those needs which can be economically met, and in some cases the Government—I am not certain of this factor in communications, but in general, Government policy is to grant subsidies where needs are existent which the Government sets a high priority on, and where there is not enough normal commercial traffic to fill those needs.

So I would think there is an effort to anticipate those needs that can be economically handled on the systems, but not enough anticipation of the revolutionary capability of this new communications system.

You see, you must bear in mind that the cost of a circuit on a submarine cable under present technology is roughly 10 times the cost of such a circuit using communications satellite technology.

Now, the cost of using submarine cables is coming down, and these will at some point begin to meet. But, nevertheless, the cost per satellite-circuit is so much less that types of problems not heretofore solvable within the economic feasibility of a communications network become solvable, such as feeding data into a computer in New York or Chicago from a continent like Africa or South America and having the result go back.

These are the kinds of things that can be done if the communications satellite can be made to function effectively over a long period of time.

And, here again, is an economic problem. None of our very complex satellites—I say “none” but I mean—generally speaking, the life we have at this moment is somewhere around 3, 4, or 5 months. To really provide strong economic competition with existing technology we have to have 1, 2, 3, 5 years of life. It is this kind of development through research, plus bringing the operational system into being and perfecting it as you go along, that is anticipated in this effort.

Mr. SPRINGER. Now, let me ask you this: Are you proposing to do this research?

Mr. WEBB. In NASA?

Yes, sir. We will continue to have a research and development program, and the bill and my statement—

Mr. SPRINGER. I am talking about in communications now, in communications.

Mr. WEBB. Yes, sir, we do an active research job in communications, because we must communicate with space probes out 20 million miles, like Pioneer V.

Mr. SPRINGER. I am talking about this communications program which we have set up in this bill.

Mr. WEBB. Yes, sir. It is contemplated that the National Aeronautics and Space Administration will continue to do active research and development on the technology involved in using communications satellites and the tie-in with communications satellite systems.

Mr. SPRINGER. Did you not just say here a moment ago that you were letting contracts for private corporations to do that research?

Mr. WEBB. Yes, sir; 92 percent of every dollar that we spend in our whole research program goes under contracts to non-Government agencies.

Mr. SPRINGER. Are you saying this, in essence, then: That these companies will not do this on their own?

Mr. WEBB. No, sir, I am not saying that. I am saying they will do research, too.

Mr. SPRINGER. What did you say?

Mr. WEBB. They will do research also.

Mr. SPRINGER. In fact, they are doing a great amount of research?

Mr. WEBB. Yes, sir. I stated that A.T. & T. was doing a great deal of research building complete satellites, and that we were flying them, and they were paying for the Government's cost of flying them. There is a lot of research going on.

Mr. SPRINGER. What I am trying to get, Mr. Webb—and I sure am not getting it—is the delineation of where you are going to cut off and private enterprise is going to start.

Mr. WEBB. Well, I think I can help you a little bit with that.

In the whole area of advancing science and technology, it has been the policy of this Government to create advanced research tools that were in anticipation of anything that industry could justify economically.

In a field like aviation we have military requirements which meant that following World War I, when we did not have a single plane made in the United States that could do a job in a military way for this country, the National Advisory Committee for Aeronautics was created.

It created the research tools that served the military, the commercial airlines, and, indeed, all aviation in this country.

Now, this type of work is still going on in NASA and is the same type of work that we will do in this telecommunications field.

For instance, a full-scale wind tunnel that was built in 1929 improved the performance of every aircraft we flew in World War II.

Mr. SPRINGER. Mr. Webb, I understand all that, but I do not think that is comparable. That is a national defense problem in which the Government has to do the work because it is solely involved in defense.

What I am trying to get at here is that actually all these communications companies are asking you to do is to put the satellite up there, and they will operate the system. Is that not, in essence, what they will do—and they will do the research?

Mr. WEBB. No, sir, I do not think that is so. I think if you should ask them if they wish to support the research and development program carried on in NASA, they will say "Yes."

Mr. SPRINGER. Mr. Webb, I will support that, too, but I am talking about in the communications field. If you pin it down, I do not think they will say that to you or me.

Mr. WEBB. I think they will say it in the communications field.

Mr. SPRINGER. That is not my information. It is my information that all they want you to do is to put that up there and they will operate this system free from any Government subsidy, and that is, in effect, what you are doing. Now, I suppose you are probably going to do research in the field for the Defense Department, and that is perfectly all right.

What we are trying to do here is to relieve the Government of the expense of having a communications system, but that is, in effect, what you are doing when you say you are going to get into research, and you are going to do all this stuff which private enterprise is perfectly willing to do and to carry on a normal communications system.

I will say you are an honest witness. You certainly give us a lot of potency here today which nobody before this committee has ever dreamed about before.

Mr. WEBB. Mr. Springer, the industry is not capable of doing the research that we do. For instance, these boosters are very expensive, and the only way you really find out if equipment works is to send it on a rocket out and put it up and work it.

Now, we are doing this—

Mr. SPRINGER. We have no quarrel with you on the boosters. We think that is your job.

Mr. WEBB. Yes.

Mr. SPRINGER. But we think there is a delineation here where your business cuts off and communications takes on, and that is the part which we think private enterprise ought to be doing.

Now, the way I am getting this from you today, the Government is going to have its foot in the door a lot bigger than I had ever dreamed it was before.

Mr. WEBB. It will have to have a very important role here, sir, in my opinion.

Mr. SPRINGER. It has an important role putting it up there. It is not going to be up there unless you put it up there, that is for sure. But I didn't understand that it was necessary for you to be in the communications field, and that is, in essence, what you are talking.

I am talking about private; I am not talking about the Government, the Army, the Navy, or the Armed Forces.

Anyway, I am glad—this \$50 million that you have, you are doing research with it for what purpose? This is the first time I ever heard of this \$50 million.

Mr. WEBB. In the communications satellite field.

Mr. SPRINGER. What are you doing? Are you doing it in the booster field or in the communications field?

Mr. WEBB. Both. We have three programs of research.

The first one is with the Relay satellite, completely financed by the U.S. Government. We have a contract with the Radio Corp. of America to manufacture this. We have arrangements with the major communications companies to use their ground systems to communicate with this satellite. It is designed to test the feasibility of intercontinental television, and of the life of the components as they fly in space. And we will have not only the components that we will use for communication, say, from here to England or here to France or here to Brazil or here to Germany—they are the nations most actively cooperating—but also we will have a lot of measuring

devices on this satellite that will measure the flux, the field, the radiation, and all of the other factors of the environment through which this will fly. Now, all of that information will come back to us, will be analyzed.

It will then go to the companies who are in the field, so that every company that has a need to know this information will have available all of it which is derived from the relay program.

This is a service to all of industry, and is broader than the research that one company would do and would utilize for its own purposes.

The second program that I mentioned is the one with the A.T. & T., where they said:

Your Government program of Relay does not give all the information we think is needed. It does not move fast enough. We would like to prepare a complete satellite in accordance with what we think would be the best plan for its use.

Now, bear in mind this will not provide all the measurements that the Government program would. Obviously, they want to get a prototype for an operational system.

But we looked at this and agreed that a great deal would be learned from the satellite they wished to send up, and that we might learn a great deal from working with this satellite, the coordination of the ground stations with it, the life of the components. They have some very novel ideas as to how to make the components' life longer.

So we made a contract with them to fly their satellite. This means they will reimburse the Government.

Mr. SPRINGER. Mr. Webb, that is all of my time. I did not get to ask all the questions.

Mr. WEBB. I will be glad to meet with you privately and talk with you.

Mr. SPRINGER. Thank you very kindly.

The CHAIRMAN. Mr. Rogers, you go ahead. I want to pursue what Mr. Springer asked as soon as you have finished, if you have some questions.

Mr. ROGERS of Texas. I yield to you. You go ahead.

The CHAIRMAN. I would like to pursue this just a minute, Mr. Webb, because, unless I am entirely mistaken, I think understanding is lacking between you and Mr. Springer as to just what the problem is and what it is that is being undertaken. I think I get the implication of Mr. Springer's questions and approach; and, if you do, why, I agree with him.

On the other hand, I think I get what you are trying to convey, of which I am not critical at all, but I have a feeling that it is not altogether what some of us might feel that you need.

Mr. WEBB. Could I say one word there?

The CHAIRMAN. I think, to get it down to a simple thing, let me put it this way: I think what we should do here is, as Mr. Springer used the term, to delineate the problem. Now, I think what Mr. Springer has in mind, and correctly so, is the field of communications, referred to as our commercial communications, and service to the public—is that not right, Mr. Springer?

Mr. SPRINGER. That was the delineation I was trying to get as to where you ended and they took on.

The CHAIRMAN. Now, if I gather correctly, what you intend to convey is that you go beyond that?

Mr. WEBB. Yes.

The CHAIRMAN. In your research and development into the planetarium?

Mr. WEBB. Yes, sir.

The CHAIRMAN. In other words, commercial efforts at this time, I assume, have no plan to go to the Moon?

Mr. WEBB. No, sir; not that I know of.

The CHAIRMAN. But you do?

Mr. WEBB. Yes, sir.

The CHAIRMAN. And, as I understood from your statement and your discussion, that is what you have in mind when you talk about the responsibility of your administration in the field of research and development with reference to communications?

Mr. WEBB. And in order to get to the Moon, you must know a great deal more about the ionosphere, which affects all communications. You must know a great deal about the space environment and how communications equipment can survive in that environment because we must be able to communicate outward to the Moon.

Now, in the process of learning all of this—

The CHAIRMAN. But we are still talking about your responsibility in the research and development field beyond communications for commercial purposes?

Mr. WEBB. Yes. Yes.

The CHAIRMAN. Is that not true?

Mr. WEBB. Yes, sir; it is true.

Could I say one other thing about the law under which we operate?

The CHAIRMAN. Yes.

Mr. WEBB. The law which created the National Aeronautics and Space Administration has a provision that we will actively drive ahead to get the applications of space science and technology into use so as to derive the benefits of all this research, and this is a part of the justification for our efforts at research in communications satellites.

The CHAIRMAN. Yes, I understand that, but what I was trying to develop in my own mind for the record here is that you, in my judgment, are not endeavoring to convey that you are going beyond what your responsibility is in that field.

Mr. WEBB. May I give one other illustration?

The CHAIRMAN. Am I not right in that?

Mr. WEBB. We are not going beyond the responsibility that is in the law that is put on us, but we do have a much broader program than just the commercial application of communications satellites.

The CHAIRMAN. Yes, of course, I know that.

That is what I am trying to get for the record here, in order to see that everyone understands just what you are trying to explain to us.

For example, Mr. Webb, I marked what I will say to the gentleman from Illinois, as we passed over it in your statement, page 3:

The term "technical characteristics" includes such factors as the number of available channels in the satellite system.

To me, that raises a lot of questions which, it seems to me, need to be cleared up.

Now, I know that for commercial purposes the Federal Communications Commission is assigned certain channels of the spectrum in order that they may make allocations for that purpose.

I know that the Federal Government has assigned certain of the spectrum to the Defense Department for its needs, and we have been trying to find out for 5 years now just how much that is, and I do not think, with all due respect to them, that they know themselves.

I doubt if you know in connection with the research and development program.

Mr. WEBB. We all want more than we can get, Mr. Chairman.

The CHAIRMAN. And my complaint has been that I think some have gotten more than they need and are using. We have been trying our best to find out how we can avoid continued waste of this resource.

But, as I understand it, you are trying to say here that you, your agency, is allocated certain channels or has the authority to determine how those channels may be used.

Is that true?

Mr. WEBB. No, sir.

What we are saying—

The CHAIRMAN. What do you mean by this, then?

Mr. WEBB. What we mean by that, and I would like to ask Mr. Stoller, if you do not mind, to say a few words on this, but I would like to say this:

This new technique of communications satellites permits an expansion of the spectrum in a radical new way and gives us many, many more channels than you had before.

The CHAIRMAN. I have seen that chart.

I saw it extended from where Mr. O'Brien is sitting over there nearly to the corner.

Mr. WEBB. Yes, sir.

Now, there is a question—

The CHAIRMAN. And to the extent that they themselves did not know just how far it went, as new techniques are developed.

Mr. WEBB. We are even using light now, you see.

The CHAIRMAN. You are familiar with that effort to extend?

Mr. WEBB. Yes, sir.

The CHAIRMAN. In this field?

Mr. WEBB. Yes, sir.

The CHAIRMAN. And I assume that that is the problem that you are directing yourself to in the field of research and development on communications?

Mr. WEBB. No, sir.

I think the way I would state our function here is that at any point in time the state of the art permits you to make an expansion of a certain amount.

Now, beyond that, the state of the art does not permit you to go.

We have the experts, due to all of our work in space, that have a very good knowledge of what you really could put in a satellite and expect to use effectively.

Now, it is this kind of technical advice where you might say 10 years from now we ought to be over here twice as far, but right now this is as far as you can expect to use this technology for communications purposes.

We have the men who know the most about that, I think, unless there are men in classified areas of the Department of Defense.

Now, maybe Mr. Stoller might want to amplify that. I think it is that kind of advice, not the regulatory thing.

The FCC will make a decision, and they will take into account our advice in making that decision.

The CHAIRMAN. And after this technique has developed these new expansions or extended the program and it is then developed to the point that it can be utilized commercially or otherwise, and you turn it over to whoever uses it, then that ends, insofar as that is concerned, your authority?

Mr. WEBB. Except that we are continuing to try to do research to find new and better ways.

The CHAIRMAN. That is something else new?

Mr. WEBB. Yes, sir.

The CHAIRMAN. I am talking about what you have already developed and turned over for use.

Mr. WEBB. I would just like to add one little point to that.

You can always improve the way you use something that you have already developed to the point of use. So we are working in the area of how to improve the service that can be obtained from those things that have already gone into operational use.

The CHAIRMAN. Let us put it down to one simple layman's understanding.

Do you content that you have any authority whatsoever to change or in any way affect the 12 VHF channels being used in the commercial television field?

Mr. WEBB. No, sir; we have none.

The CHAIRMAN. That is just about as simply as I could state it.

Mr. WEBB. Yes.

The CHAIRMAN. I think I understand, because the same principle would be applicable to any other field.

Mr. WEBB. Could I give you one example which I think will be very simple. We work closely with the Atomic Energy Commission to develop atomic sources of power for use in space satellites, not only for communications purposes, but for other purposes.

This is a very expensive type of operation that no private industry could go into. It involves not only the development of the power itself, but how you shield the equipment in the satellite from the radiation in the reactor.

Now, this kind of research is the kind of thing we do, and as soon as we get results, we make them available to industry so that industry always has a base of information, knowledge, research, on which it can move on to do the jobs of private enterprise. So we are not in any sense taking over their job.

We are providing a base on which many companies can reach into this body of knowledge and move right on with their own work.

The CHAIRMAN. I go back to the written precept that I believe is the reason for your organization, and that is, in the research and development stage of this important resource to make new technology available, when it is developed, for whatever use is best in the interests of our Government and the public.

Mr. WEBB. Yes, sir.

The CHAIRMAN. Just one final question on that.

Then you do not have control over any of the available channels of the spectrum, except what you develop anew to be used in the expansion of the whole program?

Mr. WEBB. Or as we may be assigned by the FCC.

The CHAIRMAN. Or as has been assigned?

Mr. WEBB. Yes, sir.

The CHAIRMAN. Either by the FCC or under international agreement?

Mr. WEBB. Yes, sir; that is correct.

The CHAIRMAN. For purposes of your organization?

Mr. WEBB. Your statement is correct.

Mr. SPRINGER. Mr. Webb, have you read 10115?

Mr. WEBB. Yes, sir.

Mr. SPRINGER. You are familiar with it?

Mr. WEBB. Yes, sir.

Mr. SPRINGER. Do you say that bill goes beyond commercial communication?

Mr. WEBB. Yes, sir.

Mr. SPRINGER. Would you tell this committee how far that bill goes beyond commercial communication?

Mr. WEBB. Mr. Springer, I have a marked copy somewhere. May I look here just a minute. If not, I will work from an unmarked copy. Yes, I have it right here.

I would like to start, if I may, sir, on page 1, "Declaration of Policy and Purposes."

The CHAIRMAN. Just a minute. We cannot use all the time of the next member.

My time is up, and I yielded to Mr. Springer for that purpose, but if you are going to start explaining the bill—

Mr. SPRINGER. Can we go over to page 8 to see where we are here?

The CHAIRMAN. For just a moment. That is what he has reference to, your responsibility, which is on page 8.

Mr. WEBB. Does he have a question on page 8, sir?

The CHAIRMAN. Yes. The question is: Does this bill go beyond—that is, referring to your program—beyond commercial communications?

Mr. WEBB. Now, when you come to the specific provisions for the National Aeronautics and Space Administration, the bill does not go beyond existing policy and practice. I thought you were speaking of the bill as a whole and the general policy and the President's role in creating an international system. That was the purpose of my question. But with respect to the National Aeronautics and Space Administration, we will assist this new Corporation and so forth, but this is a normal role that we play in all similar circumstances.

Mr. SPRINGER. That is on a reimbursable basis, is it not, Mr. Webb?

Mr. WEBB. Not all of it. We assist the Corporation on the operational research, when requested, and on a reimbursable basis, but with respect to research beyond the operational phases, something they may want to use in future years, we do that with Government money as approved by Congress each year.

Mr. SPRINGER. Now, you are not expecting to be reimbursed out of this Corporation beyond these items which are here as reimbursable?

Mr. WEBB. That is right.

Mr. SPRINGER. That is all, Mr. Chairman.

The CHAIRMAN. Mr. Rogers?

Mr. ROGERS of Texas. I had yielded my time to the chairman.

The CHAIRMAN. Mr. Younger?

Mr. YOUNGER. Mr. Webb, I appreciate your statement very much. I hope that the clerk got it all down. It will be a great test in the communications field that he is able to take everything down that you have said.

I am interested in this phase. If the President appoints the organizers and they organize the Corporation to sell the stock to the public, is there not an implication there on the part of the Government that this is a good investment, and, if anything goes wrong, we will stand back of it?

Mr. WEBB. I am not the best witness on this subject, but as one administrator—only one out of many concerned with this—I would be glad to speak on this subject. It does seem to me there are many very complex questions of this nature that are involved in the establishment of this new kind of Corporation.

Now, I think the principle of dedication to using private enterprise for these services is an excellent one.

I think the normal forms of corporate endeavor, such as we have in our large American corporations, are in many areas proving less effective in dealing with world economic and other conditions than they were in the past.

For instance, the largest oil companies have trouble competing with a State monopoly such as Russia puts forward in the world petroleum business.

I think there are certain very important new problems that we must tackle and find answers to. The one you have referred to is one that must be addressed, because if there is the implication that the Government is, in a sense, going to guarantee a return on this money, it seems to me that this creates quite a different situation than if the Government is to participate up to a point, and then step aside.

These are questions, and this bill provides a machinery for working at those questions, I believe, rather than giving all of the answers that may be required in the future.

Mr. YOUNGER. Well, Mr. McGhee of the State Department, in answering a direct question the other day, said that he would not recommend it as an investment. What is your answer to that question?

Mr. WEBB. I think it depends on the form of the Corporation which is thrashed out on the basis of the framework provided under this bill, which is really a means of bringing the Corporation forward rather than the solution of all of such matters in connection with the Corporation.

I think that the biggest issue here is one that this committee will have more to do with than I will, namely, what will the customers pay for the service?

If this is to be a regulated enterprise as we have had heretofore, with the decision made largely in an independent commission, working closely with this committee and a similar committee in the Senate, the question of the rate base used, which relates to the question of the charges made for the service, will be all important in determining the profitability of the investment.

Now, that is not covered in this bill.

It is provided that the FCC will take certain actions that will relate to these matters. I think an investor would have to know the answers to these questions before determining or making such an investment.

I believe the President believes this framework will permit going forward with the Corporation so that those questions can be answered.

Mr. YOUNGER. You are familiar with space. Do you think that there is any possibility of a corporation going into this new field being able to pay a dividend within 2, 3, 4, or 5 years, or in the foreseeable future?

Mr. WEBB. Not if all of the Government's investment in associated technologies is put into the rate base.

Mr. YOUNGER. That is right.

Mr. WEBB. It could not possibly do it, in my opinion.

Mr. YOUNGER. That is correct.

The CHAIRMAN. Will the gentleman permit an interruption for just a minute?

The committee is going to have to recess in a few minutes. Would it be satisfactory to the members to come back, say, at 2 o'clock in order that we may continue the interrogation?

(Discussion off the record.)

The CHAIRMAN. You will be excused until 10 o'clock in the morning, but let us come back at 2:30, and we will proceed with the Communications Workers of America.

(Whereupon, at 12:15 p.m., the hearing was adjourned, to reconvene at 2:30 p.m., of the same day.)

AFTERNOON SESSION

The CHAIRMAN. The committee will come to order.

This afternoon we have Mr. Joseph A. Beirne, president of the Communications Workers of America, AFL-CIO.

Mr. Beirne, we are very glad to have you with us this afternoon and have been looking forward to your presentation on this important subject to the committee.

You may proceed as you desire. I see you have some of your associates with you. Would you like to identify them for the record?

STATEMENT OF JOSEPH A. BEIRNE, PRESIDENT, COMMUNICATIONS WORKERS OF AMERICA, AFL-CIO; ACCOMPANIED BY JOHN L. CRULL, VICE PRESIDENT AND JAMES J. CRONIN, STAFF COUNSEL

Mr. BEIRNE. My name is Joseph A. Beirne, president of the Communications Workers of America, AFL-CIO.

My associates are Mr. John Crull, vice president of the Communications Workers of America; and James Cronin, staff counsel of the Communications Workers of America.

I want to thank the chairman and other members of the committee for this opportunity to express, on behalf of the 380,000 communications workers represented by CWA, our views regarding the proposals concerning a communications satellite system. Specifically, our comments relate to H.R. 10115, the administration's bill, introduced by Congressman Harris, chairman of this committee.

CWA's interest in this most important matter is basically twofold:

First, we view the establishment of a worldwide communications satellite system, within the shortest possible time, as a means whereby this country can exhibit to the world a tremendous scientific achievement in the name of peace and brotherhood among and between peoples of all nations.

Second, CWA's interest stems from our responsibility to the hundreds of thousands of communications workers whom we represent, and who are employed in every aspect of the communications art—including research and development, manufacturing, distribution, construction, installation, operation, and maintenance—in both the domestic and international fields and in both the voice and non-voice phases of the communications industry.

Our members are employed throughout the Bell System, General System, A.C. & R. and RCA, and by many other smaller, yet significant, independent communications companies. CWA members also work for Saskatchewan Government Telephones in Canada. CWA, therefore, deals with an industry that is both privately owned and publicly owned.

I might explain, briefly, my purpose in enumerating the careers of the communications workers represented by CWA. It is simply to invite your attention to the fact that we know the capabilities of the companies, we know the technicians and the career employees of these companies are equipped to do the necessary job—all that is needed is to get on with the job.

In his July 24, 1961, policy statement on communications satellites, President Kennedy confirmed our view when he noted that science and technology have progressed to such a degree that communication through the use of space satellites has become possible. This competence, he noted, should be developed at the earliest practicable time. NASA, the FCC, and many others likewise share this view.

The President's policy statement favored private ownership and operation of the U.S. portion of a worldwide communication system as constituting the most desirable and practical means of getting on with the job. CWA lends its support to this position 100 percent, and I so informed the President of the United States in a letter dated October 6, 1961, following the statement of some 35 legislators suggesting Government ownership in this field.

This Nation's industrial revolution was, and its continuous industrial development and improvement is, based on private enterprise. We believe the private sector of our economy, having developed the greatest communication systems the world has known, and having demonstrated its ability to provide for the extension of the existing systems by means of a communications satellite system, should be permitted to go ahead now, because it is geared for the job.

We recognize the desirability and necessity for governmental regulation of privately owned communication carriers. It must be recognized, however, that there is a great difference between a private industry regulated by the Government for the public interest, and an industry—or segment thereof—owned and controlled by the Government.

Not long ago CWA sponsored two independently conducted studies of privately owned and publicly owned communication companies relating to such matters as rates charged, wages paid, existing condi-

tions of employment, and service which the public received. The professors, who conducted these studies for us, found that the privately owned, managed, and operated company renders better service to the public, provides superior wages and working conditions, and charges no greater rates than does the publicly owned company.

An appreciation of existing communication systems and of the continuing research and development programs leaves no valid basis to doubt or question the capabilities of private enterprise in the field of space communications. After all, a communications satellite system is really nothing more than an extension and improvement of existing communication systems—basically different only in that it consists of microwave towers in the sky. We do not intend, of course, to minimize the operational complexities, as well as administrative and regulatory problems, of such a different system.

While it is generally recognized that there is no justification or necessity to deviate from the historical and traditional communications policy of the United States—that Government-regulated, privately owned common carriers provide these supplemental facilities for international communications service—there does appear to be some support for Government ownership of a communications satellite system.

There appears to be some concern that somehow or other our foreign policy gets involved in this matter. I would simply make the observation that there has never been a single instance, to my knowledge, where the activities of the private communications companies have ever caused embarrassment to the United States or its foreign policy.

I say parenthetically that the United States is linked with Europe, and linked with the rest of the world right now. Agreements have been reached between publicly owned companies on one side of the water and the privately owned companies on this side of the water, and, to the best of my knowledge, never has there been any agreement that embarrassed the United States or in any way affected its foreign policy.

There seems to be some concern that the taxpayers must be protected through Government ownership and control because they have invested a great deal of money in the building of rockets for the Government. I am confident the private companies have not the slightest idea of capitalizing on this situation. They are perfectly willing to pay the cost of rocketry required to boost communications satellites into orbit. It should be noted, too, that the money and ingenuity that have gone into the building of the satellites have all been provided by the privately owned carriers. A privately owned communications satellite system would be a byproduct of the taxpayers' investment and would be good for this country.

We should not be ashamed of our private enterprise system.

It is my belief that it is a selling point that is not used enough by Americans who travel around the world. There is no communication system in the entire free world that compares with ours in service to the public and cost to the public.

When we have before us something that has worked, as the private companies in the communications industry have worked for over a hundred years, I think it is late in the day to start tampering philo-

sophically—or any other way—with that kind of a system which has been profitable to the public.

CWA agrees wholeheartedly with the administration's objectives. We have noted, however, some disagreement about who should own the Communications Satellite Corporation, who should own the ground stations, and the degree and type of governmental regulation desirable and necessary. I do not intend to delve into the technicalities of the corporate structure, capitalization and the like, but I do want to comment on these general areas of disagreement.

We believe that the public interest would best be served, and that the policy and purposes declared in H.R. 10115 would best be met, if ownership of a Communications Satellite Corporation be limited to the regulated common carriers which are directly responsible to the public for rendering service. It is of paramount importance to consider carefully the relationship between ownership and responsibility for rendering service. They should not be divided between dividend-interested stockholders, on the one hand, and the communications carriers, on the other. The type of corporate structure required is one that provides the greatest degree of responsiveness to the public interest.

We appreciate and agree with the desire to preclude domination of the satellite system by any one carrier. It is our hope, however, that after careful consideration of all relevant factors, adequate regulation in the public interest will be provided for without hamstringing, through unnecessary capitalization restrictions, or otherwise, the Corporation's ability to get on with the job of research, development and establishment of an operational system. We are confident that everyone concerned in this matter, including the President on down to the communications workers on the job, shares this same interest.

We believe the carriers should be permitted to construct, own and operate the ground stations in keeping with the public interest, and in keeping with the policy that authorized users shall have nondiscriminatory access to the system and that maximum competition be maintained in the provision of equipment and services utilized by the system. If these ground stations would be owned by the Corporation and each of the present carriers would have to deal with this separate entity to take care of their oversea business, difficulties would arise as to types of services and kinds of service, and, in my judgment, this would adversely affect rates and the public interest.

It would also be desirable in the public interest to provide authority for two or more carriers to jointly own and operate ground stations for authorized users as may be determined to be appropriate by the FCC. This would greatly benefit the small communications carriers because it would allow them to compete on a more equal basis with the large carriers. When a high-altitude communications satellite system becomes operative, there will not be the need for the type of ground stations that are required for a medium-altitude system, which are so highly complex and costly. The smaller carriers will be able to finance the construction, operation and maintenance of the ground stations required for a high-altitude system.

Here, again, consideration must be accorded the relationship between ownership and responsibility for rendering service to the public. It is at these transmitting and receiving ground stations that the operating aspect of the satellite system will be conducted as an

integral part of the vast domestic communications networks, not unlike the present cable, radio, and microwave systems. Regulated carriers directly responsible to the public interest are not now and should not be prohibited from controlling their own facilities.

Another factor to be considered in connection with ground station ownership is the matter of employee-employer relationship and labor-management relations. Just how many employees will be required at a ground station is difficult to estimate. Nevertheless, communications workers will be required—probably a substantial number. Communications workers, on the whole, are career employees of their chosen employer. They do not jump around among the different carriers for employment. Moreover, they are dedicated to service in the public interest. Whatever carriers desire to own ground stations, whether individually or jointly, it is expected they will call upon their own employees for training preparatory to assignment in connection with the satellite system. This will, of course, cause no disruption of existing employee-employer relationships. Moreover, it will cause no disruption of existing labor-management relations. The wages, hours, working conditions and other benefits acquired through the process of collective bargaining will not be jeopardized, rather they will continue to be improved as in the past in the same manner and between the same parties with which the employees are accustomed.

It is our hope that the importance of achieving the objectives and purposes of the act is not lost sight of or hampered through duplication of effort and a maze of unnecessary regulation and supervision. It must be made certain in the public interest that the development and execution of an operating system do not become bottlenecked because of a breakdown in coordination of the various responsibilities within the Government. Completely adequate regulation of an operating communications satellite system could be provided by the FCC, as in the case of present operating systems. The FCC should be given whatever authority it does not now have, if any, to regulate such a system and company in the interest of the public.

In closing, I would like to make this observation:

It is possible for us to get our "first" in this peaceful area, where we would be cementing the brotherhood we talk so much about throughout the world. It would be something of ours that would capture the imagination of people. It cannot harm or destroy anyone. It can only bring us closer together by permitting us to communicate better and more quickly.

I urge, therefore, that this committee and the Congress do whatever is necessary, quickly, to give us a law establishing a privately owned company, owned by the private carriers, permitting them to own their own ground stations, and permitting the carriers to commence negotiations with foreign companies or governments, so that the circuits will soon be busy bringing people closer together.

Thank you.

The CHAIRMAN. Thank you very much, Mr. Beirne, for a very fine statement.

Mr. O'Brien?

Mr. O'BRIEN. I would like to join the chairman in that statement. I think it is a very succinct and a very intelligent statement.

I would like to ask this, Mr. Beirne. How many employees do the common carriers in the communications field have?

Mr. BEIRNE. Totally?

Mr. O'BRIEN. Totally.

Mr. BEIRNE. About 850,000.

Mr. O'BRIEN. 850,000?

Mr. BEIRNE. Yes.

Mr. O'BRIEN. Are a substantial number of those employees stockholders in those carriers to some degree?

Mr. BEIRNE. I would judge that a majority are stockholders. Whether a substantial majority is or not, I have never seen figures on that.

From my own experience, I know that our own members—and I am certain this would hold true of the management, which is also included in this figure of 850,000—own many shares of stock in their own companies.

Mr. O'BRIEN. Whether you own stock or do not own stock, is there a general feeling among the employees of these corporations that they are an integral part of the private enterprise system?

Mr. BEIRNE. Very definitely so. That is why I am testifying.

Mr. O'BRIEN. I think you made that very clear.

Now, one of the things that crops up repeatedly in these hearings, when we get down to the bare bones of the question as to the type of corporation, is this investment of \$175 million by the taxpayers, presumably 30 or 40 million of them, in this field?

Do you not think that the American taxpayer, who has invested this amount of money in that field, would get a quicker and greater across-the-board return from his money if we moved swiftly, efficiently, and effectively in this field?

Mr. BEIRNE. To answer your question, I most certainly do. But I sort of challenge the amount of money people have said has been invested by the American taxpayer in the communications satellite system.

Now, the American taxpayer, I know, has invested a lot of money in the B-70, which is now a matter of discussion before the Congress, and from the B-70 will come a lot of airplane companies who will build airplanes that will go faster and be safer, and the public gains.

We gain by the jet 707, which was just a military plane for many years before it went into use in transporting the public.

This is my knowledge, that the Bell System has developed the Telstar without a dime of taxpayers' money—without a dime. I think facts will prove, as time goes on, that the higher star in outer space is going to be providing the better service for the telephone, television, and tell-your-mother using public.

Mr. O'BRIEN. Under the proposal for the creation of the new Corporation, it has been suggested that perhaps there might be a million stockholders.

Now, if we assume that the Government does have \$175 million in the field, which you challenge as to the amount, we would be barely scratching the surface of the taxpayers with a million stockholders in this new Corporation; is that not true?

Mr. BEIRNE. Well, the way I would like to see a corporation set up is, as I said in my statement, to get all the recognized common carriers in this field to put their money into a satellite corporation.

Now, when you do that, why, the A.T. & T. alone has over 2 million stockholders. So 2 million stockholders now own stock in this new

Corporation because it is their money that is going into it. And you would add to that number the hundreds of thousands and millions who own stock in the General Telephone and the I.T. & T. and the RCA and the A.C. & R. and any of the other companies who want to come in and be a part of this new Corporation.

You would not have to go through the process of selling stock in a new corporation, if you let the carriers set up their own holding corporation and run it. The corporation would then be run by communications managements, rather than some of the things that I have seen people proposing that would bring the Department of State and the Department of Defense and the department of something else in to run a company.

Thus, you would have communications management men operating a corporation owned by people who wanted to invest their money in that kind of an enterprise, supervising communications workers who know their business, without a lot of Government interference.

I would hate like the dickens to have the experience of my friend, Bill Dougherty, of the Letter Carriers, who has to come and plead every year with the Congress of the United States for a raise for people who are paid an awfully low income for carrying the mail.

I would rather sit down with the management and bargain out wages and working conditions, because it seems to prove we do a little better than when we have to bargain with the Congress.

Mr. O'BRIEN. I, of course, will accept fully your objection to the Government taking over this thing as a Government Corporation.

My concern is whether the so-called private corporation that has been proposed with these common carriers reduced to a negligible position is actually private enterprise as we know it.

Mr. BEIRNE. It is not.

That is why I testify against the administration's proposal, against Senator Kefauver's proposal, against my good friend "Manny" Celler's proposal, and all the proposals that would try to set up some sort of a hybrid organization in the communications field. You see, when you have got the best system in the world, and it works, and it has been working, when you get the low rates that we have in the United States for this wonderful service which our people are providing, which the engineers and the initiative of people investing their money in private enterprise developed, then I say it is late in the day for the Government to come in and say:

"Well, now, if we are going to put a microwave up in the sky rather than on land"—you see, all this is, is a continuation of what we now have. In 1946 or 1947 or thereabouts, we ran the first microwave stations from Boston down to New York. By 1962 we have four systems operating east and west, and you are able to see live TV from coast to coast through the microwave system of the privately owned telephone companies.

Now, if it were possible, because of the earth's curvature, and if it were possible on a cost basis to build platforms right across the water to all parts of the world, rather than sinking a submarine cable, you could have the microwaves continue right across the water.

Now, because that is costly and because now we have rocketry and because a wonderful new world has opened up in the last 15 years, we now can put this up in the sky. But it is the same darn thing.

Now, let the people put it up there and run it who have been in this business for 100 years.

Mr. O'BRIEN. Yes.

And the returns to the people that put their tax dollars in would come through new service?

Mr. BEIRNE. New service, cheaper service, and the cost that went into the rocket to shoot it up, why, when negotiations take place—you see, they are going on all the time. Our people are very much aware of the negotiations going on now for telephone service.

The last cable laid in the 1950's is half-owned by England, a Government department, and it is half-owned by an American corporation, and rates are established, service is given, and it is quick, it is efficient, and good. The same thing will happen.

England will want a piece of the circuits of a satellite; Russia will want some of the circuits of that satellite; and I think it would be a wonderful thing for our country to send a representative of private enterprise to sit down and negotiate with the Russians on how many circuits they get in the new satellite system and let them pay for it.

And they will pay for the rocket that sends it up, too, because that is part of the cost.

Mr. O'BRIEN. Thank you very much, Mr. Beirne.

Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Younger?

Mr. YOUNGER. Thank you, Mr. Chairman.

Mr. BEIRNE, I want to thank you very much for an excellent statement, one of the best statements that we have ever had on private industry. You have added a lot of information in connection with this hearing. Can we interpret your statement as having the backing of AFL-CIO?

Mr. BEIRNE. Well, sir, I never asked the AFL-CIO, but I speak for the Communications Workers of the AFL-CIO, and until somebody takes an action against it, the Communications Workers, AFL-CIO, is being represented here, and that is the AFL-CIO.

Mr. YOUNGER. Fine.

Mr. BEIRNE. I would say parenthetically, if they are not backing me, there is going to be quite a donnybrook.

Mr. YOUNGER. I just wanted to make sure that the record is clear on that. I am 100 percent in accord with your statement you have made here. It would take very little time for this committee to sit down and mark up a bill of your type. I am very much concerned about trying to start another corporation and selling stock, which everybody recognizes is very questionable as to whether it would pay a dividend in 2, 5, or 10 years.

And if the Government starts out that way, people buying it would think that they had a Government guarantee on it. It would be natural to assume that, while the system that you propose with all of the communication systems, the stockholders would benefit, if there was any benefit, but they are not risking their entire investment in the one basket.

They have all of the other business of the communication systems which can supply them some protection, and I am strong, very strong, for the system which you propose.

Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Hemphill?

Mr. HEMPHILL. Thank you, Mr. Chairman.

I want to join the others in thanking you for coming here and for one of the finest statements I have heard and for the clarity of your statement. There are one or two things I would like to discuss with you.

On page 2 you made the statement, with which I thoroughly concur, about the fifth or sixth line down:

All that is needed is to get on with the job.

I have had the feeling that the interference by these ambitious Government departments such as the Department of State—and I am afraid NASA this morning exhibited some ambition—is really slowing down the legislation, which is slowing down the accomplishment. Do you have that feeling?

Mr. BEIRNE. I certainly do, and I get the shock when thinking about the possibilities of Russia being able to beat us. They have the rockets to send up a satellite, if they have the engineers to develop the satellite. Here we are sitting with the know-how, with all the experiments of Echo that has been going around this world of ours for a couple of years now, with the best brains in this field saying to the Government of the United States: "We are ready to put up a system, if you will give us the green light."

To me, if only you amended, if it is needed, the present law of the FCC to give them the regulatory power, if new legislation is needed, then these companies could get on with the business.

I get a shocked feeling that someone else can beat us when we are right here standing and debating what kind of a company it is that should run a communications system, when the obvious answer is it should be the communications companies, because they know the business.

Mr. HEMPHILL. I certainly agree with you.

Now, I notice you commented on the fact that when the President made his statement of policy last year, that you supported the position of private ownership 100 percent.

Mr. BEIRNE. Right.

Mr. HEMPHILL. And wrote a letter stating that you did. Now it was my conception at that time that all that was needed was the authorization to a communications company to go ahead, and they would, in turn, pay the U.S. Government whatever it cost to put the satellite in orbit. Was that the picture that you saw at that time?

Mr. BEIRNE. That is correct.

Mr. HEMPHILL. And at that time I had no idea that the State Department would want to get its finger in the pie or NASA or anybody else, because it seems so simple.

I feel that the \$175 million figure is thrown out as propaganda, because if \$175 million has been spent, it has been spent, whatever has been spent, for defense purposes and not particularly for this communications satellite. I think that is just propaganda.

The thought occurred to me that if \$175 million has been spent, that part of that \$175 million came from the taxpayers known as the Communications Workers of America and the companies for which they work.

I just want to thank you again for a very fine statement about America, as fine as any I have heard.

Mr. BEIRNE. Thank you, sir.

The CHAIRMAN. Mr. Nelsen?

Mr. NELSEN. I wish to join with my colleagues in complimenting the gentleman's fine statement.

Many of us who are of the opinion that our free enterprise system has been the foundation on which America has been built and the same foundation that will insure its future are really encouraged by the statement which you have presented today, one of the best, if not the best, in this entire hearing, as far as I am personally concerned, and I want to join my colleagues in thanking you for taking the time to appear here.

I know you have had to wait a long time to get aboard, but we are happy that the occasion did finally arrive, and we congratulate you and thank you for your statement.

Mr. BEIRNE. Thank you.

The CHAIRMAN. Mr. Kornegay?

Mr. KORNEGAY. Mr. Beirne, I, too, would like to join my colleagues in thanking you for your very fine statement, not only your prepared statement, but your additional remarks which were most impressive. They are straightforward in content, and I thank you for the aggressive attitude you have about getting on with the job.

There is just one question I would like to ask you and that is the point that has been raised that in the absence of a broad, voting stock issue, there would be some danger that one particular company or a particular company might dominate the Corporation.

To counteract that, it has been proposed that no carrier could have more than two members on the Board of Directors of the new Corporation.

Is it your thinking that that would be a sufficient safeguard against domination by any one single carrier of the Corporation?

Mr. BEIRNE. The answer to your question is "Yes." Anybody who has ever served on any boards of directors knows that when you have 16 to 19 men on a board of directors and a big investor has but 2 members, that those 2 members usually do not dominate the other 15.

You get some pretty strongheaded people who go on a board of directors of any company, and particularly a communications company.

But this fear of domination always intrigues me. I mean the domination of the A.T. & T. I do not think there is a man in the country that has had more fights with the A.T. & T. than I have had, and I do not think there has been more sacrifices than by the members of my union when we have been required in the past to go on strike, and if the time should ever come in the future when they feel as though they must, they will, and they will fight the A.T. & T.

That seems to be the one that people fear will dominate.

Now, if that is true, then why is the A.C. & R., whose employees we also represent, which is a small international communications carrier right now, why are they in favor of the same thing that the big giant is in favor of?

Do they welcome the domination?

I don't think so. I think they are in business to make money for the I.T. & T. and for the stockholders of I.T. & T., and I think they are ready to take their chances, because domination is not evil, in and of itself.

Mr. KORNEGAY. I agree.

Mr. BEIRNE. If the domination is by someone who has the technique, the tools, the equipment, the know-how, the skill, and the adventuresomeness to take risks, I do not see anything wrong with being dominated by something good.

I think most of us prefer to be dominated by God. Some may argue that God is bad, but I'll stay with Him.

Mr. KORNEGAY. You have spoken precisely my sentiments on the matter.

The point has been raised, and I have asked the question of several witnesses, some of whom are very well-known, national figures, and they have taken the other side of the proposition, but I am frank to say none of them has made it as clear and as convincing as you have, sir; and I appreciate very much your fine statement, and I thank you again for being with us today.

Mr. BEIRNE. Thank you, sir.

The CHAIRMAN. Mr. Thomson?

Mr. THOMSON. Thank you, Mr. Chairman.

Mr. Beirne, I wish more of the executive branch of the Government could be here to hear your philosophy, but I am certain they will read with great interest your statement.

I want your view on a question raised by the Attorney General.

He appeared recently before the committee and said that he was fearful that there would be a conflict of interest between the Space Satellite Corporation and the existing carriers because the existing carriers would want to use their conventional methods of transmission to make dividends for their stockholders at the expense of the rapid development of the space satellite.

Now, do you have any fear that that situation would develop, sir?

Mr. BEIRNE. No; I have no fears along that line at all, because 98 percent of all the telephones in the entire world are now connected, and existing facilities, while maybe requiring a delay, can connect people right now.

A request was made about 2 years ago for the Congress of the United States to permit the carriers in the international communications to form a merged company for the purpose of laying a new cable, and the then Attorney General, and the Department of Justice, objected because there would be this monopoly, and there would be all these other horrible things that people seem to be afraid of.

The result is what?

The result is that England can sit down with Canada and they will run a cable, and they will get the business. Then we will just be connecting with them.

Now, with the expanding population, with these new emerging countries going to work on developing their own communicating system, with peoples of the world going to use these new facilities, there will be a great need, as they develop, for additional circuits.

The satellite system is not going to provide circuits to run into infinity. There are just so many known circuits that will be in that microwave system. Similarly we had to put up four different systems across the United States because one would not carry it.

As the business develops, nobody is going to be foolish enough to lay a cable when they could use existing circuits, if there are any, in a satellite system. Nobody is going to do that.

The men who manage business would not long be managing it if they went in for that silly stuff.

Now, we cannot hold back the speed of this thing because this is a worldwide thing. The U.S. companies, regardless of which one it is, will require so many circuits of this system, and England will want so many circuits, and France will want so many circuits, and Russia will want so many circuits, and the Congo will want so many circuits, and Japan will want so many circuits, and China will want so many circuits.

They have to sit down at a big international conclave and they will parcel out the whole thing, and 100 percent will pretty well be used, and no company in the United States is going to hold back the rest of the world.

I think the fears that people express are predicated on an early day in history in the United States when domestically, and all within our borders, maybe people could gang up financially and stop progress. But that day is done. This is the space age.

Colonel Glenn did go around this world a couple of times, you know. This is not putting in the last spike in Omaha or something like that.

The rest of the world is in on this thing. They are not going to let any U.S. company hold up progress.

I don't know, I think you get to the bottom of the barrel, when you want to object to something, to have to find reasons for objecting to it.

Mr. THOMSON. Then you feel there will be no conflict of interest between the Satellite Corporation and existing carriers?

Mr. BEIRNE. Definitely not.

Let's take it another way. If I make a call here in Washington to London, I am going through a U.S. company. In this case, I will be going through the Chesapeake & Potomac Telephone Co., of Washington, D.C., which will immediately connect to the circuits of A.T. & T. long lines, which will then go across the cable or will go radio.

Who makes that decision? An operator. She knows what circuits are open and what circuits are not.

Now, here comes the space satellite. I make the same telephone call. The same people are going to make a decision: Shall we send this up through space or send it down through the submarine? It does not make any difference what company it is. When I make my call from Washington, D.C., from that point on they are making that decision, not me.

I am not going to say: "Put my call across the satellite. I'd like to talk up in outer space."

What difference does it make? I want to get to London.

Mr. THOMSON. Well, the whole history of the communications industry has been one of constant, uninterrupted progress, has it not?

Mr. BEIRNE. Yes.

Mr. THOMSON. Using the newest methods that could be conceived and designed and built?

Mr. BEIRNE. I think it has, and I think we have a communications system in the United States that we should be mighty proud of.

I hate like the dickens to see us tampering with what we should be proud of.

Let us continue more of this so that we will have some more arguments to show the Russian people and the Chinese people and those

who might be conned in by totalitarian slavery, "Look, you can be free and still be way ahead."

Mr. THOMSON. Very good.

Thank you very much.

The CHAIRMAN. Mr. Beirne, as I pointed out heretofore, there are three major questions that have come in for a great deal of discussion.

That does not mean that those are the only issues involved, but it seems to me that those are the three that have generated most of the differences of opinion that exist insofar as these hearings are concerned.

One is, of course, the ownership of the stock in the Corporation. Everybody agrees it should be under private enterprise, profitmaking.

The second question is: Who should own and control the ground stations?

There are some, as you have indicated, who believe that the common carriers should own and operate the ground stations. The FCC wants it to be flexible. They think it is necessary that, because of the allocation of certain channels, it will be necessary in connection with the use of it that whoever owns the stations should be required to obtain a certificate from the FCC—and there is some merit to that—in order to have a harmonious, coordinated program.

Of course, there are those who think that the Corporation should own the ground stations. You have made your position very clear to me with the exception of one thing.

Have you given any thought as to whether or not the FCC should have authority to grant certificates for the ground stations?

Mr. BEIRNE. Well, I believe the FCC has now, but if it does not, it should have, the authority to look into the ownership of ground stations.

I believe that the common carrier, one or two of them who may want to get together, could, if they want to, build the ground stations, three if they want to. But that is something that the corporations themselves will work out because in addition to the ownership comes the question of service. That has to be worked out, only by the management of the company.

The CHAIRMAN. Thus far, everyone concedes—so far as this record is concerned—that there should be a requirement of law that everyone should have use of this facility, and, therefore, prevent a monopoly in this field, and I do not think you would disagree with that, would you?

Mr. BEIRNE. I thoroughly agree with that.

The CHAIRMAN. But the point I raise is that in order to have a ground station that would transmit a signal to the satellite or receive a signal from the satellite, that would necessitate the use of certain channels, those channels must be assigned; the only way they can be assigned for that purpose is by the Federal Communications Commission.

Now, would it be consistent, in your judgment, for us to provide that for one or two or a half dozen to put in a ground station, a certificate would be obtained from the FCC?

Mr. BEIRNE. If I got your question, Mr. Chairman—

The CHAIRMAN. The question is very simple.

It is this: Can you put a ground station where you want to, at any time you want to, or do you have to go to the FCC, file an application, and get approval to put in that ground station?

Mr. BEIRNE. I would not argue against that. There is only going to be the need for a couple of ground stations. We are not going to be building ground stations in every city. You will not have to do that.

The CHAIRMAN. You will not have to do that, but you may have one company, if the thing is wide open, put in a ground station here, and another two or three companies putting in a ground station here.

Mr. BEIRNE. That is the kind of a thing—

The CHAIRMAN. Or the Corporation is permitted to put another one in over here.

The thing I am trying to find out—

Mr. BEIRNE. Having the FCC approve applications for the building of ground stations would not be in conflict with my views, no.

The CHAIRMAN. It seems to me that it might be a good thing to consider.

Then the other major question here is ownership of stock. Your statement is very clear on your position. There is some difference of opinion on the subject, as you know.

The question that has been raised, I believe the Attorney General raised the question, why not let the public have an opportunity to own some of this stock if they want to, as with any other speculation in the market.

On the other hand, if only the common carriers, which the common carriers urge, are permitted to own stock up to a certain amount, in order for the average individual to get any stock in this Corporation he would have to go to the stock market and buy I.T. & T., or A.T. & T., or some other common carrier.

I wonder if there has been any consideration given to that aspect of it: to prevent some individual who would like to have a certain stock in this Corporation from doing so, even though he might not want to put it in A.T. & T.

Mr. BEIRNE. I would make this observation:

The administration's bill providing for this great wave of public ownership suggests stock at \$1,000 a share. Well, I am somehow or other identified with this great public that I guess we are talking about, and I don't know a single one in my circles who has \$1,000 that they would invest in a new Corporation that you know, without even being in the industry, you know that that Corporation is not going to earn any dividends for, you name it, 3 years, 5 years, maybe 10 years.

And this great public does not have \$1,000 just to stick in something to get nothing back in return and take a chance that they may not for years.

That is not the public I am identified with, and I think I am pretty close to what we generally call this public.

So there seems to be some conflict of viewpoint there as to what the public is capable of doing at \$1,000 a throw.

The CHAIRMAN. I would say I think that you have a point there, and I have had some feeling myself that there is not going to be a great rush of the general public to buy a lot of the stock at \$1,000 a share.

On the other hand, you have observed, I am sure, that there has been the suggestion that it might be reduced to \$100. But I have a feeling that there are those who feel that this public we speak of that should have an opportunity to purchase some of this stock might be one of these hardware companies. If they are going to produce the

hardware, why not let them have an opportunity to buy some of the stock, and in that way, give them a chance to buy some stock and then take their chances through the member or members of the Board of Directors, that might be considered the public members on the Board?

Mr. BEIRNE. My observation on that, Mr. Chairman, is that the day the U.S. Government wants to go in the business of advising the citizens of the United States that they ought to go buy stock in corporations which the Government will set up just so they can buy stock in it, I think the Government of the United States is sort of taking on the responsibility of an investment adviser.

The CHAIRMAN. That is exactly the point.

Mr. BEIRNE. Yes.

The CHAIRMAN. That is the point that I think that the Attorney General made here, that he is trying to put over, that if this were to develop that only the common carriers own it, that the Government or the Congress is saying that if you want to have any right or opportunity to participate in this new venture, you are going to have to go to one of the common carriers and buy stock in order to do so, and, by doing so, the Government is telling the people:

"You cannot participate in this unless you buy some of their stock on the market."

That is exactly the point that they raise, which I think a lot of thought and consideration should be given.

Mr. BEIRNE. My views are pretty crystal clear on it. I somehow or other cannot bring myself around to believe that the Government in this extension of present international communicating systems should now be thinking of the profit-minded people who may want to invest their moneys, but, rather, the Government of the United States should be thinking of that which most in our industry think about, the service features.

Now, setting up a corporation that will permit the ownership of existing companies to duplicate, let us say, the General Telephone System of the United States, to duplicate, let us say, the International Telephone & Telegraph system of the United States; to duplicate, let us say, the American Telephone & Telegraph system, here is one company, and they own a lot of other companies, and they all join together, and what is the advantage of that?

The service.

The CHAIRMAN. I do not know of anyone that has advocated that we put up duplicate systems except those who urge the Government ownership of the Corporation.

Mr. BEIRNE. What you do with this new Corporation, when you are thinking of the investor and the profit angle, you are not thinking of the service. You are thinking of letting people get in and invest their money so they can earn what? A dividend.

People invest in any corporation for what they can get out of it. They just do not want to put their money in and say:

"I'll put \$1,000 into this because I like space and this is kind of new and so I have an extra \$1,000, I will stick it in this new Corporation, now that the Government has made it possible for me to buy stock in it. It is not going to bring me back anything, but I am just interested in space. I have just lost my senses. I have forgotten what my dollar is for."

The CHAIRMAN. You do not think they should be permitted to do that?

Mr. BEIRNE. No; I do not think the Congress of the United States should set up another Corporation with this idea that we are going to let the whole public get in on this. I think, rather, the Congress of the United States should say:

"We are interested in getting this bird up in the air fast; we are interested in showing our skills and talents to the people of the rest of the world; we are interested in giving service; we are interested in pulling the world together by communications."

And the best way to do that is to tell these people who have been in the business all their lives:

"Go set up a corporation, put your money in there and get the business done with."

That is what I think the Congress of the United States should tell the American people.

The CHAIRMAN. You certainly have made your position very clear, and I want to thank you for it and thank you for your testimony here on this subject.

Any further questions?

Mr. KORNEGAY. Let me just say at this point: In other words, you see it as a simple proposition, Mr. Beirne, whether or not we are going into the communications business or the investment business?

Mr. BEIRNE. Correct.

The CHAIRMAN. Thank you very much.

Mr. BEIRNE. Thank you, sir.

The CHAIRMAN. The committee will adjourn until 10 o'clock in the morning.

(Whereupon, at 3:35 p.m., the hearing was adjourned, to reconvene at 10 a.m., Thursday, March 22, 1962.)

COMMUNICATIONS SATELLITES

THURSDAY, MARCH 22, 1962

HOUSE OF REPRESENTATIVES,
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D.C.

The committee met, pursuant to recess, at 10:10 a.m., in room 1334, New House Office Building, Hon. Oren Harris (chairman of the committee) presiding.

The CHAIRMAN. The committee will come to order.

Mr. Webb, the Administrator of the National Aeronautics and Space Administration, may resume the chair.

As the committee recessed yesterday, Mr. Webb had concluded his presentation and was being interrogated by members of the committee.

He reminded us at that time that he had to be with another committee of the Congress at 11 o'clock, and I mention that for the information of the members. So far as we can tell, he is a very busy man, so try and keep that in mind.

Mr. O'Brien?

Mr. O'BRIEN. Mr. Chairman, I certainly will keep that admonition in mind.

Mr. WEBB. I first would like to congratulate you and your organization for a tremendous job, and I am not saying that just for the sake of oratory. I served on the original Space Committee which wrote the bill creating NASA, and I cannot help but recall the atmosphere in which we functioned. We had a 13-member committee. I think it was divided about as evenly politically as it could be.

At that time, as I am sure you know, we were faced with an urgency and a feeling of dismay because a totalitarian government was miles ahead of us at that time, and I am very pleased to see only 4 years later, that after that slow start, that we are really pounding down the stretch and have captured the imagination of the American people who 4 years ago might have been a little skeptical about the whole thing.

I think that once again we have that feeling of urgency in this matter, but we do not have the feeling of dismay. I recall 4 years ago, Mr. Webb, that there was a great deal of emphasis on the fact, or the claim, that we were behind because too many of our youngsters were not getting adequate scientific training and skill.

I felt then, and I feel now, that that was something of an alibi, that we did have the tools then, but we were not using them, for whatever reasons there might be.

Today I feel that we have the tools to go ahead now, no matter what this committee does.

I was impressed by your statement—I believe I am correct—that in carving out whatever is done, that we have to have an executive and legislative partnership in this matter.

STATEMENT OF JAMES E. WEBB, ADMINISTRATOR, NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, ACCOMPANIED BY JOHN A. JOHNSON, GENERAL COUNSEL, NASA, AND MORTON J. STOLLER, DIRECTOR, OFFICE OF APPLICATIONS, NASA—Resumed

Mr. WEBB. Yes.

Mr. O'BRIEN. I am convinced that this committee, like the original Space Committee, will face up to it in exactly those terms.

We did not at that time accept all of the recommendations of the executive, nor did we impose our will entirely.

I would like to ask you this question, first, Mr. Webb. Do you know how much the carriers have presently invested in research and development in this communications satellite field?

Mr. WEBB. No, sir.

Mr. O'Brien, those figures are not available to us.

Mr. O'BRIEN. Yes.

Mr. WEBB. I think it is fair to say that in all the work that many of these companies do with the Defense Department, with other agencies of the Government than the National Aeronautics and Space Administration—they spend a good deal of money for research and development work going beyond which they do for the Government.

Mr. O'BRIEN. I have heard the figure \$50 million. Would that be too high?

Mr. WEBB. I think you should ask some people from the industry. I simply do not have those figures available.

Mr. O'BRIEN. Yes, but—

Mr. WEBB. They would be very hard to get, Mr. O'Brien, because these companies do not really publish in detail where they spend their research money. This is something of a trade secrecy area. They expect, if they are developing new things, to use them themselves and they do not advertise it until they get them, I think.

Mr. O'BRIEN. Yes.

That figure would not startle you, however?

Mr. WEBB. It would surprise me if they have put as much as \$50 million into research on this.

Now, if you add the costs that the A.T. & T. Co. is reimbursing the Government for the rockets to fly the experimental satellites, then I think the figure might be more realistic.

Mr. O'BRIEN. Yes.

Well, I think you said in your testimony yesterday that you were afraid that if the A.T. & T. and the other carriers controlled this new field, operated it, that they might drag their heels because they would make some of their existing facilities obsolete or unprofitable.

Was I correct in that?

Mr. WEBB. No, sir, I did not say that. I think some other witnesses may have testified along those lines.

Mr. O'BRIEN. Yes.

Mr. WEBB. My testimony was that the President had considered all of the factors related to the building of a worldwide operational communications satellite system, and that he had proposed the form of organization represented in this bill, H.R. 10115. I also expressed myself as believing there was much merit in the arguments on various

sides of this question, and that it was a problem of legislative and executive cooperation to determine what was best for the country.

Mr. O'BRIEN. Yes.

Mr. WEBB. But I did not make the statement that the companies might drag their feet here.

Mr. O'BRIEN. I am glad to hear that because I do not think our experience indicates that they have hesitated to scrap something profitable because it might be called obsolete.

They have moved ahead in this field.

I have just one final question—

Mr. WEBB. What is obsolete is a matter of opinion, too, Mr. O'Brien. It is very difficult to determine how you move in a rapidly developing technological field from what you have on into the unknown.

Mr. O'BRIEN. Yes.

I have one final question.

If this committee and the Congress were to turn this matter over to private industry in the fullest sense, with the proper regulation by the FCC and others, with full participation by the various agencies of Government because of the international impact, do you, as the head of NASA, believe that we could move forward rapidly in this field under those conditions?

Mr. WEBB. Yes, I think we could. You used the word "rapidly"?

Mr. O'BRIEN. Yes.

Mr. WEBB. I think there are several ways you can move forward rapidly, and I believe the industry wants to move forward rapidly. I know the Government does. The President has proposed an urgent program.

So, when you say, could you move forward rapidly under those conditions, I think we could.

Mr. O'BRIEN. Yes.

Well, that is the point I wanted to make, because, as I said in my preliminary remarks, I think that we all on this committee, the Congress and the executive branch want to move forward rapidly.

There seems to be some difference of opinion as to the type of corporation, and I wanted to make sure that if we do come to the private enterprise in the fullest sense, that we are not going to hurt the program.

We can move. And you would encourage that?

Mr. WEBB. May I make one other comment.

There are some people who think you might move most rapidly if you had a chosen instrument, one company given the job. Now, a lot of other responsible people, including officials of the Government, do not believe that.

Mr. O'BRIEN. Yes. I agree.

I just wanted to make sure that, whichever way we move, we are going to get the job done. That is the important thing. Thank you very much.

Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Younger?

Mr. YOUNGER. Mr. Webb, I am wondering whether this new man which the President has announced he is going to ask for under the reorganization program which he will send to the Congress, providing

for a science and space individual in the executive branch, is going to have any appreciable effect on this program?

Mr. WEBB. No, sir, I do not think it will.

It seems to me, Mr. Younger, that we have come to a recognition of two very large problems of government:

One is how the big operating agencies, such as the Department of Defense and others like the National Aeronautics and Space Administration proceed internally to get their work done as approved by Congress.

Second, how these large operating agencies coordinate their programs with those of other agencies so as to do the most effective job for the Government.

Then you have the relation of those programs to the total program of the U.S. Government.

This latter point is the thing that I think the President is concerned about in creating this establishment in the Executive Office.

You do know, I am sure, that we have the National Aeronautics and Space Council, which operates under the chairmanship of the Vice President and advises the President in these fields. But the Space Council does not have specific responsibilities in relation to particular programs, such as the one before this committee, and I do not think it is intended that the proposed Office of Science and Technology will have either.

Mr. YOUNGER. Is it your idea that if we have the Defense Department reorganization, that and making a Secretary of Defense over all of it, concentrating the Army, Navy, Marines and Air Force activities in one branch, that then we need another man on top of him to see what he does?

Mr. WEBB. Well, you have one man on top of him. That is the President. All of these other agencies simply help the President.

Mr. YOUNGER. I mean in between the President and the Secretary of Defense. Is this new man on space to be in between the President and the Vice President, or what is to be the function?

Mr. WEBB. No, sir; I do not think that will be his position. I think he will be in a position of looking at these programs as they operate throughout the Government, performing a function of coordination and advice for the President.

The actions will be taken by the President. I have never found any difficulty, despite the arrangements made with the Vice President and with the Director of the Budget, in having direct contact with the President, either on the telephone or by asking for an appointment.

Mr. YOUNGER. As the adviser to the President, which I think you are, on space matters—

Mr. WEBB. Yes, sir.

Mr. YOUNGER (continuing). If we in the Congress decide to send in a bill that is a little different from the bill that the President has recommended, that you have recommended, and that the Attorney General has recommended, would you recommend that it be approved, or would you recommend that it be vetoed?

Mr. WEBB. If it is a workable bill that would enable us to move on to get the job done, I would certainly recommend that the President approve it, because I think this is an urgent program, and I think that delays in setting up the framework by which the activity could be pushed ahead would be unfortunate for the country.

I think, also, that the legislative process is important as well as Executive recommendations to the Congress.

Mr. YOUNGER. And a veto would only delay action; would it not?

Mr. WEBB. I think it depends on the legislation.

Under some circumstances, it might not. But I am assuming that a workable plan will be approved by the Congress. Under those conditions, I certainly would not be one to recommend a veto.

Mr. YOUNGER. Did you—

Mr. WEBB. Nor do I believe the President would want to veto it. I think he wants to move ahead.

Mr. YOUNGER. Did you hear the testimony yesterday of Mr. Beirne, or did you get an opportunity to read it?

Mr. WEBB. Unfortunately, I had to go to this other meeting, sir, so I did not hear him.

Mr. YOUNGER. I would suggest that as soon as possible you get a copy of Mr. Beirne's testimony of yesterday representing the AFL-CIO and read it, because I think it is one of the best pieces of testimony that this committee has had. That is all, Mr. Chairman.

Mr. WEBB. All right, sir.

The CHAIRMAN. Mr. Hemphill?

Mr. HEMPHILL. Thank you, Mr. Chairman.

I would like to direct your attention to page 4 of your written statement, sir, the third line down. You start a sentence with the word "it," which reads, as follows:

It will be essential, we believe, for NASA and the new Corporation to establish a close and continuous relationship for the purpose of determining the design and technical characteristics of the initial system, as well as of subsequent modifications and improvements.

What sort of relationship has been had between NASA and A.T. & T. and the other carriers up to this time?

Mr. WEBB. Well, of course, we have had a great deal of work going on between us.

First of all, there were discussions held during the previous administration as to whether it was appropriate, in considering the state of the art—the ability to use rockets to send up these relay stations and the ability of the stations to do useful work—many discussions were held as to whether the time had come to move forward to an operational program.

Then a decision was made by the previous administration to seek competitive proposals for an experimental satellite called Relay. And many of these companies did submit proposals.

The Radio Corp. of America was selected, on the basis of those proposals, to construct the Relay satellite and do the experimental work necessary to perfect this particular satellite. Then discussions were held with A.T. & T. as to whether they could add to the knowledge we would gain from the Relay experiments by spending their own money to construct another satellite called Telstar. They wished to do this to such a degree that they agreed to go ahead and build this satellite, and the Government agreed to launch it for them, at A.T. & T.'s expense.

Then discussions were held with the Hughes Aircraft Co. with respect to a high-altitude synchronous satellite.

So there have been many discussions with the various companies involved here, and the best judgment, I believe, of both Government

and industry has been incorporated in the program that has moved forward. This program is aimed to provide the tools with which any entity would work.

Mr. HEMPHILL. Perhaps you misunderstood my question.

My question was: What has been the relationship between NASA and the private corporations that NASA has dealt with in the communications field up to this time?

Has it been good?

Mr. WEBB. Yes, sir.

Mr. HEMPHILL. Have there been any serious flaws in it?

Mr. WEBB. No, sir.

Mr. HEMPHILL. Now, then, with that in mind, let us go back to July 24.

Mr. WEBB. You understand, there have been differences of opinion about many of these matters?

Mr. HEMPHILL. Yes, but—

Mr. WEBB. And a certain amount of jockeying for commercial advantage among the companies, but it has been a good relationship that has moved the whole program forward.

Mr. HEMPHILL. And they have done the job you asked them to do every time?

Mr. WEBB. Yes, sir.

Mr. HEMPHILL. Now, then, let us go back to July 24, 1961, when the President made the statement that he thought a private corporation should do the job.

You recollect that that statement was made?

Mr. WEBB. Yes; I do.

Mr. HEMPHILL. As I understand it, at that time it was contemplated that the private corporation, without interference from the Government, would put the satellite, would create the satellite and the system, and that NASA would put the system into space and be reimbursed.

Was that the plan at that time?

Mr. WEBB. I do not think it is quite accurate to say that this was a simple relationship of the kind you describe. Actually, it is not a question of interference from the Government.

None of these companies have the capacity to fire off rockets or to actually control the data acquisition through the tracking networks necessary all around the world.

It is a question of the Government needing to expand the base of usefulness of communications, needing it for defense as well as for other purposes, and pressing forward to see that research is done that permits a commercial operation.

Now, as the situation has developed since July 24, it has become pretty clear that only the Government could do the launching operations.

I do not think this was completely clear on July 24.

Mr. HEMPHILL. I think that has been elementary all along that the Government would do the launching. But up until the time that the State Department stepped into the picture, and later your agency apparently was dragged into this picture, and this dream of this peculiar sort of corporation was dreamed up somewhere, it was contemplated up until that time that either the private carriers in association or in a group or else one carrier, private carrier, communications

carrier, would be given the right to put the satellite into space; is that right?

Mr. WEBB. First of all, there were some proposals that the launchings be done privately. These were under discussion in July.

Second, the Federal Communications Commission had the leading role in bringing the problems of a regulated type of operation forward to maturity, and they were in the midst of holding hearings on this subject. They were considering various proposals, and the matters before them did relate largely to this question of whether the carriers themselves—that is, the present people in the business—would organize the Corporation to do the job, or whether it would be a more widely held corporation with manufacturers, for instance, participating.

So the question of a corporation owned by more persons than just the people in the international communications business was actively under discussion at that time.

Mr. HEMPHILL. Did you not know and did not everybody know that A.T. & T. was being considered to do the job, and that was really what was considered, in order to expedite the matter?

Mr. WEBB. The A.T. & T. was pressing very hard to be the chosen instrument of the Government in this field.

Mr. HEMPHILL. Of course, what is bothering us here on this committee—I am sure I speak for some of the members and certainly for myself—is not only the interference of the Government, but the fact that by the Government coming into the picture, that there has been a delay, and that we are scared here that the Russians are going to beat us to it just because we are delaying while the controversy rages as to whether or not the thing should be Government controlled or a private communications carrier, who has done the job, should be given the right to do the job again as it has done for the American people so often.

That is concerning me very much, as I listen to the witnesses here.

The reason I say that is because everybody seems to want speed. Yesterday there was testimony that the A.T. & T. is ready; that you are not going to have to delay it by waiting to form some corporation, to designate the incorporators, to sell the stock.

Well, if A.T. & T. is ready, let us write the regulations into the FCC's powers, if necessary, to control any possible monopoly, and let us get on with the thing.

Would you subscribe to that?

Mr. WEBB. No, sir. I think that the President's proposal, considering the total national interest of this country, would be a wiser method to pursue at this time.

Mr. HEMPHILL. Thank you very much, sir.

The CHAIRMAN. Mr. Kornegay?

Mr. KORNEGAY. Mr. Webb, my colleague, Mr. Jarman, has welcomed you as a constituent of his, I believe, and I would also like to point out to the committee that you were born and raised and educated in the State of North Carolina and are, indeed, one of its finest and most noble sons.

I congratulate you on the magnificent job which you have done as head of the Space Administration.

I say to you we are certainly delighted to have you with us today.

I have no questions to ask.

Mr. WEBB. Thank you, sir.

The CHAIRMAN. Mr. Dominick?

Mr. DOMINICK. Thank you, Mr. Chairman.

The other day, Mr. Webb, the Attorney General, when he was here, kept referring to a figure of \$175 million spent by the taxpayers of the country in perfecting this communication satellite system. Where did he get that figure from do you know?

Mr. WEBB. That figure, I believe, comes from adding up the rather specific amounts spent for research in the area of communication satellites.

Mr. DOMINICK. Since when?

Mr. WEBB. Including the fiscal years 1961 and 1962 and the proposal for fiscal year 1963.

Mr. Johnson knows these figures. Is that not right?

Mr. Dominick, the figures include an estimate of the amount that was spent in fiscal year 1960. But the body of the figure is the research and development program, including the flight program, carried in our budget under the "Communication satellite" category for the fiscal years 1961, 1962, and 1963. I could give you those figures by years, if you wish.

Mr. DOMINICK. No. I just want to go into a few details of them.

Mr. WEBB. Yes.

Mr. DOMINICK. Does this include launching expenses of other satellites?

Mr. WEBB. No, sir.

Mr. DOMINICK. Does it include any launching expenses?

Mr. WEBB. It includes the launching expenses and boosters of the particular experimental flights we have made, for instance, with Echo. We have a very important communication satellite program in the passive field as well as in the active field.

So it includes the expenses specifically allocable to the satellite communication programs.

It does not include, for instance, the development cost of the boosters that were used to launch Echo or to do the experimental measurements in space of radiation and other factors that give us the knowledge that permit us to go forward in this program.

Mr. DOMINICK. Does it include anything on transit?

Mr. WEBB. No, sir.

Mr. DOMINICK. I wonder if you could furnish me with a breakdown of those figures. I thought it was significant that he kept referring to figures all the time, but no breakdown was given as to how they were arrived at.

Mr. WEBB. We will be glad to do that.

I think I should coordinate with the Attorney General to be certain that my understanding is as I have given it to you. We were in consultation with his office in preparing the figures.

Mr. DOMINICK. Did he not get those figures from you?

Mr. WEBB. He did get figures from us, yes.

Mr. DOMINICK. Then if I get the breakdown from you—

Mr. WEBB. All right, sir.

Mr. DOMINICK (continuing). I will have what this is, will I not?

Mr. WEBB. We will give you the record.

Mr. DOMINICK. I would specifically like to know how many satellites that were launched were included in this, whether they were communication satellites, and whether any of these expenses were reimbursed by any of the carriers.

Mr. WEBB. We will furnish that.
(The information requested follows:)

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION,
Washington, D.C., April 2, 1962.

HON. OREN HARRIS,
Chairman, Foreign Commerce Committee,
House of Representatives, Washington, D.C.

DEAR MR. HARRIS: On March 22, 1962, during the hearings by the Interstate and Foreign Commerce Committee on H.R. 10115, the Administrator of the National Aeronautics and Space Administration was requested by Congressman Peter H. Dominick to furnish a breakdown of the \$175 million which the Attorney General, in his testimony before this committee, stated was the cost to taxpayers of the communication satellite system. The information is as follows:

Estimated research, development, and operation costs associated with the communications satellite systems

	Prior years	Fiscal year 1961	Fiscal year 1962	Fiscal year 1963	Total
Advanced research (AR).....	(1)	\$1,250,000	\$1,170,000	\$2,688,000	-----
Advanced technical development (ATD).....	(1)	790,000	2,272,000	2,473,000	-----
Flight program (FP).....	(1)	31,793,000	45,035,000	80,216,000	-----
Total.....		\$7,313,000	33,833,000	48,477,000	85,377,000
					\$175,000,000

¹ Breakdown not available.

The following is a breakdown of the costs shown on the flight program line of the above table:

Project	Fiscal year 1961	Fiscal year 1962	Fiscal year 1963
Echo I.....	\$250,000	-----	-----
Echo (rigidized sphere).....	8,678,000	\$5,010,000	\$135,000
Rebound.....	325,000	13,500,000	16,747,000
Relay.....	20,650,000	8,623,000	19,141,000
Radiation measurements satellite.....	1,890,000	1,308,000	-----
Synchronous communications satellite.....	-----	16,594,000	4,087,000
Intermediate altitude satellite.....	-----	-----	21,505,000
Advanced synchronous communications satellite.....	-----	-----	18,601,000
Total.....	31,793,000	45,035,000	80,216,000

During the period shown by the cost data, one satellite, Echo I, was launched. In addition ballistic flights such as Shotput and AVT-12 were launched in support of the Echo I and Echo rigidized sphere. The launch vehicle used for the Echo I flight was one of the developmental series and therefore costs were not charged against the Echo project. The cost of vehicles used for the supporting ballistic flights are included in the charges shown.

It is the practice of the National Aeronautics and Space Administration to fund incrementally the costs of launch vehicles. The charges are spread over a period of years so that by the time the launch is achieved only the final cleanup costs are involved. This means that the costs shown in the project chart above in some instances, include complete payment for vehicles (particularly for those launches scheduled by the end of fiscal year 1963); in other cases only the appropriate increment is included. In the latter case additional funds, as required, will be requested in subsequent years.

None of the cost figures shown include financing for work performed on a reimbursable basis by any of the carriers.

If we can be of further assistance, please do not hesitate to call on us.

Sincerely yours,

PAUL G. DEMBLING,
Director, Office of Legislative Affairs.

Mr. DOMINICK. Did you not provide the proposal for starting the ad hoc committee?

Mr. WEBB. The Carriers Ad Hoc Committee?

No; this was established by the Federal Communications Commission.

Mr. DOMINICK. That was the Federal Communications Commission, I see.

Did you—

Mr. WEBB. We were in consultation with the FCC on the problems as technical advisers in connection with this entire subject.

Mr. DOMINICK. Did you approve of the report of ad hoc committee?

Mr. WEBB. I did not approve or disapprove.

It was one working paper in a process. We studied it in connection with the whole problem of bringing a system into being.

Mr. DOMINICK. You did not make any public comments on the work of the ad hoc committee?

Mr. WEBB. Well, I have made quite a number of public statements on this whole subject. I do not remember a specific one on the ad hoc committee's report.

If you could refresh my memory as to what you have in mind, I will see if I can recall it.

Mr. DOMINICK. It was my recollection that when the report of the ad hoc committee came out, that you said that you thought they had done a very fine job; that it was a good proposal.

Mr. WEBB. I do not recall making that statement. I think the study was an important element and a good peice of work, looking toward the solution of this problem.

Mr. DOMINICK. That is all, Mr. Chairman.

Thank you.

The CHAIRMAN. Mr. Dingell, do you have any questions?

Mr. DINGELL. Mr. Chairman, I believe he said he had to be at the Appropriations Committee. May I ask one or two brief questions, Mr. Chairman?

You have compared, Mr. Webb, the different bills before this committee; have you not?

Mr. WEBB. Some of them. I do not know about all of them. I have not looked at Mr. Celler's bill, for instance.

Mr. DINGELL. You have expressed, however, a preference, as I note, for the administration bill, H.R. 10115, or H.R. 10138, I believe the numbers are?

Mr. WEBB. H.R. 10115.

Mr. DINGELL. Yes.

Have you scrutinized H.R. 9696?

Mr. WEBB. Yes, sir.

Mr. DINGELL. Could you tell the committee the grounds, briefly, of your preference for H.R. 10115 over H.R. 9696?

Mr. WEBB. First, let me say that the whole problem of policy to be made by the President was thoroughly considered in the executive branch.

The views of the various agencies were considered, both in the White House and in the Legislative Reference Section of the Bureau of the Budget.

After considering all of those views, of which the National Aeronautics and Space Administration views were a part, the recommen-

dations incorporated in H.R. 10115 were made by the President, and, therefore, my purpose here is to support this proposal made by the President.

Mr. DINGELL. One last question.

You referred to section 201 and the duties and responsibilities and prerogatives that the Government would have under that section, referring specifically to the President's responsibilities. I note there is no commensurate section in H.R. 9696. Am I correct?

Mr. WEBB. That is right.

Mr. DINGELL. Is that one of the reasons that the administration favors the administration proposal, H.R. 10115?

Mr. WEBB. Yes, sir: it is.

Mr. DINGELL. Do you feel that this will give you additional authority that is needed to more effectively utilize space satellite communication within and through the participation that NASA can give?

Mr. WEBB. It does not add to or subtract from NASA's position.

Mr. DINGELL. I see.

Mr. WEBB. It simply provides a means by which Presidential leadership and high-level governmental leadership can continuously be applied to get the full benefit of this revolutionary new technology and capability in total for the country.

Mr. DINGELL. Do you feel that H.R. 9696 vests in NASA an adequate level of control?

Remember, I am referring to H.R. 9696, rather than H.R. 10115.

Do you feel that H.R. 9696 vests in NASA an adequate measure of control and discretion over types of launching vehicles which will be utilized to place these satellites in orbit?

Mr. WEBB. Let me be sure I know the bill to which you are referring.

Is that identical with the previous bill you asked me, H.R. 96—

Mr. DINGELL. No.

H.R. 9696 is the bill sponsored by Chairman Miller.

Mr. WEBB. I believe that is identical with S. 2650, and if that is true, it gives us, I believe, adequate authority to do the job we will have to do in our agency.

Mr. DINGELL. Under any of these bills, will you have an adequate authority to counsel and make recommendations with regard to the state of the art and the type of launching vehicle and satellite, with specific reference to positioning, which would be most in the public interest?

Mr. WEBB. I believe we will.

When you say "any of them," I am thinking only of the ones you have referred to.

Mr. DINGELL. Yes. I am not referring to Mr. Celler's bill. I was also wondering this: Have you evolved in NASA any feeling as to which type satellite you feel would be most in the public interest: The very high, fixed-position satellite, or a group of random, lower level satellites?

Mr. WEBB. We feel in the Administration—that is, the National Aeronautics and Space Administration—that we must continue experimental and research work and gain operational experience with all of these.

Now, in the program for 1963, we have an active research project to launch several satellites from one rocket. If we can learn to do

this, it will reduce the cost very, very much. We are actually starting to prepare for flights in the following year, with passive satellites, but this would also be very, very important with respect to active satellites. The technology that we would learn from the passive satellite experiments would be very helpful in working with active satellites.

With respect to the passive satellites, we also have additional improvements to make beyond the Echo and the rigidized Echo, and we believe, here again, that a capability can be generated that may be very important for the future of this country.

We believe we must learn the low-altitude satellite technology, the medium satellite technology, and the synchronous, high-level satellite technology.

In our research program we have, for instance, a launching that is not a communications satellite at all, but a satellite that will measure the radiation characteristics of the synchronous altitude, 22,500 miles.

So I think it is too early to tell exactly what is going to happen in this technology. But we think that from the standpoint of advancing the capability of the United States in this field, and learning the know-how, creating the technological dexterity, to use one phrase, we must pursue all of these.

Mr. DINGELL. Do you think that H.R. 10115 and H.R. 9696, which is, I believe, identical with Senator Kerr's bill, offers you an adequate measure of control over the types of satellites and the manner of launching and the positioning of the satellite with regard to altitude and the rotation of the Earth, so that NASA can carry out its functions?

Mr. WEBB. Yes.

Mr. DINGELL. And can make the program as effective as possible?

Mr. WEBB. We can work under either of these bills insofar as the National Aeronautics and Space Administration is concerned.

Mr. DINGELL. Thank you very much, sir.

The CHAIRMAN. Mr. Rogers, any questions?

Mr. ROGERS of Florida. One question, Mr. Chairman.

Mr. Webb, on page 7 you state at the bottom of the page:

It would not be desirable, therefore, to require NASA to furnish launch vehicles and facilities for a satellite which, in the judgment of NASA's own scientists and technicians, would not contribute to the expeditious and economical development of the operating system.

As I understand it, you feel that there would be a requirement for you to launch anything that had been approved on the operational plan, but, as for research, there would be no requirement for you to launch any satellite that the carriers might feel would be helpful to them unless your scientists and technicians also agreed?

Mr. WEBB. Yes, sir.

Mr. ROGERS of Florida. How do you resolve the difference there?

Suppose the carriers feel that it would be very helpful to have a particular satellite launched to make some testings and there is some disagreement by your group. How do we resolve that?

Mr. WEBB. First of all, I think you have to bear in mind that these boosters are very expensive, and that you have a great demand for the launching facilities and the tracking facilities around the world.

So, to put a booster on the schedule for firing displaces other work that may be needed in other areas.

Mr. ROGERS of Florida. Yes.

Mr. WEBB. So we feel that in the developmental, the research phases, we must control when and where we use the boosters. I may say that this same problem comes up in the relations between Government departments all the time.

Mr. ROGERS of Florida. Yes.

Mr. WEBB. Now, you have many demands and you have to find a way to balance them out.

This is not to say that we do not wish to try to accomplish what the carriers feel would be helpful, and we will use every bit of our ingenuity to do so. But nevertheless we feel in the research and development phase they should not have an absolute right to demand a launching.

Now, in the operational phase, we think they must have the assurance that the launchings will be made in accordance with their requirements, if they are to furnish the service as a common carrier.

So we are prepared to accept that responsibility.

Mr. ROGERS of Florida. What I was wondering, suppose they feel very strongly they must have this program. Your people feel that it is not so essential.

What group will resolve this difference?

Mr. WEBB. I would say that we would very likely come to agreement.

Mr. ROGERS of Florida. Yes.

Mr. WEBB. There would not be one chance out of a large number that we could not come to an agreement, because the facts would guide both of us.

Now, if there were an absolute difference—for instance, we may not be able to tell them some of the priorities we have for the experiments that may be related to other phases of governmental work, and, therefore, we have to retain the final say-so.

But, certainly, we would cooperate with the other departments of the Government interested in the rapid development of an operational system.

The Corporation would have, I am sure, not only the appeal to us, they would have an appeal to the FCC, and, if necessary, they could go to the President.

Mr. ROGERS of Florida. Yes.

Mr. WEBB. And say:

This agency is not doing the things that are necessary for us to move ahead.

The bill does provide for strong Presidential leadership.

Mr. ROGERS of Florida. Thank you.

Mr. WEBB. So I am sure that if they could make their case, they would be heard.

Mr. ROGERS of Florida. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Webb, there are just a very few questions that I would like to ask before you conclude your appearance.

In the first place, there has been a great deal said here about the stock ownership being limited to common carriers, international common carriers primarily, as opposed to permitting the public to subscribe to the stock.

Now, when the matter was before the Federal Communications Commission last year, certain of the industry that would provide what we refer to as hardware indicated an interest in the program.

But, since the Federal Communications Commission held its hearings, and reached a decision in July of last year, we have not heard very much from those equipment manufacturers interested at that time, although the EIA industry did testify and made their position very clear.

Do you know whether there is any feeling among the industry from the experience that you have had—that is, those who would supply the hardware for launching, and so forth—as to whether they would want to participate in this program, I mean in the stock ownership, if the public were to be permitted to enter into stock purchase?

Mr. WEBB. Mr. Chairman, I have heard only that they had felt very reassured by the FCC decision that competition in the procurement of equipment would be required, and felt further reassured by the statement of the President that this was a basic national policy which was to be carried out by all the agencies.

I have not known of any case where they have felt that the opening up of the stock ownership, as is proposed by the President, was related primarily to their desire for ownership.

The CHAIRMAN. I would assume also that they, at least partially, have been satisfied that, with the assurances of the policy of competition in the field, that had something to do with their attitude toward it.

Now, in order to make the record complete, I think I would like to ask you something about the system in this program.

You mentioned earlier, I believe, that you thought as of now the system referred to, 22,300 miles out—I have forgotten the name you gave it—

Mr. WEBB. Syncom is the particular experimental satellite. We call it synchronous orbit, usually, or high-altitude satellite.

The CHAIRMAN. Has it been developed yet that that system can be successful or will be?

Mr. WEBB. No, sir.

The CHAIRMAN. It has not been proven yet?

Mr. WEBB. No, sir.

The CHAIRMAN. That you can go out that far satisfactorily?

Mr. WEBB. No, sir.

Would you give me just a moment to tell you just exactly what the situation is?

The CHAIRMAN. Yes.

Mr. WEBB. The military departments are very anxious to be able to launch a very large communications satellite into this high-altitude orbit so it remains practically stationary over one point on earth.

To get up that high against the pull of gravity requires a very strong booster and a much heavier capability in the space field.

To keep it in the same place requires fuel on board so that you can modify the position of this satellite with respect to the earth's surface and actually keep it accurately positioned. Both of these requirements make the operation very, very difficult.

Now, in order to learn how to do this, we inserted this third satellite weighing 125 pounds into the NASA program, using part of the \$50 million the President recommended for expediting this.

This particular satellite has 50 pounds, roughly, of communications equipment and about 70 pounds of propulsion equipment, so we will have to launch it into an elliptical orbit, and when we get it up at the top of the elliptical orbit at 22,500 miles, this propulsion equipment will be used to give it a kick and put it up fast enough to stay at this altitude, rather than running nearer to the Earth.

Now, even if it is launched successfully in this way, it will not be a wide-band communicating facility. There simply is not enough weight to carry that equipment. It will be a narrow-band experiment, but we will learn a great deal from this and we do have in our 1963 budget additional funds to put up a second satellite of a much heavier nature.

Our boosters will be more powerful by that time, and this will then give us wide-band communications facilities. This will probably be the first satellite that will fly at that altitude with which we can work and learn how to work.

The CHAIRMAN. At what altitude will that be?

Mr. WEBB. 22,300 miles.

The CHAIRMAN. For this second one?

Mr. WEBB. Yes, sir; the second will be much larger, more powerful, and give you wide-band communications.

The first one, the Syncom, does not have that capability. It does not have television capability, for instance. It is a narrow-band communication experiment.

The CHAIRMAN. If you can put the second one up, why would there be so much difficulty with the first one?

Mr. WEBB. We do not have a powerful enough booster and we have not developed the satellite. Nobody knows yet quite how to build that satellite.

The CHAIRMAN. You have not developed it yet, so you cannot put the second one up that you have in mind?

Mr. WEBB. We have the money in the budget for 1963 to develop the second satellite.

The CHAIRMAN. But you do not know if you can put it there or not, the big one?

Mr. WEBB. We know that if the weight is within, say, 400 or 500 pounds, we can put it there. If it has to go up to 600 or 700 pounds, it will be more of a problem.

Let me say one other thing that will give you a picture. We do not have capable boosters fully developed and reliable to do this job of the synchronous satellite.

So, as we develop the Centaur booster, put it on top of an Atlas, we will have to have a number of developmental flights, perhaps 10 or 12.

We expect to fly this second heavy satellite on a developmental flight of the booster where we are learning how to make the booster work.

At the same time, we are hopeful that we will get the satellite in orbit as a communications satellite. If the booster fails, we simply will have a delay for a second flight. But we are trying to combine the flights that develop the reliability of the booster with the development of the spacecraft and, thereby, save time. This is how complex this thing is.

The CHAIRMAN. In other words, you want to be sure to get the first one out there, the smaller and lighter one?

Mr. WEBB. Yes, sir.

The CHAIRMAN. And you think the second one, the bigger one, could very well delay the program?

Mr. WEBB. Yes, sir.

The small one we will fly with a very reliable rocket, the Thor-Delta, which we know a great deal about. It has worked 100 percent in the Tiros.

The CHAIRMAN. You are much further along in the first one than you are the second?

Mr. WEBB. Yes, sir; we are, and we have the booster capability to put it up there.

The CHAIRMAN. Now, there has been some testimony here about one or two other systems; that is, not nearly so far out.

Mr. WEBB. Yes, sir.

The CHAIRMAN. I believe you mentioned something about A.T. & T.'s proposal to put out satellites within a very few miles.

Mr. WEBB. Something like 3,000 miles, between 2,500 and 3,000 miles, generally, was the first proposal.

Now, we have our own proposal to go out to 7,000 or 8,000 miles.

The CHAIRMAN. Yes.

Mr. WEBB. So we have satellites that are going to fly at about 3,000 miles; another one, at 6,000 or 7,000 miles; and then the high altitude, at 22,300 miles.

The CHAIRMAN. You contemplate three systems, then?

Mr. WEBB. This is a research program, Mr. Chairman. These are experimental satellites. Now, what we learn from those, we will apply in the operational system.

The CHAIRMAN. But if you go way out, it only takes a very few?

Mr. WEBB. Three satellites will cover the whole surface of the Earth.

The CHAIRMAN. Now, if you are out 7,000 or 8,000, it takes more?

Mr. WEBB. Yes, sir.

The CHAIRMAN. And if it is only 2,000 or 3,000, it takes more than that?

Mr. WEBB. Between 50 and 60 satellites, perhaps, at 3,000 miles.

The CHAIRMAN. Now, can you envisage relay stations one to the other?

Mr. WEBB. Yes, sir.

This is possible, and this is one of the things we will be experimenting with.

The CHAIRMAN. If you have the three out there, experimental satellites, what will be the possibility of jamming?

Mr. WEBB. In a commercial system, I think maybe your subsequent witnesses can tell you more about this, but in a commercial system, my own feeling is it would be very expensive to put in the necessary anti-jamming equipment.

In the military system, Advent, which will also fly at 22,300 miles, we are putting in equipment of this nature. I say "we," meaning the U.S. Government. NASA does not do that work.

The CHAIRMAN. You mean to prevent jamming?

Mr. WEBB. Yes, sir, or to make it very difficult.

The CHAIRMAN. You think it is possible that it could be prevented or made so difficult that it would be unlikely?

Mr. WEBB. That is the best judgment of the Government's experts at this time.

The CHAIRMAN. I assume that you have in mind right now, so far as you know, that there would be only one commercial system?

Mr. WEBB. Yes, sir.

I think that it is highly unlikely that a second system can be developed and have any possibility of economic success.

The CHAIRMAN. Is there any thought of a Government-owned system being launched?

Mr. WEBB. Yes, sir.

This has been discussed, Mr. Chairman. The first effort of those in the Government who are concerned with bringing a system into being as rapidly as possible—and this includes our military leaders, because they want to take space on the commercial system to expand their communications capability—the thought is that the effort should be made to bring the kind of corporation recommended by the President into being.

There has been discussion that if this effort should fail, perhaps a chosen instrument might be considered.

It has also been considered that if both of these efforts fail, then the Government, itself, would have such great need for this expansion of capabilities that it would move in the direction of considering a Government-owned operation.

The CHAIRMAN. Is it anticipated that the military will use this system, if it is successful?

Mr. WEBB. Yes, sir; just as they use any other common carrier facilities.

The CHAIRMAN. Is it contemplated that any other Governmental system would be required besides military?

Mr. WEBB. I think, Mr. Chairman, I ought to say that I am thinking now of the next few years. I mean this could develop into something that might require another system, but, generally speaking, I think my answer is correct.

Now, I think the military leaders are quite anxious not to preclude the possibility of a second system, in addition to the specific military systems that they will put up for only military purposes.

The CHAIRMAN. Of course, none of us can foresee what might be needed a few years hence.

Mr. WEBB. We have confidence our governmental processes will take care of that need at the time, I believe.

The CHAIRMAN. That is very well said.

Now, would you take just a moment to express, or would you care to make any comments with reference to the treatment of the rate case in connection with this proposal?

Mr. WEBB. Yes, sir, Mr. Chairman.

Of course, you realize that in talking before the committee experts on that subject, I am at something of a disadvantage, Mr. Chairman.

I am a layman in a way, although I have studied this question somewhat for various reasons over the years.

The CHAIRMAN. I might say that it is not clear to me yet as to what might be the best situation. I know the kind of proposal in the bill here, that is, the class B stock be included in the rate base, and then there is a proposal of only one class stock, and just what would be the best method of reaching that I don't yet know. I

realize that the Federal Communications Commission probably would give us more information, since they have had wider experience in the field.

But it occurred to me that since you have been close to this whole development from its inception over a year ago, you might have some ideas about it.

Mr. WEBB. The first thing, of course, relates to my own specific responsibility for a research and development program that will provide the tools with which to do the work.

Now, there was originally some discussion as to whether the total cost of all the Government has done up to now should not be charged against the operation and recovered through the addition of it to the rate base.

Those who looked at it felt that this was not a wise procedure; that governmental policy in aviation, and in many other fields, has been to facilitate commerce around the world, to provide common carrier service so any man who wanted to go into business would not be precluded from going into business because he could not have access to common carrier services, whether in transportation or communication.

Now, as aviation has developed, this has become even more important on a global basis for business interests all around the world.

I think the general consensus of those who have spoken to me, who seem to know the most about this subject, is that there is no assurance that the service in the first period of operation of communications satellites will not be somewhat degraded from the current service that we are accustomed to on the microwave lengths or the undersea cables.

Therefore, you have the first question in connection with the rate base, as to how much you would be willing to put into the rate base of a service that was obviously going to be made to succeed by hard work and further research over the years, and by integrating it with the other types of service, but in the beginning might offer the customer a somewhat less efficient service—not quite up to par.

So this is the first question.

We must continue research and development. It is going to be too early for a long period to freeze the design or the system. The research and development is going to be quite expensive.

The most expensive part of it is going to be the space boosters and the ability to use the spacecraft to make equipment that can stand the tremendous acceleration of lift off, can live in a high radiation flux, can operate in a hard vacuum. Now, those are the kinds of research problems that we have to overcome.

There is a whole additional series of problems which the carriers, or those who provide the interphase with the system, have to face.

You have, first, the satellite. Then you have the ground station that works with the satellite and the whole series of complex operating procedures here, which, if they are well worked out, will be much less expensive than if problems are encountered. Then you have the problem of how you tie the ground system into this station that is going to work with the satellite.

Generally speaking, most people have felt that we should not attempt to use this kind of a system for domestic traffic because the spectrum was already so loaded.

Many others feel at some point this will be possible. Many feel at some point you can have television broadcasts from satellites that

can be received over broad areas of the world. This obviously will require very large satellites, very great power, beyond anything that we are able to put in the air today or may be able to put in for the next period of, say, 5 to 10 years.

So the first question I come to is: Is the rate base to be loaded with this research and development cost, or is it not?

Policy in the past in aviation has been for the Government to do this and prepare the state of the art to move ahead.

Now, as to the first system, if it is a low-altitude system, it could be superseded later by a high-altitude system. This is a critical matter of judgment.

I think the carriers in the business of furnishing common carrier service must have a very strong voice in the question of how much investment should be put in what you might call an interim system.

Now, this has a vital relationship to the cost to the customer, which we all feel must be kept comparable to the costs of present service. I would hope, myself, the cost would begin to come down as the efficiencies of this new worldwide system make themselves manifest.

The CHAIRMAN. Mr. Webb, your time is up here.

Mr. WEBB. I hope I have answered your question.

The CHAIRMAN. You have, yes; and you have been very helpful, and I appreciate it.

Just one final question which you can answer, I think, with a very brief reply.

Whatever legislation, H.R. 10115 or any other proposal that might be adopted, you do feel strongly that there should be provisions made for the kind of cooperation that is envisaged in such announcements as that made yesterday by President Kennedy regarding the Soviet Government?

Mr. WEBB. Yes, sir.

I think there is a need for the U.S. Government to use this major new forward push that comes from science and technology for many advantages, not just the strict commercial applications.

The CHAIRMAN. Thank you very much.

I am sorry, we are going to make you late before the other committee.

Mr. WEBB. Thank you, Mr. Chairman, for this chance.

The CHAIRMAN. You have been a very fine witness and have given us a very good presentation from your viewpoint and your responsibility, and we appreciate it.

Mr. WEBB. Thank you, Mr. Chairman.

The CHAIRMAN. We are very glad to welcome now to the committee Brig. Gen. David Sarnoff, chairman of the board of the Radio Corp. of America and also chairman of the board of the RCA Communications, Inc.

General Sarnoff is well known to this committee, and, indeed, to the country.

General, I do not recall just how long it has been since you were before this committee. It is my judgment it has been too long. But we are pleased to have you with us, and, recognizing the 55 years or more that you have given to this particular type of work, communications, and that you are a pioneer in the field, we are especially pleased to have you here to give us the benefit of your suggestions, in order that the committee might have the benefit of your wisdom in connection with this program.

**STATEMENT OF DAVID SARNOFF, CHAIRMAN OF THE BOARDS,
RADIO CORP. OF AMERICA AND RCA COMMUNICATIONS, INC.,
NEW YORK, N.Y.**

Mr. SARNOFF. Thank you, Mr. Chairman, for your generous observations.

Mr. Chairman and members of the committee, my name is David Sarnoff. I am chairman of the boards of Radio Corp. of America and of its wholly owned subsidiary, RCA Communications, Inc. I have been continuously associated with RCA since its formation in 1919 and for 13 years prior thereto with its predecessor, the Marconi Wireless Telegraph Co. of America. Over that period of 55 years I have been actively associated with the development and growth of the communications business.

We appreciate this opportunity to appear before your committee and to express our views on proposed legislation with respect to communications satellites. We believe that appropriate legislation should be promptly enacted to provide the framework for an organization to establish a practical commercial communications satellite system.

We agree with the President that our national interest requires the earliest possible establishment of a communications satellite system. This will demonstrate to the world the leadership of the United States in this vitally important peaceful application of space technology.

A great deal has happened in recent weeks as a result of discussions about the most desirable form of satellite organization. The testimony given before this committee and the Senate Committee on Aeronautical and Space Sciences has been most constructive in clarifying the complex issues that are involved, and in underscoring the principal questions that require practical solution as we proceed. This has made it possible for all of us, in both industry and Government, to develop and clarify our positions and our expectations.

What I have to say today will be directed to the principal questions as we now see them. This will include views we have formed on the basis of our own studies and experience considered in the light of what has recently transpired.

Before I proceed further, I submit two statements for the information and the record of this committee. One of these is the statement presented before the Senate Committee on Aeronautical and Space Sciences on February 27, 1962, by Dr. Elmer W. Engstrom, president of RCA. The other is an address entitled "Communications—A Look Ahead," which I delivered before the National Press Club in Washington, D.C., on June 28, 1961. I am submitting these statements because they set forth in greater detail our fundamental views in this matter.

Our views can be summarized as follows:

1. Communications satellites must be integrated with existing facilities for complete and competitive service to the public.

Satellites will bring a major advance in international communications. They will provide a new type of facility that will enable any authorized international communications carrier to furnish all types of voice, record, and television transmission services. Yet, satellites will not provide a complete service in themselves. They must be

operationally integrated with existing international and domestic communications facilities.

We believe it is important to distinguish between a demonstration system that will meet the national objective of proving U.S. leadership, and a practical commercial system that can operate on a sound economic basis and meet the public's international communications requirements for effective global service. A demonstration system can be achieved in the near future with a relatively small number of low-altitude satellites capable of providing relay service on a limited scale between major centers on opposite sides of the ocean. A practical commercial system providing worldwide services will take longer, for low-altitude as well as for synchronous satellites.

2. We favor a synchronous system for global commercial service.

Engineering studies and long experience in international communications have convinced us that a system of fixed or synchronous satellites offers more advantages than do any other proposed satellite techniques for practical global communications. The synchronous system also has the characteristics most desirable for economical operations. The synchronous system is the only type yet proposed for which means are near at hand to permit ground stations of the several international communications carriers in the United States, as well as ground stations of communications agencies in many foreign countries, to communicate simultaneously through the repeater in the satellite. This is called multiple access.

One synchronous satellite in equatorial orbit 22,300 miles above the Atlantic Ocean would provide a relay link serving an area that includes over 90 percent of all telephones now in use in the world. Three of these satellites, over the Atlantic, Pacific, and Indian Oceans, would cover virtually the entire inhabited land area of the Earth. A low-altitude system would require 40 to 50 satellites for comparable global coverage.

Since the synchronous satellites would remain in a fixed position relative to the Earth, they would be directly accessible to all ground stations throughout their areas of coverage through single fixed antennas. A low-altitude system, in contrast, would require computing and tracking facilities and more complex and expensive ground stations in order to maintain communication through moving satellites.

We believe that a synchronous system can be achieved in practical form for commercial operations within approximately the same time that will be required to achieve a fully operational global low-altitude system. A number of important technical problems remain to be solved before any satellite system becomes practical for global service. The need for solution of these problems makes it likely that a synchronous system could obsolete a low-altitude system by the time the latter became fully operational.

We believe that nearly a decade may elapse before the satellite enterprise overcomes its losses and begins to show a reasonable return. This is because the investment in establishing a satellite system will be so great as compared to the anticipated growth of international communications traffic, particularly during the early years.

3. RCA Communications intends to participate in the proposed satellite company.

RCA Communications, Inc., as an authorized international communications carrier, naturally has a direct interest in any action that

is taken toward the establishment of a communications satellite system. We expect to make use of such a system when it becomes available. As a prospective user of a satellite system, RCA Communications would expect to invest its proper share in the establishment and operation of the system.

I wish to emphasize that we are speaking here not of the Radio Corp. of America, but only of its subsidiary, RCA Communications, Inc., which is a separate and distinct enterprise engaged solely in the international communications business.

It may interest the committee to know that for the year 1961 the revenue of RCA Communications totaled approximately \$35 million. Its profits from this were about \$3.8 million. And this was a record year. Over the whole period of the past 10 years, its revenues averaged \$24 million and its profits on these revenues averaged \$2.4 million per annum. Over this 10-year period, 84 percent of these profits were reinvested in the business in order to provide the necessary funds for expansion and modernization of facilities.

It is readily apparent that the amount of our investment in the proposed satellite company must be related to these revenues and to those in the future as the business grows.

While RCA Communications is favorably disposed to making an appropriate investment in the satellite company, we feel the need for clarification and more information before we can determine the amount of this investment. We have never meant to suggest that we wished to avoid any investment in the satellite company before the system becomes operational. A satellite system which will serve our communications business is one in which we would certainly be willing to invest.

In addition to any investment which RCA Communications would make in the satellite company, it is also prepared to make the necessary investment in its own ground transmitting and receiving stations. It would do so, of course, where such ownership and operation is justified for its communications business and where this would serve the public interest.

We think it essential, as I have indicated, that satellites of the high-altitude synchronous type be established and that RCA Communications and other authorized carriers be expressly granted the right to own and operate ground stations.

The historical distinction between voice and record communications services has been blurred by recent technical advances. In speaking of a comprehensive communications service, it is no longer practicable to limit it to telegraphy or telephony. The old distinction will be completely obliterated in the future as communications satellites come into operation. This will result from the fact that the satellite repeaters will handle customer requirements for all broadband services, voice or record, without any distinction.

We would expect, for the foregoing reasons, that the FCC would authorize us as a participant in the satellite system to furnish all types of voice, record, and television transmission services. We would expect also that suitable provision would be made by the legislation to insure interconnection with domestic communications systems for all types of service.

4. Basic considerations.

It seems evident that, as a result of the developments of the past few weeks, there may be changes in the proposed legislation to incorporate various points of view that have been expressed.

As far as stock and ownership arrangements are concerned, we are prepared to conform to any solution which the Congress believes will best serve the public interest. I wish to stress, however, that RCA favors private ownership and operation of the communications satellite system, subject to suitable Government regulation.

Whatever the final form of the legislation, I wish to reemphasize principles which Dr. Engstrom stated in his testimony before the Senate committee and which we feel to be essential. These are:

(a) The right of international carriers individually or jointly to own and operate their own ground stations, in addition to those which the Satellite Corporation may operate;

(b) Provision for unrestricted and direct access to and use of the satellites through any of the ground stations; and

(c) Provision for full interconnection on reasonable and nondiscriminatory terms between the facilities of authorized international carriers and the domestic communications systems of any other carriers.

We understand that the intent of the legislation is to strengthen competition in international communications services and to insure the nondiscriminatory use of the satellite system. To fulfill this intent we respectfully recommend that the principles which I have enumerated should be expressly set forth in any legislation. Only in this way can we be sure that the maximum benefits of the immensely promising new satellite technique will be fully realized within the framework of the private enterprise system that we seek to maintain.

I thank you, Mr. Chairman.

The CHAIRMAN. General Sarnoff, I want to thank you on behalf of the committee for your very fine statement, which is a splendid presentation of your views and that of your company, on this highly important problem.

I must admit you take me pretty far out on the limb with respect to the technological approach here. I am not sure that I am capable of understanding it all.

But it does give us an insight into your thinking on this important problem.

Mr. O'Brien, any questions?

Mr. O'BRIEN. No questions, if I can reserve my time, Mr. Chairman.

The CHAIRMAN. Mr. Younger?

Mr. YOUNGER. Thank you, Mr. Chairman.

The CHAIRMAN. First let me say that the statements referred to, which you asked be included with your presentation here this morning, may be included in the record following your statement.

(The statement of Dr. Elmer W. Engstrom follows herewith. The booklet "Communications: A Look Ahead," by David Sarnoff, dated June 28, 1961, may be found in the files of the committee.)

STATEMENT BY DR. ELMER W. ENGSTROM, PRESIDENT, RADIO CORP. OF AMERICA

Mr. Chairman and members of the committee, my name is Elmer W. Engstrom. I am president and a director of the Radio Corp. of America, and a director of RCA Communications, Inc., a wholly owned subsidiary of RCA. I have been continuously employed by RCA for the past 31 years.

I am grateful for this opportunity to appear before you in a matter of such paramount national interest as the establishment of a practical communications satellite system.

RCA wholeheartedly supports the earliest possible achievement of this objective. We are impressed by the initiative that has been demonstrated by the President, by the Congress, and by governmental and industrial agencies in approaching the technical, regulatory, and administrative problems which require careful consideration and a practical solution.

Before commenting on the proposed legislation, I believe it is appropriate to note that the operation of any satellite communications system will bring radical change to our traditional pattern of international commercial communications. In the past we have been accustomed to distinguishing between voice or telephone communications and record or telegraph communications—the latter term embracing all other forms of traffic, such as telegrams and teleprinter service. This distinction has been reflected historically in the business of the authorized international communications carriers. Using different facilities, some of these carriers have provided voice services, others have provided various record services, and some have provided both.

Because of their technical characteristics which I shall outline later in this statement, satellites will provide high-capacity accommodation for all of these services without distinction. They will also add a capability for transoceanic television and other broad-band services for which no practical means exist today. Thus, in considering the use of communications satellites, we are considering a new type of facility which will provide all authorized international carriers with the technical means to furnish all types of service, including voice, record, and television.

To the extent that historical practice and regulation have been based upon the distinction between the voice and record services, it is clear that we now face new circumstances in which past practices should not necessarily circumscribe our future.

SPECIFIC RECOMMENDATIONS ON S. 2814

In terms of specific legislation for the development of an operational satellite communications system, RCA is in favor of S. 2814, as proposed by President Kennedy. At the same time, we recommend the following additional provisions which we believe would clarify and strengthen the objectives of the bill:

1. A provision according all authorized U.S. carriers the right of unrestricted and direct access to the satellites through any ground stations they may themselves decide to construct and operate. This should be in addition to the right of access provided by section 201(c)(2).

2. A provision enabling any such carrier to obtain full interconnection with the domestic communications systems of any other carrier on reasonable and nondiscriminatory terms. This would supplement section 201(c)(4) of the bill by specifically permitting any authorized carrier to provide service via the satellite for traffic that is picked up or distributed domestically over the facilities of another company. We feel that such a provision is needed to afford all carriers equal opportunity to compete in all areas of communications service in which they are qualified.

3. A provision permitting mergers of international telegraph carriers if the public interest should require, subject to authorization of the Federal Communications Commission and the approval of the President. Today, the several U.S. international telegraph carriers have dealings with unified foreign agencies that possess a monopoly of all telephone and telegraph services in their own countries. These foreign agencies are in a position to take a strong stand on operating matters, and the relative bargaining position of the U.S. carriers could be adversely affected by the heightened competition to be expected with the introduction of satellite systems accommodating all forms of traffic. We believe that it would be wise to provide in the current legislation for any needed industry reorganization under these new circumstances. It should be noted that regulatory statutes in other public service fields—such as railroads, airlines and domestic telephone and telegraph companies—provide for such consolidations if public interest so requires. We see no reason why the same standard should not apply as well to the international telegraph carriers.

We believe the addition of these provisions will serve the national interest by promoting the policies and purposes of the legislation as set forth in section 102 of S. 2814.

GENERAL OBSERVATIONS ON SATELLITE COMMUNICATIONS LEGISLATION

Beyond these specific suggestions regarding the legislation under consideration, I would like to make several general observations:

RCA regards the program that is proposed in S. 2814 as a major forward step, providing a general framework within which we can move promptly toward our objective of an operational communications satellite system.

RCA favors the concept of an organization to establish and operate commercial communications satellites. We feel that this is required in the national interest, quite apart from the economic and business considerations which I shall discuss later.

RCA has consistently advocated certain principles as being fundamental to commercial communications satellites:

1. All international communications carriers should have equitable and direct access to, and nondiscriminatory use of, the satellites regardless of ownership.

2. The satellites should be available to all such carriers on reasonable terms to use for any services which the FCC authorizes them to provide now or in the future, without any restrictions imposed against such use, through contract or otherwise, by the owner or other agency controlling the satellites.

3. Each U.S. international carrier and oversea agency should have the right to establish, own, and operate its ground stations for transmitting and receiving signals via the satellite.

RCA'S EXPERIENCE IN COMMUNICATIONS AND SPACE

RCA has approached the matter of communications satellites from a background of more than 40 years of experience in the field of international communications and nearly a decade of participation as a major contributor to the Nation's space programs.

RCA Communications, Inc., today operates an international communications common carrier system linking the United States directly with nearly 70 countries through a network of radio and cable circuits. These circuits provide more than 600 international radio and coaxial cable channels serving the needs of the U.S. Government, foreign governments, and the general public. They are usually operated at the oversea terminals by the company's counterpart abroad, comprising foreign government telecommunications administrations and authorized private operating agencies. In connection with the space program, RCA Communications provides several international circuits for the tracking system of Project Mercury.

RCA, working with the National Aeronautics and Space Administration, designed and developed the Tiros television weather satellites and their associated ground systems. As you know, four of these satellites already have been launched and operated successfully. RCA is prime contractor to the U.S. Air Force for the satellite inspector project, a large-scale program exploring the feasibility of seeking out and identifying other satellites in orbit, and is developing important technical aspects of the Nimbus second-generation weather satellites, the Ranger lunar vehicles, the Dyna-Soar orbital manned test vehicle, and other significant space programs.

In the specific area of satellite communications, RCA provided the radio equipment in 1958 for the pioneering Score "talking" satellite used for the first space relay of voice communications. Today, RCA is developing for NASA the Government's first active experimental multichannel communications satellite, Relay. I have brought with me today a prototype of the Relay satellite, to which I shall refer in more detail shortly.

Beyond these specific projects, RCA scientists and engineers conduct a continuing study program relating to communications satellites, including system concepts, operating considerations, and economics. Much of the information which follows in this statement is derived from these studies.

WHY SATELLITES ARE NECESSARY AND HOW THEY FUNCTION

The concern with communications satellites arises, as you know, from the need to provide added capacity in international communications to meet the demands we anticipate by 1965 and thereafter.

Advances in electronic technology have enabled us to meet the rising demand for increased domestic communications capacity by moving to ever higher radio frequencies. In the higher regions of the frequency spectrum we have room to

transmit far greater quantities of information, including the wideband picture signals of television, at many millions of cycles per second. At these microwave frequencies, however, the radiowaves tend to travel in a straight line in the manner of light, moving on out into space unless they are intercepted and bent downward at the horizon. To communicate between distant points with microwave systems, we employ overland chains of relay stations on towers spaced 20 to 30 miles apart.

It has not been feasible until now to provide similar high-capacity microwave service across the oceans because there has been no way of establishing chains of relay points. Submarine telephone cables have provided a partial solution. However, present-day cables are limited to a relatively small number of voice channels and cannot accommodate television or the large multichannel voice and data services that are employed overland.

Satellites now offer a practical method by furnishing the equivalent of a relay station on a tower so high that it is within direct line of sight from both sides of the ocean simultaneously. Thus relay equipment in the satellite similar to that in an overland tower can enable us to bridge the ocean by microwave in a single hop. In this manner, we can gain the potential to multiply by hundreds of times the traffic capacity of international communications systems and to provide new transoceanic services, such as television, that do not now exist.

TWO DIFFERENT TECHNIQUES FOR SATELLITE COMMUNICATIONS

Two basically different satellite techniques are under study today for practical transoceanic microwave communications. One of these is the system using low-altitude active repeater satellites moving in orbit several thousand miles above the earth. The Relay and Telstar projects provide experimental forerunners of this type of satellite. In an operating low-altitude system, a number of satellites, perhaps 40 to 50, would be placed in orbit to insure virtually continuous contact between points on opposite sides of the ocean.

The other technique is the system using the synchronous active repeater satellite, moving in an orbit approximately 22,300 miles directly above and parallel to the Equator. At this altitude and on this course, the synchronous satellite would complete one orbit every 24 hours, so that it would always appear from the earth to be fixed at the same point in space.

Today various projects are entering the necessary experimental stage with both of these techniques, in order to obtain the exact information and measurements that are essential preliminary steps to the realization of practical operating systems. The first of these experiments will involve the low-altitude approach with NASA's Relay and with the Telstar satellite which is a cooperative undertaking of the American Telephone & Telegraph Co. and NASA.

DESCRIPTION OF LOW ALTITUDE SATELLITES

The prototype of the Relay satellite illustrates the technical characteristics of a low-altitude type at the present level of our technology. The satellite itself weighs approximately 150 pounds—a load that can be launched into the desired orbit by present boosters. The contents of the satellite comprise two complete systems for receiving, amplifying, and transmitting microwave television and telecommunications traffic over the ocean gap between North America and Europe. This duplication has been incorporated to enhance the reliability of the experiment.

NASA plans to launch this satellite during the coming summer into an orbit that probably will range from 900 to 3,000 miles in altitude. Ground stations for the experiment are being built in the United States, England, France, West Germany, and South America. The planned altitude of the satellite is such that it will pass through the Van Allen belts of radiation around the earth, permitting needed studies of the effects of radiation upon solar cells and other satellite components.

The A.T. & T. experimental satellite will perform similar functions and will move in a generally similar orbit, but it will employ a vehicle of different size and shape. Since one of the major questions requiring study is the most effective design of the spacecraft, the two experiments should supplement one another in providing valuable data for guidance in the subsequent development of a practical operating system.

DESCRIPTION OF SYNCHRONOUS SATELLITES

Initial experiments with synchronous active repeater satellites are to follow soon, by NASA and by the Department of Defense. Here the problems of space technology are greater than with the low-altitude type, since there has been no experience as yet in raising a satellite to an altitude of 22,300 miles above the equator and maintaining it for long periods at a precise position and attitude.

The synchronous satellites offers great potential advantages. From its far greater altitude above the equator, the synchronous satellite would be visible in direct line of sight from nearly a third of the earth. A system comprising only three synchronous satellites in equatorial orbit over the Atlantic, Pacific, and Indian Oceans could cover the entire earth with the exception of the largely uninhabited Arctic and Antarctic regions. It is worth observing, too, that the single satellite in position over the Atlantic would cover an area that includes just over 90 percent of all of the telephones now in use in the world. In other words, just one synchronous satellite could provide a relay link for the area of the world in which demands are greatest upon international communications facilities.

Since these synchronous satellites would remain in a fixed position relative to the earth, they would be directly accessible at all times to ground stations throughout their areas of coverage through single fixed antennas. This is in contrast to the low-altitude system, which would involve a large number of satellites whose motion across the sky would require computing and tracking facilities at ground stations.

In a low-altitude system, multiple ground facilities are needed at each end of the circuit to provide uninterrupted communication. One or more pairs of antennas are needed to track each satellite until it disappears over the horizon. Then another set of antennas must be ready and waiting to pick up the next satellite coming into view. Moreover, this constant change in the pattern of connection would seem to limit the system for all practical purposes to communication between only two points at any one time. This is because one satellite would not be visible during exactly the same time period from additional locations on either side of the ocean. Thus, if communication were to be carried on simultaneously with more than one transoceanic point, additional sets of duplicate ground facilities would be required.

The synchronous technique, by contrast, would permit any number of ground stations within the large area of coverage to make simultaneous use of the satellite. Through use of single side band techniques of modulation, general direct access would be provided to the satellite from all earth points within its range. Every international carrier could employ its own ground station at the most convenient location, and each could communicate at any time with every other ground station within the satellite's range.

A question has been raised as to whether the time needed for radio signals to travel from one ground station to the synchronous satellite and to another ground station, amounting to three-tenths of a second, will be objectionable to telephone subscribers. This time interval has no significance for television, record, or other nonvoice services. With respect to telephone services, we believe it will not create an objectionable delay.

The technical advantages of the synchronous satellite system have been pointed out in studies by RCA's scientists and engineers and incorporated in a proposal for a worldwide commercial satellite communications system. Details of the proposal are contained in a paper entitled "Concept for an Intercontinental Satellite Communication System," by Edmund A. Laport and Sidney Metzger of RCA, and I submit copies for the committee's consideration, with the request that the paper be included in the record.

USE OF ATOMIC POWER WITH SYNCHRONOUS SATELLITES

RCA's engineering studies also are looking forward to future communication satellite designs for a second-generation synchronous system based upon the use of atomic power supplies. I have brought with me today a model of one such proposed satellite to indicate what we may anticipate as we continue to advance in technology. This is a reduced scale model: the satellite itself would be approximately 51 feet long. This concept is based upon our studies of higher power satellites. It is intended to employ an atomic power supply to furnish 60 kilowatts of power. This would be sufficient power for up to 8,000 two-way communications channels as well as for electric propulsion to assist the satellite into its synchronous orbit. The channel capacity that it would provide is eight times

greater than is now contemplated for forthcoming satellite repeaters—although the cost of placing it in orbit would not differ greatly from that of the lower power satellites. Looking to the future, the use of high power promises to reduce the problem of using the frequency spectrum most economically and to keep cost at a reasonable level as we increase the size and capacity of our spacerelays to cope with growing traffic demands.

ECONOMIC FACTORS INVOLVED IN SATELLITE COMMUNICATIONS

In our study of the economic aspects of communications satellite systems, we have reached these conclusions:

1. Projections of growth in international telecommunications traffic indicate that channel requirements will exceed installed and presently planned cable and radio facilities by 1965. For the growing traffic load thereafter, a satellite system promises substantially more economical operation than does any other known means.

2. When the initial investment in a satellite system is compared to projected traffic growth, it appears that most of a decade may elapse before the satellite enterprise overcomes its losses and begins to show reasonable earnings. This, however, is in the pattern of pioneering in electronics. Such great industries as radio, black-and-white television and color television all required heavy research investments and years of introductory costs before they became profitable.

3. The synchronous satellite system, when in full operation, promises to be substantially more economical than the low-altitude system, including the cost of satellites and ground stations and the cost of operation. Consequently, the rates the public would be required to pay for service would be lower with the synchronous system.

REASONS FOR USE OF BOTH TECHNIQUES

Our technical and economic studies indicate so many important advantages in a synchronous satellite system that the question arises as to why attention is being given to low-altitude techniques. The reason is the urgent national objective of developing and demonstrating satellite communications at the earliest possible date. Single, low-altitude satellites can be placed in orbit by existing rocket boosters. Thus, it appears that a few satellites—as distinct from a complete low-altitude system—can be placed in operation sooner by applying and extending our present know-how and equipment. However, the problems of multiple-launch and multiple-ground access to a single satellite must still be solved before a low-altitude operating system is practical.

The situation today is one in which our national requirement for early achievement of an operational communications satellite system demands that we proceed more rapidly than we might if we were guided by commercial considerations alone. From the purely economic business standpoint, it might be desirable to move directly to the synchronous system which appears to offer so many significant economic and operational advantages.

In the circumstances, however, it is vitally important that we proceed as intensively as possible with the low-altitude experiments in order to achieve our national goal. Yet at the same time, equal emphasis should be maintained on the planned experiments with synchronous satellites, in the realization that these may provide us with a better long-term solution to international communications needs.

SUMMARY OF RCA'S POSITION

In conclusion, I wish again to emphasize that the paramount national need today is for the swiftest possible development of a practical operating satellite communications system.

On behalf of RCA, I pledge our best efforts in cooperation with all of the interested Government and non-Government organizations to work toward an early and satisfactory solution of the complex problems involved in achieving our common goal.

Mr. YOUNGER. I want to join with the chairman, General, in welcoming you back to the committee.

I deeply appreciate your technical advice on this very important question.

I notice that you have touched on a point here which probably the committee will not be in a position to decide, and that is the system of satellite communication which is to be used.

You do not anticipate that that will be a part of the legislation, do you?

Mr. SARNOFF. No, sir, I do not.

In general, I agree on that point with the statement of Mr. Webb, and I favor the experimentation and development with all these systems.

I think we are in need of further research and development.

Mr. YOUNGER. And, as he stated, the high-altitude system, which you and your scientists seem to favor, would probably be 2 to 3 years in coming into being.

Now, in the meantime, do you think it would be well to have or to experiment or to put into operation the low-altitude communications system of satellites?

Mr. SARNOFF. Yes, sir.

I favor going right ahead with the system that is nearest ready to render service, but I do want to point out, if I may, that, in my view, the low-altitude system, when envisaged from the standpoint of a global communications service, will not be ready any sooner than a synchronous, high-altitude system can be made available for a global service.

That does not mean that we should not go ahead with what is immediately ready, but we should do so with the understanding that we are doing it because of the national necessity and the national justification for going full speed ahead, with which I am in full concurrence, but not necessarily for a commercial reason.

And we should also bear in mind that if we go ahead with 40 or 50 low-altitude satellites and the ground stations working with them, that, by the time they are up, it will be obsolete, because I have no doubt that the synchronous system will obsolete the low-altitude system.

Mr. YOUNGER. Do you think it would obsolete the ground stations?

Mr. SARNOFF. Yes.

We would only need a much more modest ground station for a synchronous satellite system of communications than we do for a low altitude. You should not need the tracking and data of all sorts.

Also, you would be able to have multiple communications; that is, all ground stations could operate through their synchronous satellite simultaneously, whereas, with the low altitude, you might have a station-to-station operation.

Mr. YOUNGER. Your RCA Communications Corp. has been in the communications field for some time. Do you own your own system or do you jointly own with other companies some of the communications system?

Mr. SARNOFF. We own all our system in the United States, but the corresponding stations abroad are generally owned by the foreign governments or foreign administrations that operate them, and that is true of all other carriers as it is of us. But what we operate in the United States as a communications system, we own completely.

Mr. YOUNGER. Have you had any difficulty in operating jointly or in connection with other communication companies?

Mr. SARNOFF. Well, no difficulties.

We have competitive struggles, but no difficulties. If we stay where we belong on the line and they stay where they belong, that is, so far as the law is concerned—

Mr. YOUNGER. No more than just the ordinary, good, American system of competition?

Mr. SARNOFF. That is right.

We have friendly personal relations with all of them. We do not regard them, and I hope they do not regard us, as anything but vigorous competitors.

Mr. YOUNGER. If all of the companies in the international communications system join in this Corporation, do you anticipate any difficulty of operation?

Mr. SARNOFF. I do not anticipate any difficulty of operation between the carriers themselves. I do think that there are built-in difficulties that will become more apparent as the system is developed, because the carriers, themselves, while participants in the satellite system, are also competitors with that satellite system.

In other words, if you want to send a message from New York to London, let us say, you have several ways to send that message. You can send it over RCA or I. T. & T. or the cables owned by the telephone company.

Now, when you file that message, the question of whether it is sent over any of these systems or sent over the satellite affects the amount of tolls which the sending organization retains. In other words, the cost of that message has to be split up between the various elements of the facility, and only half of it generally comes to the American side. The other half goes to the correspondent on the other side of the ocean.

Now, the determination of whether that message will be sent by radio or cable or satellite, therefore, becomes a problem. Each company, in the nature of things, will, of course, want to send that message over that system which gives the best service, but retains for itself the largest portion of the tolls. That is a built-in system. It is inherent in the situation.

I do not think that it goes to any philosophy of opposing the organization of a satellite corporation, because I think that has to be done.

Mr. YOUNGER. Do you think that the FCC, by regulation, could properly regulate the distribution of those messages in a fair and equitable manner?

Mr. SARNOFF. I do not see how it could, because if you are going to have competition, it is the function of each company to attract as much traffic over its circuit as it possibly can, through service, through rates.

Certainly the FCC could regulate the rates, and will regulate the rates, but that is only one aspect of competition; and if they said that each method of communication should have X percentage of the total volume of the traffic, that would not be private, competitive operation, nor would that be a good thing to do.

What I am saying, sir, or trying to say, is that I am in favor of proceeding with the satellite organization and the establishment of a satellite system as quickly as practicable, and I am merely trying to call attention to what I foresee as a future possible development: namely, that if what I have said so far proves to be so in actual prac-

tice, we may arrive at a point where consideration may have to be given to uniting all the international carriers into one entity, whether it be the satellite organization or any other organization, and that you would then have a legalized monopoly in the international communications field as you have a legalized monopoly now in the domestic telephone field.

I am not submitting this as a recommendation for consideration this morning, but I do call attention to what I think will be the inevitable result of the setup that we are contemplating with the satellite organization.

Mr. YOUNGER. Do you anticipate that the satellite system will be speedier than the present system of cable and wireless?

Mr. SARNOFF. Well, it is not so much the speed at which it can transmit, but the places in the world which it can cover that cannot be reached by cable.

On the whole, I should expect that when the satellite system reaches a state of perfection or at least a state of practical development on an operational basis, that it will be able to do many things that the cables and the radios will not be able to do; that is, the present cables and radios.

For example, it will be more flexible. You will be able to talk and record, have printer service, television service, data processing service, all simultaneously.

You cannot do that over any existing cable today, nor are the present radio circuits either fully equipped or authorized to supply all these multiple services.

Mr. YOUNGER. Do you think, then, that the capabilities of the satellite system might determine the method by which the particular message would be sent by a communications concern?

Mr. SARNOFF. Yes, sir.

But I can also foresee the possibility that the satellite communications service will be so successful—and I hope it will be—will be so flexible, so universal, so flexible in its multiplicity of services, that the so-called conventional methods of communication, while they may still be retained and still may have a function, because anything that exists can do something, they may become the horse-and-buggy element of the international communications system as against the satellite system.

Mr. YOUNGER. Yesterday, Mr. Beirne made one suggestion to us, and I am wondering if you would concur in his views. He said that we should be far more concerned with the service that this communication satellite system would render to the public than we are with the method by which it is financed.

Mr. SARNOFF. I would agree in principle with that. Speaking for my company and my own view, I am more concerned with getting the satellite into operation as quickly as possible, and having the right to make the maximum use within its capability, than I am with the specific elements of ownership.

Mr. YOUNGER. That is all, Mr. Chairman.

The CHAIRMAN. Mr. Dingell, any questions?

Mr. DINGELL. Thank you, Mr. Chairman.

General Sarnoff, I want to commend you for a very fine and very helpful statement today.

I am interested, you indicated that you support and favor private ownership of this company, as do I. I am sure you compared the provisions of H.R. 10115, the administration bill, with some of the other suggestions that have been made in this field. Am I correct in understanding that you suggested to the committee that you favor ownership being limited to carriers alone and not having public participation?

Mr. SARNOFF. No; that was not my statement.

First, I agree with what you have said. I favor private ownership.

Mr. DINGELL. Yes, sir.

Mr. SARNOFF. Secondly, I recommend strongly that the carriers, the private carriers, have the right to build their own ground stations.

Mr. DINGELL. Yes, sir.

Mr. SARNOFF. I do not object to the satellite company itself having the right to build such ground stations as it may find necessary or desirable. I make no particular point about that provided the communication carriers also have the right to own and operate ground stations.

I have no objection to the public being given the right to participate in the stock ownership, as well as the carriers.

Mr. DINGELL. General, it would be fair to infer that, of course, the carriers should be permitted to participate in ownership. This would be fair and appropriate. Do you feel that it would also be in the public interest to have the public participate, permitted to participate in the ownership of the space satellite communications system?

Mr. SARNOFF. I think, sir, that it would be fair, provided that the public was given a clear statement, an understanding, that this investment is in a project which is still in a state of research and development.

Mr. DINGELL. Highly speculative?

Mr. SARNOFF. It is a speculative one. But anybody that buys stock almost in any enterprise is speculating. When people bought stock originally in the Radio Corp. they were taking a chance, too, or in any other company.

Mr. DINGELL. Or the transcontinental railroads which were set up under somewhat similar circumstances?

Mr. SARNOFF. This is a pioneering effort. This is an unfinished product, if you are talking in merchandising terms. I see no objection to the public being permitted to participate, provided the public is not making an investment on the theory that this is being guaranteed by the Government of the United States, or that this is being recommended by the Congress or by the President or by anybody else. That would be most unfortunate.

Now, we must take into account, however, that when the public is offered an opportunity to invest, they do not always give the maximum consideration to all the points involved in the investment and the risk.

Therefore, I urge that if the public is to be invited to participate, that it be made perfectly clear to them that they are investing in a research and development project which gives every reason for hope that it will be successful. I have no doubt that it will be ultimately successful.

But I do not think I am wise enough and I do not believe anybody else is wise enough to say now that it will be profitable x years from now, 1 year, 2 years, 3 years, or 5 years. It depends on too many unknown elements.

Mr. DINGELL. Of course, in the private enterprise system, it is traditional that when a citizen goes out and invests money, he purchases by his investment an opportunity to participate in profits, or, frankly, to buy a good-sized hunk of the losses, if his investment does not pan out.

This is traditional in the system.

Mr. SARNOFF. It is.

But it is also traditional that when he does that, he is investing in the system, in what he calls management, in who is the head of that show.

Now, in this case, he may think that he is investing in the President of the United States, in the Congress, and in the others.

Of course, we know that that is not the case, but all I suggest is that we make it perfectly clear that if the public is to invest in this enterprise, that it is not being guaranteed by the Government or any officer of the Government any return within a certain specified time.

But I have no objection to the public participation.

Mr. DINGELL. Do you feel, General, that the truth-in-securities laws and the other laws and regulations of the SEC insofar as the prospectus in the offering and the other things will be adequate to furnish this kind of warning and notice to the ordinary investor, if we permit the ordinary investor to participate?

Mr. SARNOFF. I should hope so.

I see no reason why the SEC could not be as meticulous and as careful in this situation as it is in other situations.

Mr. DINGELL. General, thank you very much for your help.

The CHAIRMAN. Mr. Kornegay?

Mr. KORNEGAY. General Sarnoff, I would just like to thank you for a very fine statement and the excellent explanations of your position and advice in connection with this matter.

There are two or three of the technical aspects which you have mentioned which I would like to ask you about and see if my thinking on it is correct.

That is the difference between the synchronous system and the low-altitude system.

It has been stated that in the synchronous system the job could be done with three satellites, which would be stationed in a fixed position.

Actually, they would be turning at the same ratio of speed as the earth, is that correct?

Mr. SARNOFF. That is correct.

They would be in the same position with reference to the earth.

Mr. KORNEGAY. Now, in your statement, I believe it was suggested that one be placed over the Atlantic Ocean, one over the Pacific Ocean, and one over the Indian Ocean in equatorial orbit.

Suppose someone in Washington was calling Tokyo and wanted to go by way of satellites?

How would that be routed?

Mr. SARNOFF. Assuming that we had a ground station, let us say, in the Pacific or in San Francisco or, for that matter, a ground station anywhere in the United States, you would pick up your ordinary telephone. You could be connected to that ground station, and that ground station would send your voice up to the satellite, and the satellite would relay it down to the receiving station in Tokyo.

You would not know what particular intervening steps were being taken.

So far as you are concerned, you would be talking the same way you do now.

Mr. KORNEGAY. Yes. I understand that, but my point is, I see no problem where the two points are covered by the same satellite, but when you go beyond the horizon of that satellite, as you would by going to Tokyo or some other point, say, on the opposite side of the earth, would it go, say, to one satellite from the ground station, from the satellite back to another ground station, and then up to the next satellite?

Mr. SARNOFF. No.

I think it would go to the ground station that was within the area of communication of that particular satellite, and, of course, you would have a central control which would tell you at all times what that area was.

Mr. KORNEGAY. You only use one satellite in any single transmission?

Mr. SARNOFF. Yes.

Or you might use the other, if it was on the other side, so that you needed its extra range. But, generally, the routing would be from a central point, using whichever satellite was within the area that you would want to reach.

Mr. KORNEGAY. In the case of the low-altitude satellites, they could be used only as they came over the horizon?

Mr. SARNOFF. That is right.

Mr. KORNEGAY. Until they go back below the horizon. It would be a process of shifting from one to another as they came over, is that right?

Mr. SARNOFF. That is right.

And you would also have to know where that particular moving satellite was at any moment, so that you would have to track it all the time.

Mr. KORNEGAY. Yes, sir.

Mr. SARNOFF. And then you might have to use two, three, or four stations in order to reach the particular destination, and to do that with a multiple series of services would be very difficult. That has not been done yet, whereas with the synchronous system you could go on with multiple services.

Mr. KORNEGAY. And the low-altitude system could not be called a complete system until you had enough satellites in orbit to have one in view at all times in any one spot, is that correct?

Mr. SARNOFF. That is right.

And no one knows exactly yet how many that would be. We have heard the figure 50 or 60, and others have said 100, and so on.

We will only know that definitely when it really becomes operational. That is why I made the statement I did before: That by the time you find all this out, by the time you build all these satellites and tracking systems and methods, mind you, on a global scale, I think you could put three synchronous satellites up just as fast or faster.

Mr. KORNEGAY. Let me see if this is correct.

Actually, the satellite would be used only during half of the time that it was in view or maybe slightly less than half, is that correct?

Mr. SARNOFF. That is correct, the side within view.

Mr. KORNEGAY. In other words, you have got to pass the point directly overhead. Suppose you were sending a signal to England, it would have to pass overhead to talk, say, from Washington to London, or for a television show from Washington to London, that satellite would have to pass over Washington before it could be utilized for transmitting?

Mr. SARNOFF. Well, not necessarily over Washington, but over the area of its range.

Mr. KORNEGAY. Yes.

Mr. SARNOFF. Of its capability.

Mr. KORNEGAY. We are sending from Washington.

Mr. SARNOFF. Yes.

Mr. KORNEGAY. From the point of origin of the communication.

Mr. SARNOFF. But you could send your message or your voice from Washington by ordinary telephone to the station that is nearest to the area covered by that satellite.

Mr. KORNEGAY. The ground station?

Mr. SARNOFF. Yes, the ground station.

Mr. KORNEGAY. I see.

Mr. SARNOFF. That is why I have been stressing—

Mr. KORNEGAY. I should have made my question clearer. I mean passing over the ground station.

Mr. SARNOFF. That is right.

That is why I have stressed the importance of interconnection, because unless you had flexible interconnection, you could not achieve this form of service.

Mr. KORNEGAY. It would be far more expensive to operate?

Mr. SARNOFF. Oh, yes.

Mr. KORNEGAY. To create and operate the low-altitude satellite system than it would be a synchronous system?

Mr. SARNOFF. That is right.

Mr. KORNEGAY. Thank you, sir, very much.

That is all, Mr. Chairman.

The CHAIRMAN. Mr. Sibal?

Mr. SIBAL. General Sarnoff, is it your feeling that your corporation and other carriers would participate financially to the same extent if you did not have voting rights in the new Corporation?

Mr. SARNOFF. So far as my company is concerned, I cannot speak for others, we would be willing to invest regardless of whether we had the voting rights or not.

Mr. SIBAL. To the same extent?

Mr. SARNOFF. To the same extent.

Mr. SIBAL. You raised the point which has been bothering me for some time, and that is how we could, in effect, invite public investment in this Corporation and, at the same time, overcome the problem of making them feel that, somehow, in some way, this was secured by the Federal Government, this investment, and if things went wrong, that it would not let them lose their money, particularly in a bill where controls and responsibilities of the President are set forth so clearly.

Do you think it can be done, really, based on your experience in communicating with the public?

Mr. SARNOFF. I think that the President has made a very clear and a very fair statement on the subject. Every time you refer to it, he

calls attention to the fact that this is in the developmental stage and it would require some time.

But if you ask me whether it can be made clear, I think it can certainly be exposed more widely by public relations and by statements and so on.

But you and I know that the only thing that a person remembers when you give him a tip to buy stock is where he loses. Where he makes, he never remembers.

Mr. SIBAL. Thank you very much.

The CHAIRMAN. Mr. Dominick?

Mr. DOMINICK. General Sarnoff, I want to join the rest of the committee in expressing our appreciation for your coming and making such a fine statement.

In the process of your statement, you said that you thought that the Satellite Corporation should also have the right to own its own ground stations.

Were you thinking in terms of oversea ground stations or domestically or any place?

Mr. SARNOFF. I was thinking of any place, because it may need to own its ground station for technical and service reasons of integration, and it may need to own a ground station abroad where there is no commercial reason for installing it, but there may be a national reason for doing it.

I should hope that the major portion of the traffic, so far as the ground stations were concerned, would be handled by the privately owned ground stations.

But, on the other hand, I would not feel justified in excluding the Satellite Corporation from the right to own ground stations. I may also take advantage of this opportunity, sir, if you will permit me, to try and clarify this point.

I have read most of these bills. I would not say all of them because I do not know how many there are. And everywhere the question of the ownership of ground stations is mentioned, I find fuzzy and unclear, just as I find the language relating to nondiscriminatory use of facilities fuzzy and unclear.

And I hope that in any legislation that is passed, that those things will be spelled out so that we really know what we mean by a ground station and by nondiscriminatory use of the satellite system.

Mr. DOMINICK. General, in 10115 there are specific provisions in here making it a violation of the act in the event the Board of Directors or the officers of the Corporation violate section 102.

There are also provisions in the act which permit the President or one of the other governmental agencies to require that service be made to underdeveloped countries in other areas of the world which are not now served.

Those requirements make the investment, in my opinion, more hazardous than it otherwise would be.

Would you agree with that?

Mr. SARNOFF. Well, in general, I would say if you are looking at it purely from the investment standpoint, yes. But if one is in the business of communications, particularly international communications of this scope, certain regulations cannot be opposed; they must be accepted and must be recognized.

I think the proposed bills go a little further than anything I have seen before.

After all, directors can set the policy for a company, but directors cannot operate a company.

If the directors begin to actually operate a company, that is the time to get out of it.

Mr. DOMINICK. Is it not also true, General, that in this particular bill the directors do not even set the policy of the company?

Mr. SARNOFF. Well, if they are not to operate and if they are not to set the policy, then I guess we will have to invent a new name for them. They will not be directors.

Mr. DOMINICK. That is my feeling, too.

That is all, Mr. Chairman.

The CHAIRMAN. General, I believe you said RCA Communications is a wholly owned subsidiary of RCA?

Mr. SARNOFF. Yes, sir.

The CHAIRMAN. That is true.

I believe RCA Communications is regulated by the FCC?

Mr. SARNOFF. By the FCC; yes, sir.

The CHAIRMAN. RCA is not?

Mr. SARNOFF. RCA is not in the public utility business, itself.

The CHAIRMAN. Yes.

Mr. SARNOFF. Therefore, it is not regulated in that way, although I may suggest, sir, that we are not suffering from any lack of regulation.

The CHAIRMAN. General, could you indicate what percentage of the total corporate investment in RCA is invested in RCA Communications?

Mr. SARNOFF. We have an investment of approximately \$50 million in the RCA Communications. Our total assets are \$943 million, of which \$50 million, roughly, are in the communications end.

The CHAIRMAN. If your investment in the Satellite Corporation is included in your rate base, it would be included in the rate base of RCA Communications, the corporation which is engaged exclusively in the international communications business?

Mr. SARNOFF. Yes, sir.

The CHAIRMAN. That would be your intention?

Mr. SARNOFF. That would be the intention, and that is the only place where we could include it.

The CHAIRMAN. This may not be the appropriate question to you, and if you do not care to comment, why, you should so indicate.

Should the other carriers engaged in domestic and international communications be permitted to include their satellite investment in their combined rate base invested in domestic and international service?

Mr. SARNOFF. Well, sir, I think, when we talk of the rate base, we are talking of a fixed amount upon which the FCC authorizes a certain rate to be established.

Therefore, whether it be in our case or in any other case which may be consolidated with the rest of their business and have no separate subsidiary, nevertheless, they would not be permitted to include that investment, except in the portion of their total assets that are applicable to the communications business. That is the only place they could do it.

The CHAIRMAN. I think it is a very good statement and I am glad to have it. It is just about as clear as any I have ever heard on the subject.

You are familiar with the ad hoc committee?

Mr. SARNOFF. Yes, sir.

The CHAIRMAN. I believe your company was a member of the committee?

Mr. SARNOFF. Yes, sir.

The CHAIRMAN. And I assume, from your statement here today, that you feel that there should be some modification of what that committee recommended with reference to the stock ownership?

Mr. SARNOFF. I do, sir.

At the time of the ad hoc committee, the proposals of this bill were not before us.

The CHAIRMAN. Yes.

Mr. SARNOFF. Or before anybody, so that my observations today relate to the various bills that have been proposed, rather than limited to the ad hoc committee recommendations.

The CHAIRMAN. I am glad to have your views on this to clear it up. We have had comments from three, I believe, of those who served on the ad hoc committee thus far. But we have not heard from these six.

General, you have been exceedingly helpful to the committee. You have given us a very fine statement here today. We are grateful to you for taking the time from your busy schedule to come before us, recognizing, of course, the importance of this subject and the necessity of getting something that is right and appropriate started on this program.

For the committee, I want to thank you for your appearance and for your testimony here today.

Mr. SARNOFF. Thank you, Mr. Chairman.

I appreciate greatly the opportunity of appearing before you and expressing my views.

The CHAIRMAN. It is a pleasure to have had you with us. The committee will adjourn until 2 o'clock, at which time we will have our colleague, Mr. Ryan, of New York, and Mr. Daniel Cannon, of the National Association of Manufacturers.

It is the intention of the Chair to conclude these hearings this afternoon.

(Whereupon, at 12 m., the hearing was adjourned, to reconvene at 2 p.m., of the same day.)

AFTERNOON SESSION

The CHAIRMAN. The committee will come to order.

We have with us this afternoon our colleague, Mr. Ryan, who is the author of a bill on the subject, which is not before this committee.

He is interested in the subject, and may I say to our colleague we are glad to have you and we are glad to have your testimony.

STATEMENT OF HON. WILLIAM FITTS RYAN, U.S. REPRESENTATIVE IN CONGRESS FROM THE 20TH DISTRICT OF THE STATE OF NEW YORK

Mr. RYAN. Mr. Chairman and gentlemen of the committee, I appreciate the opportunity to appear before this distinguished committee and to discuss with the committee some of the aspects which have concerned me concerning the question of communications satellites.

The spectacular developments in space research and technology present us with breathtaking possibilities in communications, navigation, and weather forecasting. We are now at a point where operable communications and meteorological satellite systems are within reach.

A workable communications system is possible only because of vast expenditures of taxpayer dollars on Government-financed space research. The benefits from these research billions should not become the greatest giveaway of the nuclear age. They should not be turned over to a private monopoly which will—

- (1) Be dominated by A.T. & T., the greatest monopoly in our Nation today;
- (2) Be immune to any meaningful regulation;
- (3) Increase concentration and facilitate conduct inconsistent with our antitrust laws; and
- (4) Be inevitably inclined to lag in further research and development in order to preserve present huge investments in existing and contemplated facilities.

We must retain a flexibility of organization which will permit us to enter into international arrangements in the best interest of the United States and of the entire world; indeed, the recent exchange between President Kennedy and Premier Khrushchev raises the possibility that cooperation with the Soviet Union in space matters, particularly in the question of communications satellites, may be feasible.

Do we want a private monopoly to handle or influence such international negotiations?

I favor retention of the satellite communications system in the hands of the Government where it can be most effectively utilized on behalf of all the people whose tax dollars have made it possible, and on January 25, 1962, I introduced H.R. 9907 to accomplish this by establishing a Communication Satellite Authority.

That bill, I believe, is pending before the House Committee on Science and Astronautics, not this committee.

If we set up any of the private systems contemplated by the bills here under consideration before this committee, we shall be handing over to a private monopoly a part of our natural resources whose value we cannot even begin to estimate.

I. GOVERNMENT EXPENSE

Senator Russell Long has estimated that so far our space efforts have come to about \$25 billion. During the years 1959-63, NASA and the Department of Defense will have spent on space communications alone over \$470 million. The \$470 million represent only communications technology. Most of the necessary research and

expenditures will be on space technology. As John H. Rubel, Assistant Secretary of Defense, has said—and I quote him because I think this is an important quote:

About 90 percent, I would say, of the problem associated with the communications satellite system really doesn't have much to do with communications, Mr. Chairman. It has to do with launch vehicles, it has to do with spacecraft that you put into orbit, it has to do with controlling those spacecraft when they are up there in orbit, it has to do with the life of electronic and mechanical equipment in space. All of these are technologies and techniques that are being developed by the Department of Defense, partly as part of our communications satellite efforts, but not exclusively so * * * I just can't imagine that this kind of effort could successfully be undertaken by any organization other than both the NASA and the Department of Defense * * * (hearing before U.S. Senate Committee on Aeronautics and Space Sciences 87th Cong., 2d sess., hereinafter referred to as Senate Space Committee, p. 462, Mar. 5, 1962).

And the vice president of Western Union has said:

Not only speed but the mere fact of establishing such a system depends upon the amount and the speed at which the research and development under NASA are proceeding (hearings before Subcommittee on Monopoly of the U.S. Senate Select Committee on Small Business, p. 585, 87th Cong., 1st sess., hereinafter referred to as the Long committee, Nov. 8, 1961).

And just the other day Dr. E. C. Welsh of the Space Council before this committee declared:

The taxpayers have financed in excess of 90 percent of this space communication competence (statement, p. 5).

Thus, it is clear that the American people as a whole, not the few companies contemplated by the private ownership schemes in H.R. 10115, H.R. 9696, will have put up most of the money for making this system possible.

Moreover, as Under Secretary of State George McGhee said before the Senate Space Committee, on February 28, 1962, if a private corporation were set up:

The Government could never recover what moneys have been spent in this field, which are very large (transcript, p. 260).

If the satellite system remained with the Government, its huge revenues could be used to pay for past and future research, as Dr. Wernher von Braun has suggested.

Not only will the U.S. taxpayer lose the full benefits of the billions spent on space research, but he will have to pay for military, diplomatic, and other governmental uses of a system which his tax dollars have paid for.

Moreover, extension of the system to underdeveloped areas may not be overly profitable. For such less or nonprofitable use, it appears the Government will have to pay extra. Thus, Dr. Henri Busignies, vice president and technical director of I.T. & T., indicated before the Senate Space Committee (hearings before Senate Space Committee, p. 505, Mar. 5, 1962) that if the Government wanted to provide service in underdeveloped areas for foreign policy reasons, the Government would be expected to subsidize such service to underdeveloped areas. Thus, the private monopoly wants and seems to expect a gift of the cream but a subsidy for the skim milk.

II. GOVERNMENT INVOLVEMENT

The Government will be deeply involved in the operations of this satellite system. Under both H.R. 9696 and H.R. 10115, the Government would be required to:

- (1) Furnish launch vehicles.
- (2) Launch the satellites and provide launch crew and associated services.
- (3) Consult with the private corporation regarding technical specifications for satellites and ground stations and in determining the number and location of such facilities.
- (4) Coordinate continuing governmental research and development with the activities of the private corporation.
- (5) Insure that the satellite system established is technically compatible with existing facilities with which it will interconnect.
- (6) Insure that present and future access to the system on an equitable and nondiscriminatory basis is made available to all authorized communications carriers.
- (7) Preserve competition in the field of supplying goods and services to the corporation.
- (8) Supervise any change in the internal structure of the private corporation.
- (9) Insure that opportunities are provided for foreign participation in the system.
- (10) Insure that the Corporation provides communication services to areas of the world where such services may be uneconomical, if it is determined that providing such services would be in the national interest.

(11) Regulate the ratemaking process.

H.R. 10115 also provides for extensive State Department supervision of foreign negotiations.

With so much essential governmental involvement, why should the system be turned over to a private monopoly?

III. PRIVATE MONOPOLY

Let us not forget that what H.R. 10115 and H.R. 9696 would establish is a private monopoly, not free enterprise. Two essential elements of free enterprise are absent: (1) competition, (2) risk capital. There will be no competition because we cannot afford, either technically or economically, to have more than one commercial satellite system. This Corporation will, therefore, be a governmentally created monopoly, contrary to all our traditions.

Second, there is no risk involved for any carrier investor since all of the carrier's investment goes into its own rate base and it can get a return on this investment from its own customers, regardless of what is happening with the Satellite Corporation. Such a governmentally created private monopoly is the exact antithesis of free enterprise.

The carrier investors in this private monopoly will not merely have a risk-free investment in a monopoly, but they will get a double return on their dividend-paying stock. They will be able to put the investment into their rate base and immediately receive a fair return on that from their own customers. Then, when the Satellite Corporation starts paying dividends, they will receive a dividend on this same in-

vestment which is also in their own rate base. And, of course, the American public will be paying for all of this.

IV. A.T. & T. DOMINANCE

Not only will the organization established by H.R. 9696 and H.R. 10115 be a private monopoly, it will be a monopoly dominated by the most powerful monopoly in America today—A.T. & T.

This dominance will result from at least these factors: First, A.T. & T. will put up most of the money. At the ad hoc carrier committee, which included all the major carriers but General Telephone & Electronic, A.T. & T. indicated a willingness to put up some 80 percent of the then contemplated financing—\$65 million.

Second, many other carriers are currently dependent on A.T. & T. for oversea and other long-distance cables. They are hardly likely to oppose A.T. & T.'s wishes.

Third, A.T. & T. will be by far the largest commercial user. Thus, it will be responsible for much of the Corporation's revenues.

Limitation of directors is an illusory safeguard, as both Western Union and the Department of Justice pointed out in testimony before the Senate Space Committee. Assistant Attorney General Katzenbach pointed out that the size of A.T. & T.'s financial interest was sufficient to insure its dominance, even without any directors. (Hearings before Senate Space Committee, 726, March 7, 1962.) Judge Leovinger has concurred, as has Western Union. (Hearings before the Long committee, 576, November 8, 1961.)

For these reasons the administration bill would also permit A.T. & T. to dominate. It could take most of the B stock, which will probably provide most of the early financing; it and few other large companies could jointly take 50 to 75 percent of the A stock. The combination of A and B stock, plus the other factors of use and dependence on A.T. & T. facilities, will insure A.T. & T. dominance.

Instead of further competition, the proposed private ownership will increase concentration.

V. PROCUREMENT AND COLLUSION

The Corporation will be buying equipment in enormous amounts. Most of the prospective investors are in the equipment business, either directly or through affiliates. As a matter of fact, of the communications carriers, themselves, I.T. & T., and RCA are primarily manufacturers; 60 percent of General Tel's revenues are from equipment; and A.T. & T. has a huge equipment subsidiary, Western Electric, from which it buys its telephone equipment. Only Western Union is not in the hardware business. These carrier-manufacturers will almost certainly try to favor themselves or their affiliates in procurement. For this reason, General Electric and other purely equipment manufacturers have sought access to the "club" of investors, so as not to be frozen out.

Wider ownership will not eliminate this problem, as Chairman Minow noted, when he said:

The danger of such abuses is also inherent in unrestricted ownership (House statement, p. 12).

It merely expands the "club." The only way to insure truly competitive procurement is through Government ownership.

Moreover, let us not forget that the proposed system sets up a joint venture of companies who are currently supposed to be competing with each other. The other day FTC Chairman Dixon pointed out how similar such joint ventures are to a merger:

It is really the old "trust" technique in modern dress. The damage to competition is clear cut, and, if possible, the move should be quickly halted (Wall Street Journal, March 13, 1962).

Insofar as the international telegraph companies are concerned, Congress has refused to permit such a merger for 19 years.

Under the cloak of this joint venture these supposedly competing companies will be able to avoid all competition with respect to their communications and manufacturing activities related to the satellite corporation. This cloak will also afford them numerous occasions to avoid competition in areas unrelated to the satellite operations. And, as Senator Kefauver pointed out 2 weeks ago before the Senate Space Committee—

if anyone has doubts about the aversion to competition so prevalent among bidders today, let him merely recall the recent electrical equipment cases—

which involved some of the most respected executives and companies in American business today.

Moreover, one of the great spurs to the satellite corporation to insist on the lowest purchase price—market competition—will be absent, for the satellite corporation will be monopoly and have no competition. It will put the high prices exacted by its owner-suppliers into its rate base where they will ultimately be passed on to the public. Thus, the FCC found that Western Electric was overcharging its parent, A.T. & T., and earning 10 percent on its sales to A.T. & T. (hearings before Long committee, 501-508, August 11, 1961). A.T. & T., of course, had put these overcharges by its own subsidiary into its rate base and passed them on to its customers.

Government ownership, on the other hand, would not merely avoid these problems entirely, but would actually encourage competition, for it would make procurement and access available to all on an equal basis without the inevitable self-partiality and conflict of ownership inherent in ownership by suppliers.

VI. RESEARCH AND DEVELOPMENT

Government ownership is also the only way of insuring maximum research progress. The private carriers, including A.T. & T., currently have enormous investments in facilities such as cables and other long lines. A.T. & T., which laid one undersea cable in 1956, contemplates another in 1963. If the satellite system goes up quickly, and is used to capacity—which is the only way to reduce satellite rates quickly—these cables will become obsolete. Since the first duty of rational businessmen is to the stockholders to protect the stockholders' investment, there will be "a lag in the development and actual use of means for making their present equipment obsolete," to use the words of Assistant Attorney General Katzenbach (statements before the Senate Space Committee, March 7, 1962, p. 5).

Moreover, it is very likely that the first system to go into operation will be low orbit, which, almost all are agreed, should be superseded by the high-orbit system, which will be far more economical. The latter requires far less satellites and will have enormous capacity.

Once a private corporation invests hundreds of millions in a low-orbit system, its investors and directors will not be inclined to proceed expeditiously with research and development which will make equipment purchased by those hundreds of millions obsolete. Thus, regardless of what private interest owns the satellite, there will be an inducement to lag in research and development. Only the Government can afford to make the necessary investments and ignore the obsolescence factor.

Nor is this failure to push the introduction of new techniques a fanciful possibility. Judge Loevinger and other witnesses before Senator Russell Long's committee gave numerous illustrations where new techniques were either not developed or introduced (hearings before Long committee, 52-55, 319, Aug. 2-9, 1961). These include, for example, one-piece telephones, modern switching equipment, and the dial phone.

Furthermore, the profit-seeking corporation is not likely to invest in research and development in nonprofit or less profitable operations. It may be for this reason that, contrary to scientists and Government spokesmen, A.T. & T.'s vice president and other carrier spokesmen insist on minimizing the revolutionary potential of the satellite system and insist on calling it merely another link in the presently existing communications facilities—merely a cable in the sky. As Mr. Katzenbach said, before Senate Space Committee on March 7, 1962, for the industry to downgrade the system by calling it just another link does not indicate much interest in developing communications satellites as rapidly as possible.

VII. REGULATION

It has been suggested that "Government regulation" is the answer to some of the objections I have raised. But in the inevitable and ever-present struggle between agency and industry, the agency rarely winds up ahead. And the FCC's record, with respect to A.T. & T.'s rates, is far from exemplary. Senator Kefauver listed numerous areas where, and reasons why, the FCC's regulation was of little avail.

Although FCC Chairman Minow tried to respond to this last week by pointing out what FCC was doing now, the record is clear. For years, A.T. & T. has been literally unregulated. How long will it take to begin regulation of the satellite corporation?

Moreover, let us see what the FCC will do now. From 1955 to 1960, A.T. & T. earned not the 6.5 percent a utility is entitled to but from 7.3 to 8.5 percent. In 1959 and in 1960, A.T. & T. earned 7.9 percent and 7.8 percent, respectively; its revenues in 1961 were the highest ever.

Moreover, Chairman Minow spoke only about rates. The FCC has never had experience enforcing competitive bidding on procurement. As a matter of fact, A.T. & T. and General Telephone buy all their telephone equipment (except cables and wires in General Telephone's case) from their own subsidiaries and affiliates. As the Supreme Court said in the *RCA* case, 358 U.S. 334:

The Communications Act was not intended to, nor did it save to the Commission any authority or power to decide upon antitrust issues as such.

In that case, the FCC has approved of a TV station exchange which was later held to violate the antitrust laws. Is this the agency to rely on for vigorous and diligent antitrust enforcement?

VIII. WHY GIVE IT AWAY NOW?

In the event, why the great rush to give away the satellite system now? The first priority, as RCA and others have said, is to settle the technical question; then we can determine organization. As Dr. Welsh has said, the lack of an organizational structure has not delayed anything. How could it, since what is necessary now is space research, and that will be done by the Government.

Moreover, we do not even know how valuable this resource will be. We can always give it away; once we give it away, however, we can never get it back.

IX. PRIVATE OWNERSHIP

The proponents of private ownership argue that the private companies have served the public interest by providing us a cheap and efficient communications system and that their experience should be utilized. But how much better and cheaper might it have been, as Mr. Katzenbach pointed out, if telephone service were not a protected monopoly? Is it efficient to hold up on introducing new techniques and developments? Is it in the public interest for A.T. & T. to earn between 7.5 and 8 percent consistently?

Full operation of a communications satellite system will involve innumerable international negotiations, as well as other international transactions. All of this can only be done by the State Department.

CONCLUSION

Space is the greatest natural resource of our time. We do not even know its vast potentialities. Why, therefore, should we hasten to give away the fruits of billions of taxpayer dollars to a private monopoly owned and controlled by a few huge companies and dominated by the greatest and most powerful monopoly in America today?

Our great space achievements have been made possible only by the tax dollars of the entire American people. The full benefits of these tax dollars should stay with the entire American people. Government ownership would insure that this public resource is preserved for the benefit of all the people.

I thank you, Mr. Chairman, for this opportunity to appear before this distinguished committee.

The CHAIRMAN. Does that conclude your statement, Mr. Ryan?

Mr. RYAN. Yes, Mr. Chairman.

The CHAIRMAN. Mr. O'Brien?

Mr. O'BRIEN. I have one or two questions, Mr. Chairman.

Mr. Ryan, you say:

The benefits from these research billions should not be turned over to a private monopoly.

The figure which we have had repeated to us in these hearings has been \$175 million. You are not suggesting that all of the money we spent in our space endeavors is being turned over to a private monopoly, are you?

Mr. RYAN. I am suggesting that the communications satellite system is the product of the billions and billions of dollars that we have spent on space research and technology.

Mr. O'BRIEN. Yes; one of the apples on the tree.

Mr. RYAN. And that the \$25 billion that has been invested by the Government is reflected in the technology and the techniques which make possible this system.

Now, as far as the specific appropriations for space communications alone, we find that between NASA and the Department of Defense to date there has been spent some \$471.6 million.

Mr. O'BRIEN. Yes; but—

Mr. RYAN. Allocated directly to space communications.

Mr. O'BRIEN. Yes; but some of that money, that \$470 million, is for military purposes. It would have been spent, in any event; is that not true?

The reason I am hammering on this question is the \$175 million has been the figure that has been offered by people with widely divergent views here. Let us accept x dollars, then.

Mr. RYAN. Let me point out my understanding of the figures, because this may be important.

I understand from a review of the NASA authorizations for space communications alone that NASA, through—and this is through—fiscal year 1963, including the proposed 1963 budget, will have spent \$212.6 million.

The Department of Defense will have spent the difference between that and \$471.6 million.

Mr. O'BRIEN. Yes.

Mr. RYAN. Now, the Department of Defense is spending money on the development of a communications satellite system of its own, the Advent program.

Mr. O'BRIEN. Yes.

And your theory is that a certain amount of the taxpayers' dollars have been expended in this new field; that that is a compelling reason for the Government to run the business and obtain the fruits of this for the taxpayer; is that it?

Mr. RYAN. Yes, sir.

Mr. O'BRIEN. Then should not the Government be operating the airlines today under that same theory?

Mr. RYAN. I do not think the same reasoning is applicable. I believe that, as we proceed with the development of communications satellites, we are still going to rely upon Government research, Government development, constantly, to push this new revolutionary system forward.

Mr. O'BRIEN. That is true in the air field, too, is it not? I mean the aircraft.

Mr. RYAN. To a certain extent, they have benefited by Government research.

Mr. O'BRIEN. To an extremely large sum of money?

Mr. RYAN. But we are starting here with an industry—

Mr. O'BRIEN. Yes.

Mr. RYAN (continuing). Which, from the very beginning—and this was not necessarily true of the aircraft industry—from its initiation, the space communications satellite system is utterly dependent upon

Government research, Government development, Government financing.

Now, the advanced research in aircraft has come after the initial private development.

Mr. O'BRIEN. Might I add, then—and I am not trying to be facetious—the discovery of America was primarily the result of Government expenditure; if I recollect, I think Queen Elizabeth hocked her jewels. Perhaps that is a little far fetched, but, nevertheless, there are many fields where the Government, for the good of the Nation, goes in; and from that certain private things may develop.

Are you suggesting that in any field where the Government spends a substantial sum of the taxpayers' money, that the Government should take over all commercial enterprises that would flow therefrom?

Mr. RYAN. I am suggesting that this is somewhat akin to public power.

Mr. O'BRIEN. Yes.

Mr. RYAN. And that where we have a public resource such as this, the Government itself can retain ownership. In fact, where for the first time space may be profitable—this is the first area in which there may be any real return for all of the investment—the Government could use this to pursue the program.

Mr. O'BRIEN. You think the Government operating these commercial, or what would be commercial lines in space, would be able to operate so inexpensively that the rates would be cheaper? That would be the ultimate benefit, as I see it, to the taxpayer.

Mr. RYAN. I think the Government would hold down the rates.

Mr. O'BRIEN. Would hold them down?

Mr. RYAN. Because I would assume that the Government would lease to the carriers. Under my approach to this the Government would lease to the carriers the use of the satellites and would, therefore, hold down the rates.

Mr. O'BRIEN. Yes.

Mr. RYAN. And there would be competition among carriers to see who was going to lease the facilities.

Mr. O'BRIEN. Let us go a bit further.

I know that when we are talking about space, it is a brandnew field, and we are all having trouble getting into it. But, repeatedly, you refer to this monopoly, A.T. & T. Now, there is no question about it, it comes very close to that.

But your references to it indicate that there is something sinister about it.

Why not carry your proposal further, if this is true, and have the Government take over the A.T. & T., its present operations, and lease, perhaps lease the lines?

Mr. RYAN. It is well established that the business of telephone through cables and through lines is being handled by private industry, and I do not suggest that we should reverse that. But what I am suggesting is: That we are entering upon a brandnew field and a revolutionary concept that has been made possible by this investment of taxpayers' funds; that, if we reserve it to the public, there will be an overall public gain; and that we should not turn it over to private industry, which will inevitably be dominated by the international common carriers; and, among the international common carriers, A.T. & T. has 80 to 85 percent control.

Mr. O'BRIEN. I think my difficulty in this field is this: That when we refer to the monopoly of private enterprise, we are inclined to think of three or four people sitting on money bags, as perhaps we had many years ago in the "robber baron" era of our country.

But I was quite interested yesterday in the testimony of a man named Beirne, who said that he was speaking for 840,000 employees of this great octopus to which you have referred. He also said—and I thought this was rather significant—that quite a few employees had seized the opportunity of becoming stockholders according to their means.

I have heard an estimate that the A.T. & T. has 2.5 million stockholders. I think it goes beyond that.

If you belong to a pension system, for example, the New York State pension system, I think you might find in their portfolio stock of the A.T. & T. or other large corporations, upon which the pensions of thousands of people are dependent; that is, the earnings of those companies.

So I think, when we look at this in the narrow concept of government versus a few greedy individuals, that we are somewhat oversimplifying the whole picture.

I know the A.T. & T. comes close to being a monopoly, but I think it has to, because you just cannot have a thousand and one telephone companies operating and getting any kind of service, in my opinion. That is but a natural thing.

One final question.

Do you not think that this invasion of space for peacetime purposes offers the most clear-cut, most dramatic test of two diametrically opposed systems that we have had since this space race began?

And when I say "two diametrically opposed systems," I am referring to the totalitarian system of Russia, where the Government says "go" and it is done, and the free enterprise system that we speak of here.

Is there not such a test in this matter?

Mr. RYAN. I think there is no question that the space shot with John Glenn and our whole development has shown the capacity of the American system to produce and to match anything that is done anywhere else in the world.

Mr. O'BRIEN. Yes.

Mr. RYAN. But I do not ignore the fact that this has also been done because of the vast investment that our Government has put into this, and that the Congress has put into it.

And when we realize that 90 percent or more of the funds which we appropriate for NASA go into research and development contracts, the interrelationship is clear.

Where we have this tremendous investment, where we are entering upon a completely unknown and unchartered area, it seems to me we should retain Government ownership and control of the satellite system.

Mr. O'BRIEN. Largely because it is new and unknown?

Mr. RYAN. I think that would certainly be a reason for not making any precipitous decision now.

Mr. O'BRIEN. I do not want to appear to be arguing—

Mr. RYAN. No.

Mr. O'BRIEN (continuing). But I have had some observation in my work down here of Government operation of business. I will mention two. One is the Alaska Railroad, and I would not say that it has been a startling success. The other has been—and the chairman will forgive me if I lobby a little bit for a bill I have—the General Aniline Corp., which we control because we took it over after the war.

And that company I think is doing a pretty good job, but it is not doing as good a job as competing private enterprise companies in that same field.

That is why we are trying to get legislation through here to unshackle and get the Government hand off.

I know we are arguing in a general way and not about the bill but I do feel very strongly that the thing that has captured the imagination of the people, outside of the Glenn exploit, as much as anything else about what is going on in space, is the realization that what they thought was Buck Rogers is coming true; that they will be able to telephone somebody in London, bounce it off a satellite; that one day they will have international television; you will see a mob scene in some place in Asia while it is occurring.

I just feel that here is a challenge that we should meet with free enterprise.

If the Government gets in there, you will never get it out.

Mr. RYAN. One difference between one of the operations that you mentioned is that this, of course, will not be competitive. The bills for private ownership propose one private corporation to run it. There cannot be several competing systems.

It is impossible economically to have more than one commercial system, at least for the foreseeable, longtime future.

The Department of Defense is constructing its own system, the Advent system.

Last summer before the Science Committee the Department of Defense testified that it was perfectly feasible for the Advent system, as proposed, to handle both commercial and military channels and handle both kinds of traffic.

Now, I raise a question, which I think should be explored somewhere, as to whether or not there is duplication right there.

Mr. O'BRIEN. I have no further questions, Mr. Chairman.

The CHAIRMAN. Mr. Younger?

Mr. YOUNGER. No questions, because I think our colleague has fairly outlined his philosophy of government and ownership of corporations.

The CHAIRMAN. Mr. Dingell?

Mr. DINGELL. Mr. Chairman, I want to commend my good friend and colleague from New York, for whom I have great affection and high personal regard, for a very fine statement today. He is a very valuable Member of the House of Representatives, very sincere, a man of great courage, integrity, and devotion to public interest. And I want to express to him a warm welcome and my warm good wishes today.

Mr. RYAN. Thank you very much, Mr. Dingell.

I certainly appreciate your very kind remarks.

The CHAIRMAN. Anything further, Mr. Dingell?

Mr. DINGELL. Nothing further, Mr. Chairman.

The CHAIRMAN. Mr. Collier?

Mr. COLLIER. Just one question.

Mr. RYAN, do you believe all public utilities should be owned by the Federal Government?

Mr. RYAN. No.

I think I answered that when I replied to Mr. O'Brien. I think that what we should be concerned with here is a new development which has come about because of the Government investment and which will continue to develop only with a vast investment by the Government in research; and that, because of this investment, the Government should develop it, retain ownership, and, to the extent that it is profitable, recoup some of its investment which is going into other space areas which will never become commercially profitable.

Mr. COLLIER. Do you think that should be the yardstick to determine whether or not the Government should own any type of enterprise; that is, the yardstick of what it has invested as a copartner, shall we say, in research and development?

Mr. RYAN. I do not think that this can be related to any type of enterprise. I am restricting my thoughts and my approach to the communications satellite system.

Mr. COLLIER. You mentioned public power, hydroelectric power. Do you think that all future hydroelectric power projects should be Government owned?

Mr. RYAN. I would have to approach each case on its own merits. The bill which I have introduced in connection with communications satellites is modeled and patterned after the bill which created the Tennessee Valley Authority in terms of setting up that kind of an authority to own and operate the satellites.

Mr. COLLIER. So we should sit back and make a determination as to what industries or enterprises should be conducted in direct competition to the Federal Government, each on its own merit?

Mr. RYAN. No.

Mr. COLLIER. You said that, I didn't.

Mr. RYAN. No; I think you are stating words which I did not imply or intend.

Mr. COLLIER. Then you do not think they should be?

Mr. RYAN. I think we have to approach each situation as we face it, and I think that we are faced here with the problem of what controls should be exercised over a new, unexplored, revolutionary concept, and I believe that we should not certainly at this point—and my own feeling is that we should not at any point—turn this over to a private corporation which is, in effect, a private monopoly, because it will be without any competition; it cannot have any because of the economics of the situation.

Mr. COLLIER. You said we should approach each on its own merit. Up to there, we agreed. This was your statement, in dealing with public power projects in the future and others.

Now, in approaching each on its own merit, I presume you mean there would be some that you feel should be turned over to private enterprise and some that should not, is that correct?

Mr. RYAN. I am not prepared to discuss anything but communications satellites today.

Mr. COLLIER. That is all, Mr. Chairman.

The CHAIRMAN. Mr. Hemphill?

Mr. HEMPHILL. Thank you, Mr. Chairman. Did I understand the gentleman's statement that he thinks that the space communications effort should be nationalized?

Mr. RYAN. I think it is nationalized today. I think it is a national effort. I think that is exactly what it is. We are spending billions and billions of dollars in a national effort to conquer space and to reach the Moon, and, as a byproduct of this national effort, we have the possibility of having global communications, television, radio, telephone, which will be almost instantaneous, depending on how fast this system develops.

Mr. HEMPHILL. But you said, as I understood your statement, that you are for all-out Government ownership?

Mr. RYAN. Of this system.

Mr. HEMPHILL. That is right.

Mr. RYAN. Communication satellites.

Mr. HEMPHILL. Which is what they all nationalization or socialization, either one.

Mr. RYAN. I would think of nationalization as meaning the Government moves in on something that is private enterprise and takes it over.

Here we are dealing with something where neither the foundation nor the structure have been determined.

Mr. HEMPHILL. Is the gentleman aware of the fact that yesterday the president of the Communications Workers of America came in here and said he represented the thinking of the AFL-CIO and said that A.T. & T. and other carriers were ready; that the Government was a Johnny-come-lately; and that the Government, if it would just get out of the way, they would put this thing into effect?

Mr. DINGELL. If the gentleman will yield, I am delighted to see him looking to the AFL-CIO for leadership, and I hope he will continue to do so.

Mr. HEMPHILL. I have not yielded to the gentleman for facetious remarks. I was asking the witness a question.

Mr. RYAN. I have not read, nor did I hear, the particular testimony.

Mr. HEMPHILL. Now, let us go one step further. If we nationalize or socialize this effort, which is apparently your idea, then, necessarily, in order to effectuate the communications which we desire, you are going to have to tie into the private companies someplace, are you not?

Mr. RYAN. That is right.

I would say that the Corporation, which under my bill would be a Government corporation, would lease the use of the facilities to the common carriers.

Mr. HEMPHILL. With all the—

Mr. RYAN. On an equal basis, so this would not interfere at all with the private conduct of communications as it exists.

Mr. HEMPHILL. With all the Government redtape that would be involved?

Mr. RYAN. I hope there would be no more redtape than is involved in any other matter.

Mr. HEMPHILL. I think the Member of Congress would be aware of the redtape, would he not?

Mr. RYAN. I think there is redtape in anything that is large, whether it is private business or government.

Mr. HEMPHILL. Turning aside from that a minute, the gentleman said, as I understood it, is it in the public interest for A.T. & T. to earn between 7.5 and 8 percent consistently.

What ceiling would the gentleman put on the earnings of private business in this country?

Mr. RYAN. I believe that where you have a utility—and this gentleman is probably better informed on it than I am, as a member of this committee—that, theoretically, there is a 6.5 percent ceiling for a utility such as A.T. & T.; and that it is going over it. You are dealing with what is, in a sense, a government-regulated monopoly, anyway. So I think you have to distinguish that from private business, in general.

Mr. HEMPHILL. Then does the gentleman say to the stockholders, whether they be communication workers or not, of A.T. & T.: "I do not believe your company should under the private enterprise system make a good profit?"

Mr. RYAN. The Government, itself, has laid down, as I understand it, a ceiling for a regulated utility, and in this case I believe it is 6.5 percent.

Mr. HEMPHILL. Why is not the Assistant Attorney General, whom you have quoted so readily, doing something about it, if they are violating the law?

Mr. RYAN. That is a question for the FCC, and I think that the Assistant Attorney General has expressed concern that the FCC is not providing the regulation which he believes should be provided.

That was my interpretation of his remarks as presented to the other committees.

Mr. HEMPHILL. If we nationalize or socialize, as the gentleman would require under this legislation, of course, the Government would not pay any taxes to the Government; would it? If the Government owned it, the Government would not pay any taxes?

Mr. RYAN. That is right.

Mr. HEMPHILL. But the private company would pay taxes; right?

Mr. RYAN. I do not know. I would assume that—

Mr. HEMPHILL. If they made any profit?

Mr. RYAN. I would assume that in some fashion there would be some tax return.

Mr. HEMPHILL. The gentleman said he would set it up in the same manner as TVA.

Would the gentleman then say that the American taxpayer would then be called upon to furnish billions of more dollars to its support?

Mr. RYAN. The American taxpayer is doing that anyway. That is the point I am trying to make in this whole situation: That even if you turn this over to a private corporation, which is, in effect, a monopoly, because you would only have one under any of the bills that create a private corporation, continued research and continued development in this whole field is going to be at Government expense.

The development of the kind of rocket launchers, the boosters to put this system into orbit, if we are going to have a system which the experts seem to think best, that is a synchronous system with three satellites out some 22,000 miles, is going to be only through the Government and Federal expenditures.

This private corporation is not going to develop it. It will just get the benefit of it.

So what I am saying is the Government has created this, let the Government keep it.

Mr. HEMPHILL. As I understood the President of the United States, he said he thought that it ought to be a private corporation.

Mr. RYAN. The President laid down a number of criteria and I think that you can certainly argue as to whether or not the criteria that he laid down are met. I do not think that the concept of Government ownership is inconsistent with the criteria which he laid down.

Mr. HEMPHILL. If the A.T. & T. and the CWA says they are ready, has the Government said it is ready?

Mr. RYAN. The Government is way ahead of them. The Department of Defense, with its Advent program, says that by 1965 it can have in orbit three synchronous satellites ready for global communication, and I think that A.T. & T. is still talking about a low-orbit system, low-altitude system, with 50 or so satellites, which does not match the projected performance of the other system.

So I think the Government is way ahead of them, both NASA and DOD.

Mr. COLLIER. Will the gentleman yield?

Mr. HEMPHILL. Certainly.

Mr. COLLIER. They will get the satellite in orbit, but, as you know, there is a great deal more to making the communications system effective.

Now, is the Army also going to set up everything that goes hand in hand with making it possible to use the satellite, which is the object in orbit?

Mr. RYAN. The Army is doing it today; the Department of Defense is planning to set up its own communications satellite system, regardless.

Mr. COLLIER. This is for public use.

You do not think that the Army is going to set up a system for John Smith and John Doe, for the American public to use in this manner; do you?

Mr. RYAN. I would certainly think that the technology and the technique which is developed by the Army would be available to others.

As I pointed out before, the Department of Defense, itself, has said that the Advent system, which it proposes, will be able to handle both commercial and military traffic. There is no reason why it should not be.

I have raised a question as to whether or not there is an area of duplication here that possibly should be explored by some committee of Congress.

Mr. COLLIER. I thank the gentleman.

Mr. HEMPHILL. Do you advocate now a full Government ownership, absolute Government ownership, no stock? The Government owns every bit of it, that is what you advocate?

Mr. RYAN. Are you talking about the satellites and the ground stations?

Under my proposal the Government would own and launch the satellites.

Mr. HEMPHILL. And the ground stations?

Mr. RYAN. And it would own the ground stations, although I left that question somewhat flexible under the bill. My belief is it would be best for the Government to own the ground stations. Then the facilities would be leasable to the private communications carriers for use at rates set by the Government, open competitively to all carriers.

Mr. HEMPHILL. I thank the gentleman.

Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Ryan, thank you very much.

Mr. RYAN. Mr. Chairman, thank you very much.

The CHAIRMAN. The final witness will be Mr. Daniel Cannon. Mr. Cannon, you are the committee executive for the industrial problems committee of the National Association of Manufacturers.

STATEMENT OF DANIEL W. CANNON, COMMITTEE EXECUTIVE FOR THE INDUSTRIAL PROBLEMS COMMITTEE, NATIONAL ASSOCIATION OF MANUFACTURERS; ACCOMPANIED BY FRANK M. SMITH, COMMITTEE EXECUTIVE, NAM COMMITTEE ON MANUFACTURERS' RADIO USE

Mr. CANNON. Yes, sir.

I have with me Mr. Frank M. Smith, who is the committee executive of the NAM Committee on Manufacturers' Radio Use, which is responsible for carrying on relations between manufacturing company radio users and the Federal Communications Commission. This testimony is presented on behalf of our association, which represents approximately 17,000 companies producing about three-fourths of the goods manufactured in the United States.

As the committee is well aware, American manufacturing industries use domestic and international communications facilities to a tremendous degree.

The committee has heard from Government and from the communications companies and various other interests, but we are pleased to have this opportunity to appear before the committee as representatives of American industry, which is the largest user of international communications and will be the largest users and customers of the additional international communications facilities made possible by the space satellite system.

Therefore, we have a natural and extensive interest in proposed legislation on a space satellite communications system.

Reflecting this interest, both our committee on manufacturers' radio use and our industrial problems committee have devoted attention and study to this new field. On January 30, 1962, they recommended a statement of policy on this subject to the association's 180-member board of directors. On February 16, 1962, the board unanimously adopted the following statement:

SPACE SATELLITE COMMUNICATIONS SYSTEM

In the interest of facilitating international commerce, industry believes that a space satellite communications system should be developed promptly, and that the Congress should proceed expeditiously to enact such legislation as may be necessary to permit private industry to provide such a communications system.

And we are highly gratified that this distinguished committee is proceeding with celerity on these complicated and important problems.

In line with that policy statement, we are unalterably opposed to H.R. 9907 and H.R. 10629, which would create a new Government Corporation to construct, own, manage, and operate the communications satellite system and to be known as the Communications Satellite Authority.

Rendering of commercial services by the Federal Government is not a proper governmental function and is highly undesirable.

In addition to this basic and conclusive objection, an examination of these bills point up other of their undesirable aspects, such as:

1. By creating a strictly Government Corporation, these bills would deprive the enterprise of the benefit of a Board of Directors made up of men experienced in the communications business. Neither the five so-called private directors nor the four so-called governmental directors would be required to have any connection with the communications business in any way, with the exception of the one representative of the Federal Communications Commission. In fact, section 5(k) of H.R. 10629 would require that—

No Director may have any financial interest in any communication carrier corporation engaged in the business of "wire communications" or "radio communications" as defined in the Communications Act of 1934, as amended.

Thus, the enterprise would be unnecessarily complicated with potential so-called conflict-of-interest problems, which would be a sure way to discourage the best qualified persons from wishing to serve as Directors.

2. These bills would require that the ground stations and associated ground control and tracking facilities located in the United States would be owned by the Government Corporation as an agent of the U.S. Government. These facilities would thus be exempt from State and local taxation; whereas, if they were privately owned, they would provide a source of tax revenue to State and local governments.

3. Such a Government Corporation would not be subject to the corporate income tax, which presently has a top rate of 52 percent, and thus this activity would not bear its fair share of the costs of National Government.

4. Operation of such a Government Corporation under the terms of these bills could involve immediately the outlay of at least up to \$50 million of appropriated funds and up to \$150 million borrowed by the Corporation from the Secretary of the Treasury; whereas a private corporation would not involve appropriated funds or Treasury borrowings for its operations.

5. Neither the rates charged by the Government Corporation for the leasing of its channels nor any other aspect of its operations would be subject to regulation by the Federal Communications Commission; whereas the operations of a privately owned corporation in this field would be subject to what we believe would be adequate and effective regulation by the Commission.

6. Enactment of either of these bills could open the door to potential duplications and conflicts in Federal Government policies, programs, and practices, since there would then be two operational Federal agencies carrying on programs in outer space.

In general, it should be noted that the proposed creation of a Government Corporation requires a lengthy, complicated 25-page or 36-page bill, all of which we view as completely unnecessary.

Our association takes no position on the question as to who should own a private corporation operating a space satellite communications system. However, we do wish to make some comments concerning H.R. 10115 which was drafted by various agencies of the executive branch. Although H.R. 10115 provides for private ownership of a "Communications Satellite Corporation," we believe that it would authorize Federal Government intervention into the business affairs of the Corporation to a degree incompatible with traditional private enterprise business operation and to a degree unwarranted by the necessities of the situation. It should be kept in mind that, in essence, the space satellite communications system represents an improved method of transmitting intercontinental communications which are already being transmitted by short-wave radio and submarine cables. One added feature will be the possibilities for direct intercontinental television broadcasts. Undoubtedly, the system will have military and diplomatic uses just as other means of communication have. But the effectiveness of its military and diplomatic use will depend on those who use it and the policies they are pursuing. The system will not add new words to their vocabulary, greater profundity to their thinking, nor more powerful persuasiveness to their statements. There is nothing so esoteric or sensitive about this means of communication itself as to justify Federal domination of the business functions of a privately owned corporation. It appears evident that the military will develop an independent space communications system. The best insurance of the permanency and success of a nonmilitary system is to leave it free to make a commercial business success of itself subject only to traditional public utility regulation.

Consequently, we find undesirable provisions, which would be undue Federal intervention, whereby the President of the United States would designate the incorporators; stockholders would be limited to voting for not more than two candidates for membership on the Board of Directors; restrictions would be placed on the voting rights and rights to receive dividends of one class of stock; the limitation in the right of inspection and copying contained in the District of Columbia Business Corporation Act would be eliminated; a limitation on the percentage of stock owned by a person or corporation would be imposed; certain sales of stock would be made compulsory at prices set by the Federal Communications Commission; the Department of State would conduct or supervise all negotiations between the Corporation and nondomestic agencies; the Attorney General of the United States would exercise supervisory functions through a power to petition the district courts of the United States; the President of the United States would be specifically empowered to plan, develop, and supervise the establishment of the system; and the President would designate watchdog or overseer officials of the Government who would have access to all books, records, papers, correspondence, and files of the Corporation, the right to attend all stockholder and board meetings of the Corporation, and the responsibility, under the terms of the bill, of evaluating what is being done and what needs to be done.

In general, the functions of the President set forth in section 201 of H.R. 10115 are so broad and sweeping that they would readily preempt all responsibilities of management. Although our association recognizes that—

Statutory regulation of certain aspects of private enterprise is recognized as an essential function of the Federal Government, and as being in the public interest—we also believe that the utmost possible freedom of action is the best guarantor of social, material, and technological progress, and of course, freedom of action is not possible unless Federal regulation is kept to an absolute minimum. The provisions of H.R. 10115 go far beyond the recognized appropriate relationship between a privately owned enterprise and the Federal Government's exercise of proper and advisable regulatory powers.

The provision in section 201(a)(7) of H.R. 10115 that the President shall—

so exercise his authority as to insure effective and efficient use of the electromagnetic spectrum and the technical compatibility of the system with existing communications facilities both in the United States and abroad—

raises the question—and we believe it to be a serious one—as to the extent to which the President would be empowered to exercise regulatory functions previously entrusted by the Congress to the Federal Communications Commission.

The power which would be granted to the Attorney General of the United States under section 403(a) of H.R. 10115 to petition Federal district courts to compel compliance with the policy declarations contained in section 102 further muddies the waters, since section 102 contains declarations in favor of making services available “as promptly as possible,” providing global coverage “at the earliest practicable date,” providing such services to “economically less developed countries and areas,” “efficient and economical use of the electromagnetic frequency spectrum,” and “reflection of the benefits of this new technology in both quality of services and charges for such services.”

And we ask the rhetorical question:

How many managements and regulators would this enterprise have under the terms of H.R. 10115?

We appreciate this opportunity to express our comments on the important matters being considered by the Interstate and Foreign Commerce Committee of the House of Representatives in regard to the proposed space satellite communications system, and respectfully urge the committee to report expeditiously a bill comporting with these comments.

Thank you, sir.

The CHAIRMAN. Mr. Cannon, thank you very much for your explicit, brief, and concise statement.

Mr. O'Brien, any questions?

Mr. O'BRIEN. Mr. Chairman, I have no questions.

I would just like to thank Mr. Cannon for rounding out what I think is a very excellent committee record on a highly controversial and complicated subject.

The CHAIRMAN. Mr. Younger?

Mr. YOUNGER. Just one, Mr. Chairman.

Mr. Cannon, are you familiar with the testimony of Chairman Minow?

Mr. CANNON. Yes, sir.

Mr. YOUNGER. Do you subscribe to the Corporation, the type of which he recommended?

Mr. CANNON. No; I have some feeling in general—and this is very broad—without getting into details, that in my mind his thinking runs a little bit too much toward overregulation.

Mr. YOUNGER. You mean the one that he recommended, that the Commission recommended to us?

Mr. CANNON. I mean in general—

Mr. YOUNGER. I do not mean 10115.

Mr. CANNON. Yes.

Mr. YOUNGER. Because they did not recommend that.

Mr. CANNON. You are referring to the specific question of the ownership of the Corporation?

Mr. YOUNGER. That is right.

Mr. CANNON. Whereby they endorse the proposition that it should be owned by the communications common carriers?

Mr. YOUNGER. Yes.

Mr. CANNON. In my statement I say that our association expressly refrains from taking a position as to the ownership composition of this private corporation. We represent the communications companies and equipment manufacturers and 17,000 companies, and we cannot possibly reconcile diversity of viewpoints on that particular question.

Mr. YOUNGER. Except you do not advocate that the Government own it?

Mr. CANNON. Absolutely.

The gist of our testimony is that we are opposed to a Government corporation. We are in favor of a private corporation doing the job, subject only to traditional public utility regulation.

Mr. YOUNGER. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Collier?

Mr. COLLIER. No questions.

I simply want to say, Mr. Cannon, that I think your statement very clearly and very concisely points up the critical areas of this bill, as it has been presented to us, and it certainly brings out some of the areas of the proposed legislation that I, too, would hope would be corrected in the final passage of this bill.

Mr. CANNON. Thank you, sir.

The CHAIRMAN. Mr. Devine?

Mr. DEVINE. Thank you, Mr. Chairman.

It is not surprising, of course, that the National Association of Manufacturers would support free enterprise, and I would commend them for it, continuing in this area.

I think your statement very properly again points out what we brought out during the testimony of, I think Dr. Welsh, Mr. Minow, and some of the other witnesses who have testified here, that we will have a maze of regulatory agencies and persons involved in the administration of this act, starting with the President and the Attorney General, the Space Agency, the State Department, as well as the Federal Communications Commission, and I asked them specifically, or some of the witnesses, whether or not they felt this might tend to bog down the operation, and, of course, you can imagine their answers were in the negative.

But I think you recognize that in your presentation here.

Let me put this one specific question.

If we get to a point where we have a choice of just the President's proposal and the proposal of the Federal Communications Commission—I do not want to put any words in your mouth, but I would presume that your association would probably favor the FCC approach.

Would you care to comment on that?

Mr. CANNON. That is a point on which our association explicitly refrained from taking a position.

Mr. DEVINE. They take no position if those were the only two alternatives.

You feel that you are not authorized to take any position on it for the association?

Mr. CANNON. That is correct, sir.

Mr. DEVINE. Thank you.

Mr. CANNON. Thank you, sir.

The CHAIRMAN. Mr. Cannon, I want to thank you for your testimony.

Mr. CANNON. Thank you, sir.

The CHAIRMAN. I agree with Mr. O'Brien that your appearance here to conclude this hearing gives us, I think, a well-rounded record.

I think we have an excellent record on this subject. The committee, I am sure, will give consideration to the many views expressed.

I might say that I am pleased with the voluminous testimony before the committee in many areas which it should not be hard to work out.

There are three or four areas that seem to be in controversy that we will probably have to devote the greatest attention to, but it does appear to me, with the outstanding record we have here, that we should be able to do something in the near future.

I want to also thank Mr. Frank Smith for being here with you.

Mr. Smith, we are glad to have you back with the committee and have your participation in this important program.

Mr. SMITH. Thank you, sir.

The CHAIRMAN. Thank you very much.

I have statements from Mr. Paul Findley, our colleague from Illinois, and Mr. Frank Kowalski from Pennsylvania. They desire to have their statements included in the record.

There are also several other items that I would like to insert in the record at this point.

(The documents referred to are as follows:)

STATEMENT OF HON. PAUL FINDLEY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Mr. Chairman, thank you for this opportunity to identify myself with private enterprise development and management of the proposed satellite communications system.

Private enterprise has written an impressive record of progress and achievement in the communications field. This has been due to the remarkable and enduring partnership of labor and management, harnessed to the motive power of America's capitalist system.

It is refreshing to note the vigorous support to the private enterprise approach in the satellite development given by the distinguished labor leader, Joseph A. Beirne, president, Communications Workers of America, AFL-CIO.

This approach, I am happy to say, also reflects the opinion of union leadership in west-central Illinois.

Mrs. Marian Jorden, president of Local 509, CWA, a resident of Springfield, Ill., informs me that she is strongly in accord with the private enterprise approach

herself, and she reports that this is the view of a substantial portion of the membership of local 509.

Mr. Dale Moore, chief steward, Local 399, International Brotherhood of Electric Workers, another important organization in the communications field, stated, "We have a wonderful communications system in this country, and it was developed by private enterprise. Private enterprise is financially able and has the know-how to develop this new type of communications, and I think it should have that opportunity. This is my personal opinion, and I think it reflects the thinking of most of the members of local 399."

It is also a pleasure to compliment the Honorable Newton Minow, Chairman, Federal Communications Commission, for his vigorous leadership in behalf of private enterprise.

STATEMENT OF HON. FRANK KOWALSKI, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF PENNSYLVANIA

Within the immediate future we can expect to have in operation a communications system using space satellites. There is no doubt of our capability to develop such a system. There is, however, some question as to whether our Nation, with all its scientific knowledge, will have the wisdom to utilize this new and wonderful natural resource for the full benefit of the public. Several bills have been introduced which provide the creation of a private Corporation to own and operate space satellites. The creation of a private Corporation at this time is premature, impractical, and unwarranted.

HUGE GOVERNMENT INVESTMENT

A satellite communications system has the potential of linking together the entire world through radio, telegraph, telephone, and television. It will include meteorology, navigation, data transmission, space research, aircraft passenger communications, communications involving space vehicles. It will ultimately include many things that are far beyond our present imagination. And the whole program has been made possible only through the investment in research and development of billions of the taxpayers' dollars. This fiscal year NASA will spend \$94.6 million on space communications alone. The Department of Defense will spend \$92 million. For fiscal 1963 NASA's proposed budget includes \$85.4 million, the Department of Defense budget \$100 million for space communications. The total expenditures of these two governmental agencies through fiscal 1963 on communications technology will be in excess of \$470 million. But our efforts in developing a satellite communications system would be meaningless without the \$25 billion already spent in space research and the additional billions that we expect to spend in the next 10 years.

There are complex social, political, economic, and operational problems that must be resolved before the Government can make an informed determination as to ultimate ownership. Unless these problems are explored first, the creation of a private Corporation may lead to a tragic waste of this huge taxpayer investment, catastrophic business losses, severe economic dislocations, delays in this and other vital technological developments, and may be a source of abrasive international dispute.

PUBLIC OWNERSHIP PROPOSED

I believe that it is prudent to defer the question of final ownership until we have more knowledge and experience in this field, and I have therefore introduced a bill (H.R. 10629) that would create a Government-owned Corporation. This bill creates a Satellite Communications Authority, an agency of the Government to own and control the U.S. portion of a worldwide communications satellite system, ground stations and associated ground facilities. This bill is identical to S. 2890 sponsored by Senators Kefauver, Morse, Gore, Yarborough, Burdick, and Gruening in the Senate. The bill will protect the public interest and the interest of our Government by providing for—

1. The leasing of communication channels by the Authority on a nondiscriminatory and equitable basis to all U.S. carriers authorized by the Federal Communications Commission and the provision of facilities for governmental needs. This would not prevent the operation of ground stations by private corporations on a contract basis.

2. Opportunities for foreign participation and the provision of technical assistance to the less developed countries in the development of their communications facilities.

3. A Board of Directors for the Authority composed of nine members appointed by the President, four from Government and five from private life. No director will be allowed to have a financial interest in any communications carrier corporation engaged in wire or radio communications.

4. Policies and broad programs formulated by the Board of Directors of the Authority in the public interest.

5. A capitalization of \$500 million in bonds, with principal and interest payable solely from the net proceeds of the communications system.

This bill affords the opportunity for maximum efficient development of our satellite communications consistent with the public interest.

It is urgent that we get a workable system into operation as soon as possible. Today, under Government sponsorship, we are proceeding with all speed and will continue to do so. Even if a private corporation were created, the speed of the program would still depend upon research and development conducted by the Government. One reason for this is that about 90 percent of the problems associated with the communications satellite system concern the development of spacecraft, electronics and mechanical use in space and other areas not actually having to do with communications as such.

Under all of the proposals for private ownership the Government would still be required to perform the following important functions.

1. Furnish launch vehicles.
2. Launch the satellites and provide launch crew and associated services.
3. Consult with the private Corporation regarding technical specifications for satellites and ground stations and in determining the number and location of such facilities.
4. Coordinate continuing governmental research and development with the activities of the private Corporation.
5. Insure that the satellite system established is technically compatible with existing facilities with which it will interconnect.
6. Insure that present and future access to the system on an equitable and non-discriminatory basis is made available to all authorized communications carriers.
7. Preserve competition in the field of supplying goods and services to the Corporation.
8. Supervise any change in the internal structure of the private Corporation.
9. Insure that opportunities are provided for foreign participation in the system.
10. Insure that the Corporation provides communication services to areas of the world where such services may be uneconomical, if it is determined that providing such services would be in the national interest.
11. Last, but by no means least, the Government would have to regulate the ratemaking process.

FOREIGN POLICY CONSIDERATIONS

Technical and economic factors indicate that there will be only one satellite system. If we are to make certain that the benefits of this revolutionary idea are shared by all nations, the system must be truly global. Clearly this will raise important foreign policy considerations that can only be dealt with at the intergovernmental level. The problems involved are far more complex than the bilateral agreements the existing international carriers are accustomed to negotiating.

The Attorney General in testimony before this committee on March 20 stated, "We are anxious to make this system truly global—to make certain that the benefits of space technology are shared by all nations and are not confined only to the developed countries."

Clearly this is a worthy objective and one that Government ownership at this time would achieve more readily and in a more orderly manner than private ownership would. Educational television might well be one of the valuable services that we could provide underdeveloped nations. However, it is difficult to believe that a profit-motivated monopoly will be willing to divert from commercial use a broad band of the satellite frequency spectrum for such purpose. To provide such facilities would, therefore, require massive Government subsidies and regulatory power the FCC does not now possess.

There are many and complex foreign policy considerations which demand the urgent attention of this committee. I would like to cite, in brief, four policy questions outlined by Donald N. Michael in "Outer Space: Prospects for Man and Society":

"1. There must be an international solution to deep differences over the proper allocation and sharing of radio and TV frequencies * * *. Internationally, the situation is approaching chaos, with desirable frequency ranges saturated and overlapping, and the pressure increasing from those who want to share what is now available * * *.

"2. International agreements will be necessary to assure compatibility of equipment components used by various nations * * *.

"3. International problems relating to the assignment of privileges and priorities for satellite use will need solution * * *.

"4. * * * There are deep national differences among national philosophies as to the purposes of telecommunications as well as differences within nations (viz, our perennial arguments on the proper use of television). The resolution of these differences, and their reflection in the regulations regarding the allocation of priorities, time, and substance will be difficult and time consuming."

It would seem to me to be premature to freeze our space policy at this time by placing the power to determine these and other foreign policy considerations beyond effective Government control, perhaps contrary to our national interest. Once there were real progress in resolving these differences the matter of ownership could be reviewed.

WHY GIVE IT AWAY NOW

The President recently said that space "is a field which is growing and changing so quickly no one can predict in precise detail what our future course will be or what other benefits will unfold for Florida and the Nation."

The satellite communications system is a revolutionary development. It would be a great mistake to give it away now before we are even aware of its full technical potential. We can always give it away later. But if we give it away now, we will never be able to get it back.

There is a wrong-headed move afoot to stampede Congress into giving away this great project before we know where we are going with it. This must be halted in its tracks.

CHAMBER OF COMMERCE OF THE UNITED STATES, Washington, D.C., March 21, 1962.

HON. OREN HARRIS,
*Chairman, Interstate and Foreign Commerce Committee,
U.S. House of Representatives, Washington, D.C.*

DEAR MR. HARRIS: The Chamber of Commerce of the United States strongly supports and urges early enactment of legislation providing for private ownership and operation of a space communications satellite system.

The private ownership provisions of H.R. 10115, H.R. 10747, and other identical bills, merit the support of your committee. We are supporting only the fundamental question of private ownership and are not commenting on the detailed arrangements by which this would be achieved.

We are happy to note the support given this view by President Kennedy, the National Aeronautics and Space Council, the Federal Communications Commission, and other agencies of the Government.

This fundamental principle of a free society would be endangered if the Congress approved H.R. 10629. This bill provides for Government ownership of space communications satellites used to furnish worldwide communications. We strongly urge your committee to reject such proposals, and to encourage investment by private ownership under Government regulation, if such regulation is required.

It is most important that this Nation be first in the field of space communications. In 1955, a member of private industry outlined the first concrete proposals for a satellite medium. Many millions of industry research dollars and much research effort have since been expended in developing a practical space communications system. Our chances of being first in this endeavor will be jeopardized if the responsibility for this enterprise is taken from those that have given us a good start, and handed over to a governmental agency, newly created and otherwise handicapped by inexperience and burdensome governmental procedures. Private industry, with its background of experimental work, will be able to move ahead promptly to establish a space communications system if congressional approval is granted.

It should be kept in mind that space communications is only an extension of the existing systems of national and international communications, and that the satellite program will supplement, rather than replace, cable and radio services now in existence. The present U.S. systems have been developed by private industry. This supplemental system should be developed and operated under the same type of private management, with governmental regulation as required.

Public interest in a matter such as communications is paramount. For this reason, the space satellite communications system should be regulated, as the public interest demonstrates the need for regulation, by an appropriate Government agency, such as the Federal Communications Commission. This would be a natural extension of the existing pattern of public utility regulation, helping to insure that the public interest will be adequately protected.

In conclusion, we emphasize that speed in arriving at a final decision regarding the question of ownership and operation of the space satellite system is of utmost importance. Until Congress acts, advance planning will be hindered. If Congress fails to decide the problem in this session, an entire year will be lost before another opportunity will be presented.

We would like to emphasize that private effort, working in the national interest, will be maximized if every opportunity is provided to encourage ideas, know-how, and experience from a multitude of fronts. One never knows in advance where the most brilliant and fruitful ideas will come from. It is for this reason that we stress the heavy reliance on private effort, rather than on a Governmental agency or Government ownership.

The national chamber, therefore, urges Congress to enact legislation to permit private industry to own and operate a satellite communications system and to act with all possible speed.

We would appreciate your making this letter a part of the record of your hearings on the various satellite communications bills referred to your committee.

Sincerely,

Theron J. Rice,
Legislative Action General Manager.

WESTERN UNION TELEGRAPH CO.,
New York, N.Y., March 16, 1962.

Hon. OREN HARRIS,
*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.*

DEAR MR. CHAIRMAN: This is in reference to the current hearings before your committee relating to H.R. 10115 which you introduced and H.R. 10138 introduced by Representative George P. Miller, containing the administration's proposal providing for the establishment, ownership, operation, and regulation of a commercial communications satellite system.

Western Union has studied with keen interest President Kennedy's recommendations to Congress calling for the establishment of a Communications Satellite Corporation to be financed through the sale of stock to the general public, as well as to communications companies. Additionally, we are pleased to note that the plan proposed by the administration follows so closely Western Union's position.

In its minority statement of October 12, 1961, published with the report of the ad hoc carrier committee established by the Federal Communications Commission, Western Union stated that it "has consistently taken the position that the most desirable method of implementing an operable satellite communications system would be through the medium of a public stock corporation which would own and operate both the satellites and the ground stations."

The company's testimony presented at both Senate and House hearings in 1961 also strongly advocated the same course.

Western Union, therefore, endorses the purposes and objectives of H.R. 10115 and H.R. 10138, and we shall appreciate having this letter incorporated into the record of your current hearings on this matter.

Sincerely yours,

S. M. BARR.

UNITED STATES INDEPENDENT TELEPHONE ASSOCIATION,
Washington, D.C., March 20, 1962.

Hon. OREN HARRIS,
Chairman, Interstate and Foreign Commerce Committee,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: At a recent meeting of the board of directors of our association consideration was given to the subject of space communications and their significance to the social welfare of the people and to the broad economic and political well-being of our Nation. In carefully considered action, our managing body adopted the resolution which is attached hereto.

I was directed to send you a copy of the resolution with the hope that its contents may commend themselves to you.

Sincerely yours,

CLYDE S. BAILEY,
Executive Vice President.

RESOLUTION ADOPTED BY USITA BOARD OF DIRECTORS ON MARCH 9, 1962,
RELATING TO SPACE COMMUNICATIONS

Whereas the free enterprise system in this country has nurtured individual ingenuity and initiative and thereby immeasurably aided the progress of mankind throughout the world; and

Whereas the business community of the United States under the free enterprise system has been able to produce and distribute to the people of the United States services and goods of a quality and quantity unparalleled in other parts of the world; and

Whereas the telephone industry of the United States, both its operating companies and manufacturers and suppliers, has long demonstrated the soundness of the free enterprise philosophy by making available to the general public a scientifically advanced, geographically extensive, and suitably diversified communications system of extraordinary capacity, with the largest subscriber saturation of any nation in the world; and

Whereas it is the expressed policy of the Government of the United States that activities in space should be devoted to peaceful purposes for the benefit of all mankind and that the early establishment of a space communication satellite system open to public use would be a significant means of implementing this policy; and

Whereas the use of the private communications system of the Nation in times of emergency for the national defense and welfare through facilities developed and owned by private enterprise, but adapted for emergency national use through cooperation with interested Government agencies, has proven highly successful; and

Whereas the President of the United States on July 24, 1961, announced a national policy favoring the private ownership of a space communications satellite system: Now, therefore, be it

Resolved, That the United States Independent Telephone Association fully supports the policy of development of a commercial space communications satellite system by private business under the successful and inspiring philosophy of the free enterprise system; and be it further

Resolved, That this association believes the past history, present operations and known future plans and developments of the Nation's communications common carrier industry demonstrate that the expressed policy of this Nation regarding peaceful uses of space can best be implemented through the establishment of a space communications satellite system to be owned and operated by the Nation's communications common carriers; and be it further

Resolved, That the United States Independent Telephone Association hereby dedicates itself to efforts in the free enterprise system to bring the benefits of space communications to communication users at just and reasonable rates and with due regard for the interests of the general public, the national welfare and investors; and be it further

Resolved, That the responsible officials of the Federal Government be apprised of these resolutions and that they be earnestly requested to consider them.

STATEMENT OF HON. JACK WESTLAND, A REPRESENTATIVE IN CONGRESS FROM
THE STATE OF WASHINGTON

Mr. Chairman, I wish to thank the members of this committee for the opportunity to make this statement.

This is a brief statement in which I request the committee to consider the principle of allowing private individuals to purchase shares in the commercial communications satellite system proposed in H.R. 10115.

A number of my constituents have expressed a desire to participate in the purchase of stocks if the program is approved by the Congress and becomes law. However, as Mr. Edwin Lee, of Bellingham, Wash., points out, it seems inconceivable that many people can afford to invest \$1,000 for a single share in the Corporation which would not pay dividends for some years to come.

It appears to me it is possible and financially feasible that many persons would be willing to purchase a stock at an offer of \$100 a share. We are a part of a nation that was built on free enterprise, and such an offer would be in keeping with this tradition.

I am sure, Mr. Chairman, that you and the other members of your committee will give this full attention and consideration.

The CHAIRMAN. This will conclude the hearings.

The Chair, on behalf of the committee, wishes to thank all of the people who have appeared and testified, and also to thank the members of the committee for the attention given to this most important matter.

After there has been some opportunity to review the record, the committee will go into executive session on the subject.

(Whereupon, at 3:15 p.m., the committee adjourned, subject to the call of the Chair.)



